Water Taxi Feasibility Study
DRAFT REPORT

PREPARED FOR:

PREPARED BY:

Ulteig

June 2016

WATER TAXI FEASIBILITY STUDY REPORT

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EXECUTIVE SUMMARY

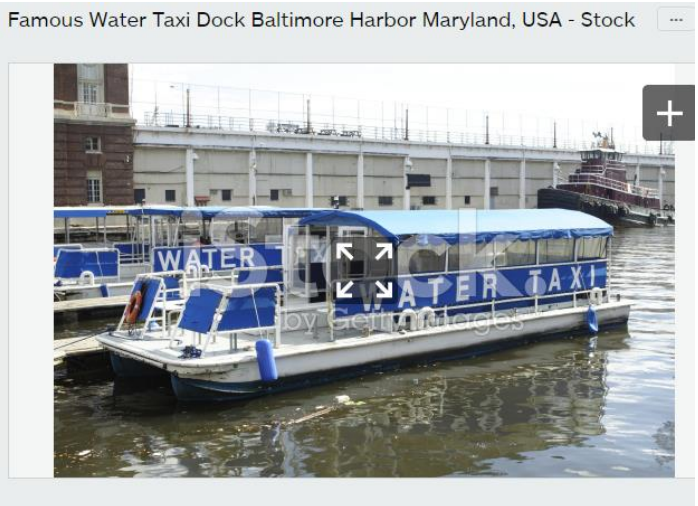
INTRODUCTION

A water taxi study was not part of the original Car Ferry Study project awarded to Ulteig. However, some review is necessary in order to provide an interface with the Public Transportation System being provided by others under a separate study and the Car Ferry System.

Achieving an effective water taxi service for Lake Sakakawea, the surrounding counties and the Fort Berthold Reservation requires a unique partnership between public and private entities to successfully tap into market demand and meet the travel needs for residents, visitors/tourists and workers. Such a partnership needs to match potential water taxi operators with a public transit system and matching the needs of the users. Those actions should include providing adequate supporting facilities and services, such as docking, sidewalks, pickup areas and transit service. The public transit authority would be tasked to establish minimum regulations to achieve basic standards of operation. This report reviews the feasibility of including a water taxi service with the potential bus service being proposed under separate consideration. With the proper mix of public and private investment, the Lake Sakakawea area, with its vast navigable waterways, could be ripe for the expansion of the regional transportation system to include landside bussing and waterborne transit as an integral element.

There are challenges and areas of caution. A major challenge to consider is the current state of public transportation funding in the region that services the communities surrounding the lake. Both Three Tribes and the surrounding counties transit systems have a history of uneven support, and rising costs against a relatively flat budget threaten the viability of current operations, particularly for the Fort Berthold Reservation. However, the governing body has entered into a separate contract to study the need for a better public transportation system for the towns and counties that are located within the Fort Berthold reservation.

An investment in waterborne taxi transportation system may be viewed as a diversion of needed dollars from a transit system with real needs to meet the area's growing mobility problems for crossing the lake. Furthermore,



without relatively seamless connection to effective and available public transportation services, the water taxi initiative is likely to experience only marginal success, and may evolve into a purely excursion–focused endeavor during the season or simply cease operations entirely as a public service. Those challenges can be overcome through careful development planning and design at potential water taxi terminals, and with continuing efforts by the stake holders and its partners to improve public transportation service.

This Water Taxi Feasibility Study has been prepared as an adjunct to the Car Ferry Study in order to show an interface with public land transit.

This draft feasibility study is intended to provide a conceptual plan and action steps for how waterborne transportation service could most effectively and efficiently operate on Lake Sakakawea for the surrounding communities. Since a water taxi service was not included in the original study, this chapter is established to bring forward an ancillary support for the car ferry system. It is anticipated that the water taxi service land infra structure would be installed as part of the car ferry system. Additional costs would include the labor and the cost of the taxi's. The taxi's could cost $50,000 to $120,000 each.

OVERVIEW OF FINDINGS AND RECOMMENDATIONS

Waterborne transportation holds enormous potential for improving mobility, increasing accessibility and supporting redevelopment objectives in the lake region. As congestion levels build on area roadways and bridges, and the demand continues to rise for tourism, housing and jobs, the stake holders and its partners must be creative in their use of limited financial resources to provide transportation options related to growth. As part of a seamless transportation system, water–based modes can extend the coverage and enhance the viability of public transportation in specifically planned corridors, potentially to a much greater extent than individual transportation programs.

