Update: Financing for Transportation and Climate Change: Synthesis

Requested by
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Prepared by
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November 16, 2009

Transportation Synthesis Reports (TSRs) are brief summaries of currently available information on topics of interest to WSDOT staff. Online and print sources may include newspaper and periodical articles, NCHRP and other TRB programs, AASHTO, the research and practices of other state DOTs and related academic and industry research. Internet hyperlinks in the TSRs are active at the time of publication, but host server changes can make them obsolete.

Request for Synthesis:

Nancy Boyd, Deputy Design Engineer, WSDOT, requested an update to this Synthesis specifically for the interagency effort required in SSB 5560 to develop the State's Integrated Climate Change Response Strategy. One of the tasks concerns funding strategies. This update looks at new sources of information related to funding for transportation and climate change and focuses on international references.

Databases Searched:

- TRIS Online
- Research in Progress
- Previous Synthesis Reports
- Google
- Wisconsin DOT Transportation Synthesis Reports
- FTA website
- FHWA website
- Google

Synthesis Summary:

Categories of publications and resources are as follows:

- International Funding
- State Funding
- Non-Governmental Funding
- US Federal

International Funding

International Funding to Support Urban Adaptation to Climate Change

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Recent estimates of the costs of adaptation to climate change in low-and middle-income countries are in the range of tens of billions of dollars per annum. The costs of adaptation in cities will account for a significant proportion of this average largely because of the expense required to adapt (or, in the case of many low- and middle-income countries, build new and resilient) infrastructure and services for densely populated areas. This paper discusses existing international funding to support adaptation needs (primarily through the United Nations Framework Convention on Climate Change (UNFCCC) and official development assistance (ODA)), the serious shortfall in these funds, and opportunities for meeting the gap in funding. It

pays particular attention to channeling funding to the most vulnerable urban stakeholders, taking into account the political and institutional constraints to the adaptive capacity of these groups.
Key Words: adaptation • cities • climate change • development • finance
http://eau.sagepub.com/cgi/content/abstract/21/1/225

Canada Climate Change Development Fund
Canada established the $100 million Canada Climate Change Development Fund (CCCDF) in 2000 to promote activities addressing the causes and effects of climate change in developing countries, while helping to reduce poverty and promote sustainable development. Originally a five-year fund, the CCCDF was extended for 2005-2006.
http://www.acdi-cida.gc.ca/acdi-cida/acdi-cida.nsf/eng/JUD-4189500-J8U

Climate Change Funding Sources
Canadian International Development Agency
Website: www.cida.gc.ca, 2009

Multilateral Development System

Canada is a strong believer in the value of the multilateral approach to solving problems and building consensus around common interests, including socio-economic development, humanitarian crises, and security issues. Multilateral institutions-such as UNICEF, the United Nations (UN) High Commissioner for Refugees, and the World Bank, among many others- are on the front line in the world's collective response to these problems. The link between development, security, and human rights is especially important in developing countries at risk of conflict or collapse. In these countries, Canada takes an integrated approach through the efforts of its diplomats, aid workers, and defense personnel, who all collaborate closely with multilateral institutions.

Canada and Multilateral Institutions

Canada is a founding member of most of the multilateral institutions. It continues to play an important role on their governing boards. About 40 percent of Canada's Official Development Assistance channels through multilateral institutions, amounting to roughly 4 percent of their funding. As a member of the governance structures of these institutions, Canada advocates policies such as aid effectiveness, human rights, including gender equality, environmental sustainability, and institutional reform. There are five main multilateral funding channels: International Financial Institutions; United Nations Development System; Health and Nutrition Directorate; Commonwealth and La Francophonie; and Humanitarian Assistance.

International Financial Institutions

International financial institutions (IFIs) include the World Bank and the International Monetary Fund (IMF); the regional development banks, including the African Development Bank, the Asia Development Bank, the Caribbean Development Bank, the Inter-American Development Bank, and the European Bank for Reconstruction and Development; and thematic funds such as the Global Environment Facility and the International Fund for Agricultural Development. These organizations provide financial resources in the form of preferred-market rate loans, interest-free loans, and grants. They also provide analytical and advisory services that support the development programs of developing country members. IFIs are the largest source of development financing in the world, accounting for close to US$44 billion a year.
Canada plays an active role as a member of the boards of governors of these banks and as executive directors, joining with other member countries, to provide policy guidance and approve programs, policies, and projects. Canada also promotes a greater focus on poverty reduction, aid effectiveness, private sector development, and debt relief. Within the federal government, CIDA is the lead agency for most regional development banks and for the International Fund for Agricultural Development. Finance Canada is the lead agency for the IMF, the World Bank, and the European Reconstruction and Development Bank.

http://www.acdi-cida.gc.ca/acdi-cida/acdi-cida.nsf/eng/JUD-3692051-JU4

African Countries Receive $1.1bln Climate Finance
Thu Nov 5, 2009
Yahoo! News
BARCELONA, Spain (AFP) – Six African countries will receive 1.1 billion dollars in grants or low-interest loans to help a switch to cleaner energy and cope with the impacts of climate change, the World Bank announced here on Thursday.

South Africa will receive 500 million dollars to support its goals of generating four percent of its electricity needs from renewable energy by 2013, improving energy efficiency by 12 percent by 2015 and providing a million households with solar water heating over the next five years, it said.

Egypt will get 300 million dollars to improve its power sector and urban transport in Cairo, while Morocco will receive 150 million dollars to boost a fund aimed at leveraging investment in energy security and low-carbon growth.

Mozambique, Niger and Zambia will each receive between 50 and 70 million dollars in a pilot initiative aimed at crafting "resilience strategies" against the impacts of global warming.

"All (three countries) share dramatic risks in potential loss of land, life and livelihoods as a result of climate change," the World Bank said in a press release.

