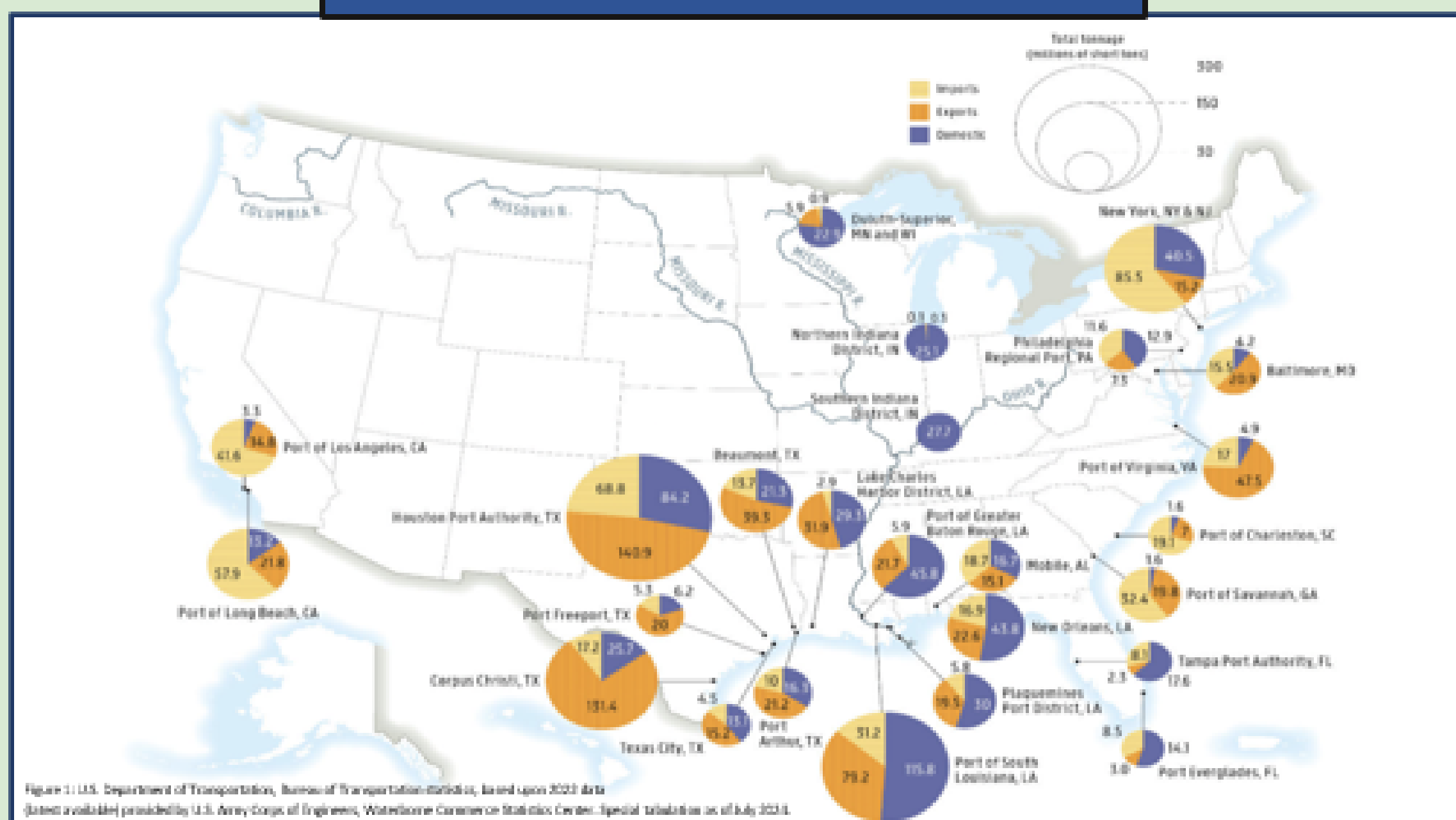


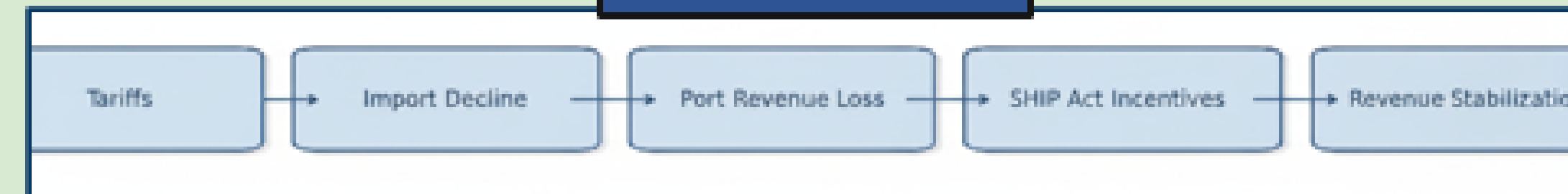
Abstract

Section 232 tariffs on steel and aluminum have reshaped U.S. trade flows. As the nation's leading steel import hub, the Port of Houston saw significant volume declines when tariffs first rose in 2018, a trend intensified by the 50% increase in 2025. Because revenues hinge on throughput—wharfage, dockage, and handling fees—import reductions cut directly into port income and ripple across the energy, construction, and logistics sectors. The Shipbuilding Industry Promoting (SHIP) Act aims to counter these losses by spurring domestic shipbuilding through a 25% tax credit, a Maritime Security Trust Fund, and fleet expansion. By redirecting demand to U.S.-made steel and aluminum, the Act can generate new cargo streams and position Texas ports as anchors of a broader maritime revival. By connecting tariff-driven vulnerabilities to long-term industrial resilience, this research shows how federal policy can stabilize port revenues and sustain regional economic growth.

Top 25 US Ports Total Tonnage, 2022



Cause & Effect



Port of Houston: Case Study

The Port of Houston is the keystone of this project as a leading U.S. gateway for steel and aluminum, with finances tightly tied to cargo volume. At the Turning Basin, the public breakbulk complex handles large volumes of non-containerized steel; revenues move with tonnage via wharfage, dockage, and handling fees. The Bayport and Barbours Cut container terminals also move metals and manufactured inputs, amplifying tariff shocks through overall throughput. Put simply, when steel and aluminum flows shift, Houston's income statement reflects it. Section 232 tariffs—first imposed in 2018 and increased in 2025—altered sourcing patterns and reduced import streams that historically moved across Houston's docks. Because revenues are volume-based, fewer arrivals mean fewer fee events and lower operating income, especially at