

Commission Briefing Paper 5A-06

Evaluation of Container Charges and Other Direct User Fees as a Transportation Revenue Source

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Introduction

This paper is part of a series of briefing papers to be prepared for the National Surface Transportation Policy and Revenue Study Commission authorized in Section 1909 of SAFETEA-LU. The papers are intended to synthesize the state-of-the-practice consensus on the issues that are relevant to the Commission's charge outlined in Section 1909, and will serve as background material in developing the analyses to be presented in the final report of the Commission.

This paper presents information on the possibilities of using container charges and other direct user fees as freight transportation revenue sources.

Key Findings

- Container charges and other direct user fees are increasingly being viewed as alternative methods to raise revenue that can be targeted at freight-specific transportation improvements. These fees are seen as a way to more directly tie freight investments with use of the freight transportation system.
- There are a number of current and emerging trends driving the exploration of container charges and other direct user fees as a transportation revenue source. These include the rapid growth in international and domestic freight volumes; recognition that existing and future transportation revenues will be insufficient to meet freight needs; and the limitations of existing funding and financing tools available for freight-specific improvements.
- Container charges and user fees can come in many forms, including fees levied on freight traffic at freight gateways (border crossings, seaports, and airports), reallocation of Customs duties levied on inbound freight shipments, tolls on specialized freight facilities or truck-only corridors, and vehicle miles traveled (VMT) or ton-mile fees levied on commercial vehicles.
- There are several examples of container charges and user fees that have been implemented to repay loans or bonds issued to support specific freight facilities (e.g., Alameda Corridor) or reduce congestion (e.g., Ports of Los Angeles and Long Beach Pier Pass program). In addition, there have been a number of efforts to assess the feasibility of truck-only toll facilities.
- Container charges and other user fees could potentially be a source of billions of dollars of revenue and existing applications of these strategies at key freight facilities in the U.S. have indicated that they are feasible. However, there are several institutional, operational,

legal, and administrative challenges that will need to be addressed prior to any attempt to implement user fees on a broader regional or national scale.

Why Are Container Fees and Other Direct User Fees Being Explored?

Container charges and other direct user fees are increasingly being viewed as alternative methods to raise revenue that can be targeted at freight-specific transportation improvements. These fees are seen as a way to more directly tie freight infrastructure investments with the users of the system. Their possible application as a source for transportation revenue is being driven by several current and emerging trends, including:

- **Freight Volumes are Continuing to Grow.** Even with only moderate economic growth – about 3 percent a year –freight movements across all modes are expected to increase by 89 percent.¹ While this rate of growth is not extraordinary (it is about the same as we have seen in the last 20 years and roughly tracks growth in GDP), it does mean that freight movements may become a larger component of the traffic mix in many regions of the country. This increase in freight will have a dramatic impact on the intermodal freight transportation system. Key elements of intermodal freight system- particularly the rail system and large load-center ports - are already operating at or near capacity and considerable investment will be necessary to maintain even existing service levels.
- **Traditional Transportation Revenue Sources will be Insufficient to Meet Freight Demands.** Traditional sources of transportation revenue are not sufficient maintain or improve the nation’s highway and transit systems, much less close the freight investment gap. This gap is currently estimated to be between \$73.8 to \$118.9 billion (2004 dollars)² on the highway system and \$5.3 and \$11.2 billion³ on the freight rail system.
- **Funding and Financing Programs for Non-Highway Freight Improvement Projects are Limited.** There are limited options to fund or finance non-highway freight improvement projects. All states and metropolitan planning organizations (MPOs) commit a large portion of their budgets to the maintenance and preservation of their current highway systems, leaving limited resources for non-highway freight improvement projects. Although SAFETEA-LU included some new freight-specific funding programs, overall funding for non-highway freight improvements is still limited. Rail and port improvement projects must often be shoehorned into air quality mitigation (e.g., Congestion Mitigation and Air Quality, CMAQ), safety programs (e.g., highway-rail grade-crossing separation programs), or loan or credit enhancement programs (e.g., Transportation Infrastructure Finance & Innovation Act, TIFIA). All of these programs, though useful for making small, localized improvements to the freight system, are not well-suited for funding improvements to the critical infrastructure issues facing the larger regional and national intermodal freight system.

