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Transportation

Mobility is one of the most important features of our lives, one we often take for granted until it is threatened or lost. Most movements, whether of persons or goods, depend on adequate transportation infrastructure investments and management. In the United States, 4 million miles of highway enable 3 trillion vehicle-miles traveled every year, according to the Bureau of Transportation Statistics. Nearly 20,000 airports enable approximately 10 million annual aircraft departures and over 685 million annual passenger enplanements. More than $11 trillion worth of goods are moved every year in the United States by road, rail, air, and water. Transportation now accounts for nearly 10 percent of U.S. gross domestic product, according to the Bureau's figures.

Transportation networks vary in quality, financing, and management. For instance, roads are generally paid for out of tax dollars, whereas freight rail is privately financed and operated. One important lesson learned is that the private sector is generally better than government at financing and operating transportation systems. New technologies and management practices present serious challenges going forward, particularly to those systems that exist largely as government monopolies.

Even if privatization of existing networks is politically unattainable, the starting point for sound transportation policy is adherence to the user-pays/user-benefits principle. In short, the users who directly benefit from the movements should pay for transportation infrastructure and operations. Compared with general revenue funding of government-owned infrastructure and services, the user-pays principle offers the following advantages:

- **Transparency.** Unlike tax dollars that wind through convoluted bureaucracies, charges "follow" users.
- **Fairness.** Users pay and benefit directly from improvements generated from their payments, and users who use the systems more pay more.
- **Signaling investment.** Operating revenues generally track use, and popular systems can be identified for targeted improvements.

Unfortunately, many federal transportation programs do not adhere to the user-pays principle. In those cases, the programs should be reformed to meet the user-pays principle. If such reform proves to be impossible, it suggests that the program has a high cost and low value, and that it should be eliminated.

The history of economic regulation of transportation systems in the United States shows that competitive markets benefit consumers more than top-down planning and control. In the late 1970s and early 1980s, airlines, motor carriers, and freight rail were partially deregulated, leading to lower prices and improved service. Today, rules aimed at promoting safety dominate many discussions of transportation regulation. However, although safety regulation was well intended, many of the resulting measures provide few, if any, benefits at very high costs.

To better promote high-value, low-cost mobility, Congress should critically examine current practices and should seek to remove government barriers to competition and innovation in the transportation sector. The federal role in surface transportation should be rationalized to allow state and local flexibility, while adhering to the user-pays principle. The Federal Aviation Administration (FAA) should be reformed to promote increased airline competition and to encourage new innovations in aircraft systems, airspace management, and airport financing.

SURFACE TRANSPORTATION REAUTHORIZATION

Surface transportation policy has become less rational and more ideological in recent years. Environmentalists, ideologically motivated urban planners, and their political allies have succeeded in diverting resources from improving highways to mass transit, even as road congestion has dramatically increased—now imposing annually at least $160 billion in economic costs nationwide. The increased use of discretionary grants has further politicized the process and has enabled increased funding to high-cost, low-value projects. The current prohibition on states' tolling of their own Interstate segments restricts experimentation in revenue collection and financing that could usher in better funding and management practices. A rationalized federal role in surface transportation would allow the Department of Transportation to focus on narrow policy objectives, rather than trying to be everything to everyone, which has been the source of mission creep and inefficiency.

Congress should:

- Allow states to toll their own Interstate Highway segments.
- Streamline surface transportation programs by eliminating discretionary grant programs, such as Transportation Investment Generating Economic Recovery (TIGER) and New Starts.
- Examine motor vehicle safety standards to ensure that current rules are not unnecessarily restricting autonomous vehicle innovation.

The federal government spends over $50 billion annually on highways and mass transit, according to the Congressional Budget Office (CBO, "The Highway Trust Fund and the Treatment of Surface Transportation Programs in the Federal Budget," June 2014, http://www.cbo.gov/sites/default/files/45416-TransportationScoring.pdf). That spending largely takes the form of Highway Trust Fund grants to state and local governments. Funding sources are almost exclusively taxes on drivers, primarily the federal excise taxes on gasoline and diesel fuel. In recent years, Congress has set statutory outlays above receipts, leading to a series of general revenue bailouts of the Highway Trust Fund.

