

REPORT



Governance Options for Safe, Reliable and Competitive Pilotage Services in the US Waters of the Great Lakes

Prepared for:

Conference of Great Lakes and St. Lawrence Governors and Premiers

Prepared by:

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Report Objective

This report presents potential alternative governance options for safe, reliable and competitive pilotage service delivery in the US waters of the Great Lakes. It is not intended to be prescriptive. It rather seeks to inform a conversation about potential options for reforming US Great Lakes pilotage in a manner that would enhance the overall competitiveness of the Great Lakes and St. Lawrence Seaway maritime transportation system, while ensuring the public interest with respect to safety of marine shipping in the Great Lakes.

Methodology

The analysis in this report was developed through a combination of desk research, analysis of data and other information provided by third party sources, as well as consultations with a dozen Great Lakes-St. Lawrence Seaway maritime transportation system stakeholders.

As part of our consultations process, we requested a meeting with the US Coast Guard, which has jurisdiction over pilotage in the US Great Lakes, but this request was declined. We also requested an opportunity to speak with the three pilotage associations in the US Great Lakes but did not receive a response by the time of submission of this report.

Acknowledgments

The CPCS Team acknowledges and is thankful for the input of those consulted in the development of this Report. Those consulted include shippers, ship-owners, cruise services providers, ports authorities, port terminal operators, among others. We are also thankful for the comments and feedback provided by the staff of the Conference of Great Lakes and St. Lawrence Governors and Premiers on an earlier iteration of this report.

Opinions

Unless otherwise indicated, the opinions herein are those of the authors and do not necessarily reflect the views of the Conference of the Conference of Great Lakes and St. Lawrence Governors and Premiers, its Maritime Task Force, or the Advisory Committee to this Task Force.

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Acronyms / Abbreviations

DOT	DEPARTMENT OF TRANSPORTATION
GAO	US GOVERNMENT ACCOUNTABILITY OFFICE
GDP	GROSS DOMESTIC PRODUCT
GLSLSS	GREAT LAKES ST. LAWRENCE SEAWAY SYSTEM
LPA	LAKE PILOTS ASSOCIATION INC.
MOU	MEMORANDUM OF UNDERSTANDING
SLSDC	ST. LAWRENCE SEAWAY DEVELOPMENT CORPORATION
SLSMC	ST. LAWRENCE SEAWAY MANAGEMENT CORPORATION
SLSPA	ST. LAWRENCE SEAWAY PILOTS' ASSOCIATION
US	UNITED STATES
USDOT	UNITED STATES DEPARTMENT OF TRANSPORTATION
WGLPA	WESTERN GREAT LAKES PILOTS ASSOCIATION

Executive Summary

The economic competitiveness and growth of the Great Lakes-St. Lawrence Region - a region that generates \$5.8 trillion in annual GDP, and \$278 billion in bilateral US-Canadian trade - is highly dependent on a cost-effective, reliable, and safe transportation system.

The Great Lakes and St. Lawrence Seaway maritime transportation system is a critical component of the Region's transportation system. It provides the most cost-effective means of transporting natural resources, other heavy bulk and breakbulk commodities, as well as industrial products to and from US, North America, and global markets. Without access to low-cost maritime transportation, many of the industries in the Region would not be competitive.

Commercial vessels operating in the Great Lakes are required to engage a registered pilot to navigate US waters. These pilotage services are operated as a regulated monopoly and ensure safety of navigation. Pilotage in the Great Lakes falls under the jurisdiction of the US Coast Guard, though pilotage services are provided by pilots through three pilotage associations. Unlike in most coastal states, the users of pilotage services in the US Great Lakes are not involved in the governance or oversight of pilotage.

The maritime industry is fully supportive of the important role pilots play in ensuring safe navigation; the industry has no concerns with respect to this safety function. Beyond a few isolated issues, US pilotage in the Great Lakes is also generally deemed reliable. But the cost of pilotage has become a problem.

The cost of pilotage in the Great Lakes has become a problem.

Pilotage costs in the US waters of the Great Lakes have increased significantly in recent years. An independent study found that the cost of pilotage increased by up to 91% between 2015 and 2016. Rising pilotage costs, which represent approximately 10% of a typical Great Lakes vessel voyage, are negatively impacting the overall cost competitiveness of the Great Lakes and St. Lawrence Seaway, the businesses that rely on this critical transportation system, and by extension, the competitiveness of the Region's economy.

Yet, efforts to address the issue of increasing pilotage costs, and the focus of ongoing debate, legal actions and lobbying efforts, have been largely focused on pilotage rate making and associated micro-issues. It is unlikely that this narrow focus will lead to sustainable improvements to the cost competitiveness of pilotage as it does not address underlying structural issues with the governance of pilotage service delivery in the US Great Lakes. Furthermore, recent debates have contributed to recent hostilities and a toxic relationship between industry and those involved in the delivery of pilotage services in the US Great Lakes.

So what can be done? How do we promote a better model for pilotage service delivery that will ensure the safety of navigation, reliability of service, as well as promote the cost competitiveness of marine transportation in the Great Lakes and St. Lawrence Seaway?

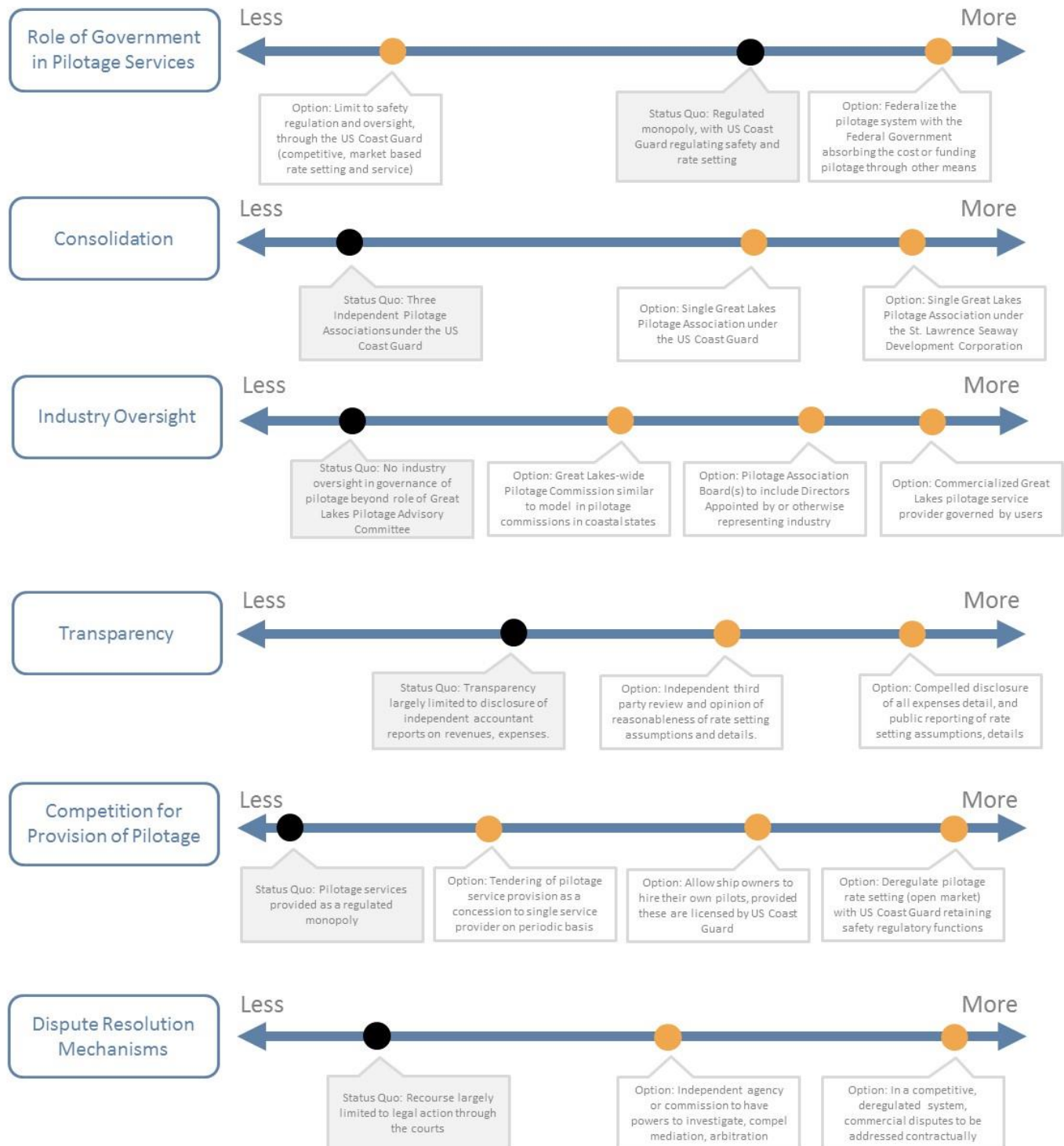
This study takes a step back from the specific concerns and micro issues that are the focus of current debates. It considers broader governance issues and alternative governance options that could help deliver more cost competitive pilotage services in the US Great Lakes. This report seeks to inform a conversation about potential options for reforming the governance of US Great Lakes pilotage.

This conversation is needed and is timely for at least three reasons. First, it can help address some of the underlying structural issues that contribute to the rising cost of pilotage in the Great Lakes. Second, it has been more than 20 years since the governance of US pilotage has been debated; a conversation is needed to ensure that the governance model is in keeping with the current economic, environmental, and technological

context. And third, the timing of this study coincides with an ongoing review of the Canadian *Pilotage Act* and pilotage service governance as relating to the Canadian waters of the Great Lakes.

Alternative governance options for the delivery of pilotage services in the US Great Lakes are many. This report presents governance options across six key governance considerations and assesses the extent that each option can deliver cost-competitive, safe and reliable pilotage services.

