



Delta Ferries Funding Options and Operational Models

Requested by
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Executive Summary

Background

California Department of Transportation (Caltrans) District 4 Division of Maintenance staff operates and manages the Real McCoy Ferry (RMF) and J-Mack Ferry (JMF), known collectively as the Delta Ferries. Located in Solano County, the RMF functionally operates as State Route 84 (SR-84), and the JMF, a cable-run ferry, functionally operates as SR-220. The ferries, which travel approximately 402 feet (JMF) and 840 feet (RMF), are a unique feature of California's transportation network, providing critical accessibility to Ryer Island, a rural community in the Sacramento–San Joaquin River Delta. The only access on and off the island are the Delta Ferries on the southern end of the island and the Miner Slough Bridge on the northern end. The ferries operate independently to support transportation to and from the island.

As Caltrans' only ferryboat operations, the Delta Ferries require an extraordinary amount of resources for a unique and small-scale operation. Both ferries operate year-round, 24 hours a day, seven days a week. Managing ferry operations has been problematic, with few state employees holding the qualifications required to operate the ferries. Costs, reliability and staff retention also pose challenges for effective ferry operation. In the near future, existing vessels must be replaced to comply with the California Air Resources Board zero emission vessel mandate.

To inform possible improvements in its management of ferry operations, Caltrans is seeking funding, operations and maintenance information from agencies providing ferry services in a manner similar to Caltrans'. To gather this information, CTC & Associates conducted a survey of state, regional and local agencies operating or regulating similar short-segment ferries. Results of a literature search supplemented survey findings.

Summary of Findings

An online survey was distributed to a select group of state, regional and local agencies that operate or oversee short-segment ferries similar to the Delta Ferries. Survey questions ([Appendix A](#)) inquired about ferry operation and maintenance, staffing, funding and investments, the most impactful changes agencies have made, and the greatest challenges presented by ferryboat operations.

Only two of the 11 agencies contacted completed the survey:

- Kentucky Transportation Cabinet.
- New Orleans Regional Transit Authority (RTA).

Highlighted below are the three ferries respondents described. Further details are provided in the **Detailed Findings** section of this Preliminary Investigation. A brief summary of literature search results follows discussion of the respondents' ferries.

Kentucky Transportation Cabinet

The survey respondent described the Turkey Neck Bend Ferry, one of the 10 ferries currently operating in the state. Managed by Kentucky Transportation Cabinet, Turkey Neck Bend Ferry (also known as the Cumberland River Ferry) is Kentucky's only state-owned, state-funded ferry

operating 24 hours a day, seven days a week, carrying passengers and vehicles across the Cumberland River in Monroe County, Kentucky.

New Orleans Regional Transit Authority

The respondent described two New Orleans ferries that are operated jointly by the city of New Orleans and a professional maritime company:

- Chalmette to Lower Algiers route.
- Canal Street to Algiers Point route.

Ferries leave on the hour and half hour on the Algiers side, and one-quarter before and after the hour on the New Orleans side.

A [Friends of the Ferry web site](#) notes that the New Orleans ferry system “has the fourth highest ridership of any ferry system in the U.S.” According to the Friends of the Ferry, a 2009 study commissioned by the New Orleans Regional Planning Commission found that a majority of ferry riders use it to get to work.

Summarizing Ferry Operations

Table ES1 presents highlights of respondents’ ferry operations. Following these highlights are additional details about ferry operation and maintenance, staffing, impactful changes and continuing challenges, funding and investments.

Table ES1. Highlights of Respondents’ Ferry Operations

Description	Turkey Neck Bend Ferry (Cumberland River Ferry)	Chalmette to Lower Algiers Route	Canal Street to Algiers Point Route
Location	Tompkinsville, Ky.	New Orleans, La.	New Orleans, La.
Vessel	Tugboat; propulsion system	Ferry; direct-drive diesel propulsion	Ferry; direct-drive diesel propulsion
Type	Passenger and vehicle	Passenger and vehicle	Passenger only
Schedule	Year-round; 24/7 daily schedule	Year-round; 16-hour daily schedule	Year-round; 16-hour daily schedule
Segment Length	0.08 nautical mile	0.36 nautical mile	0.41 nautical mile
Average Trip Time	4 minutes	15 minutes	15 minutes
Trips Per Year	43,185	8,845	7,630
Average Daily Passenger Boardings	239	669	559
Average Daily Vehicle Boardings	165	408	N/A
Fare	None	\$2 standard one-way pass	\$2 standard one-way pass
Downtime (Annual Average)	2.5 days	8.9 days	1.5 days
Downtime (Typical Causes)	Weekly maintenance and high water	Propulsion and age of equipment.	Engine or rudder issues

Description	Turkey Neck Bend Ferry (Cumberland River Ferry)	Chalmette to Lower Algiers Route	Canal Street to Algiers Point Route
Governing Body	U.S. Coast Guard	U.S. Coast Guard	U.S. Coast Guard
Number of Staff	10 full time	18 full time	16 full time
Job Classifications	<ul style="list-style-type: none"> Ferryboat operator Ferryboat deckhand 	<ul style="list-style-type: none"> Captain Chief engineer Deckhand 	<ul style="list-style-type: none"> Captain Deckhand
Average Annual Operating Cost	\$1 million	\$2.19 million (combined with Canal Street ferry)	\$2.19 million (combined with Chalmette ferry)

N/A Not applicable

Operation and Maintenance

General and preventive maintenance are the most typical types of maintenance for the tugboat carrying passengers and vehicles across Kentucky’s Cumberland River on the Turkey Neck Bend Ferry. The greatest operating challenge is the availability of mariners, which was also cited by the RTA respondent for both New Orleans ferry operations.

Maintenance challenges for the two New Orleans ferry routes differ. While the Chalmette to Lower Algiers passenger/vehicle route operates with aging vessels, the Canal Street to Algiers Point route operates two new passenger-only vessels brought into service in October 2020. The new ferries require only routine maintenance, such as oil changes, and the most challenging maintenance activity is conducting night maintenance given the ferry’s 16-hour daily schedule. The older passenger/vehicle ferries operating on the Chalmette to Lower Algiers route most often require engine-related (thruster) maintenance and ramp maintenance. The respondent noted that maintenance challenges for these older vessels are primarily related to years of deferred maintenance and poor planning by the ferry’s previous operator.