the Turning Basin. Using audited port reports, we track steel tonnage and operating revenue over time and link the post-2018 decline in steel imports to a measurable "wharfage floor" of revenue loss. This establishes the problem: tariff-driven volume risk for a port whose business model depends on steady flows. The SHIPS Act is a counterweight. By catalyzing domestic shipbuilding and repair—steel- and aluminum-intensive activities within U.S. supply chains—the Act can replace import-driven throughput with domestically sourced cargo. Centering Houston in this analysis illustrates a broader point: federal industrial policy can convert a tariff shock that depresses imports into a home-market demand engine that stabilizes port income and sustains regional maritime activity.

Policy Effect

A SHIP(S) package—cargo-preference/U.S.-flag expansion plus port-equipment finance would likely raise call frequency and throughput by speeding crane and berth upgrades and shortening turn times, mechanisms linked to lower transport costs and higher trade (Clark et al., 2004; Sánchez et al., 2003; Limao & Venables, 2001). Efficiency shifts revenue toward wharfage, dockage, and stevedoring as time in port falls (Notteboom et al., 2020) and can reduce storage/demurrage per unit when dwell drops. Because many port-call charges are fixed, carriers consolidate loops into fewer, larger calls at efficient gateways. With SHIP-driven capex, trimmed rotations should concentrate Gulf calls at Port Houston—given scale, crane density, rail reach, and petrochemical/project-cargo depth. Countervailing: cargo-preference/U.S.-flag rules raise freight and can thin some foreign trades (Hoxie et al., 2022). Net for Houston: small-to-moderate operating-revenue uplift from more/larger calls and higher crane utilization; storage ambiguous (volume ↑, dwell ↓). As funds are capex-oriented, gains arrive indirectly via activity/productivity, not direct operating transfers (Bottasso et al., 2014).