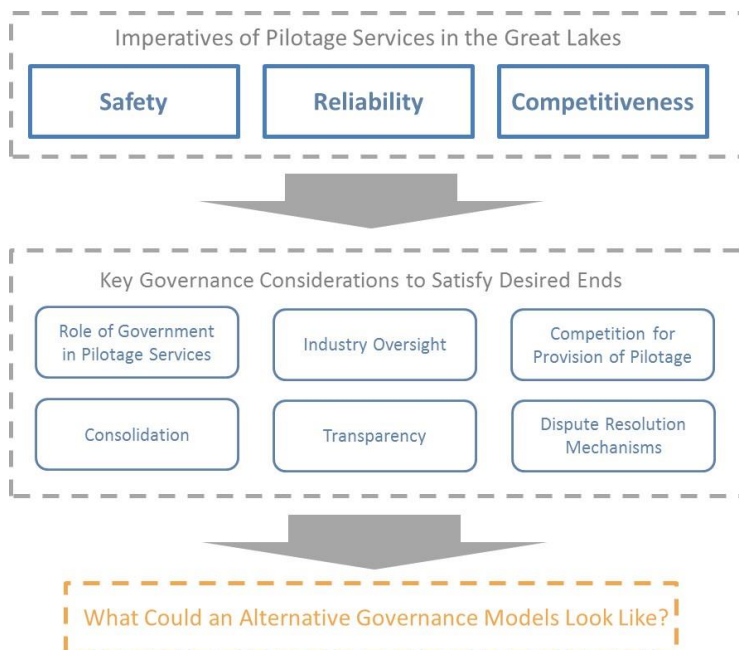
Spectrum of Options Across Key Governance Considerations



The spectrum of options across each key governance consideration is not necessarily mutually exclusive. Taken together, these options and their permutations can help define the full range of possible governance models for the delivery of pilotage services in the US Great Lakes.

For illustrative purposes, we have outlined three potential governance models, which each represents a progressive departure from the status quo. These three models each aim to address the ultimate objectives of ensuring the safety of marine shipping in the Great Lakes, reliability of pilotage services, while also seeking to enable a competitive Great Lakes-St. Lawrence Seaway maritime transportation system.

In all cases, it would be anticipated that the US Coast Guard maintains safety oversight and regulatory functions for pilotage in the US waters of the Great Lakes (as distinct from its current role which includes both safety AND economic regulation and rate making).



Illustrative Alternative Governance Models



It would be premature and counterproductive to crystalize and advocate for a single "best" governance model for US pilotage services in the Great Lakes.

The Conference of Great Lakes and St. Lawrence Governors and Premiers can help advance the conversation by underscoring the economic importance of improving/updating the provision of pilotage services in the US Great Lakes to help increase the overall competitiveness of this critical maritime transportation system.

This report is intended to start a dialogue on plausible options for the governance of pilotage services in the US waters of the Great Lakes.

1 Keeping Maritime Transportation in the Great Lakes Competitive is Important

1.1 Economic Context for Maritime Transportation in the Great Lakes

The Great Lakes St. Lawrence Region is an economic engine for North America. The Region, which includes eight US states (Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, New York) and two Canadian provinces (Ontario, Quebec), is home to 107 million people, 51 million U.S. and Canadian jobs, generating \$5.8 trillion in annual GDP, and \$278 billion in bilateral U.S.-Canadian trade.^{1 2} The Region accounts for approximately 40% of US manufacturing nationwide, 66% of Canada's industrial output, and creates more than 33% of North America's GDP. If the Region were a country, it would rank third in GDP, after the United States and China.³ In short, the Region is economically important in its own right, and through its trade and supply chain links, is also critical to the broader US and Canadian economies.

The economic competitiveness and growth of the Great Lakes-St. Lawrence Region is highly dependent on a cost-effective, reliable, and safe transportation system. The Region's transportation provides the links that enable supply chains and enable trade. Cost competitive transportation options are particularly important for natural resource production and extraction as well as industrial sectors in the Region that need access to low-cost transportation to compete globally.

The Great Lakes and St. Lawrence Seaway System (GLSLS) provides a cost-effective means of moving high volume, low per ton value products, including iron ore, steel, coal, and grain, to and from markets cost competitively. The GLSLS includes more than 100 commercial ports, three major canals, 19 locks, hundreds of miles of breakwaters, jetties and maintained navigational channels and connections to a network of inland waterways.

The Great Lakes and St. Lawrence Seaway System provides a cost effective means of moving high volume, low per ton value products, including iron ore, steel and grain, to and from markets cost competitively.

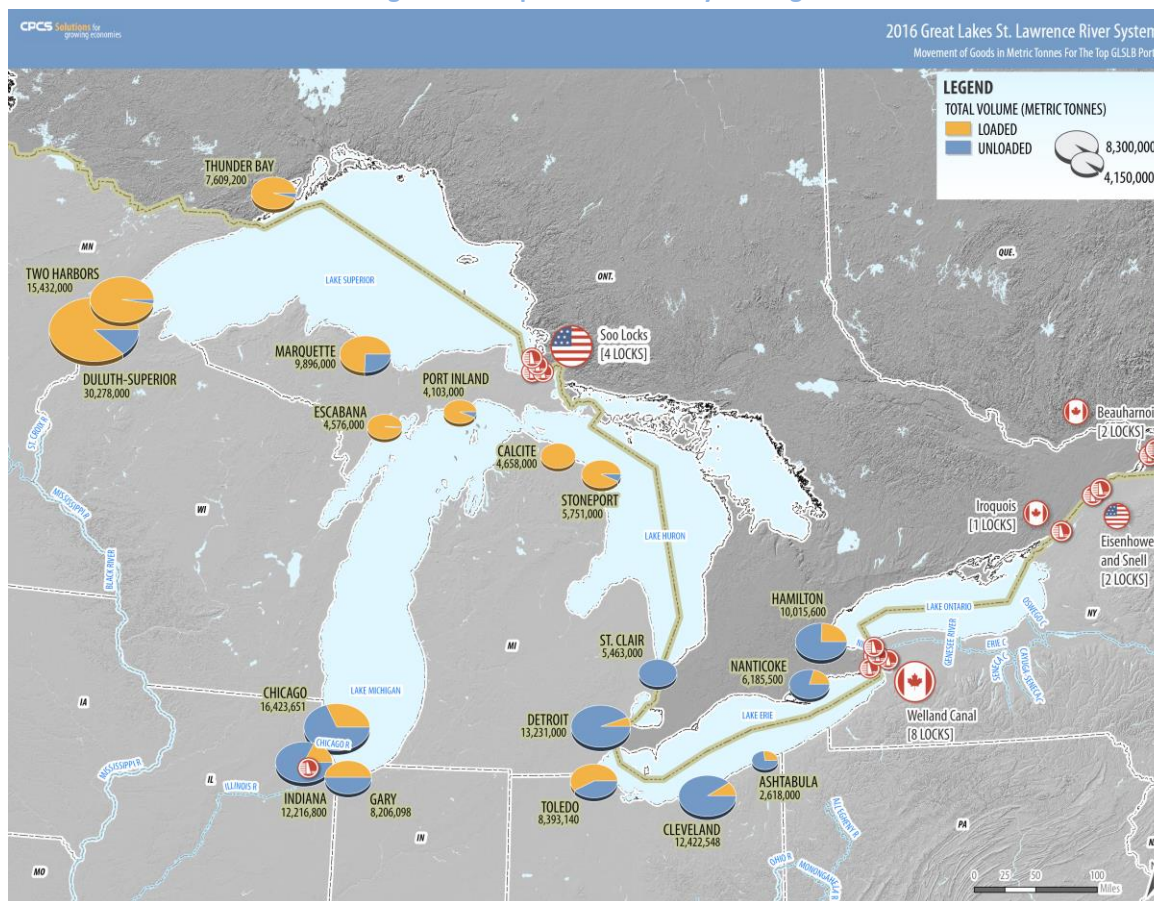
¹ All dollar figures cited in this report represent US dollars.

² Council of the Great Lakes Region (2017). "The Great Lakes Economy: The Growth Engine of North America." <https://councilgreatlakesregion.org/the-great-lakes-economy-the-growth-engine-of-north-america/>

³ Ibid

GLSLSS ports move approximately 160 million⁴ metric tonnes of cargo every year.

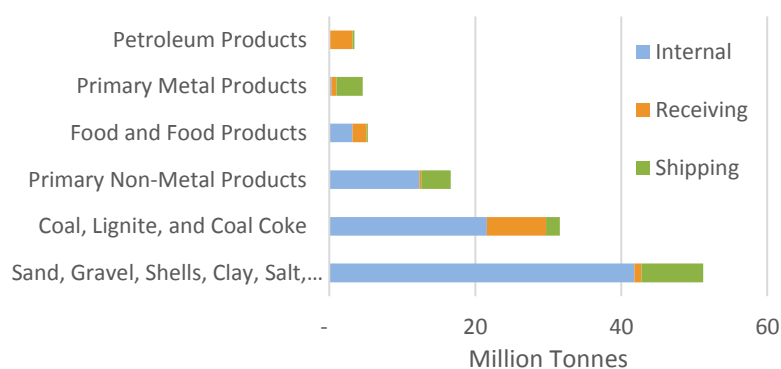
Figure 1-1: Top GLSLSS Ports by Tonnage



Source: CPCS Analysis of USACE and Statistics Canada 2016 Data

Iron ore, iron, and steel waste and scrap – key inputs into regional steel productions and manufacturing - make up 43% of total cargo by volume moving through the GLSLSS. Sand, gravel, clay – key inputs to construction and infrastructure sectors - make up an additional 26%.

Figure 1-2: GLSLSS Commodities Moving through US Ports, Total (2016)



Source: CPCS analysis of WCSC data, flows having both an origin and destination within the Great Lakes are considered "internal".

⁴ John C. Martin Associates, LLC DBA Martin Associates (2017). Analysis of Great Lakes Pilotage Costs on Great Lakes Shipping and the Potential Impact of Increases in U.S. Pilotage Charges: Prepared for the United States Coast Guard.

Maritime generally provides the lowest cost transportation option on a per ton basis over long distances.

There are at least four reasons why protecting and promoting the cost competitiveness of the Great Lakes-St. Lawrence Region and beyond is critical.

First, American manufacturing, agriculture, mining and energy sectors in the Region depend on a low cost, high volume transportation. Maritime transportation generally provides the lowest cost option on a per ton basis over long distances. Without access to low-cost maritime transportation, many of the industries in the Great Lakes region would not be competitive.

Second, an efficient low-cost maritime transportation system contributes to the competitiveness of the Region's overall multimodal transportation system. It does this by offering shippers with access to transportation options which in turn keep competing transportation options in check (sometimes referred to as *water compelled rates*). The maritime mode in the GLSLSS also handles a significant volume of traffic that would otherwise move by rail or road. For lack of a competitive maritime transportation system this would create significant transportation capacity constraints and wear and tear on the Region's road and rail transportation system, as well as increased negative environmental and social impacts.

