

Memorandum

To: Tom Maziarz, CTDOT
From: Don Vary and David Sousa, CDM Smith
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Subject: Transportation Funding: European Approaches

How Other Countries Pay for Transportation

The following information is derived from on-line sources, as referenced. All text in this document is taken directly from the referenced papers.

“National Funding of Road Infrastructure: Summary”¹

This report on the road infrastructure funding practices of foreign countries provides an opportunity to determine whether lessons can be learned from the experiences of other countries in funding roads and highways. The individual country surveys reveal a multiplicity of approaches to the funding of road infrastructure.

Several of the surveyed countries, like the US, have a fuel tax that is dedicated, at least in part, to the financing of road construction and maintenance. These include Brazil, Canada, China, Israel, and South Africa. Other countries place fuel and other excise taxes with general revenues and fund roads from general revenues, including Australia, England, Germany, Italy, and Mexico. Japan used to dedicate fuel and vehicle taxes to road infrastructure, but began placing such revenues into the general account in fiscal year 2009.

Several of the countries appear to rely somewhat heavily on private roads, concessions, or private-public partnerships as means to fund some of their road infrastructure, including Canada, China, France, Israel, and South Africa. In Australia, some state governments have developed networks of toll roads in partnership with private-sector investors, and the present Australian government is currently evaluating possible mechanisms for maximizing private-sector investment in major infrastructure projects.

Most of the surveyed countries have tolling systems to obtain part of their revenue for financing roads. In the case of Japan and France, the surveys note that tolls are linked with

¹ Louis Acosta, “National Funding of Road Infrastructure: Comparative Summary”, March, 2014, Source: Library of Congress, <http://www.loc.gov/law/help/infrastructure-funding/comparative.php>. From the Library of Congress Law Center.

the weight of the vehicle and distance traveled. In the Netherlands, tolls known as “mobility rates” are charged for the use of roads as cars enter fee-payment gateways.

In England, a congestion tax is imposed on vehicles that enter central London during certain hours. Efforts to spread the congestion tax to other cities in England and Wales were abandoned, however. A congestion tax is also imposed in Sweden, in the cities of Stockholm and Gothenburg. This tax is not used for road maintenance; its purpose is to shift the preferred means of transportation from cars to public transportation, and to pay for the environmental effects of motor vehicle use.

Australia imposes a fuel-based, road-user charge on heavy trucks based on the amount of fuel used. A reform advisory group has proposed that trucks should be required to have GPS devices installed to enable taxation on the basis of distance traveled, and has argued that there should be a stronger relationship between revenues from user charges and the provision of the road network.

In France, the government was planning this year to implement a tax on heavy trucks that would have contributed to the financing of transportation infrastructure, which would have been calculated on a per-kilometer basis and on the basis of the vehicle’s size, age, and level of emissions. The implementation of this tax has been postponed, perhaps until 2015, because of strong public opposition.

Sweden taxes motor vehicles to pay for costs associated with them, including carbon dioxide emissions and road maintenance. The Netherlands imposes a motor vehicle tax based on the vehicle’s carbon dioxide emission level. Italy similarly imposes a vehicle tax based in part on the amount of pollution generated by the vehicle.

The Netherlands government in 2009 considered imposing a per-kilometer fee for motor vehicle use and abolishing the motor vehicle tax, but that scheme was never instituted.

In England, the prospect of a national system of road pricing based on usage was raised by a Transport Minister in 2012, but no legislation has been proposed.

In Sweden, a December 2013 government report discussing possible changes to the taxation of motor vehicles proposed a new tax on heavy-duty vehicles based on kilometers driven.

“How We Pay for Transportation: The Life and Death of the Highway Trust Fund²”

Germany

The bulk of transportation money in Germany comes from the federal purse. The principal source of revenue is the gasoline tax. Gasoline is taxed at a significantly higher rate than in the United States. Germany’s gas tax is currently set at €0.67 per liter (US\$3.43/gallon) and it generates nearly €18 billion (US\$24.5 billion) in annual revenues for the federal government. Germany does receive some funding from the European Union through its Trans-European Transport Network program, but these funds are small in comparison with the federal infrastructure budget.