SHIPS Act: Revenue Map

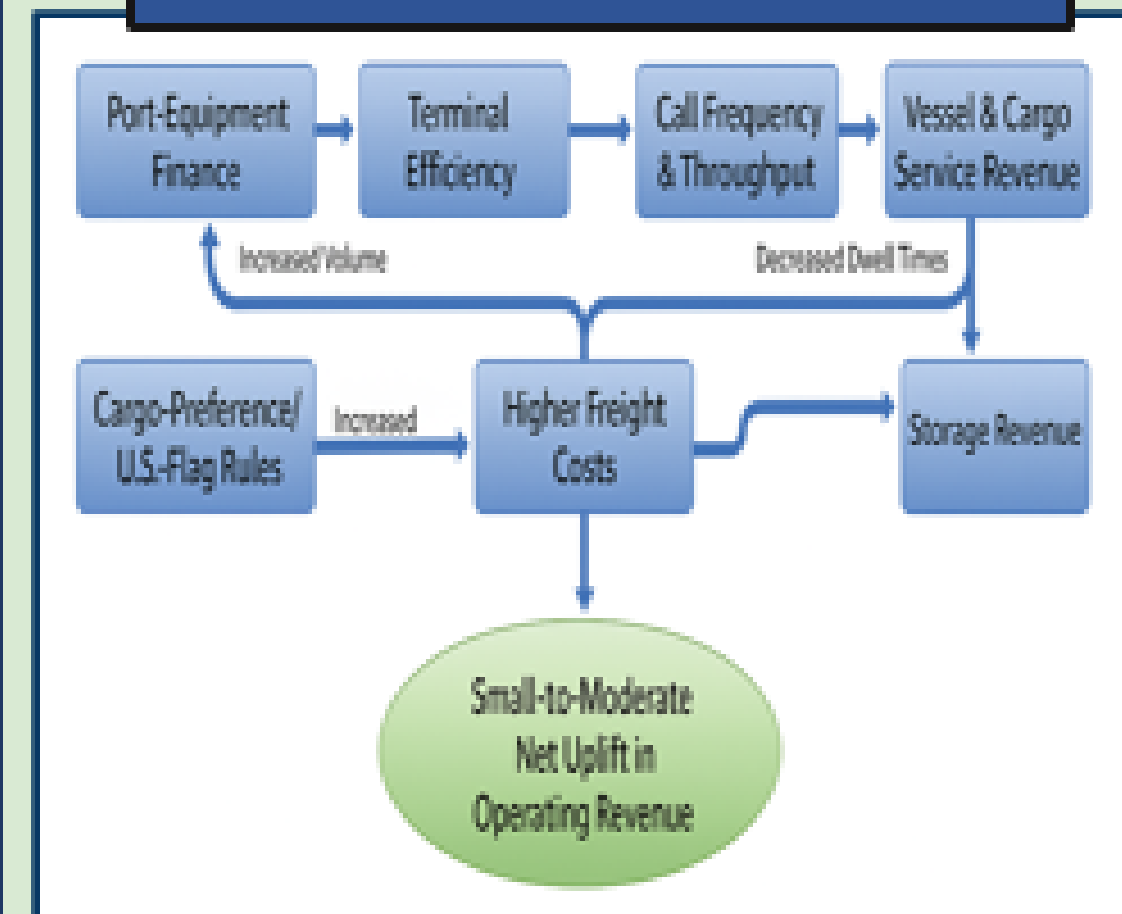
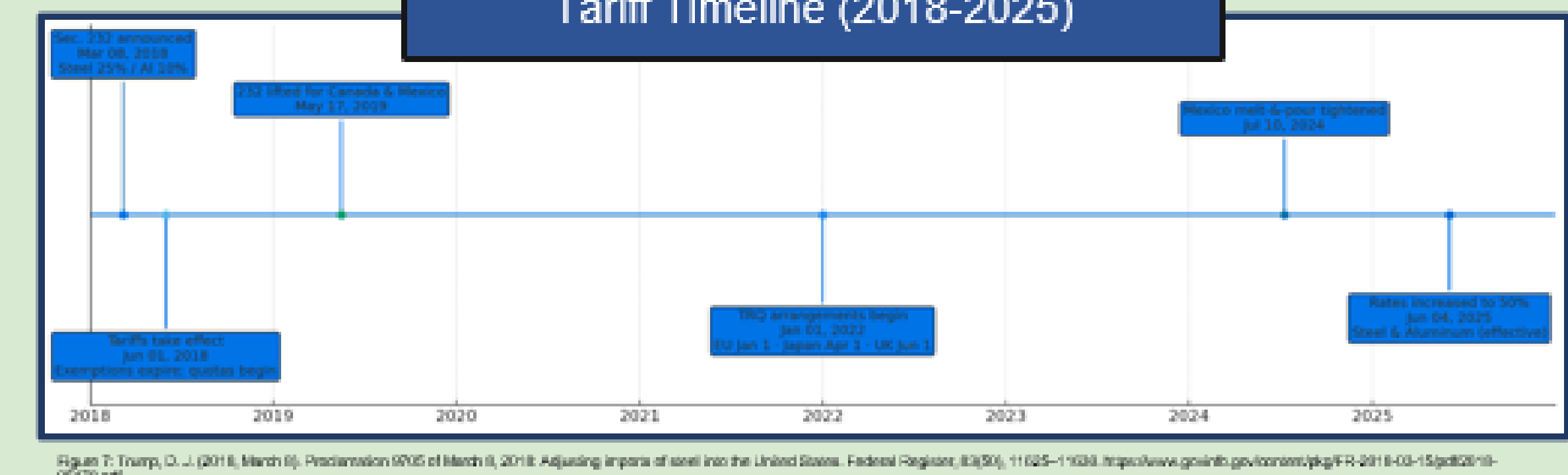