Third, the maritime mode is an important economic enabler. Maritime transportation in the GLSLSS generates over \$33 billion⁵ in economic activity every year. This supports more than 227,000 direct, indirect and induced jobs in the eight states and two provinces, representing \$14.1 billion in salaries and wages. Additionally, more than 475,000 other jobs are highly dependent on maritime transportation. This translates to approximately \$23 billion in personal wages and local consumption expenditures, more than \$115 billion in related business revenue and over \$7 billion in taxes.⁶

Fourthly, costs to maritime transportation do not affect commercial shipping alone but also the latent passenger ship and tourism industry. The GLSLSS is prime for cruising and similar maritime tourism opportunities. Yet passenger ship operators expressed frustration at inhibitive costs and conditions of serving the Great Lakes, in part due to high pilotage costs. Low-cost maritime transportation can help enable maritime-based tourism activity, which would provide an economic stimulus to the Region.

In short, the continued cost competitiveness of the GLSLSS is critically important to not only the logistics industry but to the overall economic health of the Region. The cost competitiveness of this system must be protected and improved.

⁵ Ibid

⁶ Ibid

2 US Pilotage in the Great Lakes: Issues and Implications for System Competitiveness

2.1 Pilotage Service Delivery Governance in the US Waters of the Great Lakes

As stipulated in the *US Great Lakes Pilotage Act of 1960* (46 U.S.C . 93), “each vessel of the United States operating on register and each foreign vessel shall engage a United States or Canadian registered pilot for the route being navigated.”⁷ This is known as “compulsory pilotage.”

Compulsory pilotage allows independence of pilots from commercial incentives of ships that traverse the GLSLSS. This is intended to allow pilots to ensure safe transport of maritime commerce.⁸

In US waters of the Great Lakes, pilotage falls under the jurisdiction of the US Coast Guard, though pilotage services are provided by pilots through three pilotage associations.

Objectives of US Great Lakes Pilotage Not Defined in Law

The Great Lakes Pilotage Division of the US Coast Guard (CG-WWM-2) seeks to ensure that qualified, trained, and experienced pilots are employed to meet the pilotage demands at a cost that facilitates the safe and efficient waterborne foreign trade in and out of the Great Lakes.⁹ However, neither the US Great Lakes Pilotage Act of 1960 nor Great Lakes Pilotage Regulations make explicit reference to the objectives of Great Lakes pilotage services.¹⁰

⁷ MicroSystems Integration, Inc. (June 2013). “Bridge Hour Definition and Methodology Study”
<http://www.uscg.mil/hq/cg5/cg552/docs/Pilotage%20Study%20Final%20Report%2028%20JUN%202013.pdf>

⁸ American Pilots Association (2015), “Pilotage in the US”
http://www.americanpilots.org/pilotage_in_the_us/index.php

⁹ Website of the great Lakes Pilotage Division, <http://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Marine-Transportation-Systems-CG-5PW/Office-of-Waterways-and-Ocean-Policy/Office-of-Waterways-and-Ocean-Policy-Great-Lakes-Pilotage-Div/> (accessed March 2, 2018)

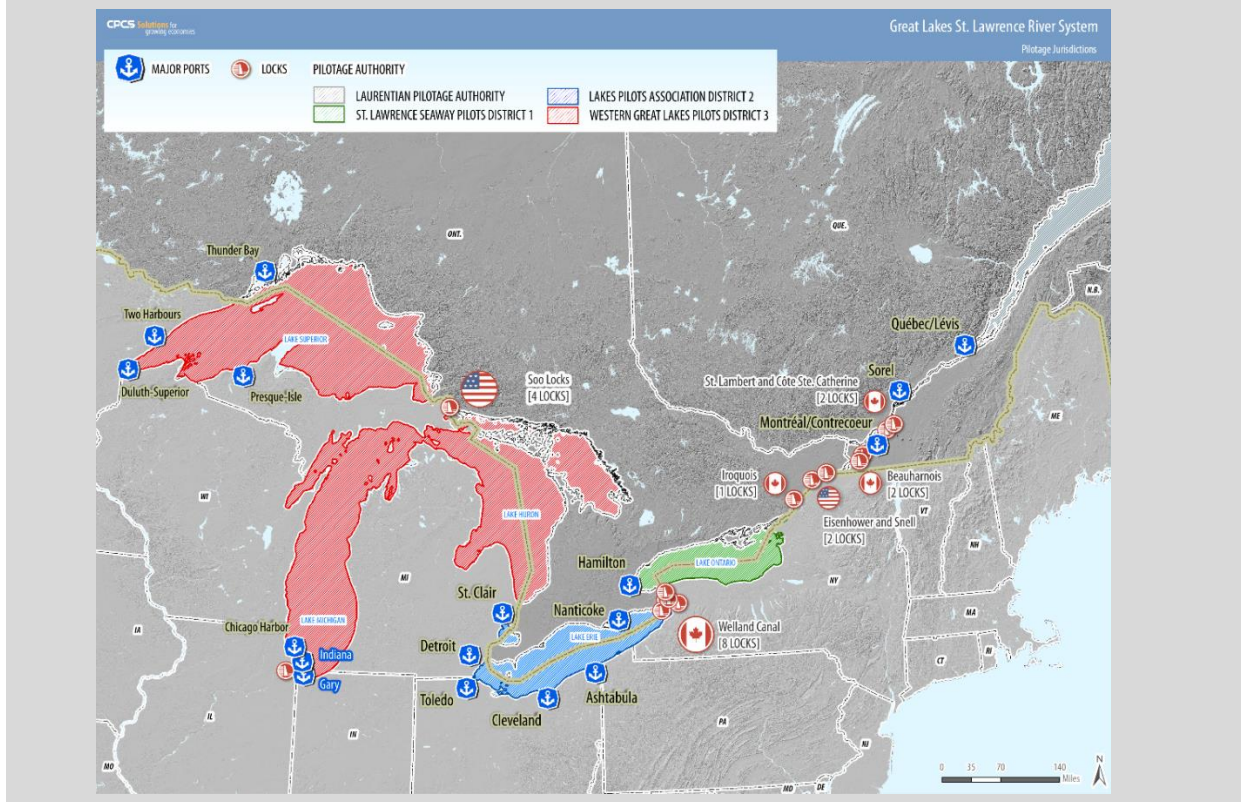
¹⁰ The Code of Federal Regulation (46 CFR 404.1) note with respect to Great Lakes Pilotage that (a) The goal of ratemaking is to promote safe, efficient, and reliable pilotage service on the Great Lakes... this goal is however specific to the provision of pilotage service, and not ends that pilotage are to achieve.

Currently, the role of the US Coast Guard with respect to pilotage in the Great Lakes includes oversight of safety as well as economic regulations and rate making. Specific examples of its safety role includes regulation through licensing pilots, approving pilot work rules such as procedures for dispatch, work rotations, rest periods, and approving pilot applicants and their training plans. Its economic regulatory functions include oversight over pilotage rate making and adjudicating billing disputes.

The role of the US Coast Guard with respect to pilotage in the Great Lakes includes oversight of safety as well as economic regulations and rate making.

Pilotage Associations

There are three US pilots associations that service the Great Lakes St. Lawrence Seaway System: the St. Lawrence Seaway Pilots' Association (SLSPA, covering the St. Lawrence River, including SLSDC locks and Lake Ontario), the Lake Pilots Association Inc. (LPA, covering Lake Erie, the Detroit River, Lake St. Clair and the St. Clair River), and the Western Great Lakes Pilots Association (WGLPA, covering Lake Superior, Lake Michigan, and Lake Huron as well as the St. Mary's River and Soo locks). These associations provide pilotage services in their respective areas.¹¹



¹¹ CPCS, Unlocking the Value of the Great Lakes-St. Lawrence River Maritime Transportation System, 2014

The US Coast Guard's broad authority over pilotage is unique to the GLSLSS. Across the rest of the US, state pilotage systems exist in which the individual 24 coastal states each maintain their own pilotage system for international trade vessels, designed for their local contexts. Pilots are licensed and regulated by the state's pilot commission which is composed of various stakeholders: ship operators, port interests, environmental groups, pilots, government agencies, and/or the public. State pilotage rates are set by the pilot commission, pilotage rate body, public service commission, or state legislature.¹² The administration of the state pilotage system, with the exception of Hawaii, is done through a commission or board made up of representatives of vessel operators, pilots, port interests, environmental groups, government officials, and/or public members.¹³

The US waters of the Great Lakes are the exception to this US state pilotage system because these waters touch multiple states as well as the national border. After the opening of the St. Lawrence waterway in 1959, the Great Lakes Pilotage Act of 1960 and its subsequent amendments gave the US Coast Guard pilotage rate-setting authority over the Great Lakes, with the exception of a brief period in from 1995 to 1997 where pilotage was under the jurisdiction of the St. Lawrence Development Corporation.

The US waters of the Great Lakes are the exception to the US state pilotage system. It is the only jurisdiction where pilotage rate setting falls under the US Coast Guard.

Unlike in most coastal states, where maritime transportation users' representatives and stakeholders are directly involved in the governance of pilotage, through the pilot commissions, there is no comparable user oversight role in the governance of pilotage in the US Great Lakes, beyond a limited role through the Great Lakes Pilotage Advisory Committee.

Great Lakes Pilotage Advisory Committee

The establishment of a Great Lakes Pilotage Advisory Committee was created in Law ([46 USC 9307](#)). This Committee is comprised of seven members appointed by the Secretary and includes the President of each of the 3 Great Lakes pilotage districts, one member representing the interests of vessel operators that contract for Great Lakes pilotage services, one member representing the interests of Great Lakes ports, one member representing the interests of shippers whose cargoes are transported through Great Lakes ports, and a member with a background in finance or accounting.

Among other things, the Committee "may review proposed Great Lakes pilotage regulations and policies and make recommendations to the Secretary that the Committee considers appropriate, may advise, consult with, report to, and make recommendations to the Secretary on matters

¹² American Pilots Association. (2015). Pilotage in the United States. Retrieved from: http://www.americanpilots.org/pilotage_in_the_u_s/index.php.

¹³ Kirchner, P. G., & Diamond, C. L. (2010). Unique Institutions, Indispensable Cogs, and Hoary Figures: Understanding Pilotage Regulations in the United States. *USF Mar. LJ*, 23, 168.

relating to Great Lakes pilotage, may make available to the Congress recommendations that the Committee makes to the Secretary”.