Staffing

All three ferryboat operations are challenged in finding appropriately qualified mariners. Kentucky Transportation Cabinet finds it difficult to replace retirees given the low salary range, though the agency has found some success with informing employees of career advancement and opportunities to become a licensed operator with a higher salary.

Staffing the New Orleans ferries is also challenged by COVID-19, absenteeism and salary constraints. The respondent cited the ferries’ working hours and culture, as well as safety and uniform bonuses, as effective staff retention practices.

Impactful Changes and Continuing Challenges

Both respondents noted that new vessels have a significant impact on ferry operations. New vessels are being constructed for the Turkey Neck Bend Ferry for delivery later in 2022; two new passenger ferries for the New Orleans Canal Street route went into operation in late 2020. Much of the funding for the New Orleans ferries—\$15.2 million—came from a 2015 Federal Transit Administration (FTA) Passenger Ferry Grant Program award that paid for the construction of the two ferries and redevelopment of the Canal Street ferry terminal.

Outsourcing operations of the two New Orleans ferries to a professional maritime company was also cited by the New Orleans RTA respondent as among the most impactful changes for ferry operations.

Continuing challenges include staffing and overtime hours (Turkey Neck Bend Ferry), age of vessels and ease of maintenance (New Orleans Chalmette to Lower Algiers route), and aging infrastructure and docks (both New Orleans routes).

Funding

Funds to operate and maintain Turkey Neck Bend Ferry come solely from state funding; federal funds may be used for capital improvements. The agency has not found it challenging to fund ferry operations and is not investigating new funding sources.

Summarized below are the funding sources for the two New Orleans ferry operations:

- Federal funding: \$12 million.
- Local funding: \$3.5 million.
- State funding: \$5.1 million.
- Ticket revenue: \$736,637.
- Other funding: Approximately \$3 million (Coronavirus Aid, Relief and Economic Security (CARES) Act).

Operations funding covers routine preventive maintenance, and some maintenance funds are received through formula funding provided by FTA using its National Transit Database (NTD). (FTA uses NTD data to apportion funding to urbanized and rural areas in the United States.) New Orleans RTA has found the limited state and local funding to be challenging, and has approached the state to increase the ferry subsidy to cover an increase in mariner costs. The agency has also reached out to other city officials to explore expansion of ferry routes.

Investments

In Kentucky, in addition to the new tugboats under construction, a proposed plan to rehabilitate the ramp on the east side of the Cumberland River would be funded with federal funds and a state funding match.

Several infrastructure improvements are underway or planned for the New Orleans ferries:

- In November 2020, New Orleans RTA launched a two-year redevelopment project to replace the more than 90-year-old Canal Street ferry terminal. Construction is expected to be completed by summer 2022. Funding for the \$43.5 million project comes from a variety of sources.
- A \$5.2 million award from the FTA's 2020 Passenger Ferry Grant Program will pay for improvements to the car landing "to maintain passenger safety and ensure a state of good repair."
- The Thomas Jefferson and the more than 40-year-old Capt. Neville Levy are the primary vessels operating on the Chalmette to Lower Algiers route. An [August 2020 article](#) on nola.com noted that the Levy "has had generator troubles as of late," and New Orleans RTA was seeking state and federal funding to replace the generators.
- In the most significant proposed investment, New Orleans RTA is planning to invest in smaller vehicle ferries for the Chalmette to Lower Algiers route to replace decades-old double-decker ferries (passenger deck on top, vehicle deck on bottom).

Related Resources

A literature search that sought to supplement the extremely limited survey findings retained the narrow focus on ferries with short crossing distances like the Delta Ferries. This narrow focus produced similarly limited literature search results but did uncover a particularly relevant publication. A well-funded study published within the last six months examined alternatives to allow White's Ferry, a historic short-segment cable ferry crossing the Potomac River and connecting cities in Virginia and Maryland, to return to service. In recent years, this ferry transported up to 24 cars and motorcycles, bicycles and pedestrians in a river crossing of approximately 3.5 minutes. This study examined different operating models as part of an effort to return the ferry to active service and identify the conditions most likely to generate positive operating returns.

A second recent study examined state ferry operations to inform consideration of reimbursement of publicly funded ferries in Kentucky. Ten ferries currently operate in Kentucky under state, federal or private funding. Researchers gathered information about governance of ferry operations, federal funding opportunities, and statutes and regulations governing selected state ferry operations. A survey of 10 states supporting ferry operations identified sources of ferry-related funding and described engagement with private firms to operate state-owned ferries. Highlights from the survey results are presented below:

- *Ownership and operations.* Arkansas, Connecticut and North Carolina own and operate ferries in their states. Tennessee owns ferries and contracts out operation and maintenance. In Wisconsin, most ferries are privately owned and operated. The state owns one ferry; operations are overseen by Wisconsin Department of Transportation (DOT) maintenance and performed by county highway departments under annual calendar year contracts.

Ferry operations in Florida and Oregon are managed at the local level. In Florida, a vehicle ferry is owned by the Jacksonville Transportation Authority (JTA); operations are contracted to a private company. This approach to ferry system management requires in-depth financial reporting and accountability from the contractor to JTA. Oregon's three ferries are operated at the county level.

Ferryboat projects in Ohio are rare. Ohio DOT handles any matters related to ferryboats.

- *Funding.* Half of the states—Connecticut, Arkansas, North Carolina, Tennessee and Wisconsin—make state funding available for ferry operations. Georgia, Ohio and Mississippi do not fund ferry services, however, Georgia and Ohio use federal funding to assist with finance operations.
- *Closure reimbursement.* Of the 10 states surveyed, only Tennessee reimburses ferry operations for closures (at 50% of the normal hourly rate for up to 48 hours).

Gaps in Findings

With only two respondents, the limited survey findings preclude an examination of operational best practices for short-segment ferries that may operate in a manner similar to the Delta Ferries'. Reaching out again to selected ferry operators may elicit feedback from those not responding to the current survey. While the two publications described in the **Related Resources** section of this Preliminary Investigation provide relevant, current information, it does not appear that a wealth of publicly available literature is available to address Caltrans' interest in best practices for funding, operating and maintaining small-scale ferry operations.

