

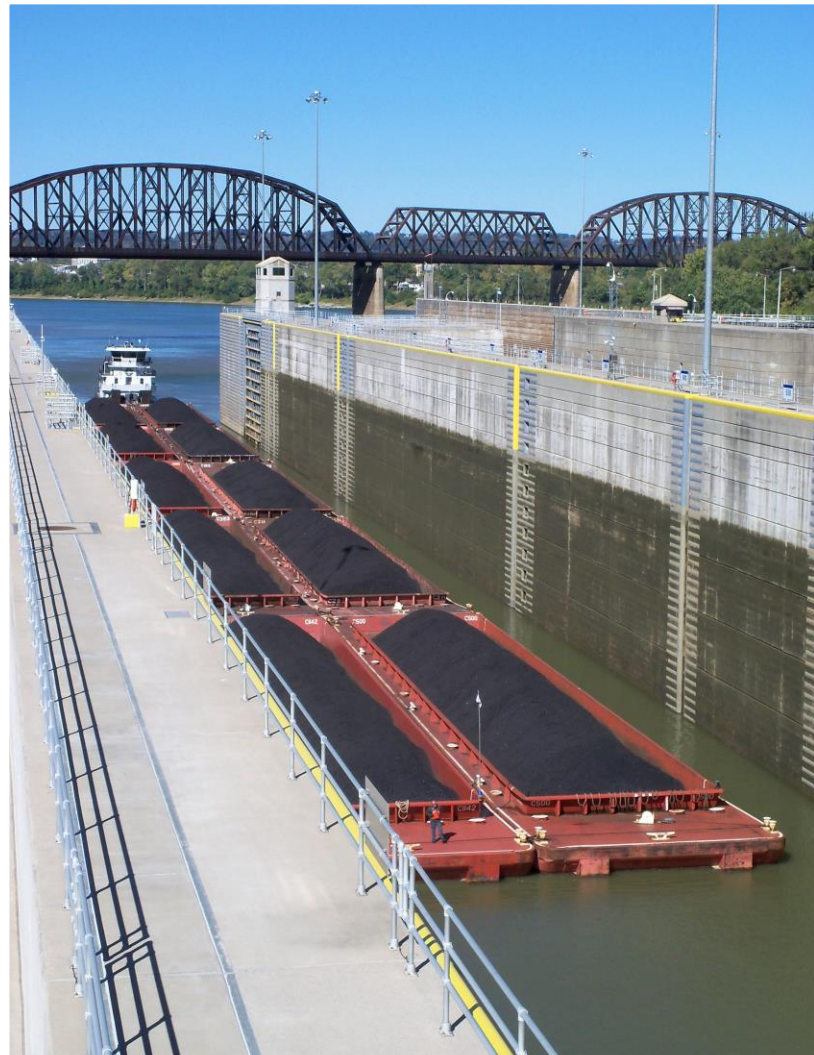
Summary of Freight Summit #1

Kentucky Summit on the Economic Role of Freight Modes

December 2020



**KENTUCKY RIVERPORTS, HIGHWAY
& RAIL FREIGHT STUDY**





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1. INTRODUCTION

The Kentucky Transportation Cabinet (KYTC) and Kentucky Cabinet for Economic Development (CED) conducted the first summit for the *Kentucky Riverports, Highway and Rail Freight Study* during November 16-18, 2020. The summit was titled *Kentucky Summit on the Economic Role of Freight Modes*. The virtual meetings represented an opportunity for the project team to engage with port leaders, economic development staff, industry representatives, and other stakeholders to discuss the existing conditions of Kentucky's waterborne freight network, specifically focusing on eleven public ports.

Seven one hour-long sessions were held over three days:

- Opening Session
- The State of the Ports
- A Review of Current Freight Movements in the Market
- Role of Economic Development with Riverports
- Funding: Options, Opportunities, and Peer Comparisons
- Port Interactions and Logistics
- Closing Session

The event was publicized via email invitations to key stakeholders and associations, with announcements on the project website¹ and social media. Over 150 participants registered to attend.

Over the course of the study, two additional summits will be conducted to provide updates on technical analyses to date and continue to engage with interested parties. Each will be documented in a separate technical memorandum.

Baseline Survey

A survey was sent to registered attendees ahead of the first session to gauge a baseline understanding of the audience's familiarity with Kentucky public ports and inland waterway network. In total, 33 responses were received. Most participants represented the government, public riverport, and economic development industry sectors, with a breakdown of other responses shown in **Figure 1**. Responses in the "Other" category represent six consultants, a commodity organization, construction company, two freight/transportation planners, and a railroad representative.

¹ <https://transportation.ky.gov/MultimodalFreight/Pages/Kentucky-Riverports%2C-Highway-and-Rail-Freight-Study.aspx>

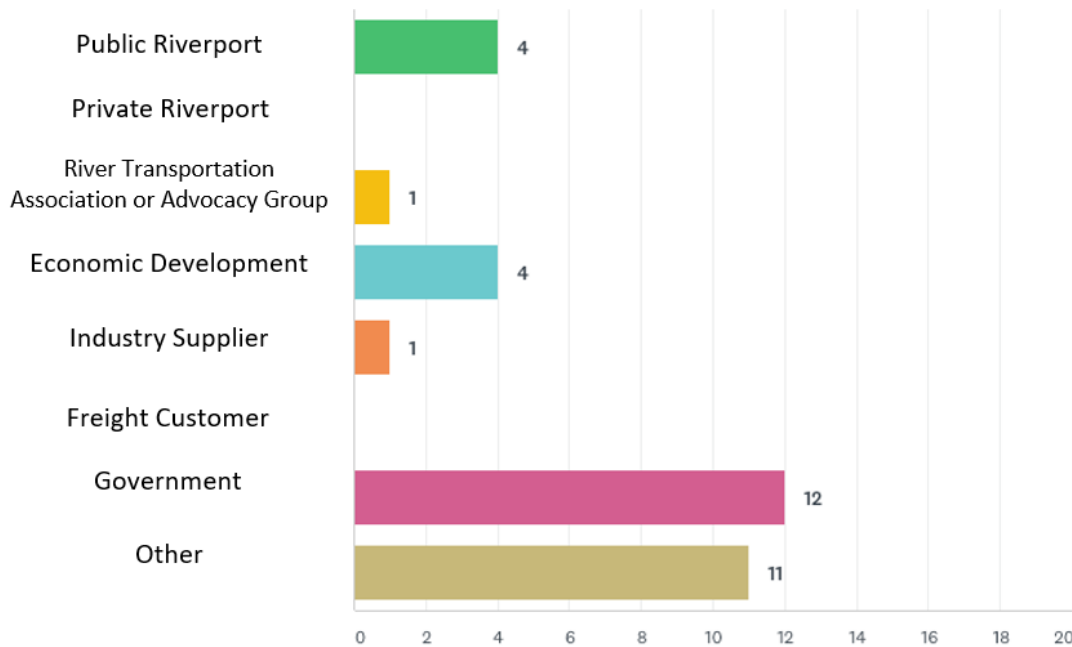


Figure 1: Survey Participants by Industry Sector

Participants were asked how familiar they are with the public ports within Kentucky as they relate to state and local economies on a 10-point scale. The average rating was 5.7, with 10 being most familiar. Participants were also asked how familiar they are with Kentucky’s private ports as they relate to state and local economies; the average answer was 4.3 on the same 10-point scale.

Another question asked what participants are looking to gain from the first summit; results are summarized in Figure 2.

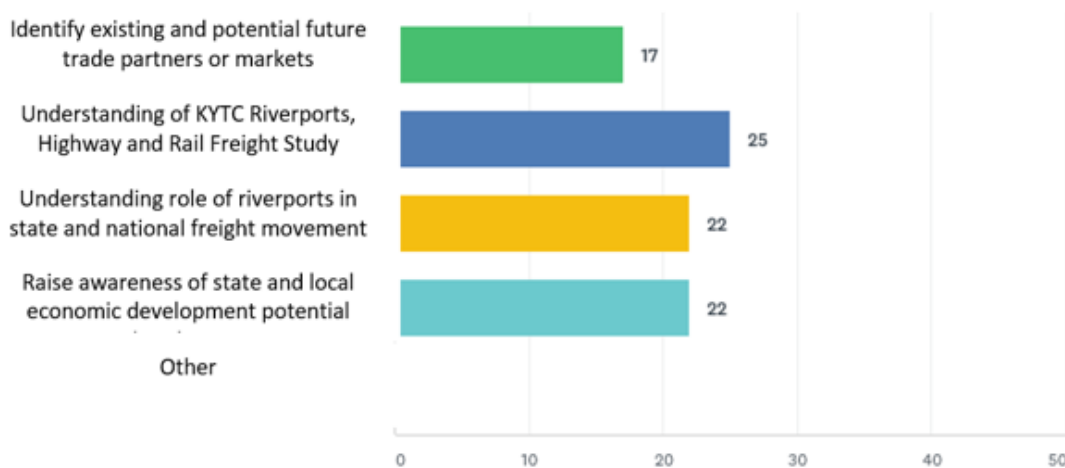


Figure 2: What are you looking to gain from Summit 1?

When asked to select the option that best represents their role/interaction with ports, most individuals have a government affiliation (11 individuals), followed by consultants (5) and port staff (4), summarized in **Figure 3**. The other category represents an Area Development District, a designer, two researchers, and one interested party.