“The Secretary shall, whenever practicable, consult with the Committee before taking any significant actions relating to Great Lakes Pilotage.” -46 USC 9307(d)(l)

Nevertheless, the Committee is largely a clearinghouse for discussion that can inform governance, policy, and regulations, but it does not directly govern pilotage services. Consequently, the industry representatives of this Committee don’t have a direct oversight role, but rather a largely consultative role in the governance of US Great Lakes pilotage.

2.2 Key Issue: Cost

The maritime industry is fully supportive of the important role pilots play in ensuring safe navigation; industry has no concerns with respect to this safety function. Beyond a few isolated issues, US pilotage in the Great Lakes is also generally deemed reliable.

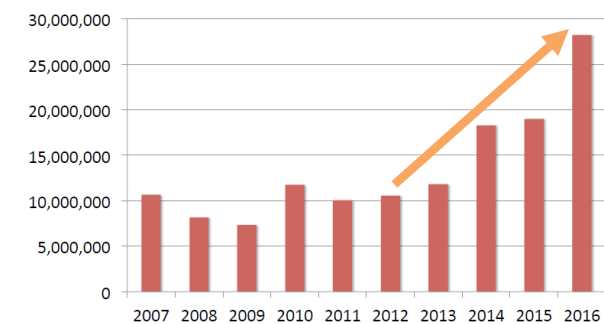
The principal issue and industry concern with respect to pilotage service delivery in the US waters of the Great Lakes is the increasing cost of pilotage and related implications for the cost competitiveness of the GLSLSS maritime transportation system. GLSLSS maritime transportation system stakeholders express concern over these increased costs in that they drive up freight costs in the Region, making both the maritime transport mode and logistics less competitive compared to alternative modes and routings.

In September 2015, the US Coast Guard proposed an increase in pilotage costs through its rate-setting authority. Figure 2-1 illustrates the actual costs of US pilotage over the last 10 years, as found in pilots’ audited financial statements published by the Coast Guard. From 2015 to 2016, actual pilot revenue increased from approximately \$19.0M to \$28.2M, or 48%.

US pilotage costs currently account for 10% of total voyage costs.¹⁴ This cost is roughly twice that for similar services provided by Canadian pilots in the Canadian waters of the Great Lakes.

The principal issue with pilotage service delivery in the US waters of the Great Lakes is cost.

Figure 2-1: US Pilotage Costs Over the Last 10 Years (\$)



Source: CPCS, American Great Lakes Port Association

¹⁴ John C. Martin Associates, LLC DBA Martin Associates. (2017). Analysis of Great Lakes Pilotage Costs on Great Lakes Shipping and the Potential Impact of Increases in U.S. Pilotage Charges: Prepared for the United States Coast Guard.

US Pilotage Costs are Significantly Higher than Comparable Canadian Pilotage Costs

In April of 2017, the Fednav ship Federal Seto sailed from Sault Ste. Marie, Ontario to Detour, Michigan. Double pilotage practices were followed due to the poor conditions, meaning that both an American pilot and Canadian pilot were aboard the vessel. The invoice revealed that the American pilot charge was \$21,054 while the Canadian pilot charge was \$6,431 for the same voyage. In this instance, US pilotage costs were 3.3 times that of Canadian pilotage costs.

For many of the commodities moving on the GLSLSS, profit margins are very thin. Increasing pilotage costs can materially impact the profitability of US shippers, or worse, render American production, extraction manufacturing, and exporting uncompetitive in global markets.

US pilotage costs currently account for 10% of total typical voyage costs.

An independent study conducted found that the cost of pilotage increased between 53.57-90.92% in 2016 based on actual pilot cost data and invoices and receipts collected from pilot organizations and vessel operators. An estimated 590,000 tons of import steel imports and comparable tonnage of export grain were lost due to this cost increase and the resulting lost competitiveness of the GLSLSS. With a "steel-in/grain-out" economic model for international

carriers serving the GLSLSS, the loss of inbound steel imports meant that ships were not available in the Great Lakes to export grain. Specifically, the increased cost of pilotage led to 29 fewer ships coming into the GLSLSS to deliver steel, resulting in a loss of outbound capacity for grain exports equal to 29 ships. Consequently, grain was forced to ship through coastal ports, leading to reduced maritime economic activity in the Great Lakes, and higher total costs to importers of steel and grain exporters from the Region.

The same study estimated that 4,400 binational regional jobs were lost due to the 2016 pilotage rate increase.

2.2.1 Factors Driving Higher US Pilotage Costs in the Great Lakes

Pilotage in the US Great Lakes is a regulated monopoly. Rate-making is governed by the US Coast Guard in accordance with a complex annual review process guided by Great Lakes Pilotage Regulations ([46 CFR Part 401-404](#)). These regulations define the goal of rate making:

“... to promote safe, efficient, and reliable pilotage service on the Great Lakes, by generating for each pilotage association sufficient revenue to reimburse its necessary and reasonable operating expenses, fairly compensate trained and rested pilots, and provide an appropriate profit to use for improvements”. (46 CFR Part 404.1 (a))

Pilotage in the US Great Lakes is a regulated monopoly

In simplified terms, pilotage fees are set on a “cost plus” basis in accordance with expected expenses and anticipated traffic levels in accordance with a detailed rate-making process (presented for reference in Annex A).

At issue, and the subject of intense ongoing debate and legal actions are transparency and reasonableness of costs used in pilotage rate making, the type of weighting factor for assigning costs by ship size, how pilot target compensation is benchmarked, workload and recuperative rest periods for pilots, pilot association accounting and human resource data, and inconsistency between the US Coast Guard and the Great Lakes Pilotage Authority (Canada) rates, among other factors.

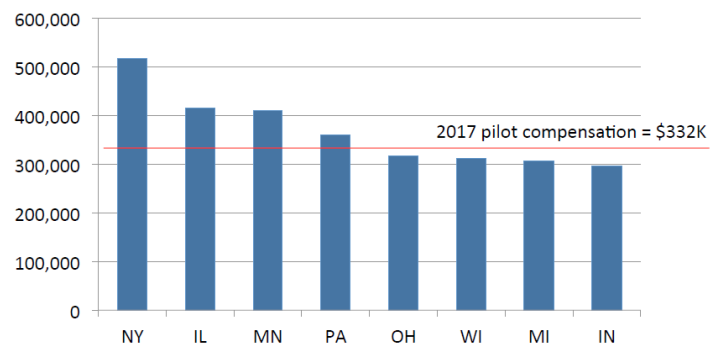
It is beyond the scope of the present study to present and assess the details of the rate-making process and related appropriateness of the costs that are included in pilotage rates. In many cases, these issues are before the courts.

Nevertheless, examples of specific concerns with respect to pilotage costs in the US waters of the Great Lakes include the following:

Pilot Compensation

Few professions pay as much as pilots and these compensations levels have risen sharply in the US Great Lakes. The average US Great Lakes pilot earned \$332,000 in 2017 or more than the top 1% of income earners in four of the eight US Great Lakes states. Anecdotally, pilots also often earn more than double ship captains operating in the Great Lakes.

Figure 2-2: Comparison of US Great Lakes Pilot Wages and Top 1% Wage Earners



Source: American Great Lakes Port Association

Pilot compensation also ranges significantly between senior and junior pilots, as senior pilots take substantially more assignments. Pilot capital drawings ranged from \$10,007 to \$457,329 in District 1 in 2015.¹⁵ While competencies are gained through experiences on the job, this wide range of compensation levels suggests that navigation opportunities and revenue are not being distributed equitably within pilot associations.

There have been few checks on pilot compensation level increases.

Since pilots operate as a regulated monopoly, there have been few checks on pilot compensation level increases. These increasing compensation levels are passed on to ship-owners and continue to a lesser competitive GLSLSS maritime transportation system.

¹⁵ St. Lawrence Seaway Pilots’ Association Supplemental Attachment to 2015 Financial Statements

Questions on how compensation should be benchmarked are also the subject of contention. Pilots are paid higher than the vast majority of professions. Pilots assert that they are not as well compensated as coastal pilots, which makes recruitment and retention difficult. In 2016, the US Coast Guard moved away from the traditional benchmarking of pilot compensation against First Mates on US-flag vessels in the Great Lakes and began matching Canadian Great Lakes pilot compensation with a seemingly arbitrary additional 10%. This was subsequently struck down by the courts following an industry lawsuit.

An independent pilot compensation study commissioned by the US Coast Guard is currently underway to assess compensation factors in greater detail.

Pilot Training and Working Capital Fund

A surcharge is placed on vessel operators to fund pilot training, which goes to compensate apprentice pilots for their one-year training period. However, this process is opaque with no mandate to publish a training plan, or courses. A Working Capital Fund is also in place for pilots to fund future infrastructure needs as part of pilotage rate calculations. Similar to training surcharges, no detail nor justification is provided on financial statements on what infrastructure improvements are undertaken by these funds. This lack of transparency has furthered mistrust between industry and pilots.

Recent Increase in Pilots to Meet Peak Demand Driving up Costs for All

In 2015, “peak traffic” pilotage demand resulted in 10 new pilots hired by the US Coast Guard, effectively increasing the pilot workforce by 20%. Seasonality is a given in the maritime industry, which creates underutilization of pilots at other times of the year. This drives up general, service, and administrative costs for the entire system.

Administrative Complexity

The three separate pilot associations in the US Great Lakes adds administrative complexity to the system. Issues of service delivery, billing, overhead costs, and communication between pilots and users are raised due to the piecemeal governance of US pilotage within the Great Lakes. By contrast, pilotage services in the Canadian waters of the Great Lakes are provided by a single pilotage authority, the Great Lakes Pilotage Authority.

2.3 Ongoing Frictions

Cost-prohibitive pilotage costs have negative repercussions on cargo flows and can erode system competitiveness. Pilots state that sufficient resources are needed to maintain the optimal number of pilots, robust training programs, modern and safe pilot boats, adequate communication networks, dispatch services, rotation system, support services, and electronic navigation equipment. However, different perspectives on what reasonable expenses are have resulted in ongoing frictions between industry and pilots. Courts are often times the only way for the maritime industry to inject its opinion on various decisions made.

In light of complex facets in the pilotage debate, many question whether the current institutions in place are adequate for resolving the most contentious issues.