Next Steps

Moving forward, Caltrans could consider:

- Checking in with contacts for the state, regional and local agencies that failed to respond to the survey for this project to solicit feedback on ferry operations.
- Examining in detail the White's Ferry operations alternative study to determine if that analysis can inform a more intensive examination of the Delta Ferries.
- Contacting the two survey respondents to pose follow-up questions about ferry operations.

Detailed Findings

Background

California Department of Transportation (Caltrans) District 4 Division of Maintenance staff operates and manages the Real McCoy Ferry (RMF) and J-Mack Ferry (JMF), known collectively as the Delta Ferries. Located in Solano County, the RMF functionally operates as State Route 84 (SR-84), and the JMF, a cable-run ferry, functionally operates as SR-220. The ferries, which travel approximately 402 feet (JMF) and 840 feet (RMF), are a unique feature of California's transportation network, providing critical accessibility to Ryer Island, a rural community in the Sacramento–San Joaquin River Delta. The only access on and off the island are the Delta Ferries on the southern end of the island and the Miner Slough Bridge on the northern end. The ferries operate independently to support transportation to and from the island.

As Caltrans' only ferryboat operations, the Delta Ferries require an extraordinary amount of resources for a unique and small-scale operation. Both ferries operate year-round, 24 hours a day, seven days a week. Managing ferry operations has been problematic, with few state employees holding the qualifications required to operate the ferries. Costs, reliability and staff retention also pose challenges for effective ferry operation. In the near future, existing vessels must be replaced to comply with the California Air Resources Board zero emission vessel mandate.

To inform possible improvements in its management of ferry operations, Caltrans is seeking funding, operations and maintenance information from agencies providing ferry services in a manner similar to Caltrans'. To gather this information, CTC & Associates conducted a survey of state, regional and local agencies operating or regulating similar short-segment ferries. Results of a literature search supplemented survey findings.

Survey of Practice

To identify the agencies to survey, CTC & Associates gathered data on ferry operations from the 2020 [National Census of Ferry Operators \(NCFO\)](#). Conducted by the Bureau of Transportation Statistics, the NCFO is a biennial census of all ferries operating within the U.S. and its territories. Census data maintained in a national ferry database includes information about ferry routes, terminals, vessels, operator funding sources, and the number of passengers and vehicles carried by these ferries.

A survey was distributed to 11 state, regional and local agencies to gather information about ferry operations that were deemed similar enough to the Delta Ferries to warrant examination:

Connecticut Department of Transportation

- Rocky Hill to Glastonbury Ferry.
- Chester to Hadlyme Ferry.

Delaware Department of Transportation

- Bethel to Woodland Ferry.

Kentucky Transportation Cabinet.

- Turkey Neck Bend Ferry.

Louisiana Department of Transportation and Development

- Enterprise to South Bank SR 559 Ferry.
- Holly Beach to Cameron Ferry.

New Orleans Regional Transit Authority (RTA)

- Chalmette to Lower Algiers Route.
- Canal Street to Algiers Point Route.

Wicomico County, Maryland

- South Upper Ferry Road to North Upper Ferry Road.
- Whitehaven Ferry.

Charlevoix County Transportation Authority, Michigan

- Eveline Township to Ironton Ferry.

North Carolina Department of Transportation

- Elwell Carvers Creek to Elwell Ferry.

Clackamas County, Oregon

- North Locust St. to Southwest Mountain Rd. Ferry.

Marion County, Oregon

- Wheatland East to Wheatland West Ferry.
- Buena Vista East to Buena Vista West Ferry.

Tennessee Department of Transportation

- Cumberland City to Indian Mound Ferry.

Survey questions are provided in [Appendix A](#).

The survey received only two responses:

- Kentucky Transportation Cabinet.
- New Orleans RTA.

Presented below is a brief description of Caltrans ferry operations followed by summaries of the ferry operations described by survey respondents.

Caltrans Ferry Operations

Real McCoy Ferry

The RMF provides service to Ryer Island residents and its visitors by crossing the Cache Slough to Rio Vista. Caltrans is required by law to operate this ferry 24 hours a day, seven days a week, year-round. A minimum crew size of two (one ferryboat master and one ferryboat deckhand) operating on two 12-hour schedules runs scheduled crossings every 20 minutes—on the hour, 20 minutes after the hour and 40 minutes after the hour. The ferry travels approximately 840 feet. Each round trip takes approximately 10 minutes.

Ferry: Real McCoy II (diesel-powered; hydraulic propulsion).

Location: Extension of SR-84, Solano County.

Type: Passenger and vehicle (up to eight vehicles).

Segment Length: 0.13 nautical mile.

Average Trip Time: 2 minutes.

Fare: None.

J-Mack Ferry

The JMF cable-run ferry crosses Steamboat Slough in the Sacramento Delta, connecting Grand Island to East Ryer Island. The 402-foot crossing is subject to tidal changes. While not legally required to do so, Caltrans operates this ferry year-round, 24 hours a day, seven days a week, on an on-demand basis. Operation of the ferry requires one ferryboat mate or master. Like the RMF, the JMF runs on two 12-hour schedules.

Ferry: J-Mack (diesel-powered; cable-run).

Location: Extension of SR-220, Solano County.

Type: Passenger and vehicle (up to six vehicles).

Segment Length: 0.05 nautical mile.

Average Trip Time: 2 minutes.

Fare: None.

Kentucky Ferry Operations

Ten ferries currently operate in Kentucky. Seven of these ferries, all river crossings, are state-funded, one is supported by federal funding and two are privately funded. The survey respondent described Turkey Neck Bend Ferry, one of Kentucky's state-funded ferries.

The Turkey Neck Bend Ferry is Kentucky's only state-owned ferry operating 24 hours a day, seven days a week. Current data indicates the ferry transports an average of 165 vehicles a day, with 239 average daily passenger boardings, across the Cumberland River in Monroe County, Kentucky. A portion of Monroe County can be reached from Tompkinsville only by crossing the Cumberland River on this ferry. A new, heavier vehicle barge funded by a \$300,000 American Recovery and Reinvestment Act stimulus grant was placed into service in 2009, replacing a 25-year-old tugboat. Stimulus funds also paid for a trailer used to haul the tugboat out of the water for maintenance and inspection.