A final question asked participants how important it is for the Commonwealth to support existing and developing ports. On a 10-point scale with 1 representing no support and 10 representing full support, the average response was 8.2. Other open-ended comment themes showed high interest levels and expectations for the study, emphasizing the importance of riverports within the transportation network as a critical component to the long-term economic success of the Commonwealth.

A copy of the full survey summary is presented in **Appendix A** to this memo.

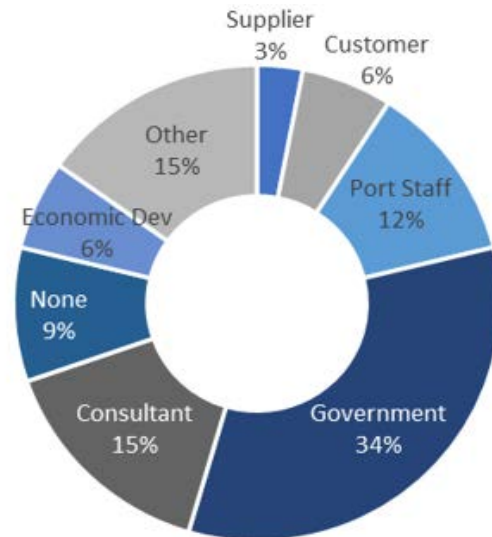


Figure 3: Role/Interaction with Ports

Report Organization

The following sections describe key content from each session. Recordings and meeting materials are accessible via KYTC’s YouTube channel². Presentation materials are included as **Appendix B**.

2. SESSION 1: OPENING

Monday, November 16, 2020 at 1:00 PM EST

Presenters:	Mikael B. Pelfrey, P.E.	Director, KYTC Division of Planning
	Brian Wright	President/CEO, Owensboro Riverport Authority
	Chandler Duncan, AICP	Vice President, Metro Analytics

² <https://www.youtube.com/playlist?list=PLFou1OwtHzfReFWW7xtcVxtw8SNj7LNiG>

Presentation Content

David Hurst, deputy project manager with Metro Analytics, opened the meeting, welcoming attendees to the first Summit on the economic role of freight modes. He described basic functionality of the Zoom platform and introduced each speaker:

- Mikael Pelfrey, P.E. Director, KYTC Division of Planning
- Brian Wright President/CEO, Owensboro Riverport Authority
- Chandler Duncan, AICP Vice President, Metro Analytics

Mikael Pelfrey, Director of the KYTC Division of Planning and deputy project manager provided opening remarks. He shared regrets from Secretary Gray who was unable to attend due to the unexpected closure of the Brent Spence Bridge following an explosive crash that shut down both the river and bridge. This multi-state connection highlights the need for connectivity across our riverways. We seldom consider the benefits of the river system on moving freight until something impacts its operations.

This study is essential to help find better ways to support our waterborne commerce and to further economic growth across the Commonwealth. Riverways are essential for the movement of freight into, through, and beyond Kentucky. The eleven public ports across the Commonwealth provide access to 1,590 navigable inland waterways, in addition to hundreds of private ports. Kentucky is 4th nationally in miles of navigable waterways. This study will help identify how Kentucky can better use these waterways to spur economic growth. The economy has ebbed with the ongoing pandemic; thus, it is essential to enhance access to capture additional revenue streams and optimize freight flows for a positive return on investment (ROI). To this end, this study will provide a unified economic toolkit with a marketing strategy for each port.

Brian Wright, President and CEO of the Owensboro Riverport Association, continued by looking back to the 2018 Kentuckians for Better Transportation (KBT) conference that identified the need for this study—for exploring statewide multimodal transportation and economic development opportunities. CED then partnered with KYTC to launch the study. Its intent is to gain an understanding of development opportunities and freight commodities moving to, from, and through the Commonwealth. This study is critical from a state and national perspective to improve all modes of travel to support economic development opportunities.

Chandler Duncan, Vice President with Metro Analytics and the project manager for this planning study, provided an update and overview of the project. This is the first of three summits. The team is currently working to understand the existing markets and economic development process. Staff met with nearly all public riverports across the Commonwealth to aid in the development of their market profiles and understanding of their role in freight for the economy. The next step is to forecast future trade volumes and

performance implications, taking into consideration the dynamic impact COVID-19 is and will continue to have on the economy. He broke down the six primary project tasks, shown in **Figure 4**:



Figure 4: Six Study Tasks

The first summit focuses on Task 1. The upcoming sessions are intended to answer the following questions and garner input from attendees: What are the market dynamics? What are the commodities? What can we understand about the existing market? What do we believe our needs are? Who are our customers?

Future tasks will look at forecasting trade volumes and establishing performance metrics, working within KYTC’s travel demand model to integrate freight flows with the highway mode. This analysis will account for the influence of COVID on future performance and utilization, identifying ways to prepare for the future and make strategic investments. The team will continue to engage with stakeholders at key milestones throughout the process. The study culminates by examining a range of investment scenarios with preferred strategies and implementation concepts to leverage port investments to support economic development.

Chandler concluded with an overview of the upcoming sessions, followed by a question and answer session.

Question and Answers

A question and answer session followed the presentation, combining input from the in-app chat panel and verbal questions over the phone.

- Will the Port Interactions session address regional and global connections—or potential connections—of our ports?

Yes. Later in the summit there will be a speaker from Port New Orleans and a major freight mover to grab a larger perspective.

- Will we be looking at how other states are funding their riverports compared to Kentucky’s model?

Yes. We are currently conducting a peer review of surrounding states and some successful funding programs to inventory what is working and what innovative approaches exist to leverage public/private dollars.

3. SESSION 2: STATE OF THE PORTS

Tuesday, November 17, 2020 at 11:00 AM EST

Presenter: Ken Eriksen Senior Vice President, IHS Markit

Presentation Content

In the State of the Ports session, Ken Eriksen discussed the findings of his September/October 2020 visits with each port facility. He discussed the hinterland market area analyses and how the overlap between markets fosters both an attitude of both cooperation and competition between regional port facilities.

IHS Markit is a worldwide leader in global analytics. When the nation’s transportation system is impeded— as with the recent Ohio River shutdown from the Brent Spence Bridge crash—it gets immediate global attention. Inland waterway freight moves are a critical link in the larger transportation network with underutilized capacity amongst more constrained modes.

State of Inland Navigation

The COVID pandemic has been a huge economic consideration globally in 2020, depressing output this year but expected to rebound in 2021. Resultant trends and modal shifts deemphasize fuel efficiency for faster, more adaptive modes (**Figure 5**) though the post-COVID economy is unlikely to settle into the same patterns as the pre-COVID era. We find we can do more with less. The current situation represents an opportunity to become more competitive or to lose our edge when

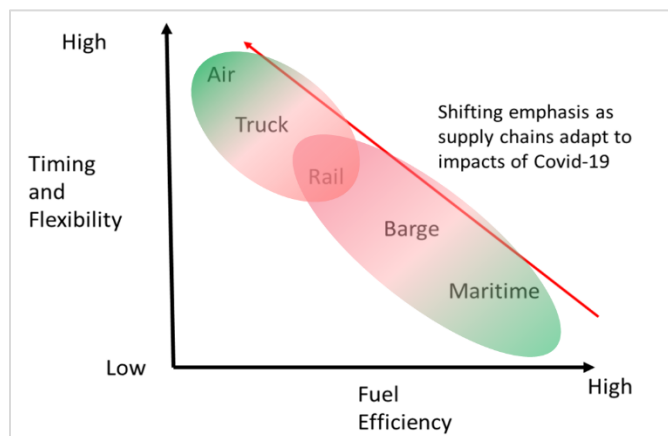


Figure 5: Fluidity of Logistics Pipeline during COVID-19

others step into fill an unmet need. Adjustments are happening quickly as the global supply chain shortens, making adaptability and reliability essential. A shift towards online purchasing, potential changes as the new administration steps up, and technological advancements continue to redefine the future.

Commodities moving on the inland river system took a large dip in 2020; coal has been experiencing a long-term downward trend. The only bright spot is agriculture: Asian markets have a voracious appetite, consuming record-setting levels of soy, with 65% of that volume moving on the inland river system.

“The US has what the world needs and wants what the rest of the world has to offer...The inland waterway system is the most efficient system for distribution on a per-ton basis.”

-Ken Eriksen

Long-haul agricultural shipments are feeding the world with fertilizers and other chemicals inbound to support the industry.

The nation’s inland barge fleet is holding steady around 22,500 vessels, with a relatively young fleet and few incentives to retire older vessels. With dropping coal demand, open vessels are less in demand though tank and covered barges may see growth potential as uncertainties settle.

Current Kentucky Conditions

In-person interviews revealed several key themes: gratitude and expectation for the study and current state funding opportunities. Kentucky’s annual grant program allocates around \$500,000 per year distributed across public riverports; limited funds and the requirement that expenditures must occur within the fiscal year lead to challenges to pursue larger capital improvements. Aging infrastructure built for an earlier era translate to large-scale modernization needs; some ports have sold real estate to raise funds, resulting in small, disjointed footprints.

A more centralized leadership structure—similar to Indiana or Missouri models—may provide systemic benefits. The current setup within Kentucky includes a Board of Directors for each facility, fostering an inherently local, introspective perspective that has fewer opportunities to capitalize on the benefits of a larger, branded approach. Several interviewees envisioned KYTC or CED more actively representing interests of the ports/waterways.