The money was agreed by trustees of the Climate Investment Funds (CIF), it said.

This is a scheme run jointly by the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, International Finance Corporation as well as the World Bank.

The CIF, launched in 2008, has current pledges of more than six billion dollars.

The announcement was made on the sidelines of the UN climate meeting in Barcelona.

The session is schedule wraps up on Friday ahead of the December 7-18 negotiations in Copenhagen designed to lead to a post-2012 global pact on climate change.
http://news.yahoo.com/s/afp/20091105/sc_afp/climatewarmingunuschina

European Bank for Reconstruction and Development
Wikipedia, the free encyclopedia Founded in 1991
The European Bank for Reconstruction and Development (EBRD) uses the tools of investment to help build market economies and democracies in 30 countries from central Europe to central Asia. Its mission was to support the formerly communist countries in the process of establishing their private sectors. [1]
http://en.wikipedia.org/wiki/European_Bank_for_Reconstruction_and_Development

UCLA Experts Take Lead in Regional Climate Plan
UCLA Today website
The collaborative already includes Los Angeles, Los Angeles County, Santa Monica, the Metropolitan Transportation Authority, the South Bay Council of Governments (COG), the Westside COG, and the regional coalition Green L.A. Already, Los Angeles County has received a $400,000 grant from the federal Department of Energy, which the county is transferring to Pincetl's Urban Center on People and the Environment at UCLA. Pincetl anticipates that the City of Los Angeles will also receive and transfer $400,000 to UCLA, she said. "That will fund the collaboration's carbon registry, which will track all the sources of greenhouse gases in the county, and will also pay for some of the science modeling at UCLA."
http://www.today.ucla.edu/portal/ut/ucla-experts-take-lead-in-regional-112040.aspx

Climate Change Capacity Development (C3D)
Funding Sources website
The C3D+ Initiative is a new step forward for C3D, directly involving six training centres covering around 30 developing countries that will benefit from a training programme on climate change related issues. The C3D+ team will continue reinforcing the network's ability to deliver targeted training and capacity development at the national and regional levels with the three following strategic objectives:

- An improved participation of developing countries in the UNFCCC process;
- A timely implementation of the UNFCCC and Kyoto Protocol by developing countries;
- Better co-ordination & integration of national climate policies with sustainable development policies

http://www.c3d-unitar.org/?q=node/20

European Aid for Climate Change
2009
The European Commission through EuropeAid Co-Operation Office has supported the C3D project since its inception in 2003, providing over US$ 2.8 million in assistance. The environmental programme of EC - AIDCO, under which the C3D project falls, supports developing countries in their efforts to integrate an environmental dimension into their development processes. This programme supports many climate change initiatives. The EC - AIDCO has stimulated the synergies between various EC funded projects related to climate change and UNITAR has agreed to spearhead this effort, now known as C3D+.
http://ec.europa.eu/europeaid/infopoint/publications/europeaid/documents/europeaid_better-faster-more_en.pdf

Better, Faster, More: Implementing European Aid for Climate Change
2004-2009
The European Commission through EuropeAid Co-Operation Office has supported the C3D project since its inception in 2003, providing over US$ 2.8 million in assistance. The environmental programme of EC - AIDCO, under which the C3D project falls, supports developing countries in their efforts to integrate an environmental dimension into their development processes. This programme supports many climate change initiatives. The EC - AIDCO has stimulated the synergies between various EC funded projects related to climate change and UNITAR has agreed to spearhead this effort, now known as C3D+.
http://ec.europa.eu/europeaid/infopoint/publications/europeaid/documents/europeaid_better-faster-more_en.pdf

Irish Aid
Homepage
Irish Aid has provided three grants to support C3D totaling over US$ 900,000. Irish Aid is the Government of Ireland's programme of assistance to developing countries and focuses on poverty reduction activities in Sub-Saharan Africa.
http://www.irishaid.gov.ie/

Danish International Development Agency
DANIDA provided over US$ 150,000 in assistance to the C3D project. DANIDA sees poverty reduction as one if its fundamental challenges, with the environment being one of five focus areas. Beyond direct support for climate change initiatives, DANIDA also strives to climate proof all of Danish development cooperation in order to effectively fight poverty and promote economic and social development for present and future generations (see the Danish Climate and Development Action Programme).
http://www.netpublikationer.dk/um/5736/

The Swiss Federal Office for the Environment
The Swiss Federal Office for the Environment (FOEN) provides US$ 225,000 in annual support to the Climate Change Programme. This funding covers the small staff that manages and administers CCP projects, include C3D. With this support, CCP is able to transfer the lion's share of resources it raises from donors to its Southern Partners for the direct project implementation by them.
http://www.bafu.admin.ch/index.html?lang=en

Policy Options for Reducing Oil Consumption and Greenhouse-Gas Emissions from the U.S. Transportation Sector
Kelly Sims Gallagher1, Gustavo Collantes, John P. Holdren, Henry Lee, and Robert Frosch
Discussion Paper July 27, 2007
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http://belfercenter.ksg.harvard.edu/files/policy_options_oil_climate_transport_final.pdf

Climate Finance
By The Harvard Project on International Climate Agreements
Belfer Center for Science and International Affairs, November 2009
The finance of climate mitigation and adaptation in developing countries represents a key challenge in the negotiations on a post-2012 international climate agreement. Finance mechanisms are important because stabilizing the climate will require significant emissions reductions in both the developed and the developing worlds, and therefore large-scale investments in energy infrastructure. Criticism of the current state of climate finance is for its insufficient scale, relatively low share of private-sector investment, and insufficient institutional framework. This policy brief presents options for improving and expanding climate finance.
http://belfercenter.ksg.harvard.edu/files/Stavins_Meckling_Final_2.pdf
http://belfercenter.ksg.harvard.edu/publication/19676/climate_finance.html?breadcrumb=%2Fproject%2F56%2Fharvard_project_on_international_climate_agreements%3Fpage_id%3D237