Figure 6: Source: Author's conceptual diagram, based on SHIPS Act (2023) and port-revenue literature (Alderson, 2013; Blandin, 2013).

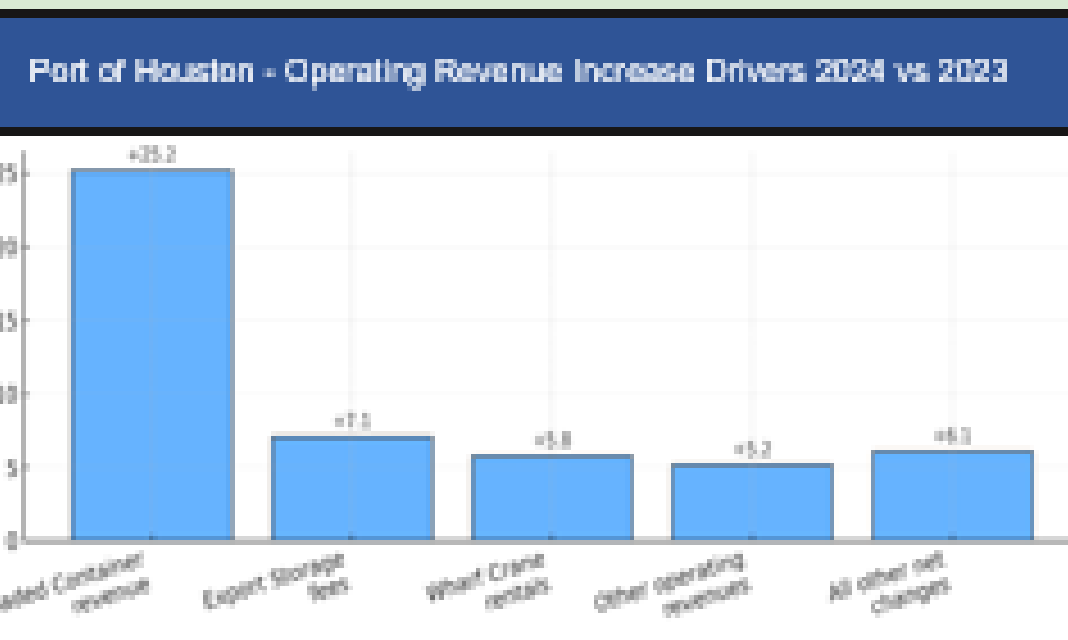
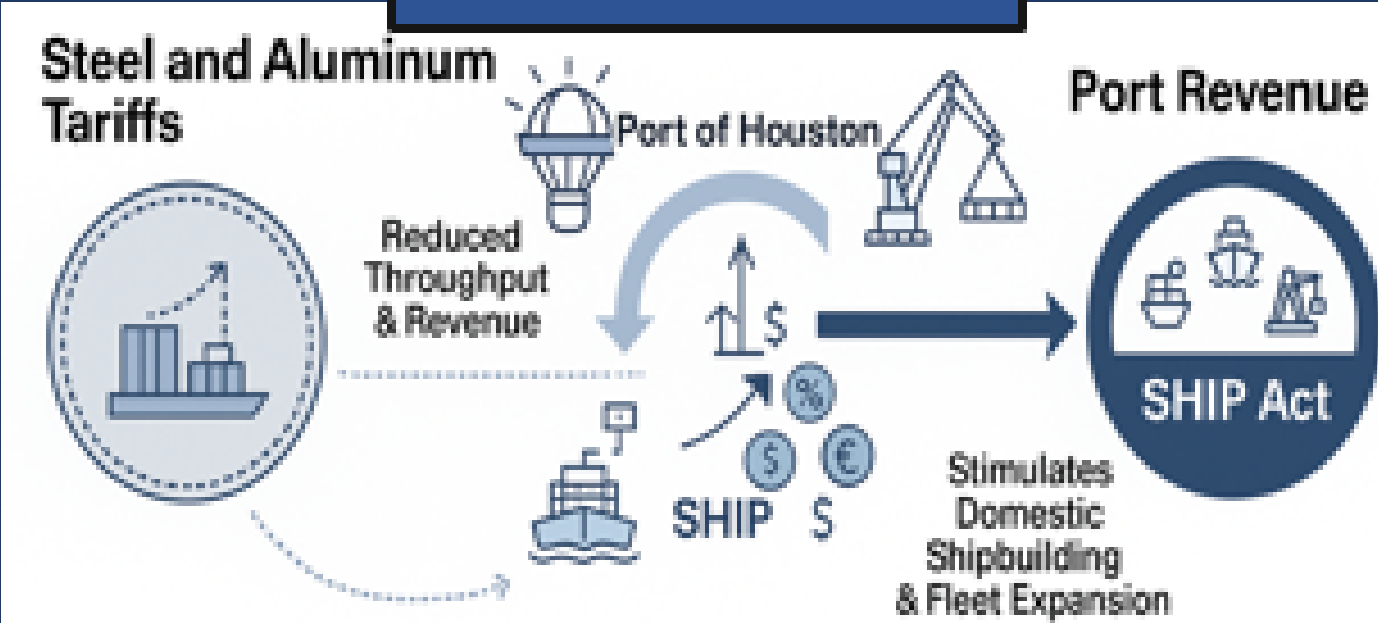
Tariff Timeline (2018-2025)