Ken also provided a high-level discussion of each port’s hinterland market area analysis, discussed further in Tech Memo 1 prepared for the study, available through the project website. A “market hinterland” is defined as counties within a 90-minute drive time from a given port, representing the geographic area where cargo can be potentially drawn to and from competitively. Closely spaced port facilities—particularly in the western section of the state—means these market areas overlap for individual ports. The combined hinterland market area for all 11 public ports (**Figure 6**) includes portions of Tennessee, Missouri, Illinois, Indiana, Ohio, and West Virginia.

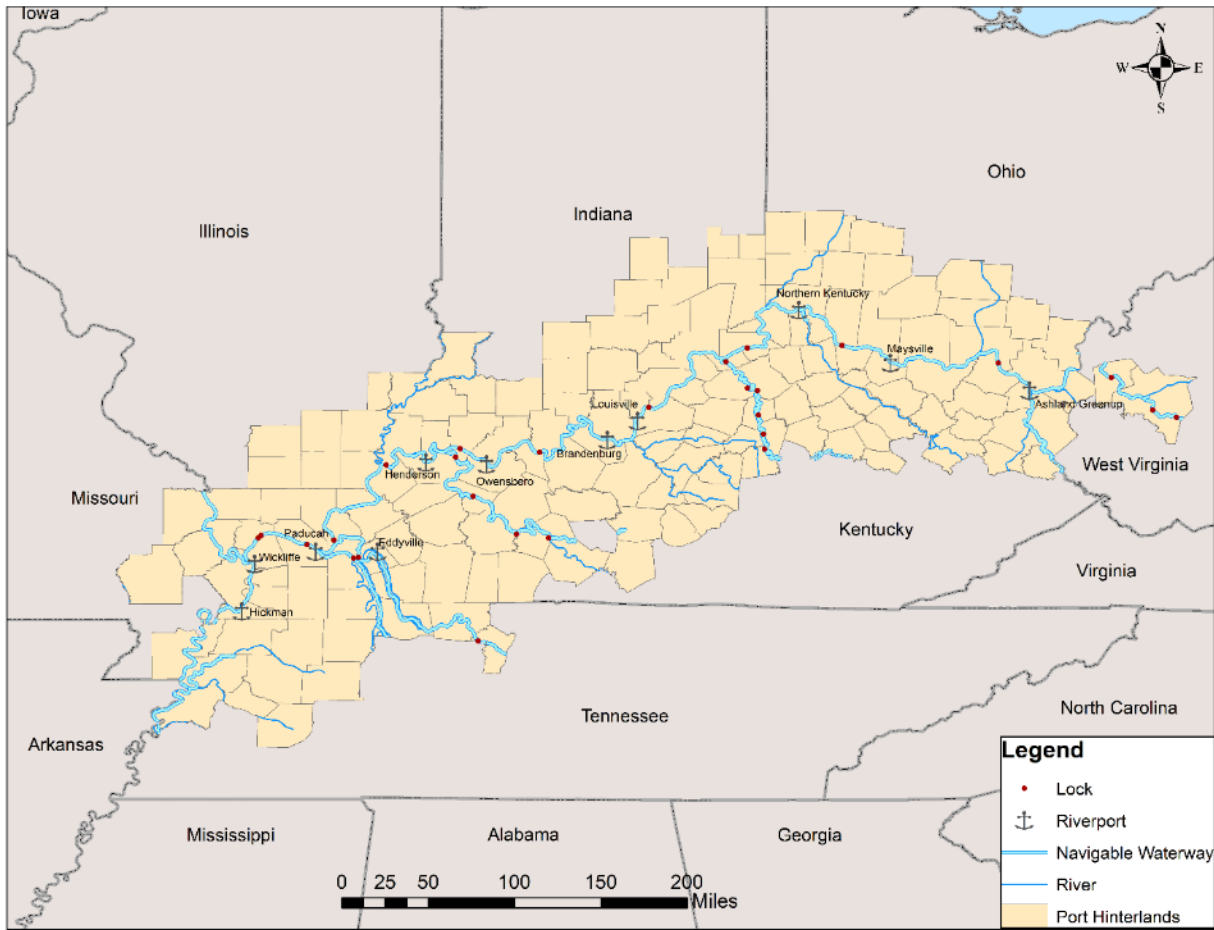


Figure 6: Kentucky Riverport Authorities and Market Hinterland, Navigable Waterways and Locks

Table 1 provides a high-level comparison of key metrics for the seven established public ports, arranged west to east.

Table 1: Comparison of Key Metrics, Established Ports

Port	On-site Acreage	Modal Connections	Counties in Hinterland
Hickman-Fulton	10	Rail, Highway	21
Paducah-McCracken	48	Highway	32
Eddyville	250	Highway	32
Henderson	102.5	Highway, Rail	30
Owensboro	420	Highway, Rail	21
Louisville	2,000	Highway, Rail, Air	37
Greenup-Boyd	20	Highway, Rail	25

Infrastructure at Hickman/Fulton has exceeded its design life, requiring substantial investments to modernize/expand. The Paducah-McCracken Port has purchased an additional 240 acres west of the city and is looking to expand its intermodal opportunities. Eddyville benefits from a multi-national grain company with a barge loading facility; it is currently preparing a master plan to guide future investment priorities. A long-established port, Henderson faces increasing upkeep/restoration costs while seeking to expand its

services and customer base. Owensboro began as an agriculturally based port but has evolved to serve numerous industries, designated as a Homeland Security Port, and recognized on London's mercantile exchange. Within a large urban market and intermodal logistics hub, Louisville would like to develop key data-based performance indicators to assist with capital investments. Coming from a background in coal, Greenup-Boyd's focus is attracting business to leverage existing infrastructure in the tri-state region.

There are also four developing ports:

- The Western Kentucky Regional Riverport Authority formed in 2019 and is conducting a feasibility study to identify a site near Wickliffe; 27 counties comprise the hinterland market area.
- Meade County was a 550-acre operating port founded to serve agricultural needs but was bought out to accommodate Nucor Steel. Two different locations are under consideration for reestablishment, both serving a 29-county hinterland market area.
- Northern Kentucky coordinates with the Central Ohio River Business Association (CORBA) to serve 219 river-miles without any dedicated public port infrastructure. The hinterland market area includes 44 counties.
- Maysville-Mason County has been under development for 40+ years, currently working with CORBA as well to define demand and attract investment. Its hinterland market area covers 32 counties.

Question and Answers

A question and answer session followed the presentation.

- In the Cincinnati/Northern Kentucky area, Amazon is growing quickly. Is the inland waterway system too slow to serve its needs?

Getting logistics right to shorten the supply chain is essential; reliability is more important than overall speed. Reliability and infrastructure condition are concerns for the Ohio River, particularly with its flooding and low water events. Port New Orleans has seen success with container on vessel, which may be a long-term interest.

- Base mapping should be updated to reflect recent interstate designations for I-69, I-169, and I-165.
- Eddyville is the only riverport on a lake in Kentucky, providing stable water levels for tenant. How do they do that?

A system of locks and dams control pool stages along the Cumberland River (managed by TVA) and portions of the Ohio River.

- What is the key to Louisville's flexibility?

Its large population base, multimodal connections, and proximity to major support services within a large urban area help position it for success.

- How are public ports established in Kentucky?

An application is submitted to KYTC to be reviewed/approved prior to recognition.

- Where do large international quantities get broken down into smaller warehouse deliveries—at the source, receiving port, an intermediate facility?

It depends on the commodity. This can occur at the port, but restrictions of local infrastructure must be considered, e.g. posted load ratings on bridges. The river offer flexibility to haul large items—windmill parts, generators—that highway and rail travel cannot match.

- If you can show that river transport can reduce congestion on highways, you can qualify to use highway funds for improvements.
- Can part of the load be a moving warehouse on water of a part of an effective system that moves goods slowly but with high volume?

That concept defines a transportation pipeline; consistency and reliability remain core issues.

4. SESSION 3: FREIGHT MOVEMENTS IN THE MARKET

Tuesday, November 17, 2020 at 1:00 PM EST

Presenters: Paul Bingham IHS Markit
Chandler Duncan Metro Analytics

Presentation Content

This session provides an introductory overview to the data-driven components of the hinterland market areas for each port. Who are our top trade partners? Where are they? The waterway system is only a subset of the larger picture of multimodal freight movements. This session begins a longer future conversation about how that role can change. Over the coming months, data will be integrated into KYTC's models to forecast freight flows onto the network, supplemented with some future year scenarios we will explore in the next summit.

Paul Bingham provided a high-level overview of the commodity flows traveling to, from, and through each of the port hinterland market areas. A more comprehensive discussion is presented in Tech Memo 1 prepared for this study. Key metrics are derived from origin-destination flows in the 2018 Transearch database. The database includes US domestic freight flows by weight and value for waterborne, rail carload, rail intermodal, truck, and air modes, classifying commodities into 400 detailed categories. Geographic analyses cover the entire US, plus North America (Canada/Mexico) and overseas import/export partners, with statistics at the county level for the relevant geographies closest to Kentucky. The Freight

Generator database also feeds into the process—essentially a phone book for businesses with estimated freight flows by individual facility location, employment, industry types, etc.

As of 2018, 463 million tons of freight moved to, through, and from Kentucky representing \$652 billion. Modal splits by volume and value are presented in **Figure 7**. Rail carload and truck make up large components; air freight represents a small volume but large value.