The [Kentucky Department of Tourism](#) notes that the ferry location—McMillan's Landing—"was at one time considered one of the finest steamboat landings along the upper Cumberland River."

Turkey Neck Bend Ferry (also known as the Cumberland River Ferry)

Boardings at McMillan's Landing West and McMillan's Landing East on the Cumberland River.

Operated by [Kentucky Transportation Cabinet](#).

Ferry: Tugboat.

Location: Tompkinsville, Kentucky.

Type: Passenger and vehicle.

Segment Length: 0.08 nautical mile.

Average Trip Time: 4 minutes.

Fare: None.

Below is a description of ferry operations.

<u>Topic</u>	<u>Description</u>
Operation and Maintenance	
Vessel description	Tugboat carries vehicles with passengers; powered by a propulsion system.
Schedule	<ul style="list-style-type: none">• Operates January through December.• Departures throughout the day (operates 24 hours a day, seven days a week).• When not operating, the vessel is chained to the riverbank.
Activity¹	<ul style="list-style-type: none">• Trips per year: 43,185.• Total passenger boardings per year: 87,298.• Total vehicle boardings per year: 60,130.• Average daily passenger boardings: 239.• Average daily vehicle boardings: 165.
Operating challenges	Availability of mariners.
Maintenance	The most typical types of maintenance are general and preventive maintenance.
Downtime	Average annual downtime: 60 hours (2.5 days). Most typical causes of downtime are weekly maintenance and high water.
Governing body	U.S. Coast Guard (USCG); Kentucky Transportation Cabinet.
Staffing	
Number of staff	10 full-time staff; no part-time staff.
Job classifications	<u>Classification 1</u> <ul style="list-style-type: none">• Classification name: Ferryboat operator.• Salary range: \$12.35 to \$19.75 per hour.• Licensing requirements: USCG Master License (50 tons or less). <u>Classification 2</u> <ul style="list-style-type: none">• Classification name: Ferryboat deckhand.• Salary range: \$9.27 to \$14.88 per hour.• Licensing requirements: None.
Staffing challenges	Difficulty in replacing retirees due to the low salary range.
Effective staff retention practices	Informing employees of career advancement and opportunities to become a licensed operator with a higher salary.
Assessment	
Most impactful changes	Design and construction of two new tugboats.

<u>Topic</u>	<u>Description</u>
Greatest challenges	<ul style="list-style-type: none"> • Staffing. • Overtime hours.

1 Data on ferry operations taken from the 2020 [National Census of Ferry Operators](#).

Ferry Funding

Funds to operate and maintain the ferry come solely from state funding; federal funds may be used for capital improvements. The average annual operating cost to operate the ferry is \$1 million. The agency has not found it challenging to fund ferry operations and is not investigating new funding sources.

Investments

A 2021 solicitation sought bids for two tugboats for use in the ferry's operation. Design work has been completed and construction begun on new tugboats that are expected to be delivered later in 2022. The 2021 solicitation included this description:

Unit(s) shall meet the following minimum specifications:

- Overall Length: Minimum 25' not to exceed 25'-11".
- Overall Width (Beam): Minimum 10' not to exceed 10'-6".
- Overall Hull (Depth): Minimum 4' (with additional 2' minimum raised trunk at engine room to provide standing/working room around engine).
- Hull: Shall be constructed of A-36 steel hull, single compartment.

A proposed plan to rehabilitate the ramp on the east side of the Cumberland River would be funded with federal funds and a state funding match.

Contact: Casey Pedigo, Transportation Engineer Supervisor, Kentucky Transportation Cabinet, 270-670-5661, casey.pedigo@ky.gov.

New Orleans Ferry Operations

Described below are two New Orleans ferries that are operated jointly by the city of New Orleans and a professional maritime company:

- Chalmette to Lower Algiers route.
- Canal Street to Algiers Point route.

Ferries leave on the hour and half hour on the Algiers side, and one-quarter before and after the hour on the New Orleans side.

New Orleans ferries have a rich history, with the first regularly scheduled ferry service between Canal Street and Algiers dating back to 1827. Ferry services continue to be in demand today. A [Friends of the Ferry web site](#) notes that the New Orleans ferry system "has the fourth highest ridership of any ferry system in the U.S." According to Friends of the Ferry, a 2009 study commissioned by the New Orleans Regional Planning Commission found that a majority of ferry riders use it to get to work.

Chalmette to Lower Algiers Route

Operated by [New Orleans RTA](#) and [LabMar Ferry Services, LLC](#).

Ferry: Thomas Jefferson and Capt. Neville Levy.

Location: New Orleans, Louisiana.

Type: Passenger and vehicle.

Segment Length: 0.36 nautical mile.

Average Trip Time: 15 minutes.

Fare: Standard one-way pass is \$2 (with or without vehicle). Multiday and reduced fee passes are available for passengers 65 and older, as are integrated passes for all three transit options (buses, streetcars and ferries).

Below is a description of ferry operations.

<u>Topic</u>	<u>Description</u>
Operation and Maintenance	
Vessel description	Carries vehicles and passengers; powered by direct-drive diesel propulsion.
Schedule	<ul style="list-style-type: none">• Operates January through December.• Departures every 15 minutes; operates from 6:15 a.m. to 8:45 p.m.• When not operating, the vessel is secured using soft-line mooring.
Activity¹	<ul style="list-style-type: none">• Trips per year: 8,845.• Total passenger boardings per year: 244,158.• Total vehicle boardings per year: 148,864.• Average daily passenger boardings: 669.• Average daily vehicle boardings: 408.
Operating challenges	<ul style="list-style-type: none">• Age of vessel.• Availability of mariners.
Maintenance	The most typical types of maintenance are engine-related (thruster) maintenance and ramp maintenance. The primary challenges are the result of years of deferred maintenance and poor planning by the ferry's previous operator.
Downtime	Average annual downtime: 8.9 days. Most typical causes of downtime are propulsion and age of equipment.
Governing body	USCG
Staffing	
Number of staff	18 full-time staff; no part-time staff.