Water taxi service can be a feasible element of the area's transportation system that provides both social/recreational trips and one that enables commuters to reach destinations along coastal waterways and rivers. As the car ferry has demonstrated, benefits to both markets will likely occur through a well–designed system. Its feasibility is based on the potential demand spurred by redevelopment activity for at least three priority service areas, willing local government and private partners, and a relatively low capital and operating cost to provide initial service. Feasibility is clearly dependent on the degree to which the private sector is brought into this program as an active and equal partner. Public funding is needed to invest in starting up the service and keeping fares to a reasonable level, but achieving success with on–going operations requires a strong public–private partnership that ties marketing, promotion, destinations, facilities and equipment into a unified program that blends modest agency oversight with entrepreneurial energy and creativity.

PRIORITY SERVICE AREAS AND MARKETS

Based on input from various stakeholders and interested parties, it is recommended that an initial pilot water taxi service begin operations within the Fort Berthold Reservation area, with connections between New Town, Three Bears, State Parks, public recreation areas and possibly Garrison. This pilot/demonstration project is recommended only as an interface with bussing services that are deemed feasible under separate consideration. This was also one of the strongest markets evaluated from a travel time, facility and public–private partnership perspective. More detailed analysis will be needed to define a specific route, operating plan and financing.

The stake holders and three tribes should consider a joint grant application to complete detailed planning and implementation activities, and possibly acquire vessels. Operations could be brokered with one or more private operators through a procurement process and renewable lease agreement.

Figure 1 Highlights possible priority service areas, Hubs and markets; however, the actual service areas should be based on public input and technical assessment of candidate options. Service enhancements and expansion of waterborne routes may occur if the initial pilot project achieves success. There are other strong candidates for service, as shown in the figure, building upon the efforts of communities like Three Bears, New Town and Garrison to become a Hub for water taxi service in the region. A revised map that depicts where the water taxi system can interface with local public transportation service.

ESTIMATED COSTS AND REVENUES

For the purposes of this feasibility study, general cost estimates were developed for four sample routes and types of SERVICE operating in the Lake Sakakawea area. Actual costs will differ somewhat based on the final operating plan and public–private responsibilities. These are total costs, regardless of how the service is funded or provided.

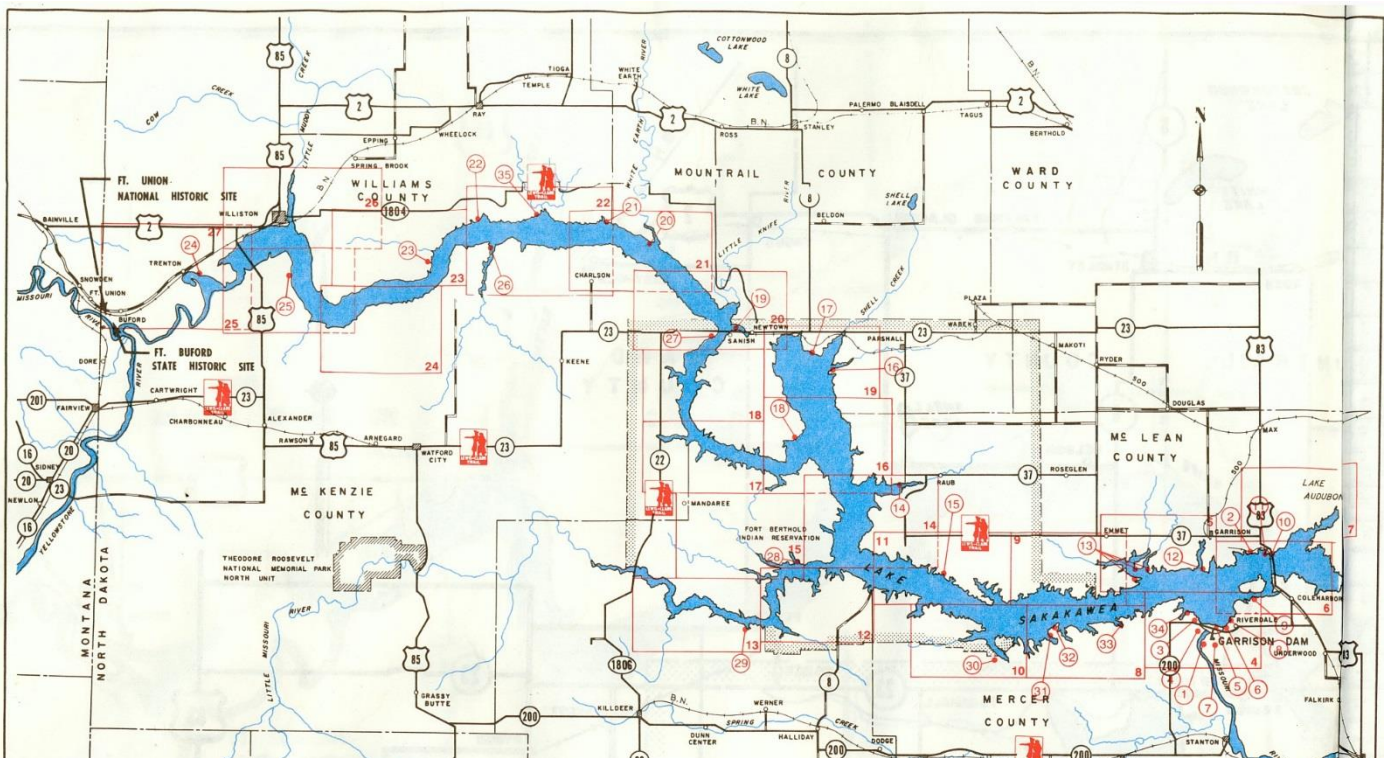
Capital costs for vessel acquisition range from $40,000 to more than $120,000, depending on the type of vessel. The type of vessels needed will vary by market and passenger loads. Liven the requirements for this region in terms of expected passenger demand, tides and weather conditions, a reasonable estimate is $60,000 per vessel for planning purposes. At least two vessels will be needed per route, depending on desired frequency, with a spare available for breakdowns.