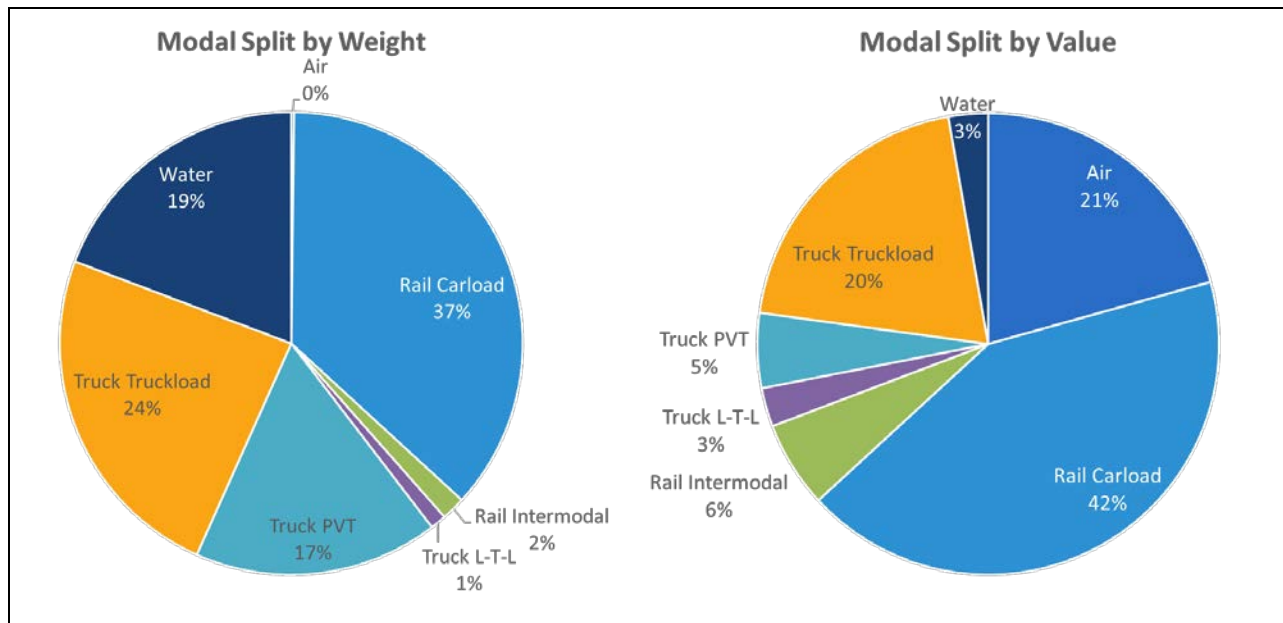


Figure 7: 2018 Kentucky Freight Movements

Table 2 presents a summary overview of the freight flows for the 11 public port hinterland market areas. Statistical areas overlap so results are not additive.

Table 2: Current Market Area Freight Flows

Port	Total Freight (tons \$)	Dominant Mode(s)	Top Divertible Commodities
Hickman-Fulton	630 million \$820 billion	Highway	Misc Coal/Petroleum
Western KY	820 million \$1.1 trillion	Highway	Misc Coal/Petroleum
Paducah-McCracken	1.2 billion \$1.5 trillion	Highway	Misc Coal/Petroleum, Plastic/Fibers, Grain
Eddyville	1.3 billion \$1.5 trillion	Highway	Misc Coal/Petroleum, Grain
Henderson	1.0 billion \$990 billion	Highway, Rail	Iron/Steel, Grain
Owensboro	860 billion \$950 billion	Highway, Rail	Iron/Steel, Broken Stone, Grain
Meade	1.2 billion \$2.0 trillion	Highway	Iron/Steel, Cement, Broken Stone Plastic/Fibers
Louisville	1.6 billion \$2.7 trillion	Highway, Rail, Air*	Iron/Steel, Plastic/Fibers, Broken Stone, Cement
Northern KY	2.1 billion \$3.2 trillion	Highway, Rail	Iron/Steel

Port	Total Freight (tons \$)	Dominant Mode(s)	Top Divertible Commodities
Maysville-Mason	1.3 billion \$1.9 trillion	Highway	Iron/Steel, Chemicals, Oil Seed
Greenup-Boyd	460 million \$580 billion	Highway	Iron/Steel, Liquified Gas/Coal/Petroleum, Grain

* Air movements only count intermodal freight flows as plane-to-plane moves are unlikely to represent divertible flows

Question and Answers

A question and answer session followed the presentation.

- For water tonnage, any breakdown between intermodal and bulk?

There is not a direct indication from the database but categories we might be able to derive some assumption from the individual commodities. It is not a huge flow for the waterborne mode. 2020 has seen large rates increase for rail/intermodal shipping, with several shippers trending back to trucks. This is an opportunity to influence future mode choices, assuming competitive reliability. Conventional distance/commodity assumptions may be more flexible following the pandemic.

- What happens when coal and oil start the downturn, being replaced by non-fossil fuels? How will KY river ports recover or how do they prepare?

No question, parts of KY have been challenged with downward trend in coal. Natural gas and cargoes classified as “manufactured products” (e.g., windmill blades) can be readily absorbed into the waterway mode.

- Will you be able to drill down into the Freight Generator data? For example, who is shipping steel near Henderson?

There is a database of 7,200+ business establishments with estimates of their output and freight generation. It represents a rich source to understand potential suppliers and customers; we will coordinate with KYTC about how to make the information more accessible.

- Please confirm values shown represent millions of dollars.

Values in the slides represent thousands of tons and millions of dollars, respectively.

- You cannot examine freight movements in NKY without including air due to DHL's North American Global Hub and Amazon Air Prime Hub.

Air flows shown are truck-air moves, excluding air-to-air transfers. This move represents a huge value but is less relevant to the study as it has extremely low potential to divert to the waterway.

- Is it possible to drill down within each transportation mode to identify the cargo movement by tonnage/value?

This data exists in Transearch; the team will coordinate with KYTC on how to make it more accessible.

- How much volume originates from or is delivered to a facility located on the river in Kentucky beyond the public ports—powerplants, grain facilities, chemical production, etc.?

That volume is included in the waterborne commerce statistics. For the study, we defined the market areas around the 11 public ports, which do not capture all the freight movements, with a focus of divertibility. These flows are included in the potential but there are competitive and proprietary restrictions.

- Can the study be broken down to the US Gulf commodities? I believe most of your truck and rail is coming off the east coast.

This data exists in Transearch but was not part of today's presentation specifically; the team will coordinate with KYTC on how to make the data more accessible.

- How can you estimate disrupting an existing freight flow to divert through a port? What value are you adding to the trip to make it worthwhile to disrupt the existing flow?

Analysts made assumptions about potential modal competition, using an Oak Ridge National Labs model with an impedance applied to account for drive times, loading, etc. The full methodology will be presented in the report. Analysis attempts to mimic market realities: what would shippers consider if thinking about a switch to the waterway mode?

- It appears to me that truck, rail, and water operate as competitors for many goods. Can you speak to the challenges for these industries to be more cooperative for their mutual benefit?

There will be competition between trucking, rail and water that is natural for commodities and origin/destination shipments where price, performance and reliability are comparable. The economic incentive to cooperate is there through negotiating gain sharing, but with unequal market power due to access and underlying operating costs (which are not the same as rates.) It is the shippers who ultimately decide with respect to multimodal shipping options. When shippers choose water over pure truck or rail or truck/rail moves, trucking companies and even the railroads will participate in serving the riverports if their compensation from the shippers is sufficient. Truckers work with barge shippers already and trucking is perhaps the easiest mode in which to find willing partners for the riverports. Rail partners can be more challenging depending on how the riverport connectivity affects the railroads' regional operations and costs for more than just the barge shipments alone, especially for the Class 1 carriers such as CSX, CN and Norfolk Southern. Where they have operations, the short line railroads may offer more flexibility as riverport partners, still qualified on the returns for their operations being adequate. Shippers can be the catalyst for truck, rail and water operators to cooperate, and the riverports can assist by identifying and working to connect shippers to the operators of each mode of transport.

- How does river cargo from Pittsburgh figure into the freight flows through KY and its neighboring states? Is this where the steel movement comes into play?

Ohio River cargoes from Pittsburgh and other producing and consuming areas upriver in Pennsylvania, Ohio, and West Virginia are handled through Kentucky, connecting to producing and customer sites up and down the greater Mississippi and Tennessee River systems through Kentucky. Iron and steel products are a portion of that traffic, taking advantage of plant locations on the Ohio River system and the cost advantage of shipping heavy weight commodities by barge.

5. SESSION 4: ECONOMIC DEVELOPMENT

Tuesday, November 17, 2020 at 3:00 PM EST

Presenters:	Kristina Slattery	Executive Director, CED Office of Business/Community Services
	Kevin Johns	Metro Analytics
	David Hurst	Metro Analytics

Presentation Content

The first of two presentations in this session, Kristina Slattery discussed the mission and role of CED in promoting economic development though out all 120 counties statewide. The Cabinet is organized into ten regions, with international and research arms to support its goal: attracting new investments and jobs to the Commonwealth. The CED website³ hosts several 30-45 minute presentations about targeted marketing strategies. In 2020, CED has facilitated \$2.16 billion in investment, including 6,163 new full-time positions and 145 unique projects. Despite the pandemic’s challenges, long-term corporate investment and job creation remains strong across all regions in Kentucky (**Figure 8**).