World Finance and Environmental Leaders Outline Strategies to Combat Climate Change through Forest and Land Protection
The Nature Conservancy President and CEO, Mark Tercek
Press Release: September 23, 2009
In a chapter called Protecting Forests and Lands through Environmental Markets and Finance, The Nature Conservancy President and CEO Mark Tercek discusses the important role forests can play in fighting climate change. As part of a soon-to-be-released book by the Center for Business and the Environment at Yale called Carbon Finance, *Investing in Forests and Land for Climate Protection*, Mark Tercek stresses the need to develop a U.S. federal climate change policy that encourages private sector investment in forest conservation.
(Pre-release chapter available for download)
http://cbey.research.yale.edu/

New Finance for Climate Change and the Environment
Gareth Porter, Neil Bird, Nanki Kaur, and Leo Peskett
July 2008
World Wildlife Fund (WWF) and Böll Foundation. Accessed 10/21/09
WWF and the Böll Foundation strongly embrace the provision of new financial resources to address the urgent challenges of climate change, environmental degradation and their impact on

vulnerable people. By commissioning this paper, *New Finance for Climate Change and Environment*, it is our hope that we can help clarify major recent developments in environmental and climate finance while contributing to a productive global dialogue about the opportunities and challenges offered by those new financial commitments. We hope that the research will broaden public understanding of and engagement in the global discourse about the more than one dozen new funds and their interplay with existing financial mechanisms. Together, we also plan to sponsor a number of public seminars and consultations in both northern and southern capitals to encourage active involvement of stakeholders and concerned parties in shaping the final institutional architecture for environment finance. We would like to point out several factors that shaped the final outputs of this study. It was our original hope that the research would provide information and reveal a consistent set of patterns that might suggest ways of harmonizing and building mutually supportive relations among the new and existing funds. Such information and patterns, we hoped, would facilitate a dialogue among many stakeholders from which a more coherent, integrated architecture would emerge. We also hoped that this analysis would reveal how new financial commitments would also address some of the underlying questions of moral obligation and fairness between the North and South which, in turn, could guide overall financial commitments under a future post-Kyoto climate agreement. That aspiration has been frustrated by several factors, not the least of which is the fact that many of the new funds exist only as general statements of commitment. Yet to be defined for many funds are the real levels of financial commitment, operational strategies, implementation modalities, funding priorities as well as a host of specific operational guidelines. As a consequence, suggesting a coherent architectural blueprint must await another day. Moreover, the study has necessarily focused on existing funding mechanisms, notably the Global Environment Facility and the World Bank, that are already and are likely to remain central architectural pillars. A second consideration that has shaped the study is that, up to the present, many of the actual decision making processes regarding the new funds have unfolded in northern, donor countries with comparatively limited influence of developing country governments and institutions. As a consequence, many of the complex political issues that have shaped development of other financial mechanisms, such as the Montreal Protocol Multilateral Fund, the Global Environment Facility and, most recently, the UNFCCC's Adaptation Fund, have not yet come fully into play. Among the longstanding issues that set the political background, we would include: What constitutes —new and additional funding as opposed traditional overseas development assistance? What are the —common but differentiated responsibilities between north and south? What are the fairness and equity considerations that must underlie financial flows? Public discussion about the funds in developing countries has risen steadily in past months, including submission of specific proposals regarding the structure and operation global funding mechanisms. While the study recognizes these underlying political issues and growing contributions and perspectives from developing countries, it is not able to offer a comprehensive analysis of how such considerations have shaped the emerging architecture.
http://www.odi.org.uk/resources/download/2980.pdf

United Nations Framework Convention on Climate Change
Fact sheet: Financing climate change action Investment and financial flows for a strengthened response to climate change, June 2009 page 1 of 5, 2007
A review entitled Report on the analysis of existing and potential investment and financial flows relevant to the development of an effective and appropriate international response to climate change conducted by the secretariat of the UNFCCC. Updated in 2008, in which the projections were not fundamentally changed. The review provides an analysis and assessment of investment and financial flows in 2030 that need to meet worldwide mitigation and adaptation requirements. The results are indicative only and seen as broad contours of needs rather than exact figures. Further work needed in assessing investment and financial flows.
http://unfccc.int/files/press/backgrounders/application/pdf/fact_sheet_financing_climate_change.pdf

Leaders at odds over funding climate change scheme
France24.com, October 29, 2009
European Union leaders meeting for a crucial two-day summit in Brussels are at odds over how to fund efforts to tackle climate change, with Eastern European nations claiming they cannot afford to pay the lion's share.
http://www.france24.com/en/20091029-leaders-odds-over-funding-climate-change-scheme-eu-summit-east-west

State Funding

Funding Sources for Climate Change Research - California
California Climate Change Portal
State of California Funding for Climate Change Research
Given the interlinked, multi-dimensional nature of climate change impacts, California faces a very broad and complex set of issues requiring further research. To accommodate the breadth of research needs, the California Climate Change Center operates an "other" research branch to conduct vital projects that don't naturally fall within the three primary branches. Topical guidance still derives from the California Energy Commission Public Interest Energy Research (PIER) Program's climate change research plan(s). The University of California, Office of the President, provides management support and administers the competitive research grants program.
http://www.climatechange.ca.gov/research/funding.html

U S Federal

Congressional Testimony -- The Federal Government's Role in Building Resilience to Climate Change
Testimony of Stephen Seidel, Vice President for Policy Analysis
Pew Center on Global Climate Change
Submitted to Select Committee on Energy Independence and Global Warming
U.S. House of Representatives
October 22, 2009
Stephen Seidel, Vice-President for Policy Analysis at the Pew Center on Global Climate Change presented testifies on the topic of what the federal government should be doing to adapt to climate change.
http://www.pewclimate.org/testimony/seidel/10-22-09

Teaming with Wildlife: Climate Change and Wildlife Funding
Support Wildlife Funding in Lieberman-Warner Legislation!