3 Considering Alternative Governance Options for US Pilotage Service Delivery

3.1 Why (Not) Look at Alternative Governance Options?

Industry concerns with pilotage costs and rate settings, among other micro issues outlined above are being debated within the context of the existing US Great Lakes pilotage governance regime. This limits the range of opportunities available to address current issues and challenges.

This study takes a step back from the specific concerns and related micro issues that are the focus of current debates. It considers potential alternative governance arrangements for the delivery of US Great Lakes pilotage services with the broader aim of continuing to ensure public safety, reliability of pilotage, while also helping make the Great Lakes maritime transportation system as cost competitive as possible for the benefit of its users and the economies of the Great Lakes region and beyond.

Why look at alternative governance options? Perhaps the better question is why not. There is no particular downside to exploring alternative governance options. A periodic review of governance arrangements can also provide a useful basis for ensuring that the current governance arrangement is appropriate given the current economic, environmental and technological context. The US Great

A periodic review of pilotage governance in the US Great Lakes can provide a useful basis for ensuring that the current governance arrangement is appropriate given the current economic, environmental and technological context.

Lakes pilotage governance model has been in place since 1997 when the oversight and responsibility of US Great Lakes pilotage were transferred from the St. Lawrence Seaway Development Corporation (SLSDC) back to the US Coast Guard. Navigation technologies and risk management practices have also evolved considerably since then. A review may be due and the timing may never have been more appropriate.

In Canada, pilotage is presently the focus of a governmental review, as part of a broader review of the *Pilotage Act*, which among other things is considering alternative governance options for pilotage service delivery. The stated objectives of the *Canadian Pilotage Act* review is to generate a discussion about marine pilotage in Canada, and, to seek views and advice about potential reforms to modernize the *Pilotage Act*.¹⁷ Though the Canadian pilotage review is national in scope, it does cover pilotage in the shared US-Canadian waters of the Great Lakes.

Ongoing Review of Canadian *Pilotage Act*

In November 2016, the Canadian Federal Government initiated a review of the *Pilotage Act*, which has substantially been in place since 1972. The scope of the Review includes assessing the *Pilotage Act* and its regulatory framework, service delivery, governance structures and industry trends and technological development. The published summary of consultations is due by the Summer of 2018, with a final report to be released by the Minister of Transport thereafter.¹⁶

The present study does not go as far as to constitute a broad review of the US Great Lakes Pilotage Act of 1960 ([74 Stat. 259, 46 U.S.C. 216](#)), or Great Lakes Pilotage Regulations ([46 CFR Part 401-404](#)). It rather focuses strictly on US Great Lakes pilotage governance, and potential governance options that could contribute to a more competitive Great Lakes maritime transportation system, while continuing to ensure safety of marine shipping in the US waters of the Great Lakes.

3.2 What Ends Should Alternative Governance Options Seek to Achieve?

Pilotage services should seek to deliver on three key objectives: safety of navigation in the Great Lakes, reliability of pilotage services, and protection of the cost competitiveness of marine transportation in the GLSLSS.

There is broad agreement that the safety objective should continue to be primary in Great Lakes pilotage services. There is consensus that pilots have done a good job of ensuring the safety of ship navigation in the GLSLSS.

Reliability is another key objective of pilotage to ensure the efficiency of marine commerce in the Great Lakes. Beyond a few isolated issues, US pilotage in the Great Lakes is also generally deemed reliable.

Equally important is protecting the cost competitiveness of the overall Great Lakes and St. Lawrence Seaway maritime transportation system - from the perspective of users and regional economy. This is the current issue. The cost of pilotage has become a problem.

¹⁶ Terms of Reference for the Pilotage Act Review, Transport Canada <https://www.tc.gc.ca/en/reviews/terms-reference-pilotage-act-review.html> (accessed March 2, 2018)

¹⁷ Pilotage Act Review discussion, Transport Canada, <https://www.tc.gc.ca/en/reviews/pilotage-act-review-discussion.html> (accessed February 26, 2018)

Maritime transportation in the Great Lakes is a team sport. The competitiveness of this system is a function of the cost competitiveness of all service providers involved in Great Lakes shipping – port authorities, terminal operators, ship-owners, as well as pilots, among many others. Cost increases across any part of this service provider chain endanger the competitiveness of the whole system and can have negative cascading impacts on the ultimate users of the Great Lakes maritime transportation system, and the broader region.

In short, ensuring system cost competitiveness must be a central objective of pilotage services in the Great Lakes, in addition to safety and reliability of pilotage. To deny the aim of system cost competitiveness is to deny the very market that the maritime system in the Great Lakes, including pilots, is seeking to serve.

The governance model should also be in keeping with, and sufficiently responsive to, evolving economic, environmental and technological circumstances. Technological advances, for example, could likely be better leveraged to the benefit of navigational safety and cost; a future governance model should provide sufficient flexibility to enable the use of these technologies where they can benefit safety, reliability and cost.



3.3 What Governance Regime Characteristics Would Best Deliver on these Ends?

We asked Great Lakes system stakeholders, including shippers, ship-owners, cruise service providers, ports authorities, and other marine infrastructure owners/operators, what characteristics they thought would be important in a future US Great Lakes pilotage governance regime that ensures safety, reliability and cost competitiveness. The following were highlighted as important governance considerations.

Industry Oversight

Those paying the cost of pilotage services – directly or indirectly, or that otherwise have an important stake in ensuring the competitiveness of the Great Lakes and St. Lawrence Seaway system - should have a say in the oversight and governance of pilotage service delivery. These stakeholder groups could include shippers, ship-owners, cruise services providers, ports authorities, port terminal operators, among others. This is not to suggest that these stakeholder groups should necessarily have exclusive oversight of pilotage service delivery. Suffice it to say that these stakeholder perspectives have an important role in pilotage service delivery governance.

Those paying the cost of pilotage services should have a say in the oversight and governance of pilotage service delivery.

There are many precedents for industry oversight in similar contexts. For example, most coastal states have their own pilotage regime whereby pilots are licensed and regulated by the state's pilot commission. In most instances, these commissions are governed by a Board of Directors made up of representatives of vessel operators, pilots, port interests, among other interests, including environmental groups, government officials, and/or public members.¹⁸ In Canada, the Great Lakes Pilotage Authority is governed by a Board which includes representatives from the shipping industry, pilots, and the general public.¹⁹ Also in Canada, the St. Lawrence Seaway Management Corporation, as well NAV Canada, the national air navigation service provider, are governed by Boards of Directors comprised by a majority of Directors appointed by users.

Transparency of Rate-Making Process

Pilotage fees are determined in accordance with the rate-making provisions in the Great Lakes Pilotage Regulations ([46 CFR Part 401-404](#)). The Regulation seeks to ensure that each pilot association can generate sufficient revenue to reimburse its necessary and reasonable operating expenses, fairly compensate trained and rested pilots, and provide an appropriate profit to use for improvements.

Currently, the US Coast Guard engages an independent auditor annually to review pilot associations' expenses for the purposes of producing an annual rate. These reports are posted on the website of the Great Lakes Pilotage Division.²⁰ There is broad concern among the maritime industry that the information provided in these reports is opaque. There are also concerns about the extent to which the expense items included in the rate-making are reasonable and fair.

It would be hard to argue against the merits of greater transparency and appropriate scrutiny over expenses that inform the pilotage rate-making process. The fact that pilotage services are delivered as a regulated monopoly bolsters the case for greater transparency.

Alternative governance options should favor greater transparency and greater independent scrutiny with respect to the reasonableness of the expenses that are used in rate making.

Separation of Regulatory and Rate Making Functions

There is a very clear rationale for the US Coast Guard to maintain its regulatory functions as pertaining to safety, including with respect to certifying pilot organizations, issuing pilots licenses, and regulating pilots' hours of services. Simply put, the US Coast Guard is effective in these areas and should continue to have jurisdiction over these functions.

¹⁸ Kirchner, P. G., & Diamond, C. L. (2010). Unique Institutions, Indispensable Cogs, and Hoary Figures: Understanding Pilotage Regulations in the United States. *USF Mar. LJ*, 23, 168.

¹⁹ Great Lakes Pilotage Authority, Board of Directors, <http://www.glpa-apgl.com/about/board-of-directors/> (accessed February 26, 2018)

²⁰ Website: <http://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Marine-Transportation-Systems-CG-5PW/Office-of-Waterways-and-Ocean-Policy/Office-of-Waterways-and-Ocean-Policy-Great-Lakes-Pilotage-Div/> (accessed March 2, 2018)

These important regulatory functions do not, however, imply or necessitate that the Coast Guard also have economic regulation and rate-making functions. Many stakeholders consulted for this study have suggested that the rate-making function would be better segregated from regulatory functions for safety and handled by another agency or entity. These functions could be better handled by another entity with the necessary experience and expertise in economic regulation and rate setting matters.

Economic regulation and rate making would be better handled by another entity that has the necessary experience and expertise in rate setting matters.

Consolidation

Efficiencies could likely be realized by amalgamating the governance of the three US Great Lakes pilots associations: the St. Lawrence Seaway Pilots, the Lake Pilots Association Inc., and the Western Great Lakes Pilots Association, which currently provide pilotage services in their respective areas. Such an amalgamation need not impact the areas covered by existing pilot licenses, but the governance and administration of pilotage could be done centrally for the whole of the Great Lakes, as is the case with the Canadian Great Lakes Pilotage Authority.

The benefits of consolidating administrative functions could include simplified service delivery and billing for ship owners, lower overhead costs and pilotage fees, and simplified communication between Great Lakes pilots and users. Governance options should consider the relative merits of maintaining three separate pilotage associations for the Great Lakes vs. amalgamation of pilotage associations.

Commercial System-Wide View

From a system-wide competitiveness standpoint, there could be benefit from better coordinating the governance of pilotage services with the governance of other components of the Great Lakes maritime transportation system, such as the St. Lawrence Seaway.

Competitive Pressure

US pilotage services in the Great Lakes operate as a regulated monopoly. There are no competitive pressures, and expenses are passed on to users in accordance with rate setting regulations. As expenses go up, so do rates to users.

Those consulted favor a governance model that encourages and includes some form of competitive pressure.

Consultation underscored the importance of keeping costs reasonable and the benefits of competitive forces to help achieve this. There are many ways to achieve competitive pressures in the provision of US Great Lakes pilotage services. Suffice it to say that whatever the approach, industry stakeholders consulted favor a governance model that encourages

and includes some form of competitive discipline.

