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TRB and the Creation of the Bureau of Transportation Statistics

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The views expressed are those of the author and not necessarily those of the U.S. Department of Transportation.

Above: Passengers board the train at Lafayette Square Metro Station, a stop in the Buffalo, New York, Metro Rail system. The Bureau of Transportation Statistics compiles passenger-related data in *Passenger Travel Facts and Figures*, a quick look at personal travel characteristics and trends in the United States; the passenger travel network; and the economic, safety, and environmental aspects of passenger travel.

The Bureau of Transportation Statistics (BTS) of the U.S. Department of Transportation (U.S. DOT) owes its origin and early directions in large part to the Transportation Research Board (TRB). The concept for BTS was first proposed publicly in a TRB workshop. Subsequently, the concept was refined in TRB's *Special Report 234: Data for Decisions—Requirements for National Transportation Policy Making*, published in 1992. Soon after, a TRB panel member's testimony to a Senate subcommittee inspired the legislation that established BTS. Finally, members of the TRB data community became key leaders and advisors for the new bureau. The relationship between BTS and TRB has remained strong throughout the bureau's nearly 30-year history.

The history of TRB and BTS has its roots in the Committee on Origin and Destination of the Highway Research Board (HRB), which eventually evolved into the 19 current TRB committees related to transportation data and information technology. Although several HRB and TRB

committees discussed data among their many topics, the Committee on Origin and Destination and its successors concentrated exclusively on data issues. That focus was primarily on urban transportation data from the 1960s through the 1980s. TRB hosted a series of major conferences in which the transportation community worked closely with the U.S. Census Bureau to create the wealth of commuting statistics from the decennial census and, more recently, from the American Community Survey. Beyond the conferences, members of the TRB Committee on Transportation Data and Information Systems formed an ad hoc group that developed the Census Transportation Planning Program. The 50-year history of TRB involvement in census data for transportation planning is documented in *Transportation Research Circular E-C233: Applying Census Data for Transportation—50 Years of Transportation Planning Data Progress*.

In the 1980s, the TRB focus on urban transportation data expanded to freight data. Nationwide commuting data were

thriving, but national data on freight transportation were declining. Deregulation significantly reduced the data collection programs of the Interstate Commerce Commission. In addition, the Commodity Transportation Survey—conducted by the U.S. Census Bureau to measure freight movement—required expensive fixes for methodological problems that exceeded available funding, a constraint that ultimately led to its collapse. National data programs were not helped by the hiatus of national transportation policy studies after 1979. U.S. DOT’s national transportation studies in 1972 and 1974, U.S. DOT’s *Trends and Choices* report in 1977, and the 1979 report of the National Transportation Policy Study Commission featured statistics on all modes of transportation, reinforcing the value of national data programs.

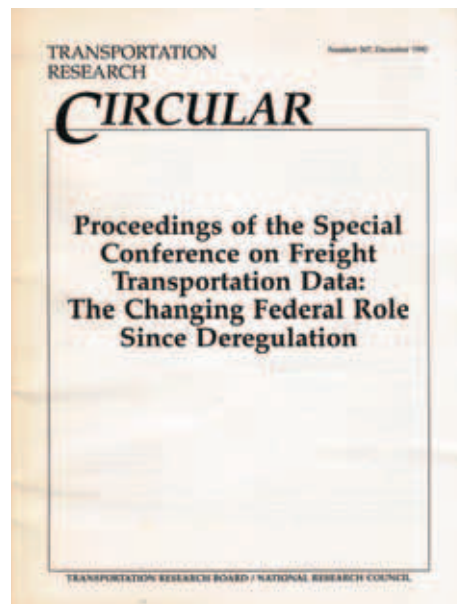
The road to BTS through TRB started with the revival of U.S. DOT national transportation policy studies in 1989. U.S. Transportation Secretary Samuel Skinner recruited Thomas D. Larson to oversee a national transportation policy effort and to become Federal Highway Administrator. As a professor at Pennsylvania State University and as Pennsylvania Secretary of Transportation, Larson was a long-time participant in TRB initiatives. While U.S. DOT’s National Transportation Policy team was being organized in the spring of 1989, Larson met with TRB Executive Director Thomas B. Deen to discuss possible roles that TRB could play. Soon afterwards, TRB asked John Fuller of the University of Iowa to prepare a scoping paper for a study on national data needs.

Throughout the summer and fall of 1989, TRB held outreach sessions on data needs and issues at the 14th Summer Conference on Ports, Intermodal Shipping, and Freight; the 6th International Workshop on the Future of Aviation Activity; the midyear meeting of the TRB Committee on Transportation Data and Information Systems; and the Scenic Byways Conference. TRB also held invitational meetings on safety and accident data.

