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NAVIGATING PORT FUNDING: ALTERNATIVES FOR REFORMING THE HARBOR MAINTENANCE TRUST FUND

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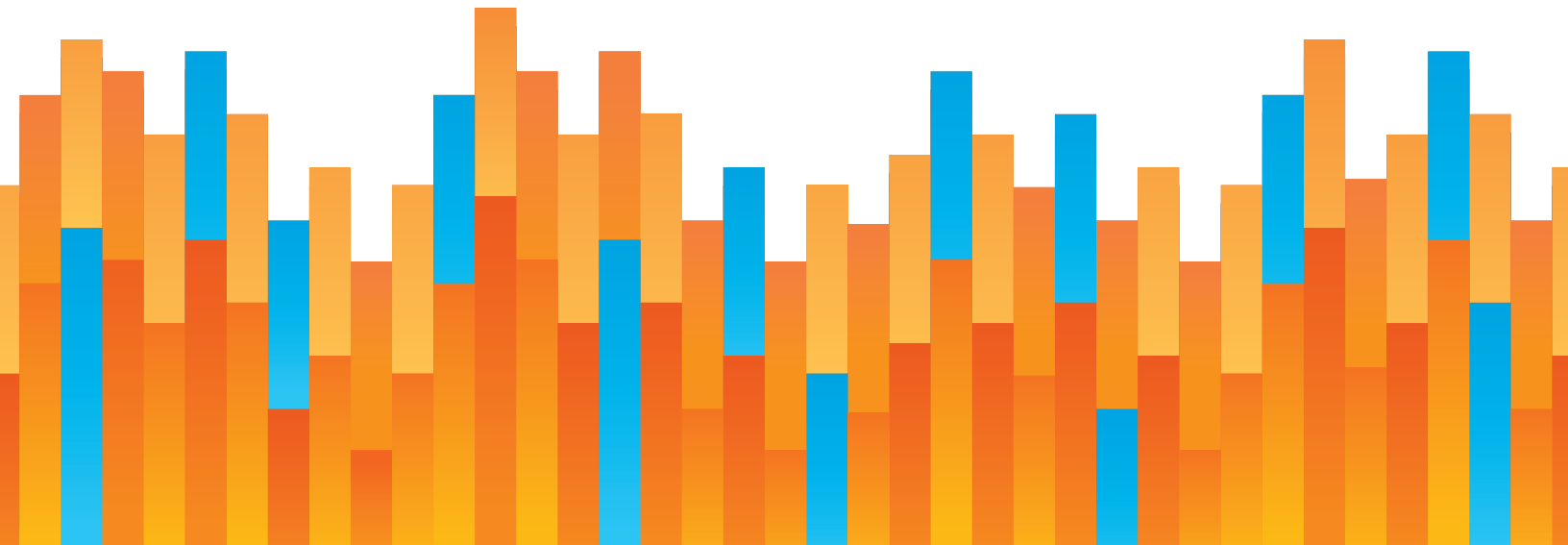

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PART 1

INTRODUCTION

U.S. seaports are vital to global trade, serving as gateways for international commerce. Ensuring their efficient operation and maintenance is crucial for economic stability and growth. However, the challenge of how to fund this essential infrastructure has been a contentious issue, leading to various policy debates and reforms. This brief delves into the history, current challenges, and potential reforms for the Harbor Maintenance Trust Fund (HMTF), offering insights into how sustainable and equitable funding solutions can be achieved.

> *… the HMTF faces persistent challenges, particularly regarding its funding mechanism…*

The HMTF was established to finance the maintenance and operation of U.S. ports. Over the years, the fund has undergone significant changes, evolving from the Port Infrastructure Development and Improvement Trust Fund in the 1980s to its current form. But the HMTF faces persistent challenges, particularly regarding its funding mechanism, the Harbor Maintenance Fee (HMF)—a fee exacted on eligible shipments that feeds into the HMTF. The funds are used to pay for port improvements, required dredging, and other routine maintenance. The HMF was initially levied on both imports and exports but was

significantly altered by a Supreme Court ruling in 1998 that exempted exports from the fee. This exemption has led to inequities and strained international trade relations.

This brief explores three main policy solutions to reform the HMTF and ensure its sustainability: implementing a user fee, abolishing the HMF in favor of general fund appropriations, and increasing diesel fuel tax rates. Understanding these potential reforms is crucial for policymakers, stakeholders, and the public, because seaport efficiency directly affects the economy. By addressing the existing inequities and compliance challenges, the U.S. can move toward a more equitable and effective funding mechanism for seaports. The following sections analyze these topics, offering a comprehensive view of the past, present, and future of seaport funding policy, focusing on regulatory and legal aspects of different funding and financing approaches.

PART 2

OVERVIEW OF THE HARBOR MAINTENANCE TRUST FUND

The Harbor Maintenance Trust Fund (HMTF) has changed frequently throughout its lifespan, and is now nearly unrecognizable from its original form, even in name. The first iteration of the trust fund went by a different name: the Port Infrastructure Development and Improvement Trust Fund. Originally, the fund was an initiative championed in 1983 by President Reagan, in line with President Carter's 1978 moves to bring a user fee to the Inland Waterway System.[1] As Jeff Davis of the Eno Center for Transportation wrote, "Presidents Carter and Reagan disagreed on many things, but they shared a deep suspicion that many [Army Corps of Engineers] water projects were wasteful and that the Corps was too focused on pleasing Congress."[2] Both presidents sought to reduce the reliance on congressional appropriation for the Corps' funding needs, albeit focusing on different aspects of the Corps' mission. Carter focused on the inland waterways, and Reagan focused on seaports.

1 Jeff Davis, "History of the Harbor Maintenance Trust Fund," Eno Center for Transportation, 2019. www.enotrans.org/article/history-of-the-harbor-maintenance-trust-fund/ (18 September 2024).

2 Ibid.

"The Harbor Maintenance Trust Fund (HMTF) has changed frequently throughout its lifespan, and is now nearly unrecognizable from its original form..."

President Reagan's efforts culminated in H.R. 3678 in the 98th Congress in 1983. The bill was the House of Representatives' companion resolution to S. 1739. Together, these bills were the proposed Water Resources Development Act (WRDA) of 1983–1984. WRDA bills are biennial pieces of legislation that still rely heavily on the Army Corps' cooperation with Congress. The Senate bill required a local cost share of 50% of local flood control projects, and also provided that the Army Corps would keep ports dredged to a depth of 45 feet.[3] For any depth below that mark, the local entity was responsible for 50% of the costs.[4] The House bill, however, established the Port Infrastructure Development and Improvement Trust Fund account in the U.S. Treasury, but had no provision to raise new revenues for the trust fund.[5]

These bills failed to pass. In the next year, Congress, following some back and forth over $150 million in appropriations for water projects, managed to find a middle ground from which it could move forward.[6] This agreement included the first iteration of the Harbor Maintenance Fee (HMF) in the form of a 0.04% ad valorem tax on imports and exports, paid by the shipper (not the carrier). This was originally aimed to recover 30% to 40% of the Corps' operations and maintenance (O&M) expenditures. This tax provision was a core part of the House bill at the time, H.R. 6 in the 99th Congress.[7] The Senate had differing priorities, including tweaking existing Inland Waterways revenue generation, but it kept the majority of the House changes for ports, harbors, and the Port Infrastructure Development and Improvement Trust Fund, except for two changes. The name was shifted from the Port Infrastructure Development Trust Fund to the Harbor Maintenance Trust Fund. But more importantly, the Senate bill had a lower cap on the amount that could be appropriated from

3 Ibid.

4 Ibid.

5 Ibid.

6 Ibid.

7 Water Resources Development Act of 1986, Pub. L. 99-662, 100 Stat. 4082 (17 Nov. 1986).

the fund annually. The House bill provided that the trust fund could pay up to 100% of O&M costs, whereas the Senate bill capped that number at a much lower 40%. Additionally, WRDA 1986 tasked the U.S. Customs Service (now U.S. Customs and Border Protection) with collecting the HMF at ports.

Finally, WRDA 1986 was signed into law in November 1986.[8] Things remained the same for four years until President H.W. Bush's full budget in 1990 called for an increase of the HMF from 0.04% of cargo value to 0.125% of cargo value. This change, eventually, was signed into law in November 1990 as part of the Omnibus Budget Reconciliation Act of 1990.[9] Alongside pushes from the H.W. Bush administration to increase revenue generation from the HMF, there was simultaneously a call to increase the appropriations limit for HMTF dollars from 40% of dredging costs to 100%. This provision was also signed into law in November 1990 through WRDA 1990.[10]

Alongside pushes from the H.W. Bush administration to increase revenue generation from the HMF, there was simultaneously a call to increase the appropriations limit for HMTF dollars from 40% of dredging costs to 100%.