Market-Based Approach to Balancing Supply and Demand

Three years ago, weather, demand, and other issues led to a temporary shortage of pilots in parts of the Great Lakes. To mitigate the risk of future pilotage shortages, the US Coast Guard sought to staff the Great Lakes pilotage system for “peak” traffic. This led to a 20% increase in the number of pilots in the Great Lakes. This drove up expected pilotage expenses, and in turn, pilotage fees and the cost of marine transportation in the GLSLSS. The maritime industry in the Great Lakes takes issue with this approach, arguing that no business would staff year-round for peak periods. As the unattributed quote goes, “you don’t build the village church for the Easter Sunday mass”. A future governance approach should have built-in mechanisms to balance the supply of pilots with the needs of industry, which ultimately pay the cost of pilotage services.

Checks and Balances and Appropriate Basis for Addressing Disputes

There should be appropriate checks and the balances to ensure that pilotage service delivery rates and powers are applied fairly and reasonably. The US Coast Guard is primarily responsible for ensuring the fairness and reasonableness of pilotage service delivery costs and conditions. The maritime industry deems this to be inadequate and consequently have little option than to seek legal action to address perceived fairness and reasonable issues. This approach is costly to all. A future governance model should provide mechanisms for appropriate checks and balances and appropriate dispute resolution mechanisms.

3.4 Key Governance Considerations for US Pilotage Service Delivery

Governance options for the delivery of pilotage services in the US Great Lakes are many. Key governance considerations include:

1. Level of involvement of government in the delivery of pilotage services
2. Geographic consolidation of pilotage services
3. Level of industry involvement in pilotage service delivery governance and oversight,
4. Transparency in rate-making
5. Level of competition for pilotage service delivery, and
6. Availability and nature of dispute resolution mechanisms.

Potential governance options for the delivery of pilotage services in the US Great Lakes are many.

The spectrum of options across each key governance consideration is not necessarily mutually exclusive. Taken together, these options and their permutations can help define the full range of possible governance models for the delivery of pilotage services in the US Great Lakes.

3.4.1 Level of Involvement of Government in the Delivery of Pilotage Services

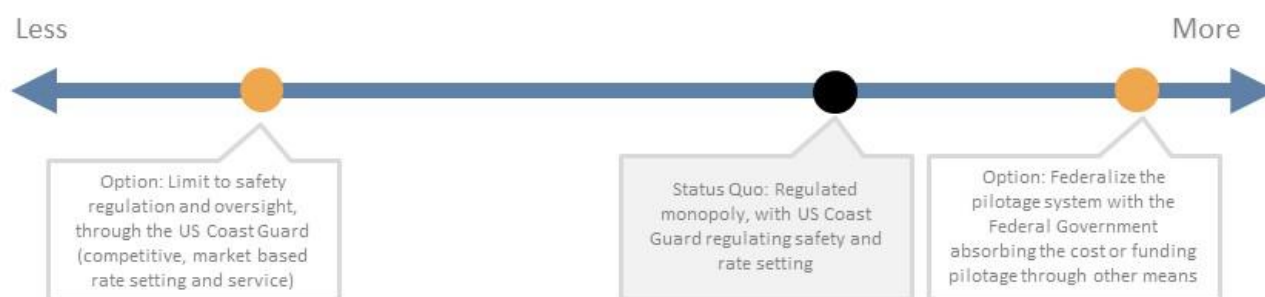
Currently, pilotage service delivery in the US waters of the Great Lakes falls under the jurisdiction of the US Coast Guard. The Great Lakes Pilotage Division of the US Coast Guard has a regulatory function covering safety and rate-making. Among other things, this ensures that qualified, trained, and experienced pilots are employed to meet the pilotage demands.²¹

There are at least two potential alternative governance options with respect to the extent of the role of government.

- One option, under a deregulated pilotage service delivery model, would imply a reduced role for government, with this role limited to safety regulation and oversights, but otherwise letting the private market provide pilotage services on a competitive basis.
- An alternative and largely opposite option could be to increase the role of government by federalizing pilots, in effect making pilots staff employees of the government, as is the case for the staff of the US Coast Guard or St. Lawrence Seaway Development Corporation. It could be appropriate under this option for the Federal Government to absorb the cost of pilotage services or alternatively fund pilotage services through other means, such as the Harbor Maintenance Trust Fund (in a manner similar to the funding of the St. Lawrence Seaway Development Corporation).

These two alternative arrangements straddle the status quo with respect to the level of involvement of government in the delivery of pilotage services.

Role of Government in Pilotage Services



The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

²¹ Website of Great Lakes Pilotage Division, <http://www.dco.uscg.mil/Our-Organization/Assistant-Commandant-for-Prevention-Policy-CG-5P/Marine-Transportation-Systems-CG-5PW/Office-of-Waterways-and-Ocean-Policy/Office-of-Waterways-and-Ocean-Policy-Great-Lakes-Pilotage-Div/> (accessed March 1, 2018)

Alt. Governance Options	Main Advantages	Main Disadvantage
Limit to safety regulation and oversight, through the US Coast Guard (competitive, market-based rate setting and service)	<ul style="list-style-type: none"> • Lower cost to users, increased maritime transportation system competitiveness • Competitive market could contribute to increased reliability/ service levels 	<ul style="list-style-type: none"> • Potential for competitive tensions leading to undercutting rates could lead to cost-cutting that is detrimental to pilotage service reliability.
Federalize the pilotage system with the Federal Government absorbing the cost or funding pilotage through other means	<ul style="list-style-type: none"> • Potentially lower cost to users, assuming Government staff salaries lower than current pilot compensation. If this is the case, then increased maritime transportation system competitiveness 	<ul style="list-style-type: none"> • Increased administrative burden for Government – could lead to more bureaucracy • Would require Government funding sources

3.4.2 Consolidation of Pilotage Services

There are currently three US pilots associations that service the US waters of the Great Lakes, all falling under the jurisdiction of the US Coast Guard. By contrast, there is a single Great Lakes Pilotage Authority that provides comparable pilotage services on Canadian waters of the Great Lakes.

The consolidation of pilotage associations serving the US waters of the Great Lakes could be considered as part of a broader alternative governance model. Under this option, pilots would continue to be licensed by the US Coast Guard for specific geographic regions, in the interest of safety and regional familiarity with navigation conditions, while the governance and administration of pilotage could be done centrally for the whole of the Great Lakes as is the case in Canada.

A complementary consideration is whether pilotage delivery services and rate making should be further consolidated with the SLSDC as was once the case (1995-1997) to facilitate the consolidation of commercial considerations with respect to promoting a cost competitive marine transportation system in the Great Lakes and St. Lawrence Seaway.

Pilotage under the Jurisdiction of the St. Lawrence Seaway Development Corporation

In 1995, the then Secretary of Transportation transferred oversight of Great Lakes pilotage from the US Coast Guard to the SLSDC, which falls under the Department of Transportation (DOT). It has been suggested that independent scrutiny and transparency over pilotage expenses and rate making were greater under the SLSDC than they were (and are presently) under the US Coast Guard.

The pilots challenged the decision to transfer pilotage oversight to the SLSDC on the grounds that the Secretary overstepped his authority in making the transfer. In 1997, a court decision led to the reversal of this transfer and pilotage has been under the jurisdiction of the US Coast Guard ever since.

Of note, the operational merits of pilots operating under the jurisdiction of the DOT were not considered as part of this institutional change.



The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

Alt. Governance Options	Main Advantages	Main Disadvantage
Single Great Lakes Pilotage Association under the US Coast Guard	<ul style="list-style-type: none"> Consolidation of administration could lead to lower overhead costs, which would result in lower pilotage fees for users Improved coordination and communication Potential for better balancing supply and demand for pilotage services 	<ul style="list-style-type: none"> Pilotage service delivery could become less responsive to regional conditions and issues.
Single Great Lakes Pilotage Association under the St. Lawrence Seaway Development Corporation	<ul style="list-style-type: none"> As above but with the added advantage of promoting a more integrated view on the means for enabling a more competitive Great Lakes and St. Lawrence Seaway maritime transportation system. 	<ul style="list-style-type: none"> As above Potential for added coordination between US Coast Guard and SLSDC

3.4.3 Level of Industry Involvement in Pilotage Governance and Oversight

Unlike state pilotage commissions, which include some degree of industry oversight and participation in the governance process, the US Great Lakes system provides no direct voice for the maritime industry in the governance of pilotage services, beyond a limited consultative role through the Great Lakes Pilotage Advisory Committee.

There are many alternative governance arrangements that involve a greater degree of industry oversight and role in governance. These include:

- Constituting a Great Lakes-wide Pilotage Commission in a form similar to state pilotage commissions that include industry members. Unlike coastal state pilotage commissions, it would be impractical for each state to have its own pilotage commission. This Great Lakes wide-commission could have similar authority to state pilotage commissions.

- Including directors appointed by industry (including shipper and ship owner's organizations) to the Board of Great Lakes pilot(s) associations. This may not be welcomed by pilots associations but could potentially be compelled through regulation or other means, through a new structure such as a pilotage authority, as is the case with the Canadian Great Lakes Pilotage Authority.
- Commercializing Great Lakes pilotage under a different governance structure overseen by a majority of industry members. Examples of similar models include the governance structure of the Canadian St. Lawrence Seaway Management Corporation, which operates as a not-for-profit corporation with a Board of Directors elected by members, whereby the majority of members and appointments are user members. NAV Canada, which looks after air navigation services in Canada, operates under a similar, user-based governance model.