Continuing its efforts, TRB cosponsored a conference with the Washington, D.C., chapter of the Transportation Research Forum on Freight Transportation

Data: The Changing Federal Role Since Deregulation. Held November 14–15, 1989, at the National Academy of Sciences Building, this conference was notable for two presentations: first, the keynote speech by Charles A. Waite, associate director for Economic Fields at the U.S. Census Bureau, introduced the idea of creating a Center for Transportation Statistics similar to the federal statistical agencies in education and health; and second, the dinner speech by Robert A. Knisely, U.S. DOT’s Deputy Assistant Secretary for Budget. He would go on to become the first deputy director of BTS. *Transportation Research Circular 367: Proceedings of the Special Conference on Freight Transportation Data—The Changing Federal Role Since Deregulation* documents the conference.

A session at the January 1990 TRB Annual Meeting summarized these many outreach activities. All nine of the papers published in the *Transportation Research Record No. 1253* document the session and summarize other highlights of the outreach activities. Nine of the 15 papers



A piece of transportation history, *Transportation Research Circular 367* documents the November 1989 conference in which Charles A. Waite, associate director for Economic Fields at the U.S. Census Bureau, delivered a speech that introduced the idea of what would become the Bureau of Transportation Statistics. [Source: Rolf R. Schmitt]



In support of the transportation industry, the White House released *Moving America: New Directions, New Opportunities* in February 1990. The policy statement committed the U.S. DOT to develop a comprehensive assessment of transportation data needs and priorities and to determine ways to integrate and disseminate such data. [Source: Rolf R. Schmitt]

published in the *Transportation Research Record No. 1271* provide additional detail on the midyear meeting of the TRB Committee on Transportation Data and Information Systems.

The White House approved and released *Moving America: New Directions, New Opportunities* in February 1990. The policy statement identified many transportation data gaps and charged U.S. DOT to “develop a comprehensive assessment of data needs and priorities of the department and the transportation community [and] develop more effective and permanent institutional mechanisms within the department to ensure that transportation-related data collected by different agencies can be effectively linked to collect data on multimodal passenger and freight transportation flows and to integrate and disseminate transportation-related data collected by [U.S.] DOT and other public agencies.”

By June 1990, U.S. DOT tasked TRB to produce a study of strategic transportation data needs. The committee appointed to



Photo: Belle Aungst, Pixy

With each flight, U.S. commercial airlines contribute information that BTS collects monthly and quarterly. Such data include passenger travel, air cargo, on-time performance, and even aviation finance and employment. The bureau's employment statistics were used to allocate billions of dollars in COVID-19 payroll protection payments to the airlines.

oversee the study met for the first time October 17–18, 1990, with Lillian Liburdi (now Lillian Borrone) of the Port Authority of New York and New Jersey as chair.

The committee was unusual for its number of participants. Beyond the 14 members and seven official liaisons, eight data program managers from U.S. DOT and the head of the Transportation Data Program at Statistics Canada served as special representatives. The large number of liaisons and special representatives assured wide engagement in the committee's work and acceptance of the committee's recommendations.

On February 7, 1991, two weeks after the committee's second meeting, committee member William (Bill) Johnston and committee consultant Alan E. Pisarski testified on Demographic Trends and Transportation Demand in a hearing convened by the Subcommittee on Water Resources, Transportation, and Infrastructure of the Senate Committee on Environment and Public Works, chaired by Sen. Daniel Patrick Moynihan of New York. Fresh from a long discussion of data issues with the TRB committee, Johnston said in his opening statement: "The one thing we lack today is data about the performance of the

system. . . . Mr. Chairman, you have been one of the users and developers of data in areas relating to poverty, relating to health care, relating to the labor force, but data is the poor relation in transportation, where we make these multibillion-dollar developments and investments without really understanding how they are going to affect the performance of the system. . . .

So if there is one plea I could make to the committee in the reauthorization of the bill, it is that we need the underpinnings of information, that we not be coming back to a periodic hearing where a bit of data is assembled but that there is an ongoing data collection process, performance data driv-

ing investment decision making for the system."

In addition to leading the Senate effort on surface transportation legislation, Moynihan was trying to elevate the Environmental Protection Agency into a Cabinet-level Department of the Environment with a Bureau of Environmental Statistics. Whether Johnston's testimony planted the