¹ American Association of State Highway and Transportation Officials (AASHTO) Freight Bottom Line Report

² US Department of Transportation, Federal Highway Administration, and Federal Transit Administration. 2004 Status of the Nation’s Highway, Bridges, and Transit: Conditions and Performance-Report to Congress. Washington, D.C., February, 2006.

³ AASHTO Freight-Rail Bottom Line Report, 2002.

- **Many Potential Freight Improvement Projects have Public Benefits.** Public investment in the freight system has been shown to have significant public benefits in the form of decreased congestion on the highway system, improved reliability for passengers and shippers, better air and water quality, and enhanced safety and economic vitality. Identifying and quantifying potential public and private sector benefits of freight projects, while challenging, has helped open the door to the use of direct user fees and other cost-sharing strategies in many areas.
- **User Fees Provide a More Direct Link between Costs and Benefits.** Direct user fees are levied on users at the point and time of use, and therefore offer a way to tie freight system users more directly to the resources and infrastructure that they use. These fees are seen by many as a more efficient and equitable method to raise revenue that can be dedicated specifically to freight system improvements.

Types of Direct User Fees for Freight

Direct user fees are those that are typically applied at the point and time of use, such as tolls. There are several examples of container charges and other user fees that have been implemented to support freight investments or reduce congestion at freight facilities. Additionally, the feasibility of truck-only toll lanes, VMT-charges for commercial vehicles, and other strategies have been assessed by some state DOTs and other entities. There are five types of direct user fees, described below, that could be applied to freight operations, though only some are currently being used to generate revenue to support freight-specific infrastructure improvements.

Container Fees

This strategy levies a fee on import and export container movements at U.S. gateways (seaports, airports, and border crossings). Since these fees would be used to pay for infrastructure to aid the flow of freight on the ground, the fee would be assessed on all shipments using the highway or freight rail system.

Container fees are currently being used to repay debt service on the Alameda Corridor construction. In addition, Arizona's Safety Enforcement and Transportation Infrastructure Fund (SETIF) is capitalized using fees collected from commercial vehicles entering the U.S. via Arizona's southern ports of entry. These funds provide revenue for the enforcement of vehicle safety requirements by the department of public safety, and the maintenance of transportation facilities, including roads, streets and highways as approved by the Arizona Transportation Board within twenty-five miles of the border between Arizona and Mexico.

Container fees represent a potentially large source of revenue, as container movements at U.S. ports have increased at a rate of 6.6 percent over the last decade, a growth rate that is projected to continue through at least 2017⁴. A recent NCHRP report calculated the possible revenue from container fees assuming the implementation of a \$30/TEU⁵ fee on import and export containers moving through the ports, starting in 2010⁶. The report found that if such a fee were

⁴ American Association of Ports and Authorities (AAPA).

⁵ Twenty-foot equivalent units, a common measure of containerized traffic

⁶ This was based on the recent California events when Senator Lowenthal proposed the implementation of a \$30 fee on every 20-foot cargo container moving through the ports of Los Angeles and Long Beach to help fund port and

to be applied at all U.S. ports, average annual additional revenues would be \$2.2 billion and cumulative revenues could reach \$17.5 billion through 2017⁷. A separate study performed in 2005 for the Southern California Association of Governments (SCAG) found that a container fee of \$192 per TEU assessed on every inbound loaded container at the San Pedro Bay (SPB) ports could fund about \$20 billion in access infrastructure improvements.

Container fees are most appropriate for consideration at freight gateways, where incoming and outgoing freight is using a specific piece of infrastructure, such as a border crossing, dock facility, or air cargo apron. The advantage of this funding source is that it is a direct fee levied on freight as it passes through a particular point, and is therefore fairly simple to collect and track. Revenue from these fees could be used to improve connections between these gateway facilities and the intermodal freight system. These intermodal connectors often represent critical chokepoints in the freight transportation system.

The disadvantage of container fees is that it is somewhat difficult to create a nexus between the user paying the fee and the benefit that they receive, particularly if transportation improvements are only made in and around the gateway facility. Because freight movements often serve a variety of origins and destinations through any given gateway, different types of shipments are affected by gateways in different ways. Delays at gateways affect local shipments (those generated in or destined for the gateway region) to a much larger degree than they do shipments originating in or bound for more distant locations.