It is expected that an initial pilot program would entail capital costs of about $280,000, and annual operating costs of just over $418,000. Obviously, the amount of public costs could be reduced through private contributions, exactions or participation.

Annual operating costs are likely to be in the range of $200,000 to 275,000 per route, or $1.275 million for a complete system comprised of three routes and four vessels operating seven days a week for 12 Hours of service per day, 9 months per year.

Funding sources include federal and state grants that are available or potentially applicable to cover capital and operating assistance for water taxi service. A local match is typically required. Three tribes has limited funding available from development contributions to participate with a local match in a grant program. Fares would likely cover no more than 50 percent of operating costs for commuter–oriented service assuming discounts would be given to monthly pass holders. Fares generally should be in the $4–$7 range, with commuter fares near the low end and recreational/tourist fares at the High end of the range. The local counties would need to develop developed an effective way of linking its water taxi system with its public transportation system by allowing unlimited use of its l–day and 5–day bus pass to apply to unlimited rides on the water taxi system. Other possible funding sources include revenue from advertising, promotions with public, private or non–profit entities, development exactions, and chartering the vessels for private functions and special events when the water taxi service is not operating. The oil industry may use the water taxi service to commute workers to the project sites.

Figure 1 – Recommended Routes and Priority SERVICE Areas



NEXT STEPS/IMPLEMENTATION ACTIONS

Along with the previous actions of the Three Tribes through its Comprehensive Plan and ordinance, this report is the first formal step in development of a waterborne transportation system for the Lake Sakakawea region. There are several subsequent activities needed to continue moving the program forward, if desired by the Stake holder and local governments. The actions listed below are generally in sequential order:

- Stake holder action is needed to endorse the concept of water taxi service and support development of a demonstration project;
- A more detailed operations/implementation plan is completed for a demonstration/pilot project. This should include developing ridership estimates, fares, more detailed operating costs, consultations with local operators regarding scheduling and vessel performance, and additional public involvement regarding specific terminals and routes;
- The Stake holder includes waterborne transportation in its 2030 Long Range Transportation Plan, ideally within the Cost Feasible element of the plan, indicating funding is likely to be available or commitments are in place for funding;
- A grant application is prepared, either jointly or individually, to obtain grant funds from the North Dakota Department of Transportation (NDDOT) or FHWA (Ferryboat Discretionary Fund) to initiate the demonstration project;
- Performance measures are established that focus on patronage (passengers per revenue hour) and operating subsidy (percentage of operating costs), with details and measurable targets defined through the Level II operations plan;
- Demonstration project initiated for a period to be determined;
- An inter-local agreement and/or governance agreement is developed to promote regional coordination, consistency and performance monitoring;
- A model ordinance is shared and adapted, as necessary, for individual local governments;
- Funds are identified for service expansion and/or enhancement, depending on results of the demonstration project;

Water taxi service will likely compete for congestion management funding and other Stake holder Transportation Improvement Program (TIP) funds, as service matures; however, it may be an effective way to attract additional funds for congestion relief, particularly if the service is regional in scope.

These steps could be modified or adjusted in terms of their order, but provide a basic framework of steps to achieve service development objectives.