<u>Topic</u>	<u>Description</u>
Job classifications	<p><u>Classification 1</u></p> <ul style="list-style-type: none"> • Classification name: Captain. • Salary range: \$45.80 to \$51.09 per hour. • Licensing requirements: USCG Master License (1600 tons). <p><u>Classification 2</u></p> <ul style="list-style-type: none"> • Classification name: Chief engineer. • Salary range: \$37.93 to \$44.75 per hour. • Licensing requirements: USCG Licensed Assistant Engineer. <p><u>Classification 3</u></p> <ul style="list-style-type: none"> • Classification name: Deckhand. • Salary range: \$15 to \$24.80 per hour. • Licensing requirements: Transportation Worker Identification Credential (TWIC) card. <p>The Transportation Security Administration (TSA) describes TWIC as being “required by the Maritime Transportation Security Act for workers who need access to secure areas of the nation’s maritime facilities and vessels. TSA conducts a security threat assessment (background check) to determine a person’s eligibility and issues the credential. U.S. citizens and immigrants in certain immigration categories may apply for the credential. Most mariners licensed by the U.S. Coast Guard also require a credential.”</p>
Staffing challenges	<ul style="list-style-type: none"> • Absenteeism. • Availability of mariners. • COVID-19. • Salary constraints to budget.
Effective staff retention practices	<ul style="list-style-type: none"> • Culture. • Safety bonus and uniform bonus. • Working hours.
Assessment	
Most impactful changes	Outsourcing operations to a professional maritime company.
Greatest challenges	<ul style="list-style-type: none"> • Age of vessels and ease of maintenance. • Age of infrastructure and docks.

1 Data on ferry operations taken from the 2020 [National Census of Ferry Operators](#).

Terminal Improvements

A \$5.2 million award from Federal Transit Administration’s (FTA’s) 2020 [Passenger Ferry Grant Program](#) will pay for improvements to the car landing “to maintain passenger safety and ensure a state of good repair.” A 2017-2018 award from the same grant program provided \$2.4 million to fund a new landing barge at the Lower Algiers Maintenance Facility that will accommodate new pedestrian passenger ferries and enhance passenger safety and security in the terminal.

The Thomas Jefferson and the more than 40-year-old Capt. Neville Levy are the primary vessels operating on this route. An [August 2020 article](#) on nola.com noted that the Levy “has

had generator troubles as of late” and that New Orleans RTA was seeking state and federal funding to replace the generators.

Canal Street to Algiers Point Route

Operated by [New Orleans RTA](#) and [LabMar Ferry Services, LLC](#).

Ferry: RTA1 and RTA2. (These vessels were added to the route in October 2020.)

Location: New Orleans, Louisiana.

Type: Passenger only.

Segment Length: 0.41 nautical mile.

Average Trip Time: 15 minutes.

Fare: Standard one-way pass is \$2. Multiday and reduced fee passes are available for passengers 65 and older, as are integrated passes for all three transit options (buses, streetcars and ferries).

Below is a description of ferry operations.

<u>Topic</u>	<u>Description</u>
Operation and Maintenance	
Vessel description	Carries passengers only; powered by direct-drive diesel propulsion.
Schedule	<ul style="list-style-type: none"> Operates daily January through December. Departures every 15 minutes; operates from 6:15 a.m. to 8:45 p.m. When not operating, the vessel is secured using soft-line mooring.
Activity¹	<ul style="list-style-type: none"> Trips per year: 7,630. Total passenger boardings per year: 204,195. Average daily passenger boardings: 559.
Operating successes	<ul style="list-style-type: none"> New vessels. Easy to operate.
Operating challenges	Availability of mariners.
Maintenance	The new ferries require only routine maintenance (oil changes). The primary maintenance-related challenge is conducting night maintenance given the 15-hour daily schedule.
Downtime	Average annual downtime: 1.5 days. Engine or rudder issues are the most typical causes of downtime.
Governing body	USCG
Staffing	
Number of staff	16 full-time staff; no part-time staff.

Topic	Description
Job classifications	<p><u>Classification 1</u></p> <ul style="list-style-type: none"> • Classification name: Captain. • Salary range: \$41 to \$44.17 per hour. • Licensing requirements: USCG Licensed Captain (100 tons). <p><u>Classification 2</u></p> <ul style="list-style-type: none"> • Classification name: Deckhand. • Salary range: \$15 to \$17 per hour. • Licensing requirements: TWIC card.
Staffing challenges	<ul style="list-style-type: none"> • Absenteeism. • Availability of mariners. • COVID-19. • Salary constraints to budget.
Effective staff retention practices	<ul style="list-style-type: none"> • Culture. • Safety bonus and uniform bonus. • Working hours.

Assessment

Most impactful changes	<ul style="list-style-type: none"> • Outsourcing operations to a professional maritime company. • Procurement of new vessels.
Greatest challenges	Age of infrastructure and docks.

1 Data on ferry operations taken from the 2020 [National Census of Ferry Operators](#).

New Vessels

A new style of ferry vessel was introduced on this route in October 2020. Both new vessels are described in the [RTA’s 2020 Annual Report](#) as “105-foot, 150-passenger, BMT-designed, aluminum high-speed catamaran passenger ferries.” Much of the funding for these new ferries—\$15.2 million—came from a 2015 FTA Passenger Ferry Grant Program award that paid for the construction of the two ferries and redevelopment of the Canal Street ferry terminal. The state of Louisiana provided \$3.8 million as the local funding match. The vessel previously serving this route remains available to provide service if needed.

New Terminal

In November 2020, RTA launched a two-year redevelopment project to replace the more than 90-year-old Canal Street ferry terminal. Construction is expected to be completed by summer 2022. Funding for the \$43.5 million project comes from a variety of sources:

- FTA’s Transportation Investment Generating Economic Recovery (TIGER) Grant program: \$12 million.
- Other FTA funding sources: \$12 million.
- Louisiana Department of Transportation and Development: \$2 million (local funding match).
- New Orleans RTA: \$12 million (funding matches).
- Land match: \$5 million.

Ferry Funding

Summarized below are the funding sources for the two New Orleans ferry operations:

- Federal funding: \$12 million.
- Local funding: \$3.5 million.
- State funding: \$5.1 million.
- Ticket revenue: \$736,637.
- Other funding: Approximately \$3 million (Coronavirus Aid, Relief and Economic Security (CARES) Act).