Although container fee revenue could potentially be used to fund freight infrastructure improvements well away from the gateway facilities themselves, it will be challenging to develop consensus among competing jurisdictions and other stakeholders on the types and locations of projects to be developed. Implementing a container fee that equitably links costs and potential benefits for the mix of freight traffic using any given gateway may also be difficult.

Customs Duties

U.S. Customs & Border Protection (CBP) assesses and collects duties, excise taxes, fees, and penalties on imported and exported goods and services. In FY 2002 alone, these fees amounted to \$23.8 billion in gross revenue, including almost \$19.8 billion in duties on imported goods. A study conducted by the General Accounting Office estimated that between 1999 and 2001 about 78 percent of these duties were collected from marine sources.⁸

The majority of these fees are deposited into the U.S. General Fund, although a portion is used to offset costs incurred by CBP for inspectors' overtime pay, excess pre-clearance costs, fee-collection-related positions, and equipment. In addition, some of these funds are used to support other programs. For instance, approximately 30 percent of customs duties are remanded to agricultural and food programs (farm subsidies), all duties on guns and ammunition go to the Migratory Bird Conservation Fund, duties on fishing tackle, yachts, and pleasure craft go to the

intermodal improvements to serve this commerce. This bill was passed by the state legislature but vetoed by the Governor.

⁷ National Cooperative Highway Research Program (NCHRP), *Future Financing Options to Meet Highway and Transit Needs: NCHRP Project 20-24*, 2005.

⁸ GAO-02-1033 Marine Transportation

Sports Fish Restoration account of the Aquatic Resources Trust Fund, and tariffs from wood and certain wood products are transferred to the Reforestation Trust Fund up to a total of \$30 million.⁹

Reallocation of a portion of these taxes, tariffs, and duties could also represent a large source of revenue that could be targeted freight gateway improvements. Dedicating five percent of current Customs duties for investment in port and intermodal freight projects would generate about \$1.8 billion annually and \$20 billion cumulatively through 2017 in revenues for state and local transportation providers. Dedicating 10 percent of current Customs revenues would yield \$3.6 billion annually and \$40 billion cumulatively through 2017.¹⁰

Customs duties would be most appropriately used for improvements to waterside or landside port or airport facilities or to improve the connections between these facilities and the highway and freight rail systems. The advantage of this funding source is that it is a permanent, predictable revenue stream that would greatly enhance the capacity to plan and implement future freight infrastructure investments. Because these duties are already collected, reallocation of this revenue to freight transportation improvements would not be viewed as a “new” fee by the private sector freight transportation and international trade community. In fact, more explicitly linking Customs duties to freight improvements (and hence, efficiency) would likely find broad support among these stakeholders.

One key disadvantage is the likely resistance by the Congress and federal agencies to the diversion of Customs duties to offset freight transportation investments. Some will argue that gateway improvement programs already exist and point to SAFETEA-LU’s Coordinated Border Infrastructure Program (Section 1303). This program provides a formula distribution to border states to construct transportation and supporting infrastructure, make operational improvements, modify regulatory procedures, and coordinate international planning and operations within border regions. Although this program is useful, its funding is limited (\$833 million over 5 years) and funding allocations are limited to border states, leaving states with significant international trade but no international border (e.g., Florida and Virginia) ineligible for program funds.

Truck-Only Tolloed Facilities

The use of tolls to raise transportation revenue is gaining momentum across the country as a way to accelerate transportation investments and more directly link fees and payments with the use of transportation infrastructure. The primary tolling application for freight involves truck-only toll lanes. The use of tolls on such facilities could accelerate the delivery of freight-specific improvement projects while minimizing public sector risk. In addition, surplus toll revenue from these facilities could be used to support additional freight investments.

Truck-only toll lanes have been the subject of feasibility studies in California (SR 60), Virginia (I-81) and elsewhere. These studies revealed several issues that may impact the development and implementation of truck-only tolloed facilities. In the case of SR-60, the analysis indicated that even if tolls were optimally applied to truck lanes, less than 30 percent of the project costs

⁹ 7 USC 612, 16 USC 3912, 26 USC 9504, and 16 USC 1606(a), respectively.