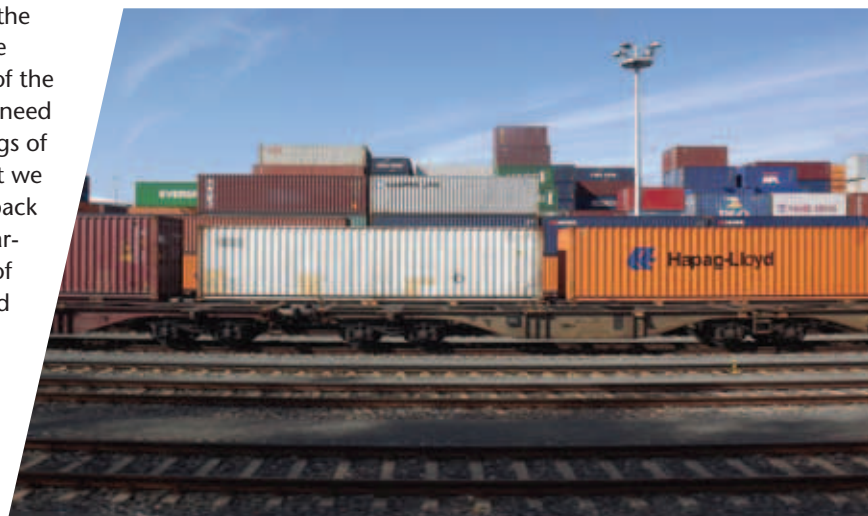
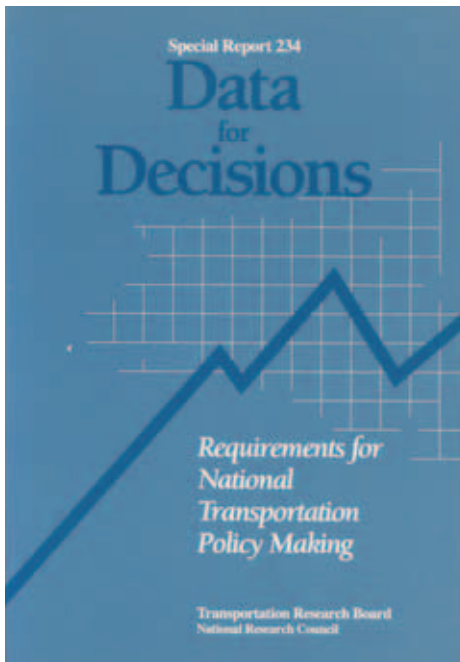


Photo: Unsplash

Data on all modes of U.S. freight transportation are compiled through a variety of BTS sources, including the Freight Analysis Framework (FAF). The FAF integrates data to create a complete picture of how all modes of freight—including goods shipped by train—move among the states and metropolitan areas.



Finalized with great speed, the recommendations in TRB's *Special Report 234*—organization plans and programs that would shape BTS's early years—became law within hours after they were presented to the Senate. (Source: Rolf R. Schmitt)

seed or nourished a seed already planted, Chuck Waite's proposal for a Center for Transportation Statistics was about to become a bureau.

On April 25, 1991, Moynihan introduced the Surface Transportation Efficiency Act of 1991. Section 115 of the Act would establish a Bureau of Transportation Statistics to deal with the "absence of adequate, accurate, and complete data on the performance of transportation systems in the United States." The committee report (Senate Report 102-71) reflected Johnston's testimony: "No one seems to know just why productivity in transportation is so low. For one thing there is a stunning absence of data—facts. Transportation economics is clearly held back by the paucity of reliable information. (It is for this reason that the Act proposes to establish a Bureau of Transportation Statistics in the Department of Transportation.)"

The TRB Committee for the Study of Strategic Transportation Data Needs held its third meeting two weeks before the release of Moynihan's bill, and the

committee met for its last meeting on July 16, 1991. While the committee referred to BTS as the Transportation Data Center, its findings and recommendations on monitoring national transportation performance were anticipated by Johnston in his February testimony and reflected in Moynihan's bill. TRB initiated the final review process for *Special Report 234: Data for Decisions—Requirements for National Transportation Policy Making* after the committee's last meeting.

At about the same time as the committee's last meeting, the House of Representatives released its version of the bill. The House included a proposal for an Office of Intermodalism charged with creating an intermodal transportation database—among other responsibilities—but had no provision for BTS.

On November 13, 1991, the National Research Council approved *Special Report 234*. Before its publication and as TRB's principal liaison to the TRB study, the author gave a one-page summary of the report to Federal Highway Administrator Larson's special assistant, highlighting that the report was approved. That sheet was sent immediately to Moynihan, who was starting negotiations in the congressional conference committee to resolve differences between House and Senate versions of

the research title. Moynihan was reported to have waived the summary in the conference committee meeting and said that the National Academy of Sciences thought that BTS was a good idea.

U.S. DOT's legislative status sheet for November 15, 1991, indicated that the BTS provision was accepted. U.S. DOT did not object to the provision, reaffirming the value of engaging so many of its data program directors in the TRB study.