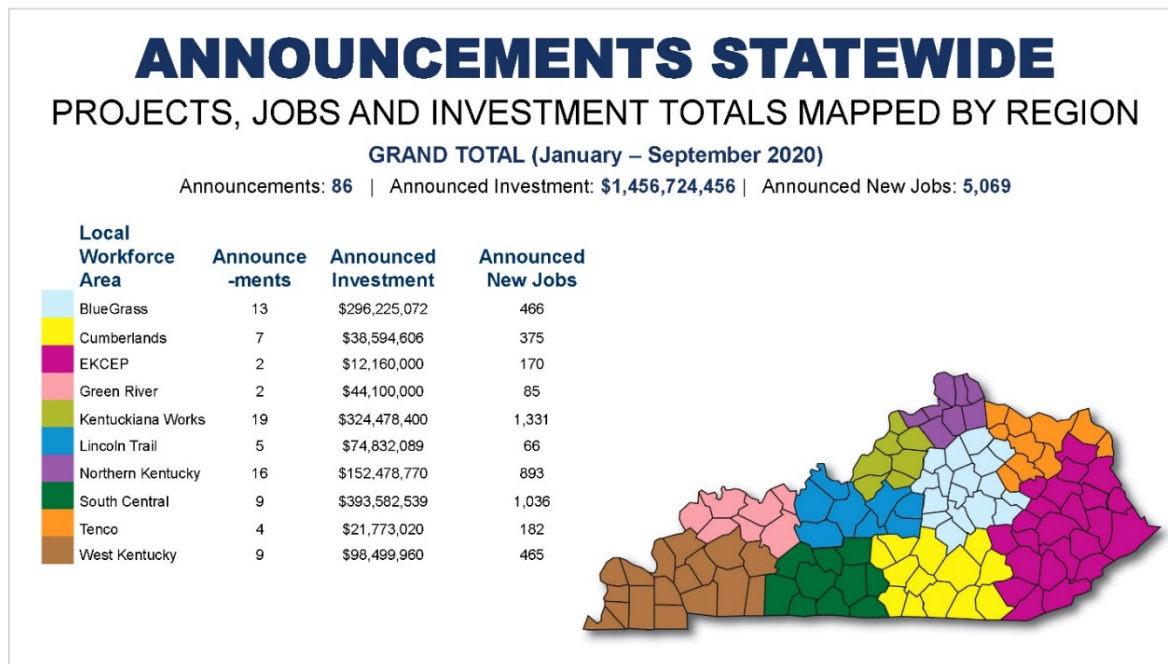


Figure 8: CED Announcements, January to September 2020

A new and existing industry dashboard online provides more resources with monthly updates. Most announcements are in the manufacturing industry, with other opportunities in the food/beverage and distribution industries, followed by chemicals and metals.

³ <https://ced.ky.gov/>

CED provides many service lines, selling Kentucky for its centrally located, globally connected benefits, with incentives for companies. Its “Build Ready” designation highlights properties that are hassle-free to develop—platted properties with proper zoning, planned/connected utilities, no environmental issues, etc. Its ZoomProspector website is an online resource to highlight available properties. Other initiatives focus on workforce training/hiring, recruitment, small businesses, innovation, and more.

Next, Kevin Johns led a discussion on measures to strengthen the riverport economy in a post-COVID environment, focusing on partnerships, incentives, and other to strengthen ROI. Stronger ports strengthen local communities, generating more income for local families.

- Increased CED coordination could offer increased public awareness via social media platforms, increased funding opportunities, technology/innovation portfolios, opportunities to partner with local schools, and an emphasis on partnering with county agricultural agents.
- Potential new revenue streams could come from public-private partnerships or tweaks to existing incentive programs. Leverage local investments or key partners to match federal funds. Recruitment and human capital are key concepts, investing in the next generation to inspire tomorrow's leaders.
- A multi-state network, similar to the model along the St Lawrence Seaway, fosters cooperation and could garner federal support for innovation.
- Software to define holistic performance-based incentive programs in contracts can reduce the economic blindside of public investments. Transparency in reporting can boost confidence in the investment strategy.

Breakout Session

Following both presentations, attendees were divided into one of six breakout sessions, asked to discuss three questions.

- 1) How can CED better coordinate with riverports? What are these opportunities?
- 2) What incentive programs could be added or modified to benefit development?
- 3) Do the metrics used in Kentucky help identify performance?

Figure 9 summarizes the compiled results for each.

Figure 9: Summary of Breakout Session Discussions

CED Coordination

- Tutorial for the CED to understand the riverport background, function and role in the economy. Highlight the riverports.
- A list of potentials and infrastructure for each port. What the ports can do and their capabilities.
- Decentralize more from Frankfort. Transparency on evaluation. More coordination efforts between CED region and ports.
- Networking – building connections
- Great new information to share about the opportunities that riverports offer
- More trucks on road with COVID
- Get to know one another
- Tableau dashboard – example of people outside a stadium starving (match people starving with extra food)
- Visual dashboard to showcase
- Match riverport with rail with trucks to collaborate
- Community involvement, particularly making local folks and economic development group aware of what’s going on at the ports. Generally, Kentucky freight is very interstate-centric. The study and its resulting toolkit were viewed as a very positive step in the right direction.
- Paducah engages regular – process of engaging potential opportunities
- Riverports need help to deal with regionalism (multi-state); 4 ports in Western KY; need help with marketing and coordination
- Do we co-market?
- Develop and distribute clear, easy to understand visual dashboards that capture value and volume of port activity.

Incentives

- How are incentives calculated? We need a better understanding of potential options.
- Incentives are typically a local initiative without specific guidance/standards statewide.
- Incentives for mobile warehouses on barges
- Interest in working with specific companies to develop throughput guarantees to generate an incentive, e.g. # tons during a one-year period through port X.
- Port authorities are able to invest beyond their borders and still pull in revenue from a community project, renting/selling to industries, then capturing revenue.

Performance Metrics

- Realize congestion relief potential
- Reduce poverty levels
- Workforce – pathways for careers
- Construction – hard to find skilled trades
- Get skilled workers into the economy

Question and Answers

A question and answer session followed the presentation.

- Can you help connect industries to create opportunities? e.g. having rail, truck, and shipping work together for mutual benefit?

CED can help connect companies who may have opportunities to support each other.

- Does CED’s 6,163 new employees include actual new employees hired/working now or committed employees (X number of people by X date) for the company to get state incentive?

Committed

- How does the CED team coordinate economic inquiries with local economic development agencies?

CED talks to local economic developers every day. They are a true partner for us through the Kentucky Association of Economic Development and otherwise. We answer economic inquiries together. Happy to connect offline to talk through!

- How can riverports help connect education to the economy?

Bringing in maritime and freight-related educational and mentoring opportunities to high schools and technical trade schools within port communities is a great idea. Many maritime related jobs are higher paying than the national average.

- Web link for CED's New & Expanding Industry dashboard:

https://ced.ky.gov/KYFacts/Kentucky_Facilities.aspx

- In response to Kevin's comment on working with Department of Agriculture, Commissioner Quarles and our team are very interested in working with our ports, state agencies, and other stakeholders to increase commerce. Our Trade web site has links to a number of resources and videos highlighting over 70 unique agricultural businesses throughout the state, online at <https://www.kyagr.com/trade/international-trade.html>

6. SESSION 5: FUNDING

Wednesday, November 18, 2020 at 11:00 AM EST

Presenters:	Deb Calhoun	Senior Vice President, Waterways Council, Inc.
	Jimmy McDonald	Freight Practice Leader, Senior Maritime Consultant (Metro Analytics)
	Chad Dorsey	Director, Inland Waterways Gateway Office (Paducah Office of Maritime & Intermodal Outreach, USDOT Maritime Administration, MARAD)

Presentation Content

Jimmy McDonald introduced the other two speakers for this session on funding options, opportunities, and peer comparisons. This session will answer the question “What are the ports fighting for?” The short answer—to support their communities, provide well-paying jobs, and support our country through international trade.

Deb Calhoun, Senior Vice President of the Waterways Council, a national public policy organization based in Washington DC, provided an overview of the council. Its mission is simple: advocate for federal funding opportunities to modernize the waterways system. They are responsible for representing a

“Waterways benefit the entire nation, not simply the commercial sector.”

-- Deb Calhoun

coalition of voices (i.e., manufacturers, shippers, ports, etc.) whom rely on a viable, modern inland waterway transportation system. Advocacy occurs through a three-pronged approach: direct lobbying of Congress, grassroots efforts, plus media communications.

Deb shared a snapshot of the inland waterway system (**Figure 10**) to iterate the economical and societal impacts of the inland waterway system. Waterways benefit the entire nation, not simply the commercial sector. Nearly 70% of locks are past their 50-year design life, with the average at 71 years. Only commercial operators pay a fuel tax into the trust fund that supports the maintenance of these lock and dams.