MARKET OPPORTUNITIES AND CONSTRAINTS

This section presents an overview of potential service markets in terms of their opportunities, initiatives and constraints. Questions are identified for most sites that should be answered in a more detailed operating plan if a next step towards implementation is desired.

Potential locations:
New Town
Three Bears
Garrison
Parks and Recreation
Car Ferry Facilities

OPPORTUNITIES

Proactive city officials; popular and attractive waterfront; existing marina, Hotels, developments; including significant amount of residential development, and inclusion of water taxi in the comprehensive plan; improved inter–county transit service as ;indicated in the Tigers Grant report. Since congestion is likely to worsen as oil exploration gets back on track the service may help in reducing traffic on state highway routes

CONSTRAINTS

The following constraints would result in the water taxi service becoming non-viable:

- A public bus services is found to be non-feasible.
- The car ferry service is found to be none-feasible.
- Federal grants are not available for developing the project.
- Additional public review concludes that the water taxi service would not be used.
- Public funds are not available to support the grant applications.

QUESTIONS

Questions are to be determined after public input is obtained.

NEED FOR ADDITIONAL MARINE DOCKING FACILITIES

Water taxi docking facilities could be located at various locations including:

- Existing docks;
- Site seeing attractions;
- Camp Grounds;
- Construction Sites;
- Bus terminals;
- Towns;
- Developments and Subdivisions
- Near Schools

The locations of docking facilities could be determined after detailed review meetings with citizens.

OPPORTUNITIES

Prime visitor/tourist destination to Lake Sakakawea, state parks, recreational facilities and gaming operations at Three Bears are part of the viability for implementation and initiation of service. Tourist attraction could include:

- Garrison Dam
- State Fish Hatcheries
- Camp Grounds
- Fishing and Hunting sites

It would be desirable to package tickets for the water taxi and tourist activities, in conjunction with scheduled tours, which may create an attractive tourist draw.

EVENTS WATER BUS

As tourism grows in the area, consideration should be given to maintaining an events bus that can be used for dining, entertainment, weddings, and site seeing for large or small groups.

CONSTRAINTS

This location will need additional infrastructure/site development, including pedestrian facilities connecting dock with buildings, etc. The area has relatively small commuter demand, resulting from a lack of a strong mix of uses or density of population and employment.

VESSEL OPTIONS

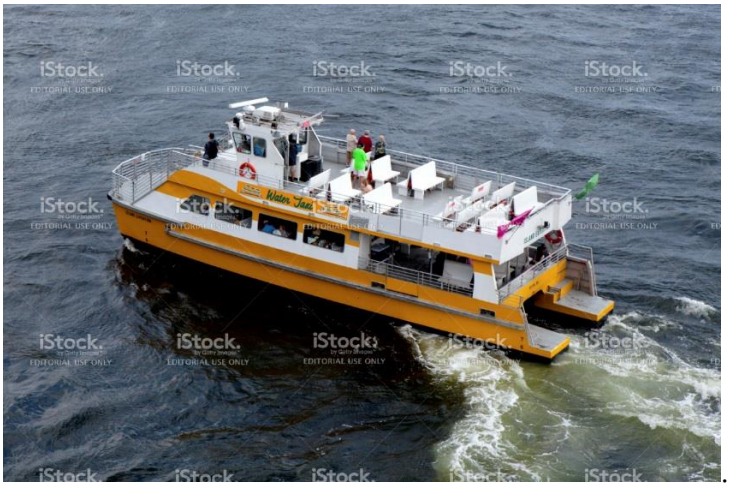
There are a large number of vessel types that may be suitable for one or more of the routes described above. Nearly all existing passenger–only ferry SERVICEs use one of the following vessel types: battery–powered electric monohull, diesel–electric Hybrid monohull, diesel monohull, diesel catamaran, or Hovercraft. Each type has benefits and drawbacks that make it suitable for some SERVICEs but not others. The factors affecting the selection of a vessel type include anticipated demand, water depth, navigational restrictions, and speed required. In general, electric monohull vessels are best suited for short, High frequency trips in weather–protected waters.

Battery–power electric monohulls are the only zero– emission marine vehicle currently on the market. They are clean and quiet but also rather slow and small. Some of the largest such vessels available currently in SERVICE are at the Edison–Ford Estates in Ft. Myers. These are 32' 6" long, carry 25 passengers, and cruise at 5.5 knots. They are well suited for much protected waters and short runs. They are typically limited to around l0 Hours between charges so multiple vessels are needed for a single route for SERVICE durations of greater than l0 Hours. With limited power available from the batteries, battery–powered vessels cannot provide air conditioning or Have any significant range.