The key funding mechanism for the HMTF until 1998 was the HMF. While the name has remained the same, the underlying ad valorem fee was reassessed based on a landmark Supreme Court case. In *United States v. United States Shoe Corp.*, the Supreme Court held that the HMF, as it existed, was not a true user fee. As such, it could not be applied to exports because of Article I, Section 9, Clause 5 of the U.S. Constitution. This clause states plainly that "No Tax or Duty shall be laid on Articles exported from any State."

The Supreme Court considers a user fee to be different from a tax or duty. The late Justice Ruth Bader Ginsburg wrote in her opinion, "The value of export cargo, however, does not

8 Ibid.

9 Omnibus Budget Reconciliation Act of 1990, Pub. L. 101-508, 104 Stat. 1388. (5 Nov. 1990).

10 Water Resources Development Act of 1990, Pub. L. 101-640, 104 Stat. 4604. (28 Nov. 1990).

correlate reliably with federal harbor services used or usable by the exporter[.]"[11] Put simply, Justice Ginsburg was saying that the ad valorem "fee" being levied at the time was more akin to a tax, because it had no real relation to the services the port was providing. Because of this ruling, the HMF is now only collected on imports, domestic shipments, Foreign-Trade Zone admissions, and passengers.[12] Exporters no longer have to pay the HMF. In the two fiscal years before the *U.S. Shoe* ruling, HMF collections on exports represented approximately 30% of HMTF revenues.[13]

… the HMF is now only collected on imports, domestic shipments, Foreign-Trade Zone admissions, and passengers.[14] Exporters no longer have to pay the HMF.

In 1999, to address the budget shortfall due to the HMF no longer being levied on exports, President Clinton proposed a replacement for the HMTF and the HMF. The HMF replacement, the Harbor Services Fund, would be supported by user fees that could be levied on both imports and exports. President Clinton's proposal was based on the gross or net tonnage of a vessel, depending on what type of vessel was paying the fee.

This proposal would have fallen within the Court's definition of a user fee as established by *U.S. Shoe* and would have applied to exporters as well as importers. However, this proposal never received any congressional action.

Following related changes through various acts, bills, and WRDAs, today the HMTF is funded through a 0.125% ad valorem tax on imported goods. The fund has been fiscally healthy since its inception. Essentially, the fund was collecting more than it could actually spend thanks to budget caps. Recent reforms in WRDA have targeted these problems

11 *United States v. United States Shoe Corp.*, 523 U.S. 360 (1998).

12 "What is The Harbor Maintenance Fee (HMF)?," U.S. Customs and Border Protection, cbp.gov, 9 Aug. 2024. www.help.cbp.gov/s/article/Article-1105?language=en_US (18 Sep. 2024).

13 "Pat Mutschler, "The Harbor Maintenance Trust Fund," dco.uscg.mil, Summer 2011. apps.dtic.mil/sti/pdfs/ADA552596.pdf (18 Sep. 2024).

14 "What is The Harbor Maintenance Fee (HMF)?," U.S. Customs and Border Protection, cbp.gov, 9 Aug. 2024. www.help.cbp.gov/s/article/Article-1105?language=en_US (18 Sep. 2024).

surrounding expenditure by broadening eligible projects for HMTF funding, but inequities in the funding mechanism still exist. This revenue generation structure has been in place since *U.S. Shoe* and continues to be the status quo.

However, the status quo is far from perfect. Problems still remain in the HMF's structure itself, leading to inequities in who pays it. Part 3 examines these discrepancies in greater detail.

PART 3

CURRENT CHALLENGES

Five years ago one of the biggest problems with the HMTF was the inability to spend the revenue generated by the HMF. The fund slowly built up a surplus over time, which is fine—if there's a consistent way to spend down the balance. Because of caps on government-wide spending imposed by the Budget Control Act of 2011, there was no such mechanism.[15] Under the cap, to spend more in some areas meant spending less in others—because if they spend more than the cap, sequestration imposes cuts across the board regardless of any dedicated revenue source flowing into a fund.

However, given Congress' solution implemented in WRDA 2020 to allow for greater expenditures from the HMTF, one of the chief problems may have been solved. Time will tell if the formula changes brought by WRDA 2020 solve all of the problems surrounding adequate outlays from the HMTF. Still, there are deeper problems with the HMF itself that are worth addressing, notably inequities in the HMF since the Supreme Court's decision in *United States v. United States Shoe Corp*.

First, the failure to find a new funding source for the HMTF has led to continued inequity with a system entirely sustained by taxes levied on imports, domestic shipments, Foreign-Trade Zone admissions, and passengers, as well as general fund subsidies. Because of this, export shippers have been reaping the benefits of services offered at ports and harbors without contributing to their funding since 1998. The initial HMF was intended to be a user

[15] Budget Control Act of 2011, Pub. L. 112-25, 125 Stat. 240. (2 Aug. 2011).

fee and one that applied to both importers and exporters, but the Supreme Court in *U.S. Shoe* ruled that the then-current HMF was unconstitutional.[16]

> *… export shippers have been reaping the benefits of services offered at ports and harbors without contributing to their funding since 1998.*

Second, the current HMF has also led to strained relations between the United States and other member countries of the World Trade Organization (WTO). The U.S. is a signatory of the General Agreement on Tariffs and Trade (GATT). Article III, Section 2 of the GATT states that imports shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied directly or indirectly to domestic products.[17] While this sounds as though it would cancel out any fee, Section 1(a) of Article VIII states that fees and costs shall be limited in amount to the approximate cost of services rendered.[18]

Trade partners and cosignatories have called for the opening of WTO counseling because the current maintenance fee violates the GATT. In 1998, the European Union argued that the HMF violates Articles I, II, III, VIII, and X of the GATT and sought consultation through both the U.S. Trade Representative and WTO. Following the change to the HMF to exempt exports from paying the fee, the EU gave the U.S. a deadline of January 1, 2000 to address GATT-compliance failures, but the U.S. never made any changes. To date, this has still not led to a formal panel being established, but does not prevent that from happening in the future.[19]

With these complications in mind, reform ought to look toward options and replacements for the HMF that solve both problems. Myriad reforms have been proposed and examined,

16 U.S. Constitution Article I, Section 9, Clause 5.

17 "The General Agreement on Tariffs and Trade (GATT 1947)," World Trade Organization, wto.org, Oct. 1947. wto.org/english/docs_e/legal_e/gatt47_01_e.htm (18 Sep. 2024).

18 Ibid.

19 C.R. McIntosh, et al, "Paying for harbor maintenance in the US: Options for moving past the Harbor Maintenance Tax," *Transportation Research Part A: Policy and Practice* 74 (2015). 210-221. *ScienceDirect*. www.sciencedirect.com/science/article/pii/S0965856415000312 (18 Sep. 2024).

though none have garnered much support or attention from Congress or users of the system. Part 4 examines some reform options, evaluates the pros and cons, and explores other regulatory aspects of each proposal.

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PART 4

POTENTIAL REFORMS

Policy scholars have been examining different avenues for reforming the HMF since 1998. Since then, three main policy solutions to the inequities and international compliance challenges with the current HMF have arisen.

Enact a User Fee: This is not like the ad valorem tax levied, given it already failed the Supreme Court's user fee test once. Most proposals are akin to the Clinton administration's proposal from 1999, replacing the current fee with a user fee based on the tonnage of the vessel and the vessel's time at port.

Abolish the HMF: Proponents of this approach suggest that funding the ports through appropriations from the general fund would be sufficient, and less complex than the status quo.

Increase Marine Fuel Taxes: This, in a similar vein to the abolition approach, suggests that a more general form of user fee could be less complex and keep the system well-funded. Additionally, the fuel excise tax could be charged to all vessels regardless of whether they were import- or export-laden.

This section explores these three approaches as solutions to the existing problems with the HMF.

4.1 ENACTING USER FEES

A user fee would ideally satisfy both GATT requirements and serve as an export-clause-friendly means of revenue generation for the future of the HMTF. It's worth revisiting the concept of user fees at large, similar to the Clinton administration's 1999 proposal, as shown in Table 1.

TABLE 1: CLINTON ADMINISTRATION PROPOSAL FEES

Ship Type	Rate*
Bulk Carrier	$0.12 per net ton
Tanker	$0.28 per net ton
Cruise Ship	$0.12 per gross ton
General Ship	$2.74 per gross ton

***Net tonnage of a ship is determined by the volume of all cargo spaces on the ship, whereas gross tonnage is determined by the volume of all enclosed spaces on the ship. Net tonnage was used as a measure for cargo vessels, and gross tonnage was used for passenger-focused vessels.**
Source: Jeff Davis, "History of the Harbor Maintenance Trust Fund," Eno Center for Transportation, 2019. www.enotrans.org/article/history-of-the-harbor-maintenance-trust-fund/ (18 September 2024).