The most recent surface transportation reauthorization, the Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012, a $109 billion legislative package, has not improved the situation. MAP-21 relied on an $18.5 billion bailout of the ailing federal Highway Trust Fund and failed to address the core problem facing surface transportation programs—outlays exceed receipts (CBO, "Projections of Highway Trust Fund Accounts under CBO's August 2014 Baseline," Highway Trust Fund Accounts: Baseline Projections, August 27, 2014, http://www.cbo.gov/sites/default/files/cbofiles/attachments/43884-2014-08-HighwayTrustFund.pdf). In reality, MAP-21 merely kicked the can down the road to a time when existing problems will have worsened. In late July 2014, Congress passed the first extension of MAP-21, delaying meaningful action on reauthorization until at least May 2015.

To right the ship of surface transportation policy, Congress should recognize its own limitations and grant the states additional flexibility in meeting their highway needs. We suggest three reforms to include in that process.

First, Congress should repeal its prohibition on states' tolling of their own Interstate segments (currently codified at 23 USC § 129). Repeal can be accomplished by striking "(other than a highway on the Interstate System)" from 23 USC § 129(a)(1)(B) and 23 USC § 129(a)(1)(F), as well as 23 USC § 129(a)(1)(G) in its entirety. Congress may wish to add language requiring approval of the Secretary of Transportation to ensure that tolled Interstates are not used to impose barriers to commerce between the states.

Second, Congress should refocus its surface transportation programs away from discretionary grants and back toward traditional formula funding. Congress first authorized the Transportation Investment Generating Economic Recovery discretionary grant program in 2009 as part of the "stimulus" package. The purpose was to enable local governments to apply for competitive grants for surface transportation projects. However, recent analysis suggests that the program incentivizes the funding of wasteful projects and lacks accountability. The initial TIGER round authorized $1.5 billion in funding. Subsequent rounds have brought the total to over $4 billion, according to the Department of Transportation. Although small with regard to total surface transportation expenditures, TIGER grants are functionally little more than earmarks. As

such, Congress should not reauthorize TIGER or any similar discretionary surface transportation grants program, such as New Starts, and should focus on rationalizing the core formula funding programs to best meet the nation's infrastructure needs.

Third, Congress should examine current motor vehicle safety standards, order the National Highway Traffic Safety Administration (NHTSA) to consider the relationships between existing rules and emerging technologies, such as road vehicle automation, and authorize funding for the agency to do so. For instance, NHTSA currently requires that side-view mirrors be installed on all highway vehicles (49 CFR § 571.111). Tesla Motors recently petitioned the agency to revise its mirror rule to allow it to install cameras as mirror replacements.

In addition, NHTSA recently issued an advance notice of proposed rulemaking on vehicle-to-vehicle (V2V) communications systems ("Advance Notice of Proposed Rulemaking in the Matter of Federal Motor Vehicle Safety Standards: Vehicle-to-Vehicle (V2V) Communications," Docket no. NHTSA-2014-0022, August 20, 2014). At present, those systems are aimed at providing audible and visual alerts, such as advanced collision warnings to drivers. However, if drivers are no longer responsible or able to manually control vehicles, as is the case with fully automated vehicles, mandating V2V warning systems would provide no benefits while increasing costs.

Congress should convene a series of hearings to discuss the future relevance of NHTSA's federal motor vehicle safety standards in an age of rapidly developing "smart car" technology. In addition, NHTSA should be required to examine current rules that may pose barriers to innovation and should produce a report of its findings to Congress.

Experts: Marc Scribner

For Further Reading

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FEDERAL AVIATION ADMINISTRATION REAUTHORIZATION

The Airline Deregulation Act of 1978 eliminated much of the economic regulation of airlines. Since then, the airline industry has rationalized, airfares have fallen dramatically, and airline travel has been democratized. Unfortunately, airspace management was not reformed in a similar direction. Limits on airport user funding have reduced investment and competition at U.S. airports. The United States remains one of the few developed economies to have its air navigation service provider integrated into its aviation safety regulation—in this case, the Air Traffic Organization (ATO) within the Federal Aviation Administration (FAA). That failure is reducing the efficiency of the National Airspace System while inhibiting the integration of new technologies, such as unmanned aircraft systems (UAS).

Congress should:

- Raise the cap on passenger facility charges.
- Commercialize air traffic control.
- Provide more stringent oversight of the Federal Aviation Administration's ongoing attempt to integrate UAS into the National Airspace System.