President George H. W. Bush signed the Intermodal Surface Transportation Efficiency Act (ISTEA) on December 18, 1991, including the original mandate for BTS in Section 6006. On October 19, 1992, Bob Knisely (the dinner speaker at the 1989 TRB freight data conference) authored the U.S. DOT press release announcing that BTS had started operations. A U.S. DOT management order formally established BTS as an operating administration on December 16, 1992.

That same week, a contractor explained to Knisely that compact discs (CDs) could be used for data and not just music. In a time when data were stored primarily on punch cards and big reels of nine-track tapes, the idea of storing enormous amounts of data on a small disc was radical. Creating CD-ROMs was not easy in those days, requiring special equipment

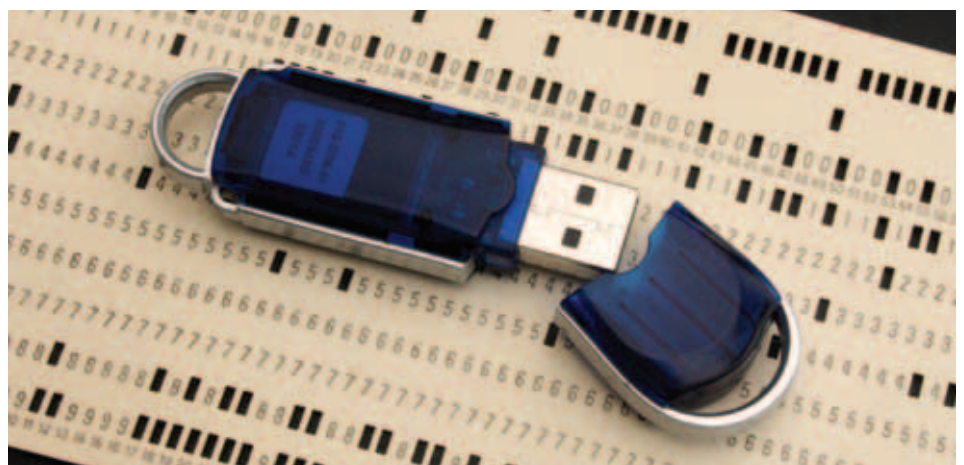


Photo: Ian, Flickr

Data storage has come a long way since the punch card (shown here with a flash memory stick), BTS's primary form of storage when it was established in 1992. A programmer transferred written data into a computer output device that punched coordinating holes into the card. The card could then be translated by running it through a punch card reader. A data set typically required a large stack of cards. BTS soon moved to CD-ROMs. Today, the bureau stores massive amounts of data in commonly available forms: servers and the Cloud.

to compile the data into glass masters that were used to press the disks. Recognizing that the fast-approaching 1993 TRB Annual Meeting would be an ideal place to roll out the bureau's first product, BTS produced the *Transportation Data Sampler Number 1* and within 26 days had prepared CD-ROMs that they handed out to Annual Meeting participants. BTS has used TRB Annual Meetings as a major venue for launching data products ever since.

ISTEA required BTS to establish an Advisory Council on Transportation Statistics to guide the bureau's development. Lillian Borrone served as the first chair of the council, continuing her positive influence on BTS that started with her leadership of the TRB Committee for the Study of Strategic Transportation Data Needs. The last chair of the Advisory Council was C. Michael Walton, a long-time TRB leader who also served as former chair of the TRB Executive Committee. Many other TRB members have advised BTS formally and informally throughout the bureau's history.

TRB recommendations are rarely implemented with the speed and completeness of the recommendations of *Special Report 234*; the organization proposed in *Special Report 234* was placed into law within hours of the

report's approval. The programs proposed in *Special Report 234* became the roadmap for BTS throughout its early years, and many of the report's findings and recommendations still guide BTS today. As TRB concludes

its Centennial and BTS approaches its 30th anniversary, the bureau still depends on TRB and its members to help BTS serve the transportation community.



Following her leadership role on TRB's Committee for the Study of Strategic Transportation Data Needs, Lillian Borrone of the Port Authority of New York and New Jersey served as the first chair of the Advisory Council on Transportation Statistics, established to guide BTS's development. [Source: TRB]

V O L U N T E E R V O I C E S

“ Although my parents steered me in the direction of math, science, and, ultimately, civil engineering, it was my professor who sold me on transportation engineering. As an undergraduate student at Vanderbilt University, I had the opportunity to take three transportation engineering courses, all taught by Doc Bob. His zeal and the novelty of the subject matter pulled me in. Transportation engineering presented itself as an area of engineering that had a technical aspect but incorporated a variety of other areas, including environment, health, economics, policy, politics, equity and justice, and art. It wasn't just number crunching and formulas; transportation engineering was about saving lives, reducing environmental pollution, improving quality of life, and connecting communities. That sense of purpose is what keeps me in the transportation community.



—DENISE SMITH,

Vice President of Business Development
Hummingbird Firm, Atlanta, Georgia