In 2004, Germany adopted a partial user-pay system by widely implementing truck tolls for the first time on federal highways managed by a federally owned government corporation. The toll is a mileage charge that applies specifically to heavy trucks. It ranges from €0.141 to €0.288 (US\$0.19 to US\$0.39) per kilometer, depending on the vehicle’s emissions category, and generates slightly more than €3 billion (US\$4 billion) in annual revenues. Revenues from existing truck mileage fees represent about 30 percent of total federal transportation funding. Initially, these revenues were earmarked for federal roadway, waterway, or railway projects, but since 2011 they have been dedicated to roadway projects only.

There are indications that the German federal government is increasingly interested in moving toward a user financed system, with revenues collected through mileage fees, but to date private automobiles rarely encounter any tolls. Though there is interest, the steps that have been taken toward user-based funding, primarily through the truck mileage fee, are likely to face opposition if an attempt is made to expand them to include automobiles.

United Kingdom

Central Government funding for surface transportation in the UK totaled approximately £9 billion (US\$15.3 billion) in budget year 2012–2013. This was matched by slightly more than £8 billion (US\$13.8 billion) in funding from the devolved governments of England, Scotland, Wales, and Northern Ireland.

Over the past eight years, funding from the Central Government has averaged about £9.3 billion per year. Nearly 50 percent of Central Government funding in recent years has gone to capital improvements in the rail network, including the Crossrail project in the London area.

² Eno Center for Transportation, “How We Pay for Transportation: The Life and Death of the Highway Trust Fund”, December 2014, Source: <https://www.enotrans.org/store/research-papers/the-life-and-death-of-the-highway-trust-fund->

The UK does not dedicate user fees to fund its national transportation programs. Road users do, however, pay relatively high fuel taxes. These taxes include a percentage-based, value-added tax and an excise tax that together equal approximately £3.03 (US\$5.15) per gallon. Fuel taxes are levied nationwide and are deposited into the UK's Consolidated (general) Fund. In 2011 fuel tax revenues amounted to £26.7 billion (US\$45 billion). By comparison, overall public sector expenditures on transportation, at all levels of government, totaled £19.3 billion (US\$32.8 billion) in budget year 2012–13; of that total, £8.5 billion (US\$14.4 billion) was spent on local and national roads.

In addition to funding provided at the national level, transportation funding is supplemented at the local level through further general taxes and a few user-based funding mechanisms. In particular, toll-based P3s have been used to fund the M6 Toll Road, while congestion pricing is used in London and helps fund Transport for London (TfL). The national government's approach to transportation funding continues to follow the same general principle of distributing some funds via formula to local transportation agencies, while reserving the rest for grants to major projects that can demonstrate significant value for money. This has allowed many large infrastructure projects to receive substantial and sustained funding.

Conclusions from the Case Studies

The five countries examined as part of this study (Germany and the UK, see above summaries, and Australia, Canada, and Japan) offer valuable lessons for the United States in that they demonstrate alternative approaches for sustainably and effectively funding surface transportation needs. As in the United States, each of these countries has a method for distributing funding to sub-governments to preserve and maintain the existing transportation system. The bulk of these funds are distributed via formula, though in some cases performance measures or economic analysis are used to target investment or leverage local funds. For example, the UK appropriates money via formula and through discretionary programs, but large-scale projects must demonstrate a high Value for Money.