Table 1 shows the rates proposed for President Clinton's "harbor service fee." When defending these fees to Congress, the Clinton administration listed a set of alternative fee structures it had examined, as well as its rationale for choosing this over the alternatives.[20] The concerns expressed by the Clinton administration, as well as parts of the proposal offered in 1999, offer some insights as to what makes a user fee viable and constitutional.

A user fee based on facility use at a port would have to be the same fee nationwide (or at least follow the same structure). Article I, Section 9, Clause 6 of the U.S. Constitution, or the Port Preference Clause, states that "No preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another."[21] This requirement means there would be some level of uniformity among ports.

20 *U.S. Army Corps of Engineers' budget for fiscal year 2001,* U.S. Congress, Senate, Subcommittee on Transportation and Infrastructure of the Committee on Environment and Public Works, 106th Cong., 2nd sess., 2000.

21 Ibid.

On top of this requirement, and as already stated in Part 2, this proposal would have complied with the Supreme Court's *U.S. Shoe* ruling. And, ideally, it would apply to exports as well. How would a modern user fee work as an HMF replacement?

More-modern proposals tend to mirror the Clinton-era proposal: a fee levied against any vessel that uses a port's services. More-complex user fee structures could also factor in time-at-dock as an approximation of services rendered (e.g. stevedoring and longshoring services) and a ship's draft (how deep below the waterline the lowest point of a ship's hull is), which is a good approximation of harbor maintenance needs (e.g. maintenance dredging to certain depths).

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This raises the question of collection. How would a tonnage fee be collected? Currently, as explained in Part 2, U.S. Customs and Border Protection collects the HMF at ports from shippers. The process would remain largely the same. U.S. Customs and Border Protection would collect the fee, though it would be from the carrier (the ship owner) instead of the shipper itself, though it's likely this added cost would be passed on to the shipper anyway.

However, were a tonnage fee to be implemented, it could be challenged like the original HMF. The main concern of a user fee is the possibility of it being overturned, or limited to whom the fee can be levied against (like the modern HMF). To ensure a fee is a user fee and not a tax, it must pass the Evansville Test. In 1972, Evansville Airport was sued by Delta Air Lines. Delta claimed that a "use and service charge" of $1 for each passenger enplaned on a commercial aircraft operated from the Dress Memorial Airport in Evansville, Indiana violated the Dormant Commerce Clause of the U.S. Constitution.

While this case rests squarely in the aviation sector, the precedent it set is still relevant for user fee proposals in the waterborne transportation space. The exact text of Article 1, Section 8, Clause 3 (or what has become known as the Commerce Clause) gives Congress the power to "regulate commerce with foreign nations, among states, and with the Indian

Tribes."[22] Delta had, in effect, claimed that, by levying a fee, Evansville Airport was regulating interstate commerce. Because that is an area covered by the Commerce Clause, it follows that the fee was unconstitutional.

But the Supreme Court disagreed, and ruled in favor of Evansville Airport based on several factors:

- "A charge designed to make the user of state-provided facilities pay a reasonable fee for their construction and maintenance may constitutionally be imposed on interstate and intrastate users alike."
- "The charges, applicable to both interstate and intrastate flights, do not discriminate against interstate commerce and travel."
- "Although not all users of the airport facilities are subject to the fees, and there are distinctions among different classes of passengers and aircraft, the charges reflect a fair, albeit imperfect, approximation of the use of the facilities by those for whose benefit they are imposed, and the exemptions are not wholly unreasonable."
- "The airlines have not shown the charges to be excessive in relation to the costs incurred by the taxing authorities in constructing and maintaining airports with public funds.
- "The charges do not conflict with any federal policies furthering uniform national regulation of air transportation."
- "There is no suggestion here that the charges do not advance the constitutionally permissible objective of having interstate commerce bear a fair share of airport costs."[23]

While this case specifically evaluated the constitutionality of an airport use and service charge, the precedent established is relevant for any user fees. The Court later cited the precedent in the 1998 case of *Massachusetts v. United States*.[24] The Evansville test was established based on three prongs. For a fee to be a user fee and not a tax, it must:

1. Not discriminate against interstate commerce;
2. Be based on some fair approximation of use; and

22 U.S. Constitution Article I, Section 8, Clause 3.

23 *Evansville Airport v. Delta Airlines,* 405 U.S. 707 (1972).

24 *Massachusetts v. United States,* 435 U.S. 444 (1978).

3. Not be shown to be excessive in relation to the costs to the government of the benefits conferred.[25]

Hence, for a tonnage fee to be levied across all beneficiaries (instead of the current HMF-eligible users in imports, passengers, and Foreign-Trade Zone admissions), it must satisfy those three criteria. Evaluating a hypothetical tonnage fee requires checking to ensure it passes the Evansville test—though it's worth noting the fee can vary, and so the answer to these questions can vary as well.

Evaluating a hypothetical tonnage fee requires checking to ensure it passes the Evansville test—though it's worth noting the fee can vary, and so the answer to these questions can vary as well.

First, does a tonnage fee discriminate against interstate commerce? No, because the charge would be levied against all vessels regardless of whether they are from within the state or out of state, as well as international vessels.

Second, is the tonnage fee based on some approximation of use? This depends on the level of complexity and what factors are evaluated, but a strict tonnage fee is based on a fair approximation of use. When compared to the existing HMF, which has no bearing on the use of port facilities, a tonnage fee is a notable improvement. For example, tonnage alone is based more on an approximation of use than the existing ad valorem tax. Likewise, the draft of a vessel is a fair approximation of the costs of maintenance dredging necessary to maintain the depth to accommodate the vessel. The same can be argued for factoring in the time-at-port, given that has a direct relation to the use of onshore services such as longshoring and stevedoring. In short, a tonnage fee is based entirely on an approximation of facility and service use.

Third and finally, is the charge excessive relative to the costs to the government of the benefits conferred? The answer here may vary. If the fee is disproportionately high compared to the costs of operation, then the fee would fail the Evansville test. However, if

[25] Ibid.

the fee is based on an approximation of use (thus satisfying the second requirement), it ought to be proportional relative to the costs of operation.[26] Given these answers, a well-constructed tonnage fee should be able to pass the Evansville test and be leviable on exports as well as all other beneficiaries.

And a user fee should also aim to be GATT-compliant for the sake of the United States' international allies and trade partners, as well as to avoid adverse action by the World Trade Organization. The GATT at first glance appears to outlaw any sort of fee, duty, tax, or tariff. Article III, Section 2 states:

> *The products of the territory of any contracting party imported into the territory of any other contracting party shall not be subject, directly or indirectly, to internal taxes or other internal charges of any kind in excess of those applied, directly or indirectly, to like domestic products. Moreover, no contracting party shall otherwise apply internal taxes or other internal charges to imported or domestic products in a manner contrary to the principles outlined in paragraph* [one].[27]

While this sounds as though it may ban user fees, Article VIII, Section 1(a) then states:

> *All fees and charges of whatever character (other than import and export duties and other than taxes within the purview of Article III) imposed by contracting parties on or in connection with importation or exportation shall be limited in amount to the approximate cost of services rendered and shall not represent an indirect protection to domestic products or a taxation of imports or exports for fiscal purposes.*[28]

In short, fees should be related to the cost of services rendered. Given the fee has already met the Evansville test's prong requiring the fee to be based on an approximation of services rendered, the only added step is ensuring the fee is not levied or structured in a way that disadvantages international trade. So long as the fee is levied fairly to both international and domestic traffic, it ought to be GATT-compliant.

With that basic framework in place, we can evaluate the advantages and disadvantages of a tonnage fee.

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26 *Evansville Airport v. Delta Airlines,* 405 U.S. 707 (1972).

27 "The General Agreement on Tariffs and Trade (GATT 1947)," World Trade Organization, wto.org, Oct. 1947. wto.org/english/docs_e/legal_e/gatt47_01_e.htm (18 Sep. 2024).

28 Ibid.

TABLE 2: ADVANTAGES AND DISADVANTAGES OF TONNAGE FEE

Advantages	Disadvantages
• More proportional to use/costs than existing HMF • More equitable, insofar as it can be levied on exports • Expands eligible fee base from import/passengers/Foreign-Trade Zone admissions • GATT-compliant • Constitutional • Will likely receive political support from low-volume high-value shippers (electronic components, for example), • Innovation neutral • Addition of market signals into otherwise insulated system	• More complex than straightforward ad valorem tax • Probable legal challenges in line with *United States v. U.S. Shoe Corp*. • Literature reviews show concerns about revenue generation* • Will likely receive political opposition from high-volume low-value shippers (grain, for example), among others • Complicated implementation relative to other solutions

***See "A Statistical Approach to US Harbor Maintenance Tax Rates and Replacement User Fees" by McIntosh and Skalberg, 2010.**

The main advantage of a user-fee-based reform to the HMF is the proportionality of both the revenue generated relative to the costs and whom the fee burden falls upon. Revenue collected would be directly tied to indicators of a vessel's actual costs incurred for service at a port facility, be it by one or a combination of the factors that could be put into a fee. The Clinton administration used a tonnage fee as a robust, reliable method of assessing costs because the tonnage of a vessel is fixed and is publicly known. This could be compounded with other factors like draft for a more detailed fee, but the original Clinton administration proposal did not evaluate draft because draft can vary based on other factors unrelated to the costs of services rendered at port, like tidal conditions.[29]

Since it would pass the constitutional test that the current HMF does not, it could be levied on exports as well as imports, passenger travel, and Foreign-Trade Zone admissions. Likewise, because it is levied on vessels both international and domestic, it would also survive GATT-compliance challenges.