¹⁰ Estimates were derived from the Mid-Session Review of the President’s FY 2007 Budget

could be recovered from toll revenues. Therefore, billions of dollars of the truck lane projects would have to be funded from other (likely public) sources¹¹. The findings from the I-81 study showed that in order to finance the project, the truck tolls would have to be set at a level that would be unacceptably high to most truckers, causing most to divert to alternate, non-tolled facilities.

An additional truck-only tolling option is summarized in the Truck-Only Toll Lane Facility study recently completed by the Reason Foundation, a public policy institution based in Los Angeles. This study looked at the possibility of building specialized heavy-duty truckways along existing corridors. These facilities would be designed to support longer-combination vehicles (LCVs) and allow for higher loaded weights. Using economic and traffic modeling tools, the results of the study showed that striking gains in shipping productivity could be achieved by building these separate facilities¹². Moreover, the economic analysis found that truckways could be self-supported by tolls, and would not need to use federal or state highway funds.

Truck-only tolled facilities could represent a significant source of transportation revenue, particularly if located along corridors with high volumes of truck traffic. The advantage of this funding source is that it offers a direct link between costs and benefits. If truck volumes are high enough, these facilities could be funded entirely by private sector investment capital, minimizing risk to and investments by public sector transportation planning agencies.

The disadvantage of this strategy is the challenge associated with setting a toll rate that reflects the overall travel savings to truckers while ensuring enough revenue to support the facility construction and operations costs. Detailed traffic and revenue studies that reflect the unique nature of freight movements will be necessary.

Congestion Pricing

This concept, closely related to tolls, involves offering incentives to use transportation facilities in off-peak hours, or charging extra to use them during peak hours. Prices can vary based on a fixed schedule, or they can be dynamic, meaning that rates change depending on the level of congestion that exists at a particular time. The PierPass program implemented at the Ports of Los Angeles and Long Beach uses pricing techniques as part of a congestion mitigation and air quality improvement strategy. Though most commonly used as a congestion mitigation tool, surplus revenue from congestion pricing programs could be used to support other freight improvements.

¹¹ Federal Highway Administration, www.ops.fhwa.dot.gov

¹² The Reason Foundation, *Toll Truckways: A New Path Toward Safer and More Efficient Freight Transportation*, Policy Summary No. 294. June, 2004.

Vehicle Miles Traveled (VMT) or Ton-Mile Fees

Several recent national policy studies have recommended shifting away from fuel-based revenue sources (such as motor fuel taxes) and toward mileage-based charges, such as VMT fees. The FHWA's value pricing program has encouraged experimentation in VMT fees at the state and local level, and truck road-user charges have been implemented recently in Germany using geographic positioning system (GPS) technology to track and record mileage. In the case of freight shipments, ton-mile fees should also be considered, as these fees would more directly tie payments with infrastructure use, pavement damage, and maintenance costs.

VMT fees would be levied based on the actual miles traveled by each vehicle or freight container and current innovations in tolling and tracking technology could help facilitate a transition to this type of revenue generation strategy. In fact, the Oregon Department of Transportation is currently conducting the Road User Fee Pilot Program, a test designed to demonstrate the technical and administrative feasibility of implementing an electronic collection system for mileage-based congestion fees. The results of this program, whose data collection phase is scheduled to be complete in the Spring of 2007, will be helpful in identifying the potential issues associated with implementing and administering this type of program.

Ton-mile fees, often referred to as weight-distance taxes, would be levied based on actual ton-miles traveled by each commercial vehicle. Oregon, Kentucky, New York, and New Mexico currently levy a weight-distance tax on commercial vehicles operating within their states, though in 2003, proceeds from these weight-distance taxes represented less than one percent of total state highway revenue collections.¹³ Primarily, as a result of legal challenges, several states, including Arkansas, Idaho, and Nevada, repealed weight-distance taxes.¹⁴

Proponents of weight-distance taxes maintain that they more closely link payments to actual use of freight transportation infrastructure. Furthermore, proponents argue that such a strategy would be easy to implement (administratively), because operators of heavy vehicles already record the gross weight of their truck, the number of miles they travel annually, and the number of axles—the information needed to administer the tax.¹⁵