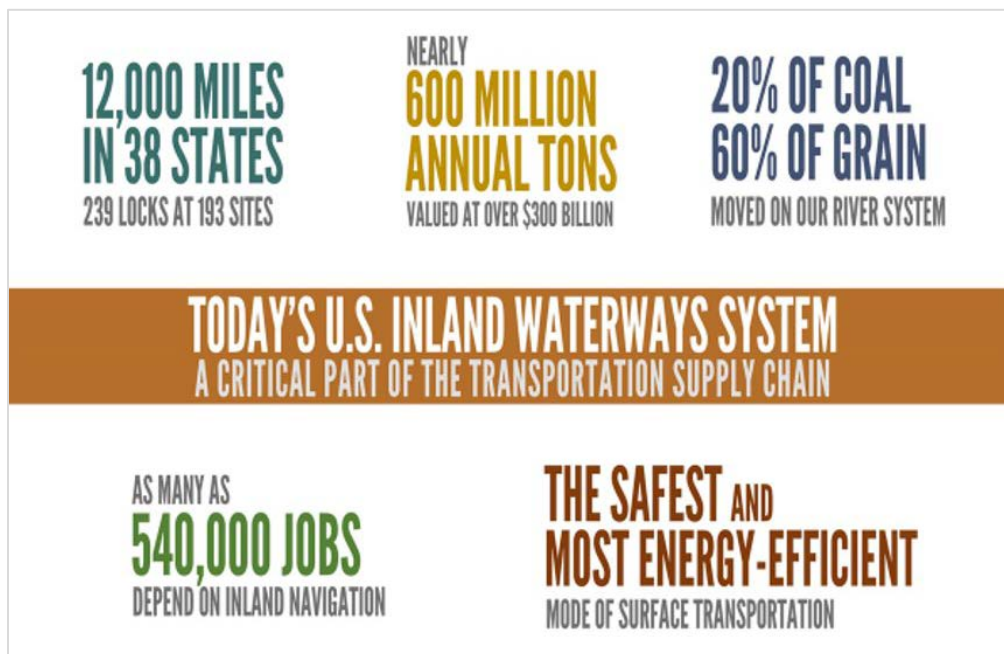


Figure 10: Summary of Importance of Inland Waterways

Deb shared recent years' congressional appropriations and operating funds, noting it has been well above the presidential budget request. Additionally, annual funding for operations and maintenance has been on the rise since 2013. Since 2000, there has been fewer unscheduled lock closures, suggesting money is getting invested where it is needed. The Army Corps is managing the system as efficiently as they can.

The Waterways Council also has a research component, the National Waterways Foundation, which has recently produced state waterway profiles which are available on their website⁴. Deb closed with identifying why investment in waterways is so important; key points are shown in **Figure 11**.

⁴ <http://www.nationalwaterwaysfoundation.org/index.html>



Figure 11: Reasons for Investing in Waterways

Chad Dorsey with the Maritime Administration (MARAD) Inland Waterways Gateway office in Paducah shared an overview of MARAD, its funding programs, and grants available to Kentucky.

MARAD's mission is "to foster and promote the United States Merchant Marine and the American maritime industry to strengthen the maritime transportation system—including landside infrastructure, the shipbuilding and repair industry, and labor—to meet the economic and national security needs of the Nation." There are ten gateway offices across the country, representing the regions shown in **Figure 12**.

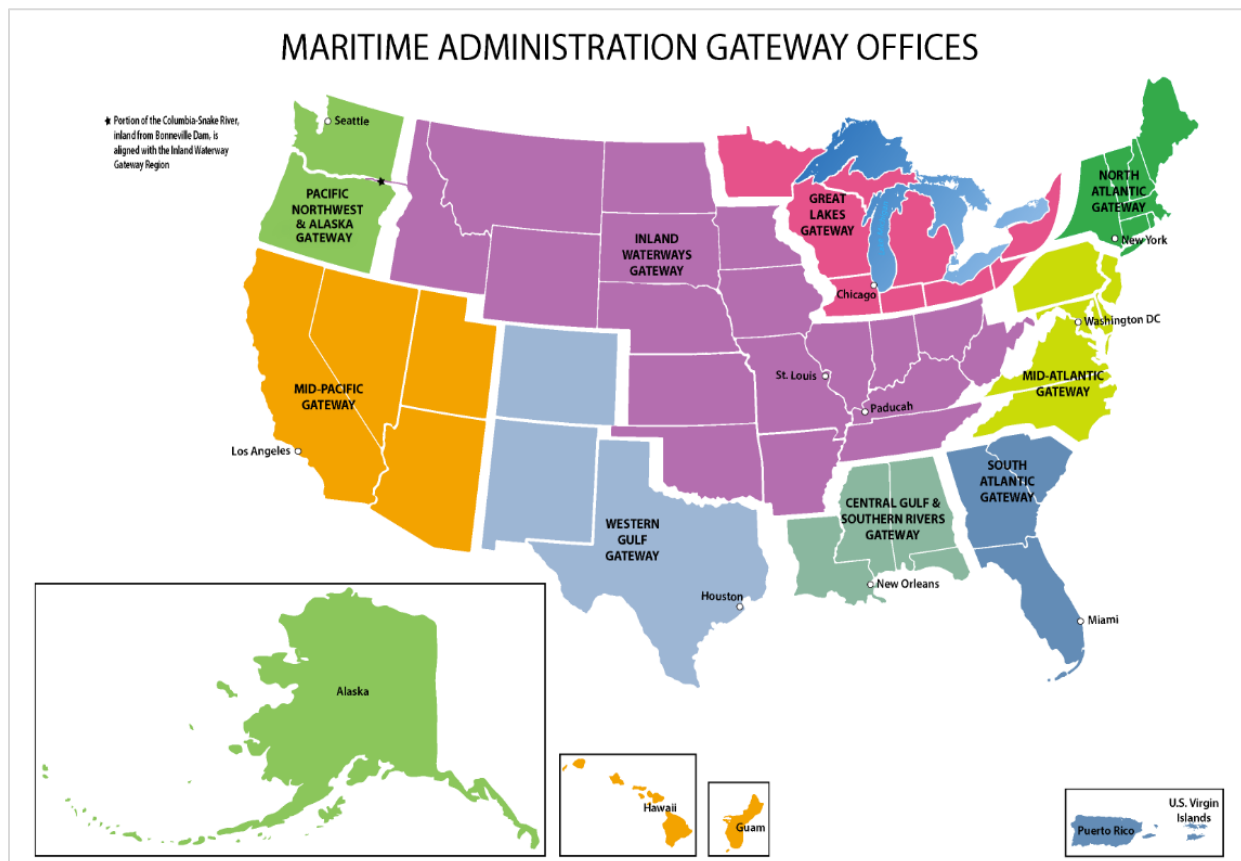


Figure 12: Locations of Maritime Gateway Offices

MARAD was established to serve as experts on regional and local maritime issues—i.e., disaster response and recovery, financing for port infrastructure, marine highway development, and support for American shipbuilding companies. They are concerned with inland marine transportation, ports, intermodal connectivity, vessel operators/service providers, and marine security.

Chad summarized the various federal grant programs available to support port projects, with USDOT grants shown in **Table 3**. These federal grants are typically for large amounts and have been successfully applied to Kentucky ports, most recently at Owensboro and Paducah.

Table 3: USDOT Grant Programs for Ports

Grant Program	Authorization	Applicants	Projects	Awards	Other
- BUILD – Better Utilizing Investment to Leverage Development	\$1B (FY20) (closed)	<ul style="list-style-type: none"> State/local govt.; Public transit agency; Ports; and Collaborations. 	<ul style="list-style-type: none"> Highway; Transit; Rail; and Ports. 	Large: \$5M min., \$25M max; 80% max Fed share. Rural: \$1M min.; May exceed 80% max Fed share.	10% max to one State; 30% min to rural
- INFRA – Infrastructure For Rebuilding America	\$906M (FY20) (closed)	<ul style="list-style-type: none"> State(s); MPO serving 200k+; Local govt.; Political subdivision of a State or local govt.; Special purpose district w/ transportation function; Port authorities; Federal land agency w/ State or States; and Tribal govts. 	<ul style="list-style-type: none"> Highway freight on NHFN; Highway or bridge on NHS; Intermodal or rail freight; Facilitate intermodal interchange, transfer or access into or out of intermodal facility; and Railway grade crossing or separation projects. 	Large Projects: \$100M min. project; \$25M min. grant award; 60% max INFRA funds; 80% max Fed. Funds. Small Projects: \$5M min. grant award	25% rural 10% small
- PIDP - Port Infrastructure Development Program	\$225M (FY20) (closed)	<ul style="list-style-type: none"> Coastal ports (\$200M) + 15 largest coastal ports (\$92.73M) 	<ul style="list-style-type: none"> Ports; Port related facilities; and Phytosanitary facilities. 	Up to 80% Fed share or more for rural	\$25M available for Inland / Rural Projects

The Marine Highway Program Another provides another opportunity, less prescribed and smaller amounts (usually \$9-10 million). It applies to nearly all waterways---rivers, coastlines, and Great Lakes—to support the expansion of navigable waterways with the goal to reduce highway congestion and air pollution and provide new, economically sustainable supply chain alternatives. Paducah and Northern Kentucky have utilized this program. There are three steps to this program:

1. **Designate Marine Highway Routes.** The Ohio River is designated as M-70; other routes, grants, and projects are shown in **Figure 13**.