[29] *U.S. Army Corps of Engineers' budget for fiscal year 2001,* U.S. Congress, Senate, Subcommittee on Transportation and Infrastructure of the Committee on Environment and Public Works, 106th Cong., 2nd sess., 2000.

Politically, a user fee is complicated. There was widespread opposition to the Clinton administration's original proposal, and Congress never acted on it due to the coalition that had formed against it. U.S. and foreign-flagged ship operators, shippers, and the American Association of Port Authorities all opposed the proposal, citing "serious ramifications on the U.S. maritime community."[30]

However, a revised HMF would likely receive some international support from U.S. allies and trade partners due to the import-only HMF being replaced with something import/export-neutral. Currently, the HMF functions similarly to a tariff on imports, since exports are not charged any fee. Likewise, some import carriers and shippers would likely favor this change, especially if their cargo was low-volume high-value shipments like electronic parts, given the current HMF disproportionately impacts them. Still, this solution is politically charged and divisive.

4.2 ABOLISHING THE HMF

The second potential replacement for the HMF is straightforward: abolish the HMTF and HMF. Proponents of this approach suggest that ports and their dredging needs be paid for through general fund appropriations. Abolishing the HMF (or a combination of the HMF and the HMTF) would return the ports system to the status quo before the enactment of the WRDA 1986.

> *"Abolishing the HMF (or a combination of the HMF and the HMTF) would return the ports system to the status quo before the enactment of the WRDA 1986."*

[30] Shashi Kumar, "The U. S. Harbor Maintenance Tax Controversy: Is There a Solution?" *International Journal of Maritime Economics* 4 (2002) *ResearchGate*. www.researchgate.net/publication/280569840_THE_U_S_HARBOR_MAINTENANCE_TAX_CONTROVERSY_IS_THERE_A_SOLUTION_THE_U_S_HARBOR_MAINTENANCE_TAX_CONTROVERSY_IS_THERE_A_SOLUTION 149-163. (18 Sep. 2024).

There are several options following abolition. A 1978 Congressional Budget Office (CBO) report examined alternatives to the Highway and Airport Trust Funds, given that they were set to require renewal in 1979 and 1980 respectively. The report offered no recommendations (per CBO's mandate to provide analysis), but did lay out options for policymakers: "No trust funds, whereby all modes would rely on the general fund with liberal use of advance appropriations."[31] The report also examined some benefits that underpin most of the arguments in favor of a no-trust-fund approach, noting that congressional control for all modes would lead to greater oversight.[32] It also noted that, while highways and airways would lose their financing assurance, other modes "may be slightly better off."[33] The report also touted "good budgetary control, both by mode and for transportation total."

In the author's minds, this proposal allowed for greater budgetary flexibility at a federal level, and states could rely on federal appropriations in longer-term authorizations (similar to how Amtrak, at the time, worked on two-year authorization cycles).[34] The report itself focused on five-year authorizations with two-year appropriations as a sample template for long-term transportation financing.[35]

Instead of abolishing the HMTF and the HMF entirely, a simpler approach would be to abolish the HMF and leave in place the HMTF for a time.

Alternative approaches with the same outcome in mind do exist, however. Instead of abolishing the HMTF and the HMF entirely, a simpler approach would be to abolish the HMF and leave in place the HMTF for a time. This proposal also has some precedent,

31 "Transportation Finance: Choices in a Period of Change," Congressional Budget Office, cbo.gov, March 1978. https://www.cbo.gov/sites/default/files/95th-congress-1977-1978/reports/78-cbo-028.pdf (30 January 2025).

32 Ibid.

33 Ibid.

34 Ibid.

35 Ibid.

similar to the Clinton administration's user fee proposal in Section 4.1. All that would be required to abolish the HMF is for Congress to renew the Support for Harbor Investment Program Act of 1999, which authorized appropriations for years in which there were no funds available in the HMTF.[36] This, paired with the abolition of the HMF, would make the system entirely reliant on appropriations for its operations and maintenance once the existing balance in the HMTF was fully expended.

This approach, unlike user fees, circumvents almost all of the legal concerns associated with a user fee. The abolition of a tax or fee is wholly within Congress' purview.

Additionally, this easily satisfies both GATT and constitutional compliance concerns. There can be no export clause violation in the absence of any fee, duty, or tax imposed on exports. Because all system needs would be funded through general fund appropriations, there would be no need for an additional fee levied on exports at all.

TABLE 3: ADVANTAGES AND DISADVANTAGES OF HMF ABOLISHMENT

Advantages	Disadvantages
• Simplicity of implementation • GATT-compliant • Constitutional • Import vs. export neutral • Politically feasible and supported by users and stakeholders • More oversight of transportation budgets • Greater federal flexibility for altering transportation project authorization and funding based on evolving conditions	• Funding burden becomes widely spread among those who do not directly use/benefit from the system • No guarantee of proportional funding relative to system needs • Increasing reliance on federal appropriations for projects at federal, state, and municipal levels • Absence of market signals • Appropriations can often be based on political preference

For the question of GATT compliance, the answer is the same. The absence of any fee, duty, or tax would simplify the process. U.S. allies and cosignatories of the GATT would benefit from this approach, given the current HMF's focus on imports serves as a tariff in all but

[36] Randall Skalberg, "The US Harbor Maintenance Tax: A bad idea whose time has passed?" *Transportation Journal* 46 (2007) *ResearchGate* www.researchgate.net/publication/290007613_The_US_Harbor_Maintenance_Tax_A_bad_idea_whose_time_has_passed 59-70 (18 Sep. 2024).

name. Since it is only rendered on imports and not exports, the U.S. forces its allies to pay for its port funding, making it mirror a tariff.

This simplified approach comes with advantages and disadvantages, especially when compared to other HMF replacements and the existing HMF.

The main advantage offered by abolition is simplicity. This would be a straightforward fix to the HMF problem and solves both of the main challenges this brief looks to address. However, as many policy solutions do, it comes with tradeoffs.

The most significant downside is the lack of equitable distribution of the funding burden. Instead of direct beneficiaries funding the system they use, general funds would fill the revenue gap, effectively shifting the burden to the taxpaying public at large.

The most significant downside is the lack of equitable distribution of the funding burden. Instead of direct beneficiaries funding the system they use, general funds would fill the revenue gap, effectively shifting the burden to the taxpaying public at large. While that does spread the costs of the system much more widely than any of the other proposals, the benefits remain concentrated.

The second problem is the consistency of funding. While Congress in one year may be generous toward ports and harbors, the years following may have different priorities. Perhaps a war breaks out, or a global shipping crisis occurs blocking waterborne transportation (for example, the Suez Canal being harried by the Houthis, or a lock chamber failure in the Panama Canal), or some other crisis that requires Congress to revise spending priorities. In those years, the ports could receive less funding. Inconsistent funding is harder to plan around, among other things, but the political reality of acquiring those appropriations may not be as straightforward as implementing abolition itself.

The absence of market signals that would result from this change may make the system less efficient as well. Returning to a purely general-funded system reliant on Congress

could lead to a return to the worst habits from the time before the HMTF. Beyond failures with the Army Corps' project management, a system like this would also subsidize financially unhealthy or unstable ports. If a port were built in a low-traffic, low-draft area, it would require a disproportionate allocation to sustain for the sake of fewer users.

4.3 INCREASING MARINE FUEL TAX RATES

The third and final proposal evaluated is similarly straightforward to abolishing the harbor maintenance fee. It would increase federal marine diesel fuel excise tax rates to fund harbor maintenance. This approach mirrors the current funding system for the Inland Waterways Trust Fund—a fund with a similar purpose for Army Corps' projects on that system. On the inland waterways, commercial barges pay a per-gallon diesel fuel tax. Revenue generated from that tax is then credited to the Inland Waterways Trust Fund and used to cover a small fraction of the cost of waterways projects.