The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

Alt. Governance Options	Main Advantages	Main Disadvantage
Great Lakes-wide Pilotage Commission similar to the model in pilotage commissions in coastal states	<ul style="list-style-type: none"> • Increased degree of industry oversight can help better align pilotage governance with user needs and promote pilotage services that better enable the competitiveness of the Great Lakes transportation system • Ensure user and broader industry views are reflected in decision making 	<ul style="list-style-type: none"> • Potential for conflict where interests diverge, as has been the case recently for example with the Great Lakes Pilotage Advisory Committee
Pilotage Association Board(s) to include Directors appointed by or otherwise representing the maritime industry	<ul style="list-style-type: none"> • Industry pressure on cost containment and services delivery in line with user needs 	<ul style="list-style-type: none"> • As above
Commercialized Great Lakes pilotage service provider governed by users	<ul style="list-style-type: none"> • As above • Most likely in line with promoting overall cost competitiveness of the Great Lakes transportation system from the perspective of users 	<ul style="list-style-type: none"> • Coordination with US Coast Guard safety regulatory functions and oversight could be more complicated

3.4.4 Transparency in Rate-Making

There are at least two potential governance options that could increase the level of transparency in rate making:

- 1) Having an independent third party audit and assess the reasonableness of expenses used in the rate marking process. This could logically be the Office of Inspector General (OIG) of the Department of Homeland Security or an auditor retained by the OIG (as opposed to the US Coast Guard, as is currently the case). This approach would be typical of how other government agencies (e.g. the St. Lawrence Seaway Development Corporation) and programs are currently audited.
- 2) The audit process could be commissioned not by the Coast Guard, as is the current practice, but by a committee or commission including a representative from the Coast Guard, pilot associations, as well as representatives from the maritime industry including ship owners and shippers.

Yet another complementary option is to compel the full disclosure of all expense details and public reporting of rate setting assumptions so that industry and the public at large have the benefit of full information with which to comment on the rate-making process. Both governance reform and enhanced information disclosure could be pursued together.



The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

Alt. Governance Options	Main Advantages	Main Disadvantage
Independent third-party review and opinion of reasonableness of rate setting assumptions and details.	<ul style="list-style-type: none"> • Greater comfort among marine transportation stakeholders of the independence and scrutiny of pilot association expenses and revenues • Increased transparency relative to status quo 	<ul style="list-style-type: none"> • Potentially more costly than current approach • Potential for disagreement between industry and pilots association on interpretation of review
Compelled disclosure of all expenses detail, and public reporting of rate setting assumptions, details	<ul style="list-style-type: none"> • Full transparency • Industry and public in better position to comment on rate-making, with the benefit of full information 	<ul style="list-style-type: none"> • Potential to be administratively onerous • Could lead to confidentiality concerns

3.4.5 Level of Competition for Pilotage Service Delivery

The current pilotage regime in the US waters of the Great Lakes operates as a regulated monopoly. There is no threat of competition, hence very little implicit incentive for pilots associations to contain costs.

Several alternative governance options were identified through consultations and a review of international practices that could generate competitive pressure. Such additional pressure could help keep costs low and service levels high, to the benefit of the competitiveness of the overall Great Lakes maritime transportation system. These options include the following, each offering progressively more competitive alternatives.

- Maintaining the current regulated monopoly structure, but with periodic (e.g. every five years) competitive tendering of pilotage services under a multi-year concession contract(s). This option seeks to introduce competition each time the concession contracts come up for retendering.
- Allowing ship owners the option to hire their own internal pilots – particularly those that have substantial experience in the US waters of the Great Lakes. These pilots would need to be licensed by the US Coast Guard, as is the case now, to ensure safety.
- Deregulating pilotage altogether in the US waters of the Great Lakes and allowing individual pilots and/or pilots associations to compete for business in a manner similar to ship owners competing for shipper business. The US Coast Guard would continue to regulate safety and licensing under this option.



The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

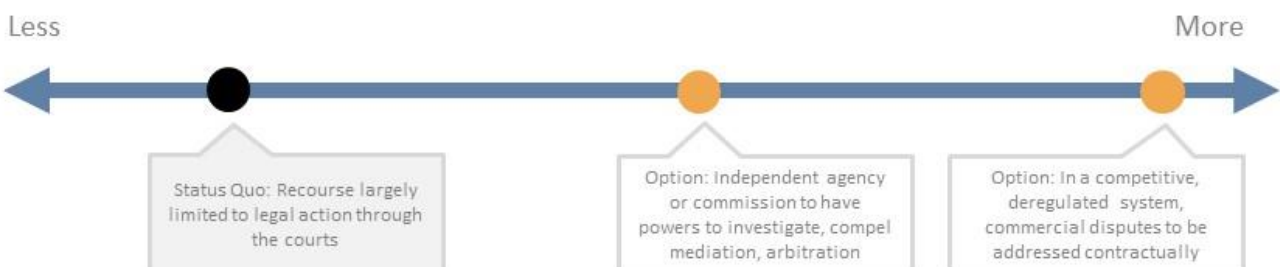
Alt. Governance Options	Main Advantages	Main Disadvantage
Tendering of pilotage service provision as a concession to single-service provider on periodic competitive basis	<ul style="list-style-type: none"> • Periodic competitive pressure among pilots/associations to keep costs as low as possible. 	<ul style="list-style-type: none"> • Additional administrative/transactional burden and associated costs • Unsuccessful bidders would need to redeploy assets elsewhere.
Allow ship owners to hire their own pilots, provided these are licensed by the US Coast Guard	<ul style="list-style-type: none"> • Greater options for ship owners which could help reduce costs • Improved coordination of pilotage services for ship owners regularly operating in the Great Lakes • Competitive pressure with third-party pilots to keep costs competitive 	<ul style="list-style-type: none"> • Could create a conflict of interest as the pilot would no longer be independent, which could create safety concerns. • Could lead to additional oversight requirements for the US Coast Guard, which could have certain added costs.
Deregulate pilotage rate-setting (open market) with US Coast Guard retaining safety regulatory functions	<ul style="list-style-type: none"> • Competitive pressure on service and costs with ship owners selecting the pilot that best meets their needs. • Promote appropriate balance of supply and demand for pilotage services. 	<ul style="list-style-type: none"> • Could lead to additional oversight requirements for the US Coast Guard, which could have certain added costs. • Potential for undercutting rates when demand declines could lead to detrimental cost cutting.

3.4.6 Availability and Nature of Dispute Resolution Mechanisms

There are currently no mechanisms for resolving disputes short of legal action (or lobbying). This is very expensive, time-consuming, and not at all conducive to forging positive and collaborative working relationships. Alternative mechanisms that could provide a better means of resolving disputes include:

- An independent agency or commission which has powers to review disputes and compel mediation, arbitration, or another dispute resolution mechanisms. This could be similar to the functions of the Bureau of Competition or the Surface Transportation Board.
- In a deregulated market for pilotage services in the Great Lakes, commercial or economic disputes would be handled as agreed contractually, much as is the case in railroad confidential contracts.

Dispute Resolution Mechanisms



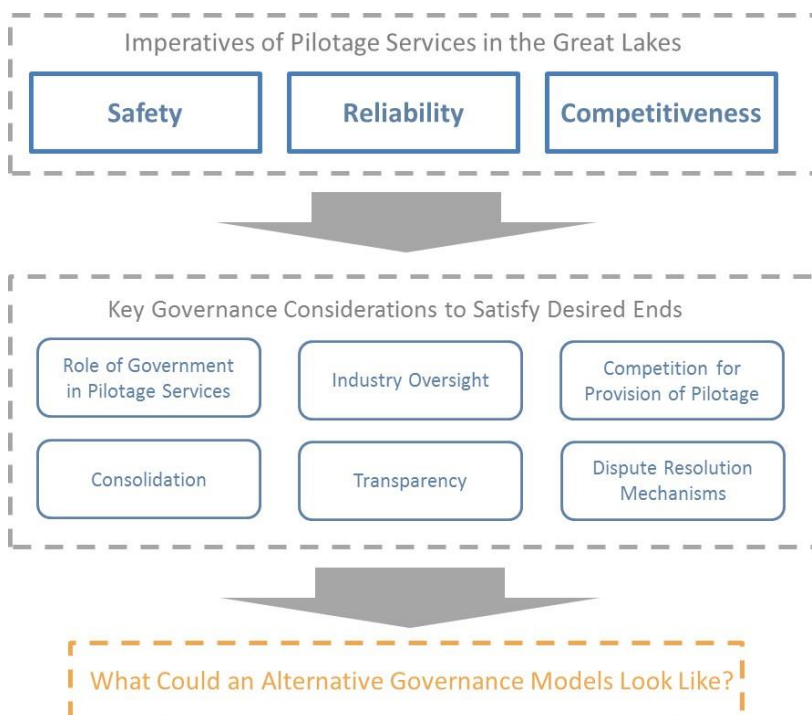
The advantages and disadvantages of each alternative governance arrangement relative to the status quo include the following, notwithstanding potential challenges associated with the implementation of each option:

Alt. Governance Options	Main Advantages	Main Disadvantage
Independent agency or commission to have powers to investigate, compel mediation, arbitration	<ul style="list-style-type: none"> • Avoid costly and time-consuming legal actions through the courts 	<ul style="list-style-type: none"> • May require the set-up of a new agency if none in the US is already in place to address similar matters
In a competitive, deregulated system, commercial disputes to be addressed contractually	<ul style="list-style-type: none"> • Contractual terms agreed by each party would define the dispute resolution terms on a mutually agreeable basis. 	<ul style="list-style-type: none"> • May not be sufficient where contracts are not feasible.

3.5 What Could an Alternative Governance Model Look Like?

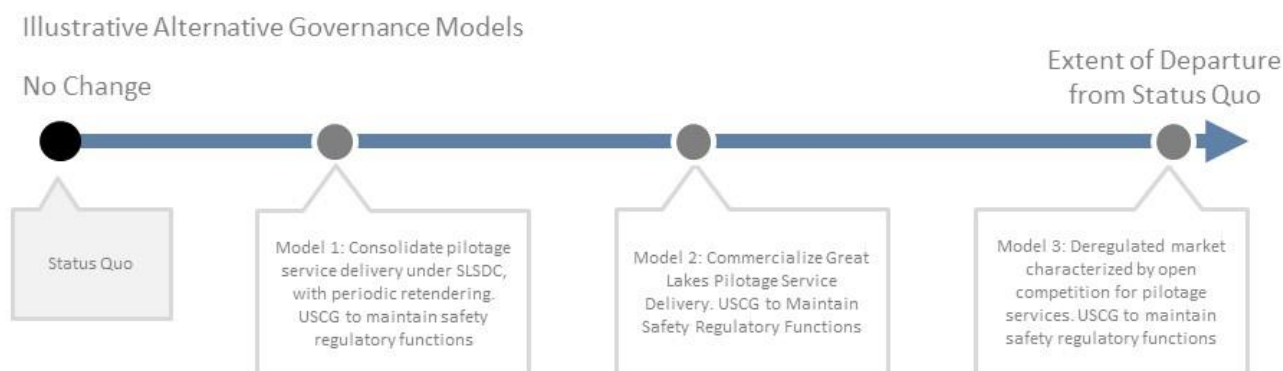
The spectrum of governance options across each key governance consideration can together create a number of alternative permutations of alternative governance models.