Senator Lieberman receiving a Teaming with Wildlife award On December 5, the Senate Environment and Public Works Committee approved the Lieberman-Warner Climate Security Act (S.2191), including provisions that would provide substantial dedicated funding to the Wildlife Conservation and Restoration Program. Thanks to hard work by many members of the Teaming with Wildlife Coalition, including a letter signed by 214 organizations, as much as $3 billion/year could go to state fish and wildlife agencies, via the Wildlife Conservation and Restoration Program, for activities to assist fish and wildlife species impacted by climate change. We'll need your help again to ensure these provisions survive on the Senate floor.
http://www.teaming.com/funding/climate.html

Funding Flows for Climate Change Research and Related Activities
by Jeff Kueter, April 1, 2005, The Marshall Institute

Funding Flows for Climate Change Research and Related Activities identifies the leading suppliers and recipients of government and foundation resources in climate-based research. The study compiles and presents publicly available data on grants from the federal government and private foundations. Some of the findings include:

- Private foundations distribute a minimum of $35-50 million annually to non-profit organizations and universities to comment on or study various elements of the climate change debate.
- Climate change-related projects accounted for over 25% of the 3-year total (2000-2003) reported grants and contributions received by 10 of the top-20 institutions receiving support from foundations. For six organizations, climate change grants accounted for 50% of their reported grants and contributions received.
- The federal government spent nearly $2 billion to support climate change science programs in FY 2004.
- In 28 of the top-30 R&D performing academic institutions, federal financing accounts for more than 50% of the institution's expenditures on atmospheric R&D.

http://www.marshall.org/article.php?id=289
PDF of Full Report: http://www.marshall.org/pdf/materials/289.pdf

Non-Governmental Funding

Funding Opportunities for NGOs, CBOs, and Researchers
Integrated Approaches to Participating Development (IAPOD)
Participatory Avenues acts as focal point for sharing lessons learned and innovation in practicing ethically-conscious community mapping and participatory GIS as means to add value and authority to people's spatial knowledge and improve bottom-up communication.
(Includes funding sources related to climate change and adaptation strategies)
http://www.iapad.org/funding_sources.htm

Geo Challenge Grants from Google.org
Overview | FAQ
Google.org
At Google.org, we believe maps are a powerful tool for non-profits of all kinds to communicate issues, understand needs, and create more effective implementation plans. Many of you have come to us with compelling ways that maps can help you and your organization increase impact, and we want to help you make your mapping ideas a reality. Google offers a pilot program of Geo Challenge Grants to organizations working in areas related to our core initiatives.

Through this program, we will offer grants valued between US$5,000 and US$100,000, either directly from Google.org, or through grant recommendations from the Google.org Fund of Tides Foundation. Issuance of grants is through an open application process - legally qualified, public charitable organizations with a compelling idea about how maps can help them work more effectively are eligible. Smaller mapping applications requiring only static data might receive US$5,000 in funding, while development of tools that enable many organizations to create maps might receive US$100,000. Google partners with Google Earth Outreach on this program to help evaluate proposals from a technical standpoint and to help us ensure the grants are successful.
http://www.google.org/geochallenge.html

ESRI grant for GIS (Geographic Information Systems) products
ESRI website
Any non-profit or non-government organization working for social justice, environment, indigenous rights or public benefit in any nation, or any individual volunteering for these types of groups, may apply for a grant. There are no grant cycles or deadlines, you can apply any time. A "basic" request is limited to Single-user versions of Arcview software (up to 3 copies), Extensions, online and live training, books, GIS Data, and ESRI conference passes.
http://www.conservationgis.org/grant/index.html

Foundations to Discuss Funding to Combat Climate Change
Yale School of Forestry & Environmental Studies
http://environment.yale.edu/news/5598

Foundation Center - Focus on Climate Change
Climate Change: Preserving Our World
Website
"Climate change is intensifying disasters, including extreme weather events, storm surges, floods and droughts...no area can escape the adverse impact of climate change...."
— "End Poverty 2015: Millennium Development Goals Fact Sheet," United Nations
"Never before have [we] confronted such a complex, far-reaching crisis.... Global, collective action is paramount. The stakes — and hurdles — could not be higher."
— "Design to Win: Philanthropy's Role in the Fight Against Global Warming," California Environmental Associates
How are we addressing these challenges?
Large U.S. foundations invested $436 million to address climate change in 2007
Of the $436 million, 41% was spent internationally, mostly in developing countries
Foundation giving for climate change has increased nearly 5-fold domestically since 1997 and nearly 8-fold internationally
Which leads us to ask...
How is the funding being spent?
What innovative programs and initiatives are being funded?
What impact is it having?
We examined these issues...
- Developing Energy Policy in the U.S.
- Reducing Energy Waste
- Educating the Public
- Developing Energy Policy in Emerging Economies
- Adapting to Climate Change in Developing Countries
http://www.foundationcenter.org/focus/gpf/climatechange/

Other Related Climate Change Funding

Climate Change Policy as an Economic Redevelopment Opportunity: The Role of Productive Investments in Mitigating Greenhouse Gas Emissions
John A. "Skip" Laitner, October 2009
Abstract

This report is designed to set the record straight about the long-term economic impacts of cap-and-trade legislation. Many economic assessments of climate change policies completed to date, especially from opponents of the Waxman-Markey bill (H.R. 2454), make a flawed argument that meeting greenhouse gas emissions goals will result in job losses and economic costs to American families and businesses. Those projections are largely the result of a faulty assumption

that that all mandated carbon emissions reduction policies must be inherently costly regulations, rather than potential opportunities and incentives for productive investments with positive economic payoffs.