As in the United States, each of these countries has developed a mechanism to enable long-term funding commitments. Examples include Canada's Gas Tax Fund, Australia's Special Account, and Japan's version of contact authority. However, again similar to the United States, these mechanisms are not perfect. For example, the UK has identified challenges with its funding stream to the Highways Agency and is currently in the process of implementing reform to increase funding predictability. Nonetheless, the existing mechanisms for distributing predictable levels of funding over the long-term in each of the case study countries give localities the ability to maintain and upgrade their surface transportation systems, helping these economies to compete on the world stage. The fact that each country has developed mechanisms that do not employ a user-fee structure suggests that it is possible to ensure funding sustainability within an alternative model.

Perhaps the most relevant finding for this study, is that all of these countries fund their national transportation programs through their general government budget, and none of

these countries directly hypothecates or commits fuel taxes for transportation uses only. Of the countries evaluated, Japan is the one that most recently used dedicated gas taxes to fund transportation investments. However, elected officials in Japan found that the public did not support this approach because it was perceived that it promoted investment that was not based on actual infrastructure needs. They therefore chose to un-hypothecate fuel taxes and now use general funds for transportation investments.

Internationally, interest in P3s and tolling has been growing substantially but—as in the United States—P3s continue to account for only a small portion of overall transportation investment around the globe. In addition, there has been a trend toward an increased reliance on sales tax or other general fund revenues. Within the United States, for example, Virginia and Arkansas recently increased state sales taxes and dedicated the new revenues to transportation. Outside of the United States, other national governments have also increased the amount of general funding directed to transportation projects, in some cases with the help of strategic planning or analysis.

International experience demonstrates that the HTF model is not the only viable option for sustainably and predictably funding surface transportation needs at the national level. Further, it suggests that using general funds might increase governments' ability to target funds to the most beneficial projects. Thus international experience offers useful insights and potential examples if U.S. policymakers wish to consider moving beyond the current trust fund user-pay model.

“National Funding of Road Infrastructure: Italy³”

Income from Taxes and Tolls: Revenue generated by taxes on road and automobile usage goes to the general Italian treasury. Road usage as expressed through fuel consumption is taxed with an excise tax and a value-added tax (VAT). The excise is a type of consumption tax distinct from the VAT in that it is not proportional to the value but to the quantity of the product. The fuel-consumption VAT, on the other hand, is a general consumption tax that is not tied to road construction or maintenance.

Automobile taxes, in turn, are levied on vehicle owners and are paid independently of car or highway usage. The amount of the tax varies according to the vehicle's engine power. Another factor involved in determining the automobile tax is the class of pollution generated by the vehicle: the lower the class number, the higher the amount paid because the vehicle pollutes more. Several other criteria also affect the determination of automobile taxes.

³ Dante Figueroa, “National Funding of Road Infrastructure: Italy”, March, 2014, Source: Library of Congress, <http://www.loc.gov/law/help/infrastructure-funding/comparative.php>. From the Library of Congress Law Center.

With respect to highway-usage tolls under the concession regimen, highway concessionaires have been required to pay an annual fee to the state since 1994. The rate of this fee, which has been modified several times, is currently 2.4% of the net proceeds of the tolls that are due to the concessionaires. Forty-two percent of the fee is paid directly to ANAS, which directs those funds toward supervising and controlling concessionaires in accordance with the relevant costs for maintaining the ANAS network. This is the only exception to the general rule that funds for building roads in Italy are not treated separately from funds for operating and maintaining roads.

Other Financing Mechanisms: Other mechanisms for financing public infrastructure projects include “project financing,” the issuance of titles of credit (bond projects), the issuance of bonds by insurance companies, and tax exemptions for certain activities and public-private partnerships (PPPs). To facilitate the implementation of new infrastructure projects performed through PPP contracts worth a minimum of €500 million (about US\$677.4 million), tax credits are granted to holders of PPP contracts via the corporate income tax and the regional tax for activities related to the construction and management of such works.

New Initiatives on Road Infrastructure: There are no pending developments in this area. In particular, there are no plans to institute dedicated funds for road construction aside from the general revenue of the state nor are there any plans for taxing road usage by taxing vehicle miles traveled.