Just as tolling offers benefits over general revenue funding in surface transportation, aviation user charges offer significant advantages to nonuser funding. Since 1991, Congress has allowed airports to collect per-head charges on passenger enplanements, known as passenger facility charges (PFCs), to be spent on eligible airport-related projects under 49 USC § 40117. Currently, the maximum PFC is capped at $4.50 (49 USC § 40117[b][4]). That cap was last raised in 2000, and inflation has eroded its buying power by nearly half. Given the advantages of user charges over general revenue, Congress should strengthen the PFC by raising the cap to $8.50 and indexing it to inflation.

Most developed economies have independent air navigation surface providers. Going further, Canada privatized its air navigation service provider in 1996, creating a private nonprofit called Nav Canada to take over airspace management responsibilities. Unfortunately, the United States' National Airspace System is managed by the Air Traffic Organization, an agency within the Federal Aviation Administration. The ongoing problems facing the air traffic modernization program known as NextGen are largely attributable to obsolete government institutions.

The main obstacle preventing us from realizing those benefits is the fundamental conflict between the FAA's role as safety regulator and its role as air traffic control provider, which has led to an overcautious culture within the ATO. That conflict is compounded by the fact that the ATO faces a number of political oversight constraints, leading to its treating politicians and bureaucrats as its customers, rather than the airports and aircraft that rely on its services.

A recent study from the Reason Foundation's Robert Poole recommends three actions to bring U.S. air traffic management into the 21st century.

- The ATO should be separated from the FAA, with the FAA becoming exclusively an aviation safety regulator.
- That new air traffic manager should be funded through customer charges, rather than through aviation user taxes subject to annual appropriations.
- A newly independent air traffic control organization should be governed by a board of stakeholders in a manner similar to Nav Canada's governance structure, where airlines, general aviation, and air traffic controllers are represented.

In the forthcoming FAA reauthorization debates, Congress should hold hearings on and seriously consider Poole's proposal. Not doing so risks forgoing the benefits that other developed nations have already experienced. Air traffic control modernization will allow airspace users and managers to harness new navigation technologies. Those reforms are critical to emerging aircraft technologies, such as unmanned aircraft systems.

In the 2012 FAA reauthorization, Congress ordered the agency to "provide for the safe integration of civil unmanned aircraft systems into the national airspace system as soon as practicable, but not later than September 30, 2015" (Public Law 112-95, 126 Stat. 73). Unfortunately, little progress has been made in meeting that deadline. In June 2014, the Department of Transportation's Office of Inspector General issued a scathing audit

report that found that the FAA's airspace integration progress is going so poorly that the agency will miss its September 2015 integration deadline, and that "it is uncertain when and if full integration of UAS into the [National Airspace System] will occur" (Office of Inspector General, U.S. Department of Transportation, "FAA Faces Significant Barriers to Safely Integrate Unmanned Aircraft Systems into the National Airspace System," AV-2014-061, June 26, 2014, 3, https://www.oig.dot.gov/sites/default/files/FAA%20Oversight%20of%20Unmanned%20Aircraft%20Systems%5E6-26-14.pdf).

UAS technology could provide large mobility benefits in the future. Although safety, tort liability, and privacy concerns remain, the United States risks falling behind other nations in integrating UAS into the civil airspace. Congress should increase its level of oversight over the FAA's UAS integration progress and examine current statutory and regulatory barriers. For instance, the current right-of-way rules have long been interpreted by the FAA as authority to prohibit virtually all UAS flights (FAA, "Unmanned Aircraft Systems Operation in the U.S. National Airspace System: Interim Operational Approval Guidance," memorandum, AFS-400 UAS Policy 05-01, September, 16, 2005, http://www.uavm.com/images/AFS-400_05-01_faa_uas_policy.pdf).

In addition, no process exists for certifying commercial UAS operations. Given the "see-and-avoid" requirements contained in the right-of-way rules (14 CFR § 91.113[b]), currently the only way for private UAS owners to obtain operating permission is through the FAA's Certificate of Waiver or Authorization (COA), which the FAA is currently issuing only to those UAS operators in its experimental category. Current regulations explicitly prohibit experimental COA holders from "[c]arrying persons or property for compensation or hire" (14 CFR § 91.319[a][2]). One additional benefit of air traffic control commercialization, assuming it reduced the overcaution caused by the FAA's incentives as a safety regulator, could be a more rapid integration of UAS into the National Airspace System.

Experts: Marc Scribner

For Further Reading

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