As this report shows, however, the more cap-and-trade legislation is crafted to spur investments in energy-efficient devices, materials, and designs (such as energy-saving home appliances, better-insulated buildings, and more efficient industrial equipment and vehicles), the more it will lead to increases, not decreases, in the number of jobs in the U.S. economy. Furthermore, it will lead to reductions, not rises, in our energy bills, with negligible impact on the size of the economy.

In this report, ACEEE used its state-of-the-art "DEEPER" energy policy model to examine the economic impacts of three cap-and-trade policy scenarios designed to meet goals for reducing carbon emissions. The model specifically takes into consideration the potential economic benefits of energy efficiency investments. Depending on the level of efficiency investments within each scenario, the net savings in the nation's energy bill ranges from $350 to $450 billion by 2030. This grows to as much as $720 billion by 2050. At the same time, the nation benefits from higher levels of employment. The net job benefits range from over 400,000 to one million new jobs by 2030, growing as high as 2.5 million by 2050.
http://aceee.org/pubs/e098.pdf?CFID=4287914&CFTOKEN=15912146

Guidance: Planning Program Funds to Support Integration of Transportation, Land Use, and Climate Change, FHWA/FTA Website, November 2008

Current FHWA/FTA planning requirements (23 U.S.C. 134 and 135, 49 U.S.C. 5303 and 5304) call for MPOs and State DOTs to consider land use and economic development impacts in their transportation planning processes. The FHWA/FTA issued guidance to clarify the eligibility and criteria for use of FHWA/FTA metropolitan and statewide planning program funds to support Unified Planning Work Program (UPWP) and State Planning and Research (SPR) work activities addressing the integration of transportation, land use, and climate change.
http://www.fhwa.dot.gov/planning/plnlnduse.htm

Funding for Public Transportation

APTA Primer on Transit Funding - The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, and Other Related Laws, FY 2004 Through FY 2009
Authors: Neff, John, American Public Transportation Association, 2009, TRIS

Abstract: The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Public Law (P.L.) 109-59, is the current authorizing law that establishes authority to appropriate General Revenues and to spend trust fund monies through limitations on obligations, for highways and transit, on an annual basis from Fiscal Year (FY) 2005 through FY 2009. SAFETEA-LU also modifies sections of the United States Code (USC) that specify how federal highway and transit programs are administered and modifies sections of the Internal Revenue Code of 1986 pertaining to the Highway Trust Fund (HTF) and tax benefits for travel to work. Although SAFETEA-LU was not enacted until August 10, 2005, the entire six-year period of FY 2004 through FY 2009 is treated herein as the "SAFETEA-LU period." The multi-year authorization act that preceded SAFETEA-LU, the Transportation Equity Act for the 21st Century, and (TEA 21) was in effect through September 30, 2003. From October 1, 2003 through August 9, 2005, the federal transit and highway programs were authorized through 12 short-term extension acts. Those extension acts that applied to FY 2005 funding were reauthorized by SAFETEA-LU. This report describes funding provisions of SAFETEA-LU, extension acts to TEA 21, and related laws that provide for transit funding. Laws not related to funding and provisions of regulations are not described. Provisions of the following laws authorize and control transit funding: (1) SAFETEA-LU authorizes the levels of transit and highway funding from FY 2005

through FY 2009 and describes the structure for newly created funding programs and changes to existing programs. (2) TEA 21 extension acts extended the TEA 21 authorization period from October 1, 2003 through August 14, 2005. The TEA 21 extension acts authorized the transit program for FY 2004 but were superseded for FY 2005 by SAFETEA-LU when it became law on August 10, 2005. (3) Title 49, Chapter 53 of the United States Code, Mass Transportation, contains the permanent provisions of law for administering the federal transit program. Some of those provisions are modified by SAFETEA-LU. (4) Title 23 of the United States Code, Highways, contains the permanent provisions of law for administering the federal highway program. Some of those provisions are also altered by SAFETEA-LU. (5) The Internal Revenue Code of 1986, Subtitle I, Trust Fund Code, contains provisions governing collection and use of motor fuel taxes for highway and transit programs. SAFETEA-LU extended and modified the Internal Revenue Code by (6) Previous authorizing acts as indicated in the following text which contained provisions that have been continued in SAFETEA-LU but have not been codified in 49 USC. (7) Funding for transit was included the American Recovery and Reinvestment Act of 2009. (8) Funding eligible for transit uses was included in Department of Homeland Security appropriations from 2004 through 2009.
http://www.apta.com/gap/policyresearch...Primer_SAFETEA_LU_August_2009_Update.pdf

Public Transportation: Federal Project Approval Process Remains a Barrier to Greater Private Sector Role and DOT Could Enhance Efforts to Assist Project Sponsors
Corporate Authors: U.S. Government Accountability Office, 2009, TRIS