A widely-cited paper by C.R. McIntosh suggests a country-wide fuel excise tax increase across modes to fund general transportation costs, though this paper will instead examine the introduction of a marine fuel tax (as other modes have their own trust funds with existing budget accounts managed by the U.S. Treasury).[37]

Literature reviews point to a few outcomes. First, because the U.S. marine diesel fuel tax is lower than those of European counterparts, revenue generation could be increased to be more in line with European countries. With an increased U.S. marine diesel tax rate, funding the entire port and harbor system becomes more realistic. This system could abolish the HMTF, or it could retain the HMTF and a portion of the raised fuel excise tax rate could be dedicated to the HMTF. Both systems function nearly identically, so long as the rate increase remains the same.

Still, these advantages and disadvantages are worth weighing against one another.

[37] C.R. McIntosh, et al, "Paying for harbor maintenance in the US: Options for moving past the Harbor Maintenance Tax," Transportation Research Part A: Policy and Practice 74 (2015). 210-221. ScienceDirect. www.sciencedirect.com/science/article/pii/S0965856415000312 (18 Sep. 2024)

TABLE 4: ADVANTAGES AND DISADVANTAGES OF INCREASING MARINE FUEL EXCISE TAX RATES

Advantages	Disadvantages
• Widespread tax burden • Traffic congestion benefits • Relatively consistent funding • GATT-compliant • Constitutional	• Funding, while more consistent than abolishment, is not tied as directly to costs of harbor facility use • Negatively impacted by innovation in propulsion • Could be interpreted as discriminatory against vessels that travel a longer distance between stops versus vessels travelling a shorter distance between stops • Absence of market signals

Similar to abolition, the main advantages lie in the simplicity of the proposal. The system required to collect the marine fuel excise tax already exists. Not only that, but the funding system mirrors that of the inland waterways system. To establish this system, all that would be needed is legislation either abolishing the HMF with a portion of increased fuel excise taxes, or abolishing the HMF and HMTF and relying on a (still increased) fuel excise tax to fund all transportation infrastructure including ports, harbors, and federal navigation projects.

The fuel excise tax is also GATT-compliant.

Constitutionally, there's little to discuss. U.S. fuel excise taxes have existed unchallenged since 1932. The marine fuel tax also passes the Evansville test, and since it is based on an approximation of use, it's proportional to the use of facilities (given it's per-gallon, not ad valorem), and does not discriminate against interstate commerce. All in all, it's a secure revenue stream—at least from legal challenges.

As an added benefit, revenue generation would remain relatively consistent year over year. Fuel demand is inelastic, and as such the need for fuel (and the taxes generated by its excision) would remain at a stable level for some time. The fuel tax burden is also widely spread among commercial users, so the costs would be less concentrated.

That comes with tradeoffs, though. While the costs would be less concentrated, the benefits would remain concentrated.

Beyond that, in the medium to long term, the fund's revenue source will decline. While the demand is inelastic, innovation is not. As with highways, fuel taxes are sensible when all vehicles are using fuel, but result in free riding when electric vehicles enter the marketplace. While this hasn't happened yet with harbor services, at least in a widespread way, eventually the system could be funded entirely by marine fuel users while electric vehicles reap the benefits without paying the costs. Today a marine fuel tax could easily be implemented for the harbors; in 20 years it may be far less viable. Table 5 shows some emerging technologies that could replace heavy fuel oil (the standard for today's vessels), and thus replace or reduce the efficiency of a marine fuel excise tax.

TABLE 5: PROPULSION TECHNOLOGIES, CURRENT KNOWLEDGE, AND CHALLENGES

Technology	Current
Battery	Batteries are viable for short-sea shipping, but presently not for deep-sea shipping. Could be used for peak shaving or as a hybrid option.
Nuclear	Thorium technology is under development, but there are public concerns.
Onboard carbon capture	This is in the concept stage only, and space is a serious concern.
Fuel cells	Fuel cells have great potential to be a disruptive technology to combustion engines in the future but, at present, they are too expensive for shipping.
Biofuels/biodiesel	Biodiesels are now in limited blended marine use. Feedstocks, scaling, and competition with other modes are concerns. Synthetic biofuels—biomass-to-liquid—and advanced biofuels are at the development stage and will expand the options, though scalability remains a concern.
Bio-methane	Scalability of production, combined with methane emissions during production and combustion are concerns which bring into question whether this is a route to net zero GHG emissions.
Hydrogen	Hydrogen is not currently feasible for deep-sea shipping due to range—storage space and availability—but is very important as a feedstock. Safety is a concern.
Alcohols	Methanol is technically feasible today, but green methanol production is not yet available at scale. Only second-generation ethanol is acceptable and is more expensive than methanol.
Lignin-alcohols (LEO)	LEO is in the early stages of development.
Ammonia	Green ammonia offers zero emissions both tank-to-wake and well-to-wake. Production is not yet available at scale, and engine and safety developments are ongoing. There are both technical and regulatory barriers to the use of toxic fuels.

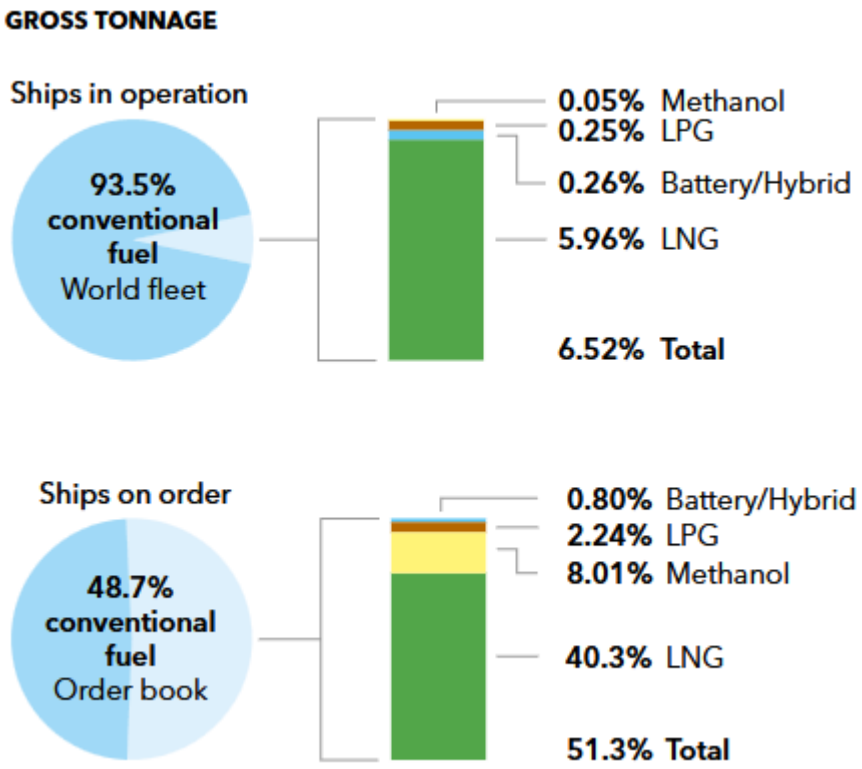
Source: Dr. Lee Kindberg, "Green, Greener, Greenest," dco.uscg.mil, Fall 2021. www.dco.uscg.mil/Portals/9/DCO%20Documents/Proceedings%20Magazine/Archive/2021/Vol78_No2_Fall21.pdf?ver=wio_EEFRKhMYrCdLkM3yew%3d%3d (18 Sep. 2024).

Lee Kindberg, author of the *Proceedings* journal entry that contained Table 5, wrote "The future is approaching [the marine transportation] sector rapidly. Short sea shipping and

ferries are already employing electrical power and some hydrogen-powered fuel cells. Some global companies have committed to the [liquefied natural gas] pathway, which can lead to equipment and practices for other gaseous fuels."[38] Kindberg's article also states that hybrid engines (combining electrical and diesel fuel) would extend ranges and broaden applicability.[39]

While these hybrid engines are great news for the industry, they would negatively impact the revenue stream generated by raising the marine fuel tax as a means of funding waterborne transportation. But Dr. Kindberg's article is from 2021, and since then there have already been major strides in four years for many of these alternative fuel technologies, and the market has already begun adapting.

FIGURE 1: CURRENT SHIPS IN OPERATION BY FUEL SOURCE VERSUS SHIPS ON ORDER



Source: "Alternative Fuels for Containerships," dnv.com. https://www.dnv.com/maritime/publications/alternative-fuels-for-containerships-methanol-and-ammonia-download/ (30 Jan 2025).

[38] Dr. Lee Kindberg, "Green, Greener, Greenest," dco.uscg.mil, Fall 2021. www.dco.uscg.mil/Portals/9/DCO%20Documents/Proceedings%20Magazine/Archive/2021/Vol78_No2_Fall21.pdf?ver=wio_EEFRKhMYrCdLkM3yew%3d%3d (18 Sep. 2024).

[39] Ibid.