The average annual operational cost to operate the ferries is \$2.19 million. Operations funding covers routine preventive maintenance, and some maintenance funds are received through formula funding provided by FTA using its National Transit Database (NTD). (FTA uses NTD data to apportion funding to urbanized and rural areas in the United States.) New Orleans RTA has found the limited state and local funding to be challenging, and has approached the state to increase the ferry subsidy to cover an increase in mariner costs. The agency has also reached out to other city officials to explore expansion of ferry routes.

Investments

In the most significant proposed investment, New Orleans RTA is planning to invest in smaller vehicle ferries to replace decades-old double-decker ferries (passenger deck on top, vehicle deck on bottom). Another project in process will allow crews to use handheld validators to collect fares electronically instead of collecting cash. RTA is also installing ticket vending machines (TVMs) to collect cash at all ferry terminals. The TVMs dispense one-day and multiday passes and stored value cards in the amounts of \$10, \$15 and \$20.

Contacts: Craig Toomey, Director of Marine Operations, New Orleans Regional Transit Authority, 504-827-8389, ctoomey@rtaforward.org; and Richard Heausler, General Manager, LabMar Ferry Services, LLC, 504-309-6427, rheausler@labmarferry.com.

Related Resources

A literature search that sought to supplement the extremely limited survey findings retained the narrow focus on ferries with short crossing distances like the Delta Ferries. This narrow focus produced similarly limited literature search results but did uncover a particularly relevant publication: A well-funded study published within the last six months examined alternatives to returning White's Ferry to service. White's Ferry is a historic short-segment cable ferry crossing the Potomac River and connecting cities in Virginia and Maryland. In recent years, this ferry transported up to 24 cars and motorcycles, bicycles and pedestrians in a river crossing of approximately 3.5 minutes. This study examined different operating models as part of an effort to return the ferry to active service and identify the conditions most likely to generate positive operating returns.

A second recent study examined state ferry operations to inform consideration of reimbursement of publicly funded ferries in Kentucky. Ten ferries currently operate in Kentucky under state, federal or private funding. Researchers gathered information about governance of ferry operations, federal funding opportunities, and statutes and regulations governing selected state ferry operations. A survey of 10 states supporting ferry operations identified sources of ferry-related funding and described engagement with private firms to operate state-owned ferries.

These publications are described in some detail below, beginning with highlights from the White's Ferry study.

White's Ferry Operations Alternative Study, Loudoun County, Virginia, and Montgomery County, Maryland, October 2021.

https://www.montgomerycountymd.gov/DOT/Resources/Files/White%27s%20Ferry%20Study%20Final%2010_20_21.pdf

White's Ferry is described as "a historic cable ferry crossing the Potomac River, connecting Loudoun County, Virginia, north of Leesburg, and Montgomery County, Maryland, southwest of Poolesville." The ferry has a segment length of 0.19 nautical mile, an average trip time of 3.5 minutes, and an estimated number of trips per year (when the ferry was operating) of 26,250.

The report's authors describe what led to completion of the \$200,000 alternative study:

In December 2020, ferry operations abruptly ceased over disputes and lawsuits related to the ownership and access to the Virginia-side landing. The owners of that property and the owners of White's Ferry could not come to an agreement regarding compensation for the use of the landing and access road. Service has been suspended throughout 2021, significantly impacting travel time and costs for the many regular users of the service, who raised their concerns to elected officials on both sides of the river.

Prior to ceasing operation, ferry operators used a two-section vessel that could accommodate up to 24 passenger vehicles per trip. Minimum ferry staffing included a captain and a second employee. The ferry service used an on-demand model rather than a set schedule. When enough vehicles were loaded to justify a crossing, the ferry proceeded to the ramp on the opposite side of the river; fares were collected during the crossing. Operators estimated that the full cycle of loading, crossing and unloading required between 10 and 15 minutes.

As the study notes, with White's Ferry carrying passengers across state lines, the service is subject to USCG oversight and regulation, including "limits on the type[,] number and size of vehicles that can use the ferry, requirements for periodic inspection, and regulations on the

training and certification required of the operators” (see page 106 of the report, page 122 of the PDF).

Study Background and Summary

The study examined impacts of the ferry closure and its return to service by considering legal and environmental compliance; transportation operations; potential alternatives; and economic impacts and opportunities. The study also included a financial analysis. Highlighted below are elements of the study that may be of particular interest:

Infrastructure improvements such as adjustable slips and loading ramps for ferry docking are recommended to reduce ferry disruptions and address river level fluctuations (see page 63 of the report, page 79 of the PDF).

Vessel replacement options include replacing the ferry with a new ferry that offers alternate fuel options (such as low-sulfur diesel, hybrid, battery electric) (see page 66 of the report, page 82 of the PDF).

Estimated preliminary costs are provided for ferry-related infrastructure, terminal infrastructure improvements and staffing requirements (see page 68 of the report, page 84 of the PDF).

Tasks and responsibilities are identified in a matrix of responsibilities to operate the ferry service (see page 72 of the report, page 88 of the PDF). These include service startup, including contract development; contract management and administration; communication and marketing; finance; and operations. The matrix identifies which tasks and responsibilities are required for each of three operating models:

- Privately owned and operated.
- Publicly owned and operated.
- Publicly owned and privately operated.

Fiscal analysis, beginning on page 90 of the report (page 106 of the PDF), sought to answer these questions:

- How much would it cost to operate and maintain the ferry under the various model scenarios?
- How much revenue will the ferry generate under reasonable ridership projections? Does the revenue from fares adequately cover operating and maintenance costs?
- How much capital investment is required to restart ferry operations and maintain it at a safe and reliable service level five years after operations begin?
- What are potential sources of federal and state funding for the ferry and what eligibilities apply?

Operating and maintenance costs. The study examined operational statistics from ferries across the U.S. and unit cost estimates from ferries of comparable size to estimate annual operating and maintenance costs for White’s Ferry in the two service delivery models—publicly owned and operated, and county owned and contractor operated. Significantly lower annual expenses are estimated for the contracted service. (The report includes information about New Orleans RTA, a survey respondent for this Preliminary Investigation; see page 95 of the report, page 111 of the PDF.)