Opponents contend that implementing and administering these types of taxes would require significant investments by the public sector, including infrastructure (weigh stations, ports of entry, and ITS) and in personnel (auditors and enforcement personnel). The private sector trucking industry would also have to make significant investments to ensure compliance with mileage and weight recording requirements. This is particularly true for intrastate truckers, which represent a significant portion of the overall trucking industry. Many of these operators are not currently required to keep detailed fuel and mileage records.¹⁶

¹³ FHWA Highway Statistics, 2003

¹⁴ American Trucking Associations

¹⁵ Congressional Budget Office

¹⁶ American Trucking Associations

Key Issues Affecting Container Fees or Other Direct User Fees for Freight

Container fees or other direct user fees present promising opportunities to not only address the freight transportation funding gap, but also to provide more equitable alternatives for financing freight-related improvements than current highway user fees. However, there are several institutional, operational, administrative, and legal challenges that must be addressed before these strategies can be effectively implemented on a regional or national scale.

Institutional Challenges

There may be significant institutional resistance to levying new container or user fees to fund freight transportation improvements. The private sector freight community, for instance, will want assurances that efficiency and reliability gains are proportional to the user fees that will be collected. User fees must be seen to add value to a supply chain or distribution operation by improving reliability, allowing reductions in inventory levels, or providing other efficiency gains. It is also important to understand the “progressivity” of proposed fees, as the impacts of container fees vary considerably based on the contents of the container, e.g., a flat \$30 per container fee has a much bigger impact on a container of bananas (relatively low value) than on a container of computer chips (much higher value). Ad-valorem (i.e., value-based) fees might be a more equitable method to link costs and benefits in these cases. Understanding how much of a fee to charge, where within the supply and distribution chain it should be charged, and how it will be passed onto consumers will be important for to understand when implementing these fees.

The regional, national, and international nature of freight shipments also presents a challenge. Freight movements often affect the transportation systems of multiple states and MPOs and it is critical to ensure that costs and benefits of container fees or other direct user fees are allocated appropriately across jurisdictional boundaries. A regional or national approach, such as that used in the International Registration Plan (IRP) and International Fuel Tax Agreement (IFTA) processes to collect and apportion motor vehicle registration fees and fuel taxes, would be necessary.

Ton-mile fees are vigorously opposed by the trucking industry, which views them as expensive to implement, difficult to enforce, and a hindrance to statewide and regional economic development efforts. Instituting weight-distance taxes as a potential source of transportation revenue on a large scale will most certainly be met by significant political and legal resistance from this industry.

Redirecting a portion of Customs duties to fund freight infrastructure improvements would also be challenging, as these revenues represent the second-largest source of general revenue for the entire U.S. and is controlled by the White House Office of Management and Budget (OMB), Congress, and other political leaders.¹⁷ Redirecting even a portion of these funds toward freight transportation improvements will most certainly face political and institutional resistance.

¹⁷ Journal of Commerce, 2002

Operational Challenges

The most significant operational challenge related to the implementation of container or other direct user fees relates the impact of the fee on freight demand. It is important to understand the point at which a user fee could cause shippers or logistics providers to make another choice—whether it be diversion to a different facility (such as a non-tolled port or highway corridor), the choice of an alternate mode, or the abandonment of a market altogether.

This is a particularly challenging question for freight shipments because truckers make decisions with regard to route differently from drivers of private automobiles. In many cases, route choice decisions are made by dispatchers, shippers, or logistics providers, not drivers. Compounding the issue is the fact that many freight-related route, market, and mode decisions are made in relation to competitor actions and other market forces.

Understanding these freight-specific issues will be important for two reasons. First, it will be useful when assessing the share of freight demand that will use tolled facilities at different rates as well as the impacts on other, non-tolled facilities. Second, understanding freight gateway operations will be useful in determining the mix of investment strategies that could be most beneficial to freight operations, whether those strategies consist of a single project at a gateway, a series of projects along a corridor, or a mix of the two.

Administrative Challenges

Collecting mileage-based fees from all commercial vehicles will also be institutionally and administratively challenging. The states and the federal government will need time to develop and prove out efficient and cost-effective approaches. The legal and administrative frameworks for new revenue mechanisms will have to be well thought out. At the federal level, the Treasury Department and the Internal Revenue Service will need to be involved in transition of any federal user fees.