Abstract: As demand for transit and competition for available federal funding increases, transit project sponsors are increasingly looking to alternative approaches, such as public-private partnerships, to deliver and finance new, large-scale public transit projects more quickly and at reduced costs. The U.S. Government Accountability Office (GAO) reviewed (1) the role of the private sector in U.S. public transit projects as compared to international projects; (2) the benefits and limitations of and barriers, if any, to greater private sector involvement in transit projects and how these barriers are addressed in the Department of Transportation's (DOT) pilot program; and (3) how project sponsors and DOT can protect the public interest when these approaches are used. In the United States, the private sector role in delivering and financing transit projects through alternative approaches, such as public-private partnerships, has been more limited than in international projects. The private sector role in U.S. projects has focused more on how they are delivered rather than how they are financed, while the private sector role in international projects has focused on both project delivery and financing. Since 2000, seven new large- scale construction projects funded through FTA's Fixed Guideway Capital Investment Program—New Starts program—have been completed using one of two alternative project delivery approaches, and none of these projects included private sector financing. In 2005, Congress authorized FTA to establish a pilot program to demonstrate the advantages and disadvantages of these alternative approaches and how the New Starts Program could better allow for them. Alternative approaches can offer potential benefits such as a greater likelihood of completing projects on time and on budget, but also involve limitations such as less project sponsor control over operations. The sequential and phased New Starts process is a barrier because it is incompatible with alternative approaches and thus does not allow for work completed concurrently, which can lead to delays and increased costs. Under its pilot program, FTA can grant major streamlining modifications to the New Starts process for up to three project sponsors, but has not yet granted any such modifications because FTA has found that none of the projects has transferred enough risk, in particular financial responsibilities, to the private sector. FTA has the ability within its pilot program to further experiment with the use of long-standing existing tools that could encourage a greater private sector role while continuing to balance the need to protect the public interest. This includes forms of conditional funding approvals used by other DOT agencies and international governments. FTA also lacks an evaluation plan to accurately and reliably assess the pilot program's results, including the effect of its efforts to streamline the New Starts process for pilot project sponsors. Without such a plan, agencies and Congress will be limited in their decision making regarding the pilot program. Transit project sponsors protect the public interest in

alternative approaches through, for example, the use of performance standards and financial assessments to evaluate the costs and benefits of proposed approaches. Other governments have established entities to assist project sponsors in protecting the public interest. These entities have better equipped project sponsors to implement alternative approaches by creating a uniform approach to developing project agreements and serving as a repository of institutional knowledge. DOT can serve as a valuable resource for transit project sponsors by broadening its current efforts, including providing technical assistance and encouraging the use of additional financial assessments, among other measures. The Federal Transit Administration (FTA) should incorporate greater flexibility in its pilot program through the use of existing tools, such as conditional approvals, to streamline the New Starts process, and develop a sound evaluation plan to assess the pilot program's results. DOT should increase efforts to better equip project sponsors in using these approaches, including developing guidance and providing technical assistance.
http://www.gao.gov/new.items/d1019.pdf

Analysis of the Connect Oregon Program through Two Project Selection Cycles
Authors: Baker, Teddie A., Bufalino, Michael E, Oregon Department of Transportation; Ford, M L, Mark Ford and Associates LLC, Kale, S R, Kale Consulting LLC, Salem, OR, 2009, TRIS

Abstract: The Oregon Legislature passed a law establishing the Multimodal Transportation Fund in 2005. The fund is part of the Connect Oregon program, with the purpose of making public and private investments in aviation, marine, rail, and transit. The legislation provided $100 million in state lottery bond revenues to fund the program. In 2007, the legislature provided another $100 million. For the $200 million available through Connect Oregon, a total of 181 project applications received, and 73 selected for funding. By June 30, 2009, 27 projects completed, and most of the others were under construction or in design. This report is to help inform other states considering a collaborative approach to multimodal transportation funding programs. The report is comprised of the following sections: (1) an overview of Connect Oregon legislation and administration; (2) procedures for submitting, reviewing, evaluating, and prioritizing Connect Oregon applications and for making final funding recommendations; (3) a comparison of Connect Oregon I and Connect Oregon II results by region, mode, and size of funding request; and (4) a discussion of participant feedback and lessons learned.
http://www.oregon.gov/ODOT/TD/TP_RES/docs/Reports/2009/Connect_Oregon_FR.pdf

Stranded at the Station: The Impact of the Financial Crisis in Public Transportation
Corporate Authors: Transportation for America, Washington, DC, Nelson\Nygaard Consulting Associates, San Francisco, CA, 2009, TRIS

Abstract: Public transit demand has been increasing, and it is now at a historic high in the United States. However, due to the economic difficulties of the nation, many communities are cutting transit services and/or raising fares. This paper describes the benefits of public transit; and argues for increasing federal public transit funding and altering existing federal transit policy.
http://www.t4america.org/docs/081809_stranded_at_thestation.PDF

Challenge of State and Local Funding Constraints on Transit Systems: Effects on Service, Fares, Employment, and Ridership - Survey Results
Corporate Authors: American Public Transportation Association, 2009, TRIS

Abstract: Public transit systems all across this country have experienced a year of declining revenue this year. They have faced employee layoffs, cuts in service, fare increases, and rising operating costs. Demand for transit services has risen, even as budgetary pressure has arisen due to the collapse of the financial sector in this country and around the world. This report discusses to what degree transit systems are experiencing a decline in revenue, and the effect that has on transit system operations.

http://www.apta.com/research/info/online/documents/constraints_09.pdf

Public Transportation and the Global Financial and Climate Crisis: U.S. Impacts and Actions
Authors: Guzzetti, Art, American Public Transportation Association, 2009, TRIS

Abstract: This article describes some of the challenges face by public transportation systems in the United States. Although public transportation use is up, and people seem to recognize the benefits of public transportation, the financial and economic crisis is making it difficult to expand systems to meet the demand. Funding shortfalls are delaying projects and causing fare increases. This lack of funding has come at a critical time, since there is growing recognition of the link between automobile travel and greenhouse gas emissions. The future transportation system needs to be more multi-modal and connected with energy, environmental and economic policy. Unfortunately, the economic crisis is delaying progress towards this goal.
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Surface Transportation Funding

Driven by Dollars: What States Should Know When Considering Public-Private Partnerships to Fund Transportation
Corporate Authors: Pew Center on the States, Washington, DC, 2009, TRIS

Abstract: This paper examines Pennsylvania's bid to privately lease the Pennsylvania Turnpike and the reasons why this attempt failed. It looks at what Pennsylvania did right, whether the state had all the information it needed in order to make a decision, and emphasizes what other states can learn from Pennsylvania's decision making process. It also presents the experiences of other states in privatizing roads.
Summary URL: http://www.pewcenteronthestates.org/report_detail.aspx?id=50306
http://www.pewcenteronthestates.org/uploadedFiles/PA_Turnpike_FINAL_WEB.pdf