Potential sources of capital funds. Funds for White’s Ferry capital expenses had come from revenue generated from ticket sales. Beginning on page 100 of the report (page 116 of the PDF), the authors identified federal, state and other sources of funding for resumed ferry operations, including:

- [Passenger Ferry Grant Program](#). This FTA program provides grant funding for existing ferry services; establishing new service; or for repairing and upgrading ferries, terminals and related equipment. For the 2021 award cycle, \$4 million was made available for low- or zero-emission ferries.
- *Other funding sources* are listed below, identified from the 2019 NTD database of ferry operations:
 - [5303 FTA Metropolitan Planning](#).
 - [5307 FTA Urbanized Area Formula Grants](#).
 - [5308 FTA Clean Fuels Grant Program](#).
 - [5309 FTA Capital Investment Grants](#).
 - [5310 Enhanced Mobility of Seniors and Individuals With Disabilities](#).
 - [5311 Formula Grants for Rural Areas](#).
 - [5337 State of Good Repair Grants](#).
 - [5339 Grants for Buses and Bus Facilities Program](#).
 - [RAISE \(Rebuilding American Infrastructure With Sustainability and Equity\) Discretionary Grants](#).

Note: Two FTA programs listed in the White’s Ferry study (5316 Job Access and Reverse Commute Program, and 5317 New Freedom Program) have expired or been repealed.

The authors note that “many of these programs are not specific to ferryboat operations but certain ferry activities were considered eligible under those programs.”

The fiscal analysis for the first five years (2023 to 2027) concluded that the contractor-operated service model “produced lower deficits over the analysis period due to the lower unit operating and maintenance cost.” The study’s closing comments provide additional perspective:

Consequently, estimates provided under Model 3 [publicly owned and contractor operated] show a better financial outlook as compared to Model 2 [publicly owned and operated]. However, the heavy capital funding gap under either scenario or financial delivery model indicates that *significant public investment will be required to ever generate the positive operating returns* [emphasis added].

Related Resource:

White’s Ferry Operations Alternative Study, Board of Supervisors Business Meeting Information Item, Loudoun County Board of Supervisors (Virginia), November 16, 2021. <https://lfportal.loudoun.gov/LFPortalinternet/0/edoc/558217/Item%201%20Whites%20Ferry%20Operations%20Alternative%20Study.pdf>

This county board meeting memorandum provides study background and a brief discussion of findings as an attachment to the alternative study.

Analysis and Assessment of the Reimbursement Rates and Mechanisms for Kentucky's Publicly Funded Ferries, P. Gayle Marks, Bryan Gibson, Andrew Martin and Doug Kreis, Kentucky Transportation Cabinet, February 2020.

https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=2693&context=ktc_researchreports

From the abstract:

The Kentucky Transportation Cabinet (KYTC) reimburses publicly operated ferries, including when they cease operations due to severe weather or unforeseen events. Reimbursement procedures are not codified in law and are largely based on historical practice. To determine how the Cabinet should handle reimbursement, funding [and] oversight of ferry services moving forward, the Kentucky Transportation Center (KTC) reviewed practices adopted by 10 other states and conducted a detailed analysis of Kentucky's current approach.

Study Background and Summary

Researchers gathered information on contracting mechanisms, reimbursement rates, factors that influence compensation, reimbursement funding sources, methods for auditing ferry operations, practices for handling capital expenses and normal operation expenses, and whether states allocate additional funding due to Subchapter M impacts on ferry operations. ([Subchapter M – Towing Vessels](#) describes USCG safety training and inspection requirements for tugboat and towboat companies.) Highlighted below are elements of the study that may be of particular interest:

Governance. Table 2, Summary and Assessment of Governance Structures (page 7 of the report, page 12 of the PDF), describes various governing structures and summarizes their strengths and weaknesses:

- *Government line agency.* Separate division within a state agency that receives state funding.
- *Public/private corporation.* Private company with operating vessels that are either owned or leased by the operator that works with public agencies to develop routes and their associated terminals.
- *Public authority.* Independent government entity created to focus on a specific set of objectives.
- *Public corporation.* Corporation that provides transportation services with some level of revenue support from the regional government.
- *Private corporation.* Private company that owns all assets and operates with no assistance from state, city or federal government.
- *Transportation district.* Public entity operating multiple modes of transportation for the economic benefit of a defined geographical area.

Federal funding opportunities. Table 5, Key Federal Funding Sources for Ferries (page 10 of the report, page 15 of the PDF), describes the following federal funding sources:

- [National Highway Performance Program](#). Funds 80% to 100% of projects related to the construction, rehabilitation or replacement of existing ferryboats and ferryboat facilities, including approaches that connect National Highway System road segments.
- [Surface Transportation Block Grant Program](#). Provides funding for ferryboats and terminal facilities construction and approach roadways to ferry terminals.
- [Passenger Ferry Grant Program](#). Provides funding for projects that support public entities that offer public transportation passenger ferry service in urban areas. Funds

assist financing capital projects to support existing passenger ferry service; establish new ferry service; and repair and modernize ferry boats, terminals and related facilities and equipment.

- [Emergency Relief Program](#). Provides funds for ferryboat operations and maintenance following a natural disaster or catastrophic event when the ferry provides a traffic service around a damaged facility.
- [Maritime Administration \(MARAD\) Federal Ship Financing Program](#). Offers long-term debt repayment guarantees for purchasing, building or repairing vessels.
- [BUILD Discretionary Grants](#). Funds capital investments in surface transportation infrastructure that will have a significant local or regional impact. (The Better Utilizing Investments to Leverage Development (BUILD) grant funding program was previously known as Transportation Investment Generating Economic Recovery (TIGER) and is now known as Rebuilding American Infrastructure With Sustainability and Equity (RAISE)).