Liquefied Natural Gas (LNG) still makes up the vast majority of non-conventional fuel sources, but other options are expanding—especially methanol for new ships on order.

In essence, for a marine fuel tax to work, the majority of the freight being moved needs to be on similarly fueled vessels (as opposed to something like a battery-powered system). As the share of vessels using marine fuel exclusively decreases (or as the share of hybridization increases), the rate of return will necessarily fall without consistent tax hikes.

> *… if the system is forced to rely on fuel excise taxes for the next 20 years and more electric vessels enter the marketplace, then this process will have to begin again.*

This also negates the simplicity argument that would otherwise be a point in favor of a marine fuel tax increase. Yes, the solution is simple today. But if the system is forced to rely on fuel excise taxes for the next 20 years and more electric vessels enter the marketplace, then this process will have to begin again. A new HMF may need to be discussed then, especially as electric and hybrid vessels take up a larger portion of the market. In short, a marine fuel excise tax's failure to be innovation-neutral is a major point against it as a replacement for the HMF.

While evaluating different reforms in a vacuum is a helpful exercise, they must be compared side by side as well. Part 5 ranks these proposals based on key factors for any reform going forward.

PART 5

COMPARISONS AND EVALUATION

As established in Part 4, all three proposals would satisfy GATT requirements as well as constitutional requirements (at least in the forms worth examining). Beyond that, it's worth a deeper dive into all three of the proposals to determine which comes with the least number of trade-offs, and which encourages the best practices in U.S. ports.

With the leading HMF alternatives examined and explored in detail, we can evaluate them based on four categories:

- **Complexity:** How easy is this solution to implement? Could bad legislation adversely affect this proposal?
- **Political Likelihood:** How likely is it that Congress will consider this proposal? What groups are likely to support/oppose it?
- **Fairness:** Are those who are shouldering the proposed fee/tax burden beneficiaries of the system? Would any non-beneficiaries shoulder some of it under this proposal?
- **Economic Efficiency and Long-Term Sustainability:** Generating revenue is one major goal, but the other ought to be encouraging economic efficiency. Does this proposal promote the right incentives? Does the proposal ensure a future-proof, robust revenue stream for future needs?

These categories cover some of the most important topics for any would-be HMF/HMTF replacement.

5.1 COMPLEXITY

Examining complexity begins with considering a tonnage fee. While tonnage is the simplest metric to assess a user fee that encompasses the cost of service at a port or harbor, a user fee using any metric is still the most complex of the options evaluated in this brief overall given the otherwise straightforward options. A well-constructed tonnage fee must address both GATT compliance and constitutional concerns, while the other two solutions can avoid these concerns. A tonnage fee that doesn't pass the Evansville test, for example, is not worth proposing or passing—especially if the goal is to make exporters pay into the HMTF again. This, plus the different factors that can be added to a tonnage fee (like draft, tonnage, and time at port), makes it the most complex option.

> *A tonnage fee is by far the most complex of the options evaluated in this brief.*

Next is assessing abolishing the HMF. This policy proposal's main strength is in how straightforward and easily implemented it is. While a tonnage fee requires a cumbersome bill-crafting process, this would require nothing more than a bill abolishing the HMF, and then successfully passing the Support for Harbor Investment Program Act of 1999.[40] This, as explored in Section 4.2, would allow appropriations to compensate for a then-emptied HMTF. Of the three analyzed, this proposal is the least complex by far.

If these proposals were evaluated without any long-term considerations, then raising a marine fuel excise tax would be equal to abolishing the HMF. But, because these revenue streams can go untouched for decades (as the current HMF has), it's worth making the effort to try to future-proof the revenue stream as much as possible. This is where the marine fuel tax rate increase falls short. While it is a very simple proposal on paper (raising a tax may be politically difficult, but it's not difficult legislatively), this becomes a more difficult

[40] H.R.1260 Support for Harbor Investment Program Act

proposal to maintain as time passes. Innovation in the waterborne transportation sector will continue, leading to alternative means of propulsion taking up an increasingly larger market share. Congressional intervention would be increasingly necessary over time, be that in the form of rate hikes or supplementary revenue streams to compensate for a larger share of users not paying into the tax. Simply indexing the fuel excise tax for inflation would not be sufficient, given that inflation is not tied to improving technology. As such, raising the marine fuel excise tax lands between the other two proposals in terms of complexity.

5.2 POLITICAL LIKELIHOOD

A policy proposal may be one of the best solutions for an existing problem—but that doesn't matter if it is never passed into law or brought for a vote. Some options may not have enough support to receive a vote in Congress. This section seeks to evaluate the likelihood of any one of these proposals passing.

A policy proposal may be one of the best solutions for an existing problem—but that doesn't matter if it is never passed into law or brought for a vote. Some options may not have enough support to receive a vote in Congress.

Enacting a User Fee: The political difficulty of a user fee always varies heavily based on the rate charged and the criteria assessed. Depending on what metrics are used, shippers and carriers in support and in opposition will differ.

For example, under the Clinton administration's tonnage fee proposal outlined in Table 3, a heavier burden would fall on high-volume low-value cargo. Coal and grains would be heavily impacted when compared to a ship carrying electronics. On the other hand, under the current system, the opposite is true. Because a vessel carrying high-value electronics is taxed on an ad valorem basis (at least if the goods are being imported or moved domestically), it pays a higher share.

Beyond this, stakeholders in the ports have also come out against past user fee attempts. The concerns of the ports are largely that, by assessing a user fee, their ports will be uncompetitive when compared to international competitors. In 1990, the H.W. Bush administration's pushback on this claim was that the U.S. market was too large to be ignored.[41] Still, it's unlikely the ports would support a user fee paid by port operators—or at least the American Association of Port Authorities. Naturally deep ports may come out in favor of these reforms if the WRDA 2020's expanded use for HMTF dollar provisions remains in place or is further expanded. These factors combined make a user fee the most politically difficult to pass.

Abolishing the HMTF: This approach is politically simple, mirroring the complexity of implementation. Abolition has the support of stakeholders and users alike, largely because it shifts the vast majority of the financial burden to a larger base—taxpayers. They would still pay something indirectly to fund the system, but it would be proportionally far less than other proposals. Ports would instead receive money from appropriations without having any (direct) impact on their competitiveness. Users (both shippers and operators alike) would benefit by not having to directly contribute to any maintenance funding for the infrastructure they use. Additionally, Congress would not have to pass any politically unpopular or complex tax increase (at least immediately) or implement a user fee that might polarize users of the system. This straightforward and widely supported process makes abolition more politically feasible than a user fee, but less than or equally likely as raising the fuel tax.

Increasing Fuel Excise Taxes: Finally, a marine fuel excise tax increase would be politically feasible. In the past, inland waterway system users called for an increase in the fuel excise tax to help pay for capital and operating costs.[42] Likewise, truckers in the past have called for increases to fuel taxes (though this was cheaper than the alternative of tolls, which are a reasonable proxy for a user fee akin to the tonnage fee proposal being analyzed).[43] While those sectors are not the same as maritime shipping, it can be surmised that it's at least a

41 *U.S. Army Corps of Engineers' budget for fiscal year 2001,* U.S. Congress, Senate, Subcommittee on Transportation and Infrastructure of the Committee on Environment and Public Works, 106th Cong., 2nd sess., 2000.

42 Charles Stern, "Inland Waterways: Recent Proposals and Issues for Congress," Congressional Research Service, crsreports.congress.gov, 26 Jun. 2014. crsreports.congress.gov/product/pdf/R/R41430 (18 Sep. 2024).

43 Ben Wolfgang, "Truckers prefer fuel taxes over tolls," *The Washington Times*, 3 Oct. 2011. Washingtontimes.com. www.washingtontimes.com/news/2011/oct/3/truckers-prefer-fuel-taxes-over-tolls/ (18 Sep. 2024).

somewhat popular alternative historically in a case where reform will happen regardless. If past support from stakeholders in other sectors is indicative of the possibility of support in the marine sector, it would be a key component to getting any sort of major reform to the floor. That gives a fuel tax a competitive edge over the other two proposals for political likelihood despite being a typically unfavorable tax increase.

5.3 FAIRNESS

One main concern over the existing HMF has been its fairness. An ad valorem tax, like the current HMF, favors vessels carrying high volumes of goods that are low in value. As noted previously, a ship carrying electronics pays substantially more than a ship carrying grain currently. However, system costs are still largely imposed on users of the system (except exporters). Other policy solutions discussed compare differently.