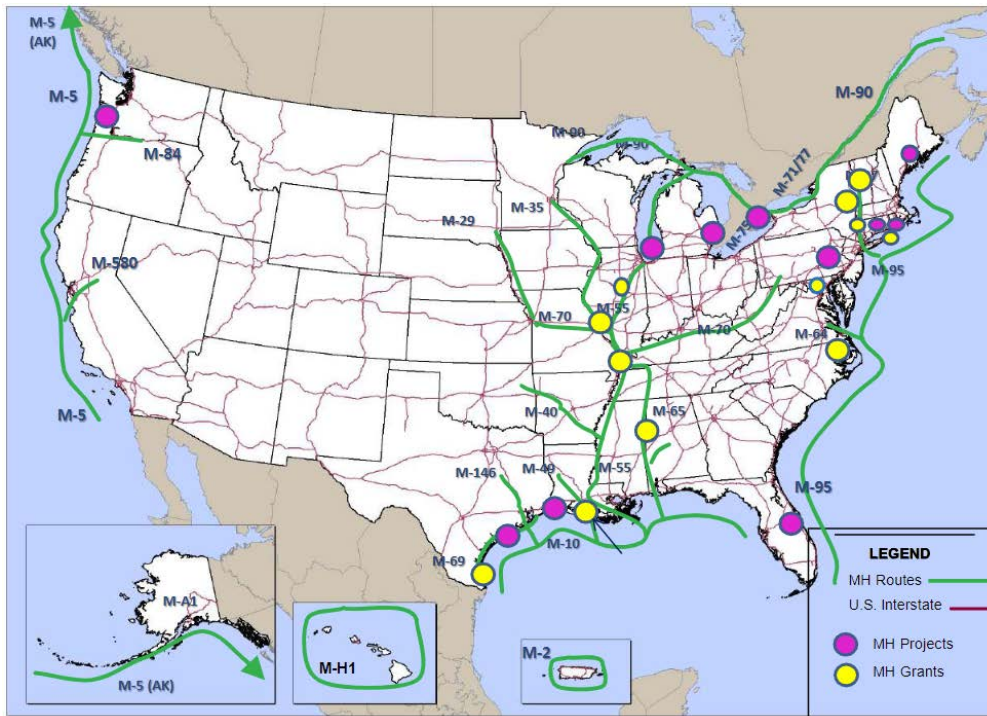


Figure 13: Marine Highway Routes

2. **Designate Marine Highway Project.** Eligible applicants include state governments or state departments of transportation, metropolitan or regional planning organization, local governments, port authorities, and tribal governments. This step includes the purpose of the project designation, either to create or expand an existing marine highway service, to realize public benefits (like reduced congestion), or to become eligible for marine highway grants.
3. **Apply for Marine Highway Grant.** Grants can be used to support development and expansion of port and landside infrastructure; development and expansion of documented vessels; and planning, preparation, and design efforts to support marine highway projects.

Other funding opportunities through MARAD include the use of surplus federal property for port conveyance and the Small Shipyard Grant Program. This program is much smaller than other federal grants, with approximately \$20 million per year to support capital improvements to qualified shipyard facilities to foster efficiency, competitive operation, and quality ship construction, repair, and reconfiguration. Many Kentucky riverports already take advantage of this opportunity. Funds are limited, usually with more applicants than

funds are available. The three main USDOT assistance programs include TIFIA⁵, RRIF⁶, and PABs⁷. Chad closed with his contact information to discuss funding opportunities one-on-one.

Jimmy McDonald, Metro Analytics, provided a peer review of neighboring states to analyze practices they utilize to support their ports. He started with a summary on how Kentucky has historically funded their ports. The two primary sources include the Kentucky Riverport Financial Assistance Trust Fund and the Kentucky Riverport Improvement (KRI) funds. KRI funds are allocated from state general transportation funds. Since 2013, they have supported 64 projects across the ports as summarized in **Table 4**.

Table 4: KRI Funds across KY Riverports

KY Riverports	Sum All Years	No. Projects
Owensboro	\$ 1,347,884	16
Hickman	\$ 724,055	13
Henderson	\$ 660,390	7
Louisville	\$ 653,677	8
Paducah	\$ 412,441	7
Eddyville	\$ 394,920	11
Greenup-Boyd	\$ 157,338	2
Grand Total	\$ 4,350,704	64

Looking at peer states, the following models were identified.

- **Ohio** utilizes a Maritime Assistance Program to repair, rebuild, and revitalize its maritime transportation systems. It has a 50/50 match requirement and two-year allocation. The state recently invested \$23 million and leverages \$90 million in water port infrastructure. Thirteen projects have been funded at the five public port authorities.
- **Indiana** does not currently have any state programs. Instead they leverage federal grants. They received \$4 million in 2020 funding for a new bulk storage facility.
- **Illinois** has an enormous statewide investment—Rebuild Illinois Fund to Fast Track Public Infrastructure (FTPI). It includes \$150 million for its 19 ports with a 50/50 matching requirement and \$33.2 billion over a 6-year period.
- **Missouri** provides \$1 million through their Freight Enhancement Program (FRE). These monies must be used for transportation purposes other than highway and have an 80/20 match requirement. No project can exceed \$500,000 and each must be completed within one year.

⁵ Transportation Infrastructure Finance and Innovative ACT (TIFIA) Credit Program, www.transportation.gov/tifia

⁶ Railroad Rehabilitation and Improvement Financing (RRIF) Loan Program, www.transportation.gov/buildamerica/programs-services/rrif

⁷ Private Activity Bonds (PABs), www.transportation.gov/buildamerica/programs-services/pab

- **Tennessee** does not have a dedicated port funding program. Instead, their waterway authority supports 28 ports by leveraging federal funding. Tennessee has \$42 million in dedicated rail funding that ports can partner with for short-line rail support.
- **Virginia** has a \$42 million annual budget through its Port Trust Fund. The Port of Virginia Economic and Infrastructure Development Grant Program supplies \$5 million annually, with no award exceeding \$500,000 and a 50/50 or 80/20 match requirement. Funds must be utilized within a year. They also include a major tax incentive program for barge and rail users.
- **Florida** is not a border state but is a good example since they have innovative funding programs. They are unique since they have a statute to provide long-term funding of \$100 million annually dedicated to ports. This funding is provided through the State Transportation Trust Fund (STTF) and is broken down into diversified funding pots to support the 15 ports in the state.

Question and Answers

Following the presentation, the speakers responded to questions and comments.

- How much autonomy does the US Army Corps of Engineers (USACE) have to direct funds to the river infrastructure versus Congressional direction?

Along with industry representatives, USACE is represented on the Inland Waterways Users Board (IWUB) that makes recommendations to Congress on priority navigation projects. Through the IWUB, USACE and industry coordinate and collaborate on top projects, funding mechanisms, etc. USACE develops its fiscal year Work Plan each February to outline its allocations for the previous fiscal year funding appropriated by Congress.

- BUILD and INFRA are solicited and competed at the Departmental level. Is the PIDP solicited and competed by MARAD?

MARAD coordinates all programs through the USDOT Secretary's office for all final decisions.

- Any chance of bulk cargo being included in the Marine Highway Program?

As of now, it is not included. We are working on a proposal to possibly include it in the future.

- I believe Louisiana dedicates a portion of its gas tax for port development.

- Public-private partnerships (P3s) participate in grant applications and grant awards. Is there a set match percentage for these awards?

Every federal notice of funding opportunity describes its scoring process. Many discretionary grants show benefits in scoring process for ventures that are able to leverage private funds.

- Missouri also has a small amount that we provide for Port Admin funds and small amounts of capital funds for our ports. I can give additional information on what Missouri offers as the slide only has information on one of our three programs.

- Some Kentucky ports can apply for US Environmental Protection Agency (EPA) grants to replace aged equipment, depending on their status as an air quality concern area. A compiled list of all federal funding grants available would be beneficial.

A list of grants will be included in the final report.

7. SESSION 6: PORT INTERACTIONS AND LOGISTICS

Wednesday, November 18, 2020 at 1:00 PM EST

Presenters:	Mike Steenhoek	Executive Director, Soy Transportation Coalition
	Amanda Coates	Commercial Import Manager, Port of New Orleans
	Tony Furst	Metro Analytics

Presentation Content

For this panel discussion session, Tony Furst provided a reminder of Zoom functionalities, introduced the two panelists, and moderated the session.

Mike Steenhoek, Executive Director of the Soy Transportation Coalition (STC) provided a background on STC and highlighted a recent collaborative effort with other public and private sector partners to deepen the lower Mississippi River channel. Mike explained how this effort improved the economics for the farmers by reducing the transportation costs of their export—increasing the channel depth by about five feet to accommodate larger vessels with more cost-efficient loads is expected to increase farmers' profits by \$461 million per year, assuming no major changes to supply and demand. The first phase of this project is expected to be completed by Fall 2021.

STC is funded and led by farmers; for them to be profitable it is essential to have an effective connection between supply and demand and that's why a transportation project, geographically distant from where the product is produced, was so important to STC. This example reinforces the interconnected nature of the nation's transportation system and that geographically distant projects can and do have very real and important local impacts.

To further amplify that point, **Figure 14** clearly shows the cost and volume advantages of moving bulk agricultural products via waterways. The inland waterways system along the Mississippi River allows farmers to be competitive since this system aligns with much of America's prime farmlands; 60% of soybean and 57% of corn exports travel this system to the Gulf.