Objectives

This project examines how tariffs on steel and aluminum depress cargo volumes and operating revenue at the Port of Houston, and evaluates whether the SHIP Act can offset these losses by stimulating domestic shipbuilding. Drawing on trade reports, peer-reviewed studies, and port operating data, and port operating data, we track 2018-2025 trends to connect federal policy shifts to local port resilience.

Methodology

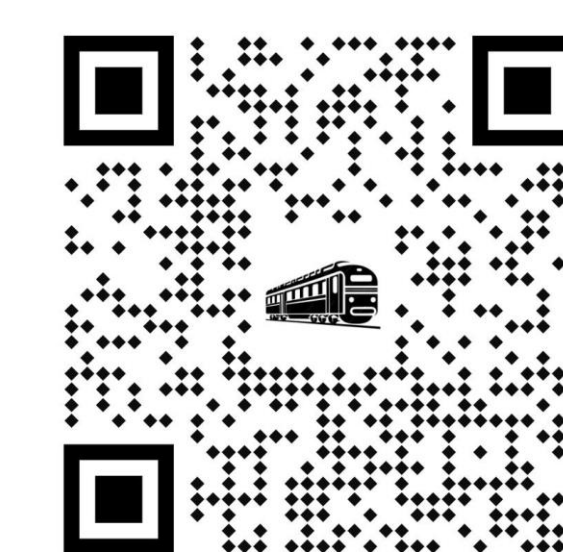


Conclusion

Section 232 tariffs reshaped the Texas port cargo mix. At Port Houston's Turning Basin, steel imports fell by approximately 714,000 short tons from 2018 to 2019, creating an estimated \$1.9 million wharfage shortfall tied to tariffed steel. Yet overall throughput and total operating revenue rose through 2024, indicating a targeted vulnerability rather than a system-wide collapse. Our graphs and sourced data suggest that replacing lost foreign steel with domestic shipbuilding and repair cargo—supported by SHIP Act incentives—can keep steel-linked revenue whole, with potential upside from dockage, storage, and related movements. Practically, Houston should pivot toward U.S. shipbuilding activity (new builds, repairs, modules, plate/sections) to sustain utilization while re-anchoring volumes domestically. We use audited public-terminal steel data and a conservative wharfage floor; containerized steel and ancillary fees likely raise the true effect. After the 2025 move to 50% tariffs, track steel/metal import tonnage, shipyard-linked domestic tonnage, Turning Basin revenue, and SHIP Act project awards to confirm stabilization.

Cargo to Capital: How Policy Hits Ports

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Faculty Advisor: Professor Margaret Kidd
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