How States and Territories Fund Transportation: An Overview of Traditional and Nontraditional Strategies
Authors: Dierkers, Greg and Mattingly, Justin, National Governors' Association, Washington, DC, 2009, TRIS

Abstract: The nation's transportation system faces many pressures, including a growing imbalance between system use and system capacity, erosion of traditional funding sources, greater infrastructure costs, and shrinking sources of credit resulting from the current economic crisis. In response, states and territories are actively exploring how they can make better use of existing and new approaches to fund and finance transportation. This report provides states with an overview of traditional funding mechanisms, profiles of new and innovative programs at work in the United States and overseas, and a summary of each state's surface transportation funding approaches. The report covers state-driven mechanisms only and is meant to help states identify strategies to consider in addressing their revenue needs alongside federal and local approaches.
http://www.nga.org/Files/pdf/0907TRANSPORTATIONSTRATEGIES.PDF

Not the Macquarie Model: Using U.S. Sovereign Wealth to Renew America's Civil Infrastructure
Authors: Little, Richard G, University of Southern California, Los Angeles; Corporate Authors: Keston Institute for Public Finance and Infrastructure Policy, University of Southern California, Los Angeles, CA, 2008, TRIS

Abstract: This policy paper suggests that money from the Social Security Trust Fund and a combination of public and private pension funds could provide good alternatives to using public/private partnerships to build, operate, and maintain transportation infrastructure. The paper proposes that investments made by pension funds would return revenue through steady revenue streams including tolls and other user fees. An independent federal oversight organization is proposed to monitor investments from Social Security and other federal funds. The author suggests that continued use of federal grants to meet the nation's infrastructure needs is insufficient. He proposes trying to leverage some of the $8 trillion to $10 trillion currently held in public and private pension funds to make up the funding gap that the federal government is unable to cover. Investing Social Security dollars in infrastructure could provide its trust fund with a higher rate of return, the paper states, and help public pension funds seeking to hedge their investments against inflation.
http://www.america2050.org/upload/2009/01/Paper_Richard_Little.pdf

Making the Case for Transportation Investment and Revenue
Authors: Kassoff, Hal, McDaniel, Wayne, Farley, Kimberly, Giordano, Reno, Isaac, Lauren, Skans, Dorothy, all Parsons Brinckerhoff, Incorporated; Pethtel, Ray, Virginia Polytechnic Institute and State University, Blacksburg, VA; Corporate Authors: Parsons Brinckerhoff, Incorporated Washington, DC; American Association of State Highway and Transportation Officials, Washington, DC, 2009, TRIS

Abstract: The authors investigated 11 case studies to identify common themes and lessons learned on the crucial topic of transportation investment and revenue. In some of these cases agencies were successful in their funding initiatives, in some cases they were not, and in some cases agencies made multiple attempts with mixed results. This document is organized in three chapters and one appendix. Chapter 1, The Essential Guide for Senior Staff, helps you determine whether your agency is ready to ask for additional funding, provides steps you might take to get on the road to success, and identifies potential pitfalls to avoid. Chapter 2, The Tactical Toolkit, gives you examples of winning messages, describes the pros and cons to engaging in outreach, education, and marketing, and describes tools commonly used to engage audiences. Chapter 3, Case Studies: Summarizing Lessons Learned, briefly describes the context and lessons learned from each of the cases researched. Unique factors the authors found are also described. The Appendix includes the full case studies. The case studies include funding initiatives in the following locales: California, Maricopa County (Arizona), Maryland, Minnesota, New Your City, Ohio, Texas, Utah, Virginia, Washington State, and the Federal government.
Supplemental Notes: The information contained in this report was prepared as part of the National Cooperative Highway Research Program (NCHRP) Project 20-24(62).
http://downloads.transportation.org/Ma...ransportation_Investment_and_Revenue.pdf

Future Mobility in Nevada: Meeting the State's Need for Safe and Efficient Mobility
Corporate Authors: The Road Information Program, Washington, DC, 2009, TRIS

Abstract: This report investigates the use, safety, and condition of Nevada's highways, public transit systems, bridges, and roads; and the role of federal funding in Nevada's future mobility needs and the improvement and maintenance of Nevada's surface transportation system. The report notes that even though Nevada received $250 million in stimulus funding - for public transit, highway, and bridge improvements - from the American Recovery and Reinvestment Act, this will not be enough to take care of the state's transportation needs. The current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), expires on October 31, 2009. It is important to overhaul this program and boost its funding, to ensure that states will have adequate funds to maintain the condition, safety, and use of their highways, bridges, and public transit systems. The state of Nevada depends on funding from this Federal surface transportation program, and it is vital to continue this source of funding.

http://www.tripnet.org/TRIP_Nevada_Report_Oct_09.pdf

Beyond Highway Construction: Alternative Uses for Transportation Funding from America's Recovery and Reinvestment Act
Corporate Authors: National Conference of State Legislatures, Washington, 2009, TREIS

Abstract: The American Recovery and Reinvestment Act of 2009 (ARRA) was signed into law on February 17, 2009. A significant portion of the act provides aid for highway infrastructure investment. The transportation spending funds that are not infrastructure investment related can be used for other transportation purposes. This paper makes a case for investing more money in intelligent transportation systems (ITS). Various ITS project applications are described and a chart is displayed that gives benefit-cost information, and also project relationship to safety, mobility, and energy/environment.
http://www.ncsl.org/documents/transportation/HighwayConstruct309.pdf

Debt Finance Practices for Surface Transportation
Authors: Henkin, Tamar, TransTech Management, Incorporated, 2009, TRIS