> *A user fee's fairness varies depending on the factors assessed. For a tonnage fee to be fair and levied in a balanced way, it must first apply to all users.*

A user fee's fairness varies depending on the factors assessed. For a tonnage fee to be fair and levied in a balanced way, it must first apply to all users. The first thing a reformer looking to implement a user fee would have to do is ensure that its proposal passes the Evansville test and is GATT-compliant. By passing the Evansville test, it ensures the fee would be able to be levied on exporters. A user fee is the fairest of the proposals. It concentrates costs on those that reap direct benefits from the system: ship operators. Basing the fee on a metric like tonnage ties the level of the charge to an approximation of use. These factors combine to make a user fee the fairest of the options evaluated.

In contrast, abolishing the HMTF shifts the system costs to the entire taxpaying public of the country. While that cost would be relatively low for every individual (because of how widespread it would be), it would still be levied on those who do not directly participate in the system. Those who compete with waterborne transportation would still be paying for the system. Railways and their operators would pay for the operations and maintenance of

the harbor system in the country. So would trucking companies and their drivers. In short, the abolition approach comes with tradeoffs; the burden would be low but spread to those who receive no direct benefit from the system. As such, this is the least fair solution.

Finally, a marine fuel tax increase lands somewhere between a tonnage fee and abolition. This solution will gradually decrease in fairness over time as carriers that are slower to adopt emerging forms of propulsion will shoulder more of the tax burden because of the nature of a fuel excise tax. While this is a useful market signal, without any supplementary source of income targeting hybrid or fully electric vessels, it lowers the fairness of this approach. A fuel tax increase serves as a middle ground between a user fee and abolishment, but only in the near term.

5.4 ECONOMIC EFFICIENCY AND LONG-TERM SUSTAINABILITY

This category is critical for the success of any HMF replacement. While the other categories are largely subjective and can vary based on priorities, a replacement ought to be an improvement over the existing HMF from an economic standpoint. Given the HMF's history as an untouchable tax (except for the Supreme Court's intervention), a solution also ought to be able to stand the test of time with minimal congressional intervention. All three solutions bring major advantages and disadvantages in this regard, and policymakers will have to weigh their priorities to effectively select a solution. But numbers help to illustrate the impacts of all three policies. Hypothetical coal shipments work as a case study, and show both the revenue that would be generated and fees that would be paid under some of the proposed reforms.

Given the HMF's history as an untouchable tax (except for the Supreme Court's intervention), a solution also ought to be able to stand the test of time with minimal congressional intervention.

A 2015 study evaluated what a regionally charged tonnage fee would look like compared to an increased fuel tax rate and the status quo, but given the odds that would be challenged on Port Preference Clause (discussed further in Section 4.1) grounds, those numbers have

been adapted to a national rate. The results are shown in Table 6, but the Tonnage Fee column is based on current breakdowns of system costs from the Army Corps of Engineers, as well as the overall tonnage moved per year.

TABLE 6: COAL SHIPMENTS AND PAYMENTS TO U.S. COMPARING HMF, NATIONAL TONNAGE FEE, AND INCREASED FUEL TAX, IN 2022 DOLLARS*

Policy Route	Current HMF	National Tonnage Fee	Increased Fuel Tax**
Domestic Route • Duluth, MN to St. Clair, MI • M/V Paul R. Tregurtha (69,172 Deadweight Tons/32,398 Net Tons) • 54,431 tonnes • Value: $44/tonnes • 2,172 km (round trip) • 540 ton km/l	Value: $3.4m Tax: $4,250	$0.57/net ton Fee: $18,725	218,934 US Liters Tax: $689
Import • Tolu, Colombia to Mobile, AL • Juliette, Bulk Carrier (34,398 Deadweight Tons/11,884 Net Tons) • 27,216 tonnes • Value: $69/tonne • 5,630 km (round trip) • 231 ton km/l	Value: $2.7m Tax: $3,375	$0.57/net ton Fee: $6,774	663,316 US Liters Tax: $2,087
Export • Norfolk, VA to Amsterdam, Netherlands • Ocean Winner, Bulk Carrier (72,928 Deadweight Tons/25,379 Net Tons) • 63,503 tonnes • Value: $122/tonnes • 13,242 km (round trip) • 328 ton km/l	Value: $11.0m Tax: $0	$0.57/net ton Fee: $14,466	2,563,740 US Liters Tax: $8,065

***This table is not relevant to the general fund option.**

****The Increased Fuel Tax section is strictly evaluating diesel, as the original study and numbers were based on a comparison between alternative HMF funding (including raising diesel fuel excise rates).**

The third column is based on dredging and port tonnage data from the U.S. Army Corps of Engineers.

Source: First, second, and fourth column adapted from C.R. McIntosh, et al, "Paying for harbor maintenance in the US: Options for moving past the Harbor Maintenance Tax," Transportation Research Part A: Policy and Practice 74 (2015). 210-221. ScienceDirect. www.sciencedirect.com/science/article/pii/S0965856415000312 (18 Sep. 2024).

A few terms need a deeper explanation before looking at takeaways from Table 6.

- **Net Tons, or Net Tonnage** is a volume measurement of a vessel's "useful capacity", not to be confused with tonnes, metric tons, or tons, which are weight measures.[44]
- **Deadweight Tons (a.k.a Deadweight Tonnage)** describes the total weight (in metric tons) a ship can safely carry, including cargo weight, crew, provisions, water, and all other materials onboard.[45]

There are a few key considerations to take away from Table 6. First, the user fee will vary based on the rate assessed, as the rate is chosen to show what level of tax would be required to cover existing system maintenance costs. The $0.57 rate is based on the total cost of dredging done system-wide by the Army Corps of Engineers and the domestic U.S. dredging industry divided by the total tonnage of vessels handled by the top 150 U.S. ports but could be raised or lowered depending on maintenance needs each year. That is the average cost across all ports; some will be far lower in cost and others far higher. Additionally, coal is a high-volume low-value commodity, and as such requires heavier, higher-net-tonnage ships to carry it from point A to point B. As such, the costs incurred by coal shipping would be higher than a higher-value lower-volume commodity (like electrical components or cars, for example).

…coal is a high-volume low-value commodity, and as such requires heavier, higher-net-tonnage ships to carry it from point A to point B. As such, the costs incurred by coal shipping would be higher than a higher-value lower-volume commodity (like electrical components or cars, for example).

Second, while the increase in fuel tax is closer to reaching parity with the status quo compared to a tonnage fee, a tonnage fee would also look drastically different for another commodity. For example, the three vessels sampled for the coal shipment routes are large

[44] "What Is Net Tonnage?," Vessel Documentation Management System, UnitedStatesVessel.US, https://unitedstatesvessel.us/faq/what-is-net-tonnage/ (28 Mar. 2025).

[45] "What Is Deadweight Tonnage (DWT)?," Heisenberg Shipping, HeisenbergShipping.com, https://heisenbergshipping.com/what-is-deadweight-tonnage-dwt/ (28 Mar. 2025).

vessels with a high net tonnage. If, for example, the domestic route used any of the AAA-class bulk carriers that are part of the Great Lakes fleet, the costs would be much lower—closer to $6,000 per trip—than the much larger vessel necessary for a trip carrying 54,431 tonnes of coal.

As operators internalize the costs of larger fleet deployments, the maintenance needs of each port could be lowered, and the rates could decrease as a result. Additionally, that rate could be altered based on vessel class akin to the Clinton administration's proposal. Bulk carriers, for example, could be charged a lower rate than a passenger vessel if Congress deemed it necessary. If the rate were halved for bulk carriers, tonnage fee revenue generated would be far closer to parity with the status quo for domestic and import routes. Differentiating between net ton and gross ton depending on vessel class can also shift rates appropriately.

That alone can make a major difference. For example, if the rate was halved for bulk carriers, it would come much closer to parity with the status quo for domestic and import routes. Especially the import route from Tolu, Colombia. The export route would be paying less in a tonnage fee-based system than it would be with a fuel tax increase, but it would be higher than the status quo given that exporters currently pay nothing into the HMTF.

The first proposal to evaluate is a tonnage fee. As a user fee, a tonnage fee would bring key market signals to ports and reward them proportionately for maintaining high levels of service and retaining a user base. Additionally, a user fee is most directly tied to costs incurred by any vessel. Tonnage seems to be a necessary inclusion as a means of approximating a cost based on ship size.

Tonnage is also the simplest metric to use, given the gross and net tonnage of vessels are used as a basis for fees and charges internationally, and because the net and gross tonnage of a vessel is unchangeable once the ship is produced (barring retrofitting). On the other hand, some metrics are unconstitutional. Were a fee to be assessed for cargo tonnage by commodity type, it would fail the Evansville test because the commodity type has no bearing on the costs incurred at port.[46]

[46] *U.S. Army Corps of Engineers' budget for fiscal year 2001,* U.S. Congress, Senate, Subcommittee on Transportation and Infrastructure of the Committee on Environment and Public Works, 106th Cong., 2nd sess., 2000.