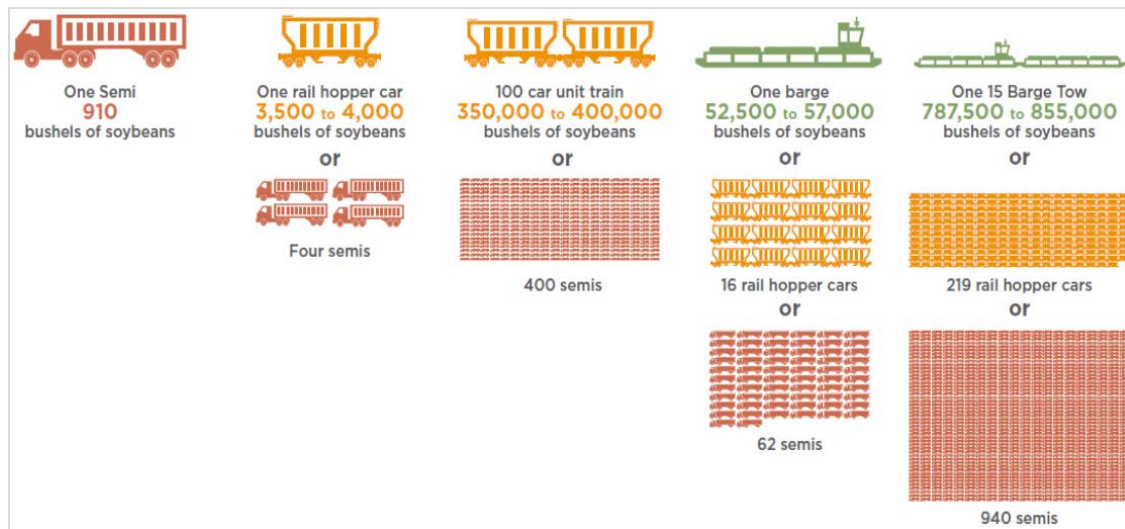


Figure 14: Cargo Capacities

Another opportunity the STC is monitoring is the American Patriot Holdings (APH) container on vessel shown in **Figure 15**. There are two sizes of this vessel, a larger one shown here that would operate on waterways where it would not have to navigate any locks and a smaller one that could operate upriver on waterways involving locks. These vessels provide higher no-wake speeds, improved maneuverability, and other environmental benefits compared to shipping containers on barges.



Figure 15: Conceptual Image of Container on Vessel

With the potential to utilize containers on the backhaul and a growing trend toward traceability of products, more agricultural shippers are looking to utilize containers. STC has completed a feasibility study to evaluate the competitiveness of grain exports via the Mississippi River/APH all-water route to Asian markets versus the current intermodal transportation patterns. The study showed significant savings through all water transport of containerized vessels, including faster travel times, competitive costs, and less contamination.

Amanda Coates, Commercial Import Manager for the Port of New Orleans described the services her port has to offer Kentucky riverports. In anticipation of the dredging project mentioned by Mike, the port is acquiring four new cranes during summer 2021. Other features port NOLA has to offer include:

- Connectivity to 14,500 miles of inland waterways
- Servicing the nation’s largest exporters and providing alternative routes for importers
- Ability to move 28,000 TEUS by barge per year
- Reducing impacts on the environment through innovative transport
- Direct connectivity to six Class I railroads

She noted port NOLA is an independent political subdivision with 34 miles of jurisdiction served by three parishes. It self-generates revenue driven by cargo, rail, industrial real estate, and cruises. The port is situated on 1,000 acres with multimodal access to rail, water, and highway.

Question and Answers

The panel then fielded several questions and opened the floor for comments.

- Why container on vessel verses on barge? Seems the power unit would be a challenge to compete with tugs.

There are a lot of inefficiencies in loading containers from barges. Barge transportation is slow and these vessels have a distinct speed advantage, in addition to a hull design that minimizing the wake it generates. This translates into a quicker transit time—14 days faster than barge via Mississippi Gulf and six days faster than intermodal rail via Los Angeles/Long Beach (St. Louis to Shanghai).

- Please overlay the hinterland market area maps presented yesterday with the post-dredge map presented today.
- Would container reduce the lag time at terminals for silos and transfer by going straight from barge or (river vessel) to container ship?

Yes.

- What do you think are the most pressing challenges to effective and efficient movement of goods on the river system? You talked about moving containers on barges in the non-lock portion of the river system, but what would it take to extend that service into the lock portion? What would have to happen to make that a reality. What investments are necessary?

The Lock and dam system is a critical connector; major infrastructure investments are needed to extend container on barge/vessel into these reaches. At best, the industry is two years away. APH has the vessel designed with two types; they are the same length, but one is narrower to navigate the locks.

On the investment side, robust funding is essential—and not just size of the check but also predictability of funding. What can happen with predictable funding? Just this summer, USACE conducted major rehabilitation work on five of eight Illinois locks/dams. With predictable funding,

“When Congress provides clarity of mission and predictability of funding, we can get exceptional work done. Asking government agencies to work among uncertainty spurs delays.”

-- Mike Steenhoek

they were able to commence work simultaneously and complete the effort by the end of October. This illustrates the key point: when Congress provides clarity of mission and predictability of funding, we can get exceptional work done. Asking government agencies to work among uncertainty spurs delays.

- Are new liner routes in the Gulf (e.g., ZIM, CMA, CGM) driving this growth in bulk containerization?

We do see new services that are driving more bulk containerized cargos—not specifically those called out—but yes, the direct connection to Asia via the Panama Canal helps.

- Are the major grain companies on board with containerized grain? What efforts are they putting towards the APH project?

While grain is still mostly a bulk load, some larger players are taking an interest. The traceability that containers offer is a major factor as trends point towards increased transparency of food sources.

- What about reefer type container versus reefer vessels?

Reefer vessel fleets continue to age and are being replaced with capacity for reefer containers and we expect this trend will continue. It offers less liability, more diversification, and better access to global networks.

- Could farmers realistically load containers in the field?

Yes. That is the ideal scenario, assuming they are located close to ports, since containers are subject to highway weight restrictions. Farmers are growing soybeans under specific growing and transporting rules. Having fewer steps helps reduce time and costs, translating to higher market value for farmers.

- If a riverport is interested in containerized movements, what infrastructure would they need?

At the port, a landing place, a yard for empties, and chassis unless there is a transloading facility to accept the loads. Maybe a container crane to accept shipments. It is a big investment if ports do not already have equipment in place.

- What port metrics are most important in your perspective? What features would you look for?

Amanda: Connectivity and proximity to consumer markets.

Mike: A reliable and predictable supply chain is most important for competitiveness.

- How can KY riverports connect with Port of New Orleans?

Amanda can help facilitate introductions.

- What could government at the local and state level do to improve efficiency of goods movement on the river (policy, regulations, funding)?

Amanda: Our current system works well. However, further incentivizing startups for waterway travel would be a great promotion. It is environmentally friendly with excess capacity on the waterways. Another way to support is through economic development partners to promote the benefits of inland waterways and help emphasize benefits and incentives.

Mike: Maintaining robust funding for ports with a clear direction on allocations, establishing predictable sources of funding, and updating investment plans regularly.

8. SESSION 7: CLOSING

Wednesday, November 18, 2020 at 3:00 PM EST

Presenter: David Hurst Deputy Project Manager, Metro Analytics

Presentation Content

David Hurst concluded the summit by providing a summary of all sessions, allowing a final opportunity to ask questions or provide comments. He also provided a brief synopsis of what to expect next from this study and reminded participants about the availability of materials/recordings. Looking back on the summit sessions, the objectives of each are summarized in **Figure 16**.

Opening Session

- Develop an understanding of the study and what to expect from the first Summit.

State of the Ports

- Learn about each of the 11 public riverports and their existing conditions (infrastructure, market areas, operations, and opportunities identified through preliminary conversations with the port directors).

Current Freight Movements in the Market

- Identify existing commodity movements and potentially divertible freight.

Economic Development with Riverports

- Identify funding incentive programs and resources.

Funding

- Identify existing funding options available in KY and look to neighboring states to see how they're meeting their funding needs.

Port Interactions and Logistics, a Panel Discussion

- Understand the bigger picture of ports, interconnectivity, and opportunities for coordination.

Closing Session

- Recap summit sessions, provide a forward for remaining study efforts, and thank all for participation.

Figure 16: Summit 1 Session's Synopsis

The next steps of the study is summarized in **Figure 17**, including behind-the-scenes work to develop future forecast models. The project team will host a second summit in February to present the findings. Chandler Duncan and Jeremy Edgeworth provided closing remarks, thanking attendees for their interest and participation.



Task 2

Forecast Future Trade Volumes and Performance Implications

Key Activities	Committee Involvement	Key Deliverables
<ol style="list-style-type: none"> 1) Forecast trade and utilization of ports 2) Integrate KYTC model 3) Develop informational materials for Summit No. 2 	<ul style="list-style-type: none"> - Suggest Summit Programming Content - Review and Comment <ul style="list-style-type: none"> - Summit Presentation Materials 	<ul style="list-style-type: none"> - Summit No. 2 Presentation and handouts (Statewide port and regional profiles) - Future markets summary - Brief Memorandum

Figure 17: Study Task 2

Question and Answers

Opportunity for questions and comments were welcomed throughout the closing.

- What can we expect at the second summit?

Infrastructure needs and economic opportunities will be discussed. The team will examine what are the growth markets for the ports? What might relate to divertible freight? How does COVID affect the ports system? There will be more strategic discussion on how we can take proactive steps to position ourselves.

- Is there any opportunity to increase engagement with each Riverport Board of Directors in addition to the staff?

We can explore this opportunity with KYTC.



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