Abstract: This report presents basic principles of debt issuance for public agencies. The primary focus is on the current practices of state agencies with responsibilities for surface transportation investment. The report may be useful in assisting in the decision on when and how to best use debt financing techniques to fund investments in transportation infrastructure. Anticipated audiences include those with financial oversight responsibilities for state departments of transportation (DOTs), public authorities, and local governments. Others who may benefit include legislative oversight committees and the media. Information for this report was gathered through a literature review, a comprehensive survey of state DOTs, selected interviews, and a study of selected state policies, guidelines, and documentation.
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_syn_395.pdf

User-Based VMT Transportation Funding

Implementable Strategies for Shifting to Direct Usage-Based Charges for Transportation Funding
Report Numbers: NCHRP Project 20-24(69)
Authors: Sorensen, Paul A, RAND Corporation; Ecola, Liisa, RAND Corporation; Wachs, Martin, RAND Corporation, Donath, Max, University of Minnesota, Minneapolis, MN; Munnich Jr, Lee W., University of Minnesota, Twin Cities; Serian, Betty, Betty Serian and Associates, 2009, TRIS

Abstract: This report presents an analysis of ways that direct charges to road users, based on vehicle-miles of travel (VMT), implemented within approximately the next 5 years. VMT fees are possibly an alternative or supplement to fuel taxes that for many decades have been a principal mechanism for funding the transportation system. This document describes trends in fuel-tax revenue and VMT growth that suggest the motivation for considering such fees, and then describes how currently available technology and administrative structures used to implement direct usage-based charges. The recent trials conducted by several states inform the analysis. The information will be useful to national- and state-level policy makers and to government officials and others who may be engaged in evaluating, designing, and implementing such direct usage-based charges.
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w143.pdf

The Equity Implications of Financing the Nation's Surface Transportation System
Authors: Rosenbloom, Sandra, University of Arizona, Tucson, 2009, TRIS

Abstract: Many of the transportation financing options being considered or implemented at the federal, state, or local levels involve new taxing and debt instruments, direct charges for services, and an active role for private entrepreneurs. The author of this article comments on issues of traditional, interjurisdictional, intergenerational, and inter- and intra-modal equity raised by these arrangements and traces out research needs to inform policy decisions.
http://onlinepubs.trb.org/onlinepubs/trnews/trnews261equity.pdf

Beyond Congestion: Transportation's Role in Managing VMT for Climate Outcomes
Authors: Burwell, David G, BBG Group, Corporate Authors: Springer Science & Business Media, NY, NY; 2009, TRIS

Abstract: This chapter describes how public concern over the rapidity of climate changes, and the potentially catastrophic consequences of such changes to economic, social, and biological systems has exploded over last couple of years. At the same time, traffic congestion ahs continued to worse, and now costs urban travelers an average of 38 hours in travel delay annually. This chapter addresses the question whether or not reducing vehicle miles traveled (VMT) is a sensible strategy for reducing for both traffic congestion and transportation-related emissions of carbon dioxide (CO(2)), the primary greenhouse gas contributor from the transportation sector.
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Revenues from a Statewide Congestion Pricing Program: Estimation on a Shoestring Budget
Corporate Authors: Transportation Research Board; Authors: DeCorla-Souza, Patrick T, Federal Highway Administration; Luskin, David M, HDR Engineering, Inc. Source Data: Transportation Research Board Annual Meeting 2009, Paper #09-0238, TRIS

Abstract: Many states in the U.S. have identified the need to invest in major highway corridors to accommodate growth and ensure that the state's economy is competitive. With conventional "pay-as-you-go" approaches to funding and procurement, the necessary projects could take decades to complete and would require additional public funding. One innovative financing alternative that may be used in up to 15 states under the Federal Value Pricing Pilot Program is to use congestion pricing to generate a revenue stream that can leverage the upfront private capital and thus accelerate the delivery schedule for planned state projects. With variable pricing, tolls on existing limited-access highways could be used to manage growing congestion. Revenues from the tolls could be used to: (i) pay for the reconstruction or rehabilitation of some or all of these highways, (ii) help pay for the construction of new highways, (iii) fund improvements in transit services, for which demand would be stimulated by road congestion pricing. This paper presents a sketch-planning approach to estimate the revenue that could be raised if a state were to implement congestion pricing on some or all of its freeways, and applies this approach to data for South Carolina as a case study.
Order URL: http://pubsindex.trb.org/orderform.html

Untangling Transportation Funding
Authors: Puentes, Robert; Tomer, Adie; Corporate Authors: Brookings Institution, Washington, DC. 2009, TRIS

Abstract: The authors discuss options for transportation funding. They describe a vehicle miles traveled (VMT) based system of financing and also value the federal gas tax. A possible problem with VMT based revenue is that people have been driving less since 2004. As driving continues to decrease a VMT based funding source would also decrease. A benefit of VMT fees is that they would not be negatively impacted by increasing the fuel efficiency of motor vehicles. The gas tax would bring in less revenue with increased use of fuel efficient vehicles. Other options are also explored. The authors favor increasing the gas tax in the short term, until other successful financing measures can be found.

http://www.brookings.edu/opinions/2009..._vehicle_miles_traveled_puentes.aspx?p=1

Contract Design, Financing Arrangements Models

Contract Design, Financing Arrangements and Public Ownership—An Assessment of the US Airport Governance Model
Authors: Fuhr, Johannes, Technische Universita, Berlin, Beckers, Thorsten, Technische Universitat, Berlin, 2009, TRIS

Abstract: US airports negotiate legally binding contracts with airlines and finance large investment projects with revenue bonds. Applying insights from transaction cost economics, we argue that the observed variation in contractual and financing arrangements at US airports corresponds to the parties' needs for safeguarding and coordination. The case evidence presented reveals that public owners set the framework for private investments and contracting. We suggest that airline contracts and capital market control result in comparative efficient investments and act as a check on the cost inefficiency typically linked to public ownership.
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