Other ferry operations. Results of a survey of 10 state transportation agencies provided details of differing approaches to ferry operation and oversight. A review of state funding and reimbursement practices, which begins on page 17 of the report (page 22 of the PDF), is briefly summarized below:

- *Arkansas.* The state owns and operates one ferryboat using state funds generated from gas and diesel taxes and licensing fees. The state participates in the federal Passenger Ferry Grant Program for capital projects.
- *Connecticut.* The state owns and operates the seasonal Rocky Hill to Glastonbury Ferry, the only state-funded vehicle ferry and the oldest continuing operating ferry in the U.S. State appropriations are used to operate the ferry; capital improvement funding is voted on by a bond commission.
- *Florida.* Researchers described in some detail the contracting associated with the state's one vehicle ferry, which is owned by the Jacksonville Transportation Authority. A private company is contracted to operate the ferry.
- *Georgia.* All ferry services in Georgia are operated using federal funds.
- *Mississippi.* The state does not fund ferry operations.
- *North Carolina.* Researchers noted that North Carolina Department of Transportation (DOT) operates the second-largest state-owned ferry system in the U.S. (second to Washington State DOT). North Carolina DOT's Ferry Division owns all ferry assets and oversees all ferry operations for the state's 21 ferries.

Ferry operations and maintenance are funded through state appropriations with highway funds or highway trust funds. These funds include the state's motor fuel tax, vehicle registration fees, driver's license fees and nontax revenues from the state treasurer's investments.

- *Ohio.* The state does not fund ferry operations.
- *Oregon.* The state's three remaining ferries are operated at the county level. The state does not provide funding or manage any element of ferry operations.
- *Tennessee.* The state DOT contracts out the operation and maintenance of two state-owned ferries. The vessels and tugs for each ferry operation are state-owned.

Tennessee is the only state surveyed that reimburses ferry operators for any service interruptions.

- *Wisconsin*. The state owns one state-funded ferry; Wisconsin DOT maintenance staff oversees ferry operations. Maintenance of the ferry, like the state's maintenance of highways, is performed by county highway departments under an annual routine maintenance agreement.

Statutes. Appendices D through N, beginning on page 33 of the report (page 38 of the PDF), summarize the statutes that address ferry operation in Kentucky and in each of the states responding to the project survey.

Recommendations. Researchers' recommendations begin on page 26 of the report (page 31 of the PDF) and include the following to improve the state transportation agency's oversight of ferry operations:

- Set detailed auditing guidelines to improve the consistency of ferry service financial statements.
- Pursue untapped funding sources.
- Generate long-term forecasts of the state's ferry operations.

Contacts

CTC contacted the people below to gather information for this investigation.

State Agencies

Kentucky

Casey Pedigo
Transportation Engineer Supervisor
Kentucky Transportation Cabinet
270-670-5661, casey.pedigo@ky.gov

Regional Agencies

Louisiana

Craig Toomey
Director of Marine Operations
New Orleans Regional Transit Authority
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Private Firms

Richard Heausler
General Manager
LabMar Ferry Services, LLC
504-309-6427, rheausler@labmarferry.com

Appendix A: Survey Questions

The following survey was distributed to selected state, regional and local agencies operating or overseeing the operation of short-segment ferries. Respondents could describe up to three different ferry operations.

Caltrans Survey on Short-Segment Ferry Operations

Describing Ferry 1

Operation and Maintenance

1. What is the ferry's name and/or location?
2. What is the ferry type? Select all that apply.
 - Vehicle
 - Passenger
 - Propulsion system
 - Cable-run
 - Other (Please describe.)
3. Please briefly describe the ferry's schedule.
4. How is the vessel secured during non-operating hours?
5. What are the primary challenges your agency has encountered with regard to **ferry operation**?
6. What are the most typical types of maintenance required to keep the ferry operating?
7. What are the primary challenges your agency has encountered with regard to **ferry maintenance**?
8. What is the average annual downtime for the ferry?
9. What is the most typical cause for ferry downtime?
10. Is the ferry's operation governed by the Coast Guard?
 - No
 - Yes
11. Please identify any other regulatory body overseeing the ferry's operation.

Staffing

1. Please identify below the number of employees currently employed on this ferry.
 - **Full time:**
 - **Part time:**
2. Please identify and describe the job classification(s) associated with employees working on the ferry.
 - **Classification 1.** Please include in your description below the:
 - Classification name
 - Salary range
 - Licensing requirements
 - **Classification 2.** Please include in your description below the:
 - Classification name
 - Salary range
 - Licensing requirements

Classification 3. Please include in your description below the:

- Classification name
- Salary range
- Licensing requirements

Classification 4. Please include in your description below the:

- Classification name
- Salary range
- Licensing requirements

3. Please describe any challenges you've encountered in staffing ferry operations and how you've addressed them.
4. What practices have you found to be most effective in retaining ferryboat staff?

Funding

1. What are the primary funding sources for ongoing ferry operations? Please estimate the percentage of each type of funding below.
 - Federal funding:
 - Local funding:
 - Private contract:
 - Public contract:
 - State funding:
 - Ticket revenue:
 - Other funding:
2. Please describe how funding sources may differ for operations as opposed to maintenance.
Operations funding:
Maintenance funding:
3. If the ferry is a historical site or location, does that help with funding or hinder it? Please describe.
4. What is the average annual operational cost to operate the ferry?
5. Has your agency found it challenging to fund ferry operations?
 - No
 - Yes (Please explain.)
6. Is your agency investigating new funding sources for ferry operations?
 - No
 - Yes (Please describe these possible funding sources.)

Investments

1. Please describe how your agency hopes or plans to enhance ferry operations with capital or other investments in the following:
 - Dock improvements:
 - Evaluation of schedules:
 - New or upgraded vessels:
 - Ramp improvements:
 - Upgraded technology for fare collection:
 - Upgraded technology for preventive maintenance:
 - Other investments:

Assessment

1. What are the **most impactful changes** your agency has made to improve this ferry's operation?
 2. What are the **greatest challenges** that your agency continues to encounter operating the ferry?
 3. Please provide links to documents associated with this ferry's operation. Send any files not available online to chris.kline@ctcandassociates.com.
- (Required) 4. Our agency operates a second/third ferry.
- Yes (Skips the respondent to **Describing Ferry 2/Describing Ferry 3** questions.)
 - No (Skips the respondent to the **Wrap-Up** section.)
-

Note: In the online survey, the question blocks presented above for Describing Ferry 1 were repeated for Describing Ferry 2 and Describing Ferry 3. Question 4 under the **Assessment** section was modified, as needed, for each set of questions.

Wrap-Up

Please use this space to provide any comments or additional information about your previous responses.