Administrative and enforcement feasibility will also be a large concern. Minimizing administrative and transaction costs as well as fee evasion rates will be a critical component of any national or regional user fee implementation. Weight-distance taxes may be particularly challenging to administer and enforce, as they are essentially self-assessed taxes. Studies have shown that weight-distance taxes are subject to high levels of evasion, commonly reaching upwards of 30 percent.¹⁸ The IRS has expended a great deal of effort over the last 10 years in stemming evasion of fuel taxes and will need to review the staffing and enforcement resources for this or any other new program.

Legal Challenges

Finally, the legality of some of the container and other direct user fees discussed here will need to be explored further prior to implementation on a regional or national scale. Arkansas, Idaho, and Nevada repealed their weight-distance taxes because they were proven to be discriminatory to certain elements of the trucking industry. Ad-valorem taxes on international exports are expressly forbidden by the U.S. Constitution and there are also Constitutional restrictions on

¹⁸ Arizona DOT, 1993

state interference in interstate commerce and international trade. These restrictions could have significant effects on the types of user fees that can be developed and implemented.

The Harbor Maintenance Fee provides a good example of the legal issues related to container fees. The Harbor Maintenance Fee (HMF) was established in April 1987 to fund the operation and maintenance of harbor improvement projects overseen by the U.S. Army Corps of Engineers.¹⁹ Initially, U.S. Customs assessed a 0.125 percent ad valorem on merchandise imports, exports, domestic movements, and foreign trade zone admissions. The 0.125 percent ad valorem also applied to the transportation costs of cruise ship passengers. In March 1998, the U.S. Supreme Court issued a judgment that the HMF on exports was in fact a tax, and therefore violated the Export Clause of the U.S. Constitution.²⁰ The court's decision was based on the fact that the HMF was assessed on the value of exports, and as such was not directly related to the cost of the services provided by U.S. Customs or any other government agency. The court did indicate, however, that a user fee directly related to the cost of "government-supplied services, facilities, or benefits" may be constitutional.²¹ After April 27, 1998, exporters were no longer required to pay the HMF, and the Supreme Court later ruled that all fees collected from exports were to be refunded retroactively to the date of the fee's inception²². The HMF remains in effect for imports, domestic movements, and cruise ship passengers.

Much of the discussion to this point has focused on levying fees on international traffic arriving at U.S. gateways. However, domestic freight shipments account for a significant portion- nearly two-thirds- of all freight moved within the U.S. The efficiency of these shipments would clearly be improved with a more robust freight infrastructure improvement program funded by container fees or freight-specific user fees. However, if container or ad valorem fees are to be levied on domestic shipments, Constitutional restrictions on interference in interstate commerce will need to be addressed.

CONSOLIDATED COMMENTS FROM MEMBERS OF THE BLUE RIBBON PANEL OF TRANSPORTATION EXPERTS - PAPER 5A-06

One reviewer commented as follows:

Among other things, the paper discusses truck-only toll lanes. It should be noted that modal equity requires that tolls on such lanes should be set high enough to completely cover project costs. If traffic is diverted off onto non-tolled facilities before cost recovery is achieved, then that is an indication that the project is not economically justifiable.

¹⁹ Water Resources Development Act of 1986, 26 U.S.C. 4461

²⁰ *United States v. United States Shoe Corporation*, 523 U.S. 360 118 S. Ct. 1290, 140 L. Ed. 2d 453 (1998). The Export Clause states: "No Tax or Duty shall be laid on Articles exported from any State." (U.S. Const., Art. I, §9, cl. 5)

²¹ *United States v. United States Shoe Corporation*: "Although the Export Clause categorically bars Congress from imposing any tax on exports, *United States v. International Business Machines Corp.*, 517 U.S. 843 (IBM), it does not rule out a "user fee" that lacks the attributes of a generally applicable tax or duty and is, instead, a charge designed as compensation for government-supplied services, facilities, or benefits, see *Pace v. Burgess*, 92 U.S. 372, 375—376. The HMT, however, is a tax, and thus violates the Export Clause as applied to exports."

²² *Swisher Int'l., Inc. v. United States*, 27 F. Supp.2d 234 (Ct. Int'l Trade 1998)