For illustrative purposes, we have outlined three potential governance models, which each represent a progressive departure from the status quo. These three models each aim to address the ultimate objectives of ensuring safety of navigation, reliability of pilotage services, while also seeking to enable a cost competitive Great Lakes-St. Lawrence Seaway maritime transportation system.



The three illustrative models in particular address governance of pilotage service delivery and associated considerations. In all cases, it would be anticipated that the US Coast Guard maintains safety oversight and related regulatory functions for pilotage in the US waters of the Great Lakes.

In all cases, it would be anticipated that the US Coast Guard maintains safety oversight and related regulatory functions for pilotage in the US waters of the Great Lakes.



Each of these illustrative models is provided for discussion, further considerations, and analysis. Based on consultations, all would represent a positive change from the perspective of the cost competitiveness of the Great Lakes maritime transportation system.

3.5.1 Model 1: Consolidate Pilotage Service Delivery under SLSDC, with Periodic Retendering

The defining characteristics of Model 1 are largely threefold: First, the oversight responsibility for the delivery of pilotage services and associated rate-making in the US waters of the Great Lakes would fall under the jurisdiction of the St. Lawrence Seaway Development Corporation, as was briefly the case from 1995 to 1997. Second, the governance of pilotage services would be consolidated under the SLSDC with no functional need for three geographically defined pilotage association. Pilots would continue to be licensed for specific regions by the US Coast Guard. Third, pilotage contracts under the SLSDC would be competitively tendered on a periodic basis by the SLSDC (e.g. every three-five years), creating competitive pressure to help keep costs low and effectively tempering the need for economic regulation of pilotage rates. The SLSDC would also be able to tender additional pilots as/when demand for pilotage services so justifies.

Desired Governance Characteristics

Industry Oversight	
Transparency of Rate-Making	✓
Regulatory & Rate Making Separation	✓
Consolidation	✓
Competitive Pressure	✓
Balancing Supply and Demand	✓
Dispute Resolution Options	

With respect to rate-making, this would be at the discretion of the SLSDC. The authority to pass on the full cost for pilotage or to otherwise pass only a share of the cost could be funded through its annual appropriations, from the Harbor Maintenance Tax Fund or otherwise.

Under this model, the US Coast Guard would maintain safety oversight and regulatory functions for pilotage in the US waters of the Great Lakes.

Objective	Key Advantages
Safety	<ul style="list-style-type: none"> Continued US Coast Guard safety oversight and related regulatory functions will ensure continued safety of navigation in the Great Lakes. Model best aligns with Coast Guard strengths and mandate.

Reliability	<ul style="list-style-type: none"> Pilotage service coordinated on a pan-Great Lakes basis, along with the services and operations of the SLSDC. Users would deal with one pilotage entity for the purposes of requesting service, billing, etc. which takes complexity out of the GSLSS.
Cost Competitiveness	<ul style="list-style-type: none"> Reduced overhead costs and other cost efficiencies through consolidation. Periodic tending would help keep costs in check. Greater transparency and scrutiny over pilotage costs by SLSDC can lead to reduced costs to users.

3.5.2 Model 2: Commercialize Great Lakes Pilotage Service Delivery

Model 2 would be similar to the governance model of the Canadian St. Lawrence Seaway Management Corporation. Under such a model, pilotage service delivery would be undertaken by an independent entity, which could potentially be a 501(c) not for profit-corporation, under a long-term (e.g. 20 years) contract to the US Coast Guard or SLSDC. The terms of service would be contractually defined with the US Coast Guard or SLSDC. The Board of this entity would be comprised of a majority of industry representatives, along with appointees from the US Coast Guard, potentially the SLSDC, and pilot associations. The entity would operate on a quasi-commercial basis with the intent of ensuring appropriate pilotage service at the least cost to users. There would be no competitive pressure, per se, but industry oversight would seek to ensure appropriate management and market disciplines to keep costs appropriately low.

Desired Governance Characteristics	
Industry Oversight	✓
Transparency of Rate-Making	✓
Regulatory & Rate Making Separation	✓
Consolidation	✓
Competitive Pressure	
Balancing Supply and Demand	✓
Dispute Resolution Options	

Under this model, the US Coast Guard would maintain safety oversight and regulatory functions for pilotage in the US waters of the Great Lakes.

Objective	Key Advantages
Safety	<ul style="list-style-type: none"> Continued US Coast Guard safety oversight and related regulatory functions will ensure continued safety of navigation in the Great Lakes. Model best aligns with Coast Guard strengths and mandate.
Reliability	<ul style="list-style-type: none"> Increased commercial focus on reliably serving the needs of the marine industry Industry oversight will ensure appropriately alignment of service with needs, including appropriate balance of supply of pilots to meet demand.
Cost Competitiveness	<ul style="list-style-type: none"> Increased commercial focus on keeping costs in check, to the benefit of users. Industry oversight will ensure help ensure reasonableness of costs.

3.5.3 Model 3: Deregulate Pilotage Service Delivery

This third model would be akin to an open market competitive system, whereby pilots, whether individually or through pilotage companies, would compete to provide pilotage services to industry on a competitive basis. The terms and rates of service would be contractually defined, whether on a spot basis or on a longer-term contractual basis with ship owners and/or users. These contracts would also provide for dispute resolution options.

This model would likely assure the lowest rates for users, and users would be free to change pilots or set new terms, subject to agreement with pilotage service delivery providers. This model would not preclude ship owners from hiring their own internal pilots, provided that these pilots were appropriately licensed.

Under this model, the US Coast Guard would maintain safety oversight and regulatory functions for pilotage in the US waters of the Great Lakes.

Desired Governance Characteristics	
Industry Oversight	✓
Transparency of Rate-Making	✓
Regulatory & Rate Making Separation	✓
Consolidation	✓
Competitive Pressure	✓
Balancing Supply and Demand	✓
Dispute Resolution Options	✓

Objective	Key Advantages
Safety	<ul style="list-style-type: none"> Continued US Coast Guard safety oversight and related regulatory functions will ensure continued safety of navigation in the Great Lakes. Model best aligns with Coast Guard strengths and mandate.
Reliability	<ul style="list-style-type: none"> Market-based discipline to respond to industry service needs. Deregulated market arguably best able to respond to evolving market demands for pilotage.
Cost Competitiveness	<ul style="list-style-type: none"> Competitive pressures will help costs in check, to the benefit of users. Facilitate introduction of innovations in service, new technologies and other means of lowering costs of service/ increasing service efficiencies. Industry oversight will help ensure reasonableness of costs.

4 Advancing the Discussion to the Benefit of All Great Lakes Maritime Transportation System Stakeholders

4.1 The Need for a Discussion about Pilotage Governance Reform

Many industry stakeholders have described the current US Great Lakes pilotage service delivery model – as relating to pilotage costs - as broken. Yet, efforts to address this problem, and the focus of the legal actions and lobbying efforts, have been largely focused on micro-issues and associated details. It is unlikely that this focus will lead to material improvements in the delivery of US pilotage services in a manner that will sustainably improve the cost competitiveness of the overall Great Lakes-St. Lawrence System maritime transportation system. On the contrary, this approach has contributed to recent hostilities and a toxic relationship between industry and those involved in the delivery of pilotage services.

So what can be done? How do we promote a better model for pilotage service delivery that will ensure the safety of navigation, reliability of service, as well as promote the cost competitiveness of marine transportation in the Great Lakes and St. Lawrence Seaway? Many potential options exist on governance reform to provide a way forward.

This short report puts forward three alternative governance models for the provision of pilotage services in the US waters of the Great Lakes. Many more potential permutations of governance models are possible, as underscored in section 3.4.

This report is intended to start a dialogue on plausible options for the governance of pilotage services in the US waters of the Great Lakes.

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4.2 A Way Forward

The Conference of Great Lakes and St. Lawrence Governors and Premiers can help advance the discussion by underscoring the economic importance of updating/improving the provision of pilotage services in the US Great Lakes to help increase the overall competitiveness of this critical maritime transportation system.

Annex A: Pilotage Ratemaking Process for US Great Lakes

The US Coast Guard publishes pilotage rates on an annual basis by March 1st of each year. This rulemaking expedites what is normally a five-year-long process to formulate, vet, blueprint, analyze costs and benefits, prepare a Notice of Proposed Rulemaking, clear the proposal with the Office of Management and Budget, take public comments, and to institute the new rule. The comment period is also reduced to 45 days due to statutory limitations compared to the normal 90 days allotted for US Coast Guard rulemaking.²² Industry feedback is permitted during these 45 days prior to instituting the new rule.

The annual rate-making process followed by the US Coast Guard to determine pilotage rates is summarized below. The methodology on many of these factors is perceived to be opaque and unjustified by maritime industry stakeholders.

Rate-Making Step	Method	Questions and Concerns
1. Determine previous year operating expenses	Pilot associations' financial statements	Little detail or explanation on appropriateness of pilotage operating expenses
2. Project next year's operating expenses	Previous year pilot associations' financial statements, adjusted by inflation	Little detail or explanation on appropriateness of pilotage operating expenses
3. Determine number of pilots needed	Historic traffic and pilot work cycle information	Appropriateness of full-time staffing to handle peak traffic
4. Determine target compensation	2016 Canadian compensation, adjusted by inflation	Appropriateness of target compensation benchmarking – various sources have been used: US-flag vessel Great lakes First Mates and Canadian Great Lakes pilots + 10%
5. Determine working capital fund	Expenses + compensation x 4.16%	No documentation available on how this fund is used by pilot associations to finance future infrastructure
6. Determine needed revenue	Expenses + compensation + working capital	See above
7. Calculate base rates	Needed revenue / average hours worked by area	See above
8. Calculate average weighting factors	Additional revenue generated	Weighting factors were introduced after a 2016 court ruling in order to treat vessel sizes differently to more accurately estimate revenue
9. Calculate revised base rates	Base rates + additional revenue from weighting factor	See above
10. Review and finalize rates	Directors' discretion + surcharges for pilot training	No documentation available on how training funds are used – funds pay apprentice pilots at approx. 50% of normal compensation levels during their year-long training period. No documentation on training plans, courses, nor structure.

Source: CPCS, American Great Lakes Port Association

²² Great Lakes Pilotage Authority Committee Meeting Transcript (2016).