> *The main problem with a user fee, from an economic efficiency standpoint, is the disproportionate impact on ships carrying high volumes of low-value cargo.*

The main problem with a user fee, from an economic efficiency standpoint, is the disproportionate impact on ships carrying high volumes of low-value cargo. A 2012 study found that rates could increase by between $10,000 and $25,000 over current HMF payments for frequently traveled coal shipping routes.[47] Because the ships are sized to carry these products in bulk, they are larger. A means of mitigating this to some degree is available and was part of the Clinton administration's proposal: vessel-based rates. Bulk carriers were only paying $0.12/net ton compared to tankers paying $0.28/net ton in the original 1999 proposal.[48] This could be tweaked further but should avoid being made into a pure bulk carrier exemption to remain constitutional and pass the Evansville test.

For additional long-term stability, fees could be indexed to inflation, and a relevant price index comprising average rates for relevant industries. Stevedoring, longshoring, dredging, and vessel operation costs could all be measured, and the rates could be adjusted to keep up with inflation across those sectors. Additionally, if the user fee generates revenue above a threshold set by Congress (or based on appropriations from the fund in prior years), a series of revenue triggers could be implemented to bring rates lower to avoid generating excess income. As explored in Section 5.3, the cost burden of a user fee is the most concentrated of the policy alternatives examined. Finding ways to relieve users from that burden without placing it on others ought to be a consideration.

A user fee is also future-proof because, of all the solutions, it is the only funding mechanism that is innovation-neutral. While technology is still far from this point, if fully electric long-range waterborne shipping becomes feasible and economical, a marine fuel tax rate increase will not be able to account for it. On the other hand, if those vessels have

47 C.R. McIntosh, et al, "Paying for harbor maintenance in the US: Options for moving past the Harbor Maintenance Tax," Transportation Research Part A: Policy and Practice 74 (2015). 210-221. ScienceDirect. www.sciencedirect.com/science/article/pii/S0965856415000312 (18 Sep. 2024).

48 Jeff Davis, "History of the Harbor Maintenance Trust Fund," Eno Center for Transportation, 2019. www.enotrans.org/article/history-of-the-harbor-maintenance-trust-fund/ (18 September 2024).

to be larger to accommodate a larger-sized purely electric engine, they would pay a higher user fee if funding was based on tonnage. This makes the operators internalize the costs they incur at port facilities. A user-fee-funded approach is also budget-neutral because the revenue generated comes directly from users instead of general fund appropriations and the taxpaying public.

> *A user fee is also future-proof because, of all the solutions, it is the only funding mechanism that is innovation-neutral.*

Overall, a user fee (or tonnage fee, as it has also been referred to throughout this brief) is the most thorough of the alternatives. It adds in market signals, rewards ports for high performance, and mirrors fee structures employed internationally based on tonnage.[49] These factors make it the most economically efficient and future-proof.

How does abolition compare? Abolition of the HMTF is not particularly economically efficient for bringing market signals to the ports and harbor system or making users internalize their costs of operation. It may bring negative incentives to the sector. By relying solely on Congress for appropriations, ports would be rewarded for political performance and action as opposed to economic performance and efficiency.

The level of funding will vary from year to year as budget priorities change and conflict with one another. While it's unlikely Congress would ever choose to disinvest from the system entirely, ports would have to expect highs and lows from year to year while system funding was determined by Congress and the president's budget requests. Additionally, this means of funding is not budget-neutral. This leaves abolition as the worst-performing policy intervention for economic performance and long-term sustainability when compared to the two other alternatives evaluated in this brief.

Raising the marine fuel tax and abolishing the HMF would serve as a middle-ground option squarely between a tonnage fee and abolition. Economically, it would still encourage

[49] *U.S. Army Corps of Engineers' budget for fiscal year 2001,* U.S. Congress, Senate, Subcommittee on Transportation and Infrastructure of the Committee on Environment and Public Works, 106th Cong., 2nd sess., 2000.

carriers to use more fuel-efficient routes and propulsion methods, but would eventually require some supplementary funding source due to the diesel-fuel-reliant means of generating revenue. As propulsion sources change over time, revenue will decrease. In short, while revenue collection would be stable and relatively proportional to begin with, over time the proportionality of revenue generated would decrease.

What reform path then makes the most sense for the system going forward? Part 6 lays out recommendations for policymakers to address the remaining challenges with the HMTF.

PART 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 CONCLUSION

The solution brought forward will depend on what tradeoffs policymakers are willing to make. No policy solution here is perfect and creates a system with all winners and no losers, but finding ways to balance the needs of the system versus the fairness of the payment method is paramount. And any policy implemented ought to address the shortcomings of the current HMF.

No policy solution here is perfect and creates a system with all winners and no losers, but finding ways to balance the needs of the system versus the fairness of the payment method is paramount.

All three proposed solutions are constitutional. A user fee in the form of a tonnage fee would likely still undergo constitutional tests as it was established, but as long as it passes

the Evansville test, it ought to survive those challenges. Abolition of the HMTF is well within Congress' purview and ability, so the odds of it being challenged are near zero. The same is true for the fuel excise tax. The various federal fuel excise taxes have been raised throughout their history (though the highway user fuel taxes haven't been raised since 1993).

Additionally, all three proposed solutions address the World Trade Organization's General Agreement on Tariffs and Trade—an agreement of which the U.S. is a signatory. A user fee, so long as it is based on a fair approximation of use and is not in excess of the benefits conferred through usage of the infrastructure, is GATT-compliant. Abolishment is, again, well within the range of GATT since the U.S. general public would shoulder the burdens of system costs instead of any international allies or trade partners. Raising the fuel tax is GATT-compliant for the same reasons.

6.2 RECOMMENDATIONS

Any proposed reform has to be pragmatic and functional in the long run. The existing HMF hasn't been touched since the *U.S. Shoe* decision in 1998. Any solution has to be able to stand the test of time—Congress will not act every year or two to set or offset rates as necessary, so having a future-proof solution is critical.

> *Any solution has to be able to stand the test of time—Congress will not act every year or two to set or offset rates as necessary, so having a future-proof solution is critical. Of the three options evaluated, a user fee (in the form of a tonnage fee) is the most sustainable over time.*

Of the three options evaluated, a user fee (in the form of a tonnage fee) is the most sustainable over time. It provides an array of options for futureproofing and also makes companies (carriers, shippers, and port operators) internalize the system costs of deploying larger, higher-tonnage vessels. A rate that is based on yearly system costs wouldn't need to be indexed for inflation, since it is already, in effect, indexed to the costs of system maintenance.

Fairness is also essential. Ever-growing vessels have led to continued deeper dredging of harbors, which increases system costs for maintenance over time. Exporters have had to pay nothing into the system they benefit greatly from when they made up 30% of HMTF receipts before their exclusion from the HMF on constitutional grounds.[50] Two of the three proposals shift the burden elsewhere—to the general population of the U.S., through general fund subsidy (via abolition of the HMF/HMTF), and through all modes of transportation (including those that compete with waterborne transportation, like rail and trucking) through fuel excise tax increases.

Additionally, it's also unfair to ask that competing modes remain self-sustaining (again, like rail and truck) while shifting waterborne freight ever-more toward a path of growing general fund subsidy.

> *These two categories, fairness and long-term sustainability, ought to be the priority for a policy fix to the HMF.*

These two categories, fairness and long-term sustainability, ought to be the priority for a policy fix to the HMF. And with those as the highest priorities, user fees are clearly the winning policy. A tonnage fee specifically may be more complex than the alternatives, and (relatively) politically unpopular, but it best addresses system needs in the fairest way of the three approaches to improving the HMF.

But the value proposition for ports operators also ought to be clear. If the system is funded robustly through a user fee, maintenance and dredging needs could be met faster and more reliably. With the expanded criterion for Harbor Maintenance Trust Fund dollars established in the Water Resources Development Act of 2022, ports could also use dollars raised by an HMF-replacing user fee for the improvement of wharves and berths.

[50] Jeff Davis, "History of the Harbor Maintenance Trust Fund," Eno Center for Transportation, 2019. www.enotrans.org/article/history-of-the-harbor-maintenance-trust-fund/ (18 September 2024).

Congress ought to enter the next WRDA negotiations with reform in mind, and the chief proposal ought to be a new, formalized study of whether stakeholders would ever support a tonnage fee followed by steps to implement a more equitable form of funding for the harbor maintenance trust fund afterward. This could be done by surveying different rates and simulating differing levels of federal subsidy. For example, if the $0.57/ton rate is too much (and again, this could be broken down into various levels based on vessel class), what would support look like if it were 50% subsidized? Would $0.29 bring a wider range of support in? Preferably, the system ought to be able to operate without any subsidy—but some change in the right direction is preferable to the current system wherein a large group of system beneficiaries pay nothing, and the fee itself isn't at all tied to any form of system use. This means that most marginal improvements in fairness are still better than the status quo.

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