Diesel–electric Hybrid monohulls produce very little emissions and are quite fuel efficient. By using a diesel generator to charge the vessel's batteries as needed, the can operate for much longer before needing to be refueled. The Ft. Lauderdale Water Taxi is a good example of this type of vessel. These vessels carry up to 52 passengers in climate–control cabins. The weight of the propulsion system limits the size and speed of Hybrid vessels so the new Ft. Lauderdale water taxis are the largest of this type of vessel available with existing technology.

Diesel monohulls can be rather large and are most efficient at low to medium speeds. The newest diesel engines are very clean and can be fitted with selective catalytic reduction systems to achieve emission levels comparable to those of buses and Heavy trucks. At low speeds, monohulls are very fuel efficient but as vessel speed increases, the amount of fuel required increases dramatically. Above 20 to 25 knots, almost all ferries are catamarans. Based on feedback from charter boat operators in the region, a larger vessel in the 60–65' range, such as this type or the diesel catamaran listed below, will be needed in the main channel of Lake Sakakawea due to wave conditions and frequently challenging weather conditions.

Diesel catamarans are the most common passenger ferries for services requiring medium to High speeds and carrying large volumes of passengers. Catamarans typically have more complex hulls and machinery, and are therefore somewhat more expensive to build than monohulls of comparable capacity. As with all Hull types, the final capital cost is highly dependent on the final outfit and level of finish



Hovercraft are well suited for areas where water depth or ice prevent the reliable operation of displacement craft. The noise traditionally associated with hovercraft has been reduced by the use of diesel instead of turbine engines. However, the maneuverability of hovercraft can be a challenge in areas of high winds, especially cross winds. Because there is no hull in the water, a head wind reduces vessel speed by the speed of the wind and a cross wind requires the operator to run at higher speeds.

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Hovercraft machinery also tends to require more maintenance than traditional propulsion systems.

OPERATING COSTS

LABOR

The size of the crew required is dependent on the number of passengers carried and the vessel's configuration. Prior to issuing a Certificate of Inspection, which is required to carry passengers, the local Coast Guard Marine Safety Office must approve the vessel's manning plan. It is strongly recommended that they be consulted early in the process to ensure the proposed plan will be acceptable. The following discussion is based on current operations and is provided as general guidance only.

For vessels with fewer than 50 passengers operating within protected waters, only one operator is generally required with the following stipulations:

- The route is relatively short and protected,
- there are four stops,
- each with a unique attraction,
- and the system is accessible for people with disabilities.

For budgetary purposes, the rate for the operator of this size vessel should be about $20 to $22 per hour, exclusive of benefits.

For larger vessels, a master plus at least one mate/deckhand per deck is the usual complement. The licensing requirements for the master on larger vessels are more stringent and a rate of $24 to $26 per Hour should be used for budgeting. Deckhands do not need formal training and should be budgeted at $10–$12 per Hour. If a crew of three is required, the operating budget should include $16 per Hour for a mate/mechanic.

FUEL & OIL

The cost of fuel becomes a more significant factor in the overall operating cost as vessel size and speed increase. For most vessels, doubling the speed will result in quadrupling the fuel consumed, if such speeds are even possible. For pure displacement Hulls, such as the electric and diesel– electric Hybrids discussed above, there is a speed, known as the "Hull speed", which cannot be exceeded by an appreciable amount regardless of the power applied. As long as the vessel is operated somewhat below Hull speed, the rate of fuel consumption will be relatively low. Marine diesel is budgeted at $2.95 per gallon.

MAINTENANCE

MACHINERY

For the purposes of this feasibility analysis, the machinery maintenance costs are estimated as a function of the amount of fuel consumed. This cost includes both regular maintenance, such as changing the oil and filters, and annual maintenance, which requires taking the vessel out of SERVICE. While the vessel is out of SERVICE, the annual inspection required by the Coast Guard is also conducted. For a 40 passenger, eight knot vessel, the annual maintenance cost is estimated at $10,000 per year.

HULL & OUTFIT

Hull and outfit maintenance costs are based on the number of passengers carried and includes daily and weekly maintenance as well as any work done during the annual haul–out, such as cleaning and painting the underside of the Hull. For a 40 passenger vessel operating 2,000 Hours per year, the annual Hull and outfit maintenance budget will be approximately $4,200.

TERMINALS

To ensure high quality SERVICE, all of the terminals within the system will require periodic cleaning and maintenance. Regular cleaning of the terminals will likely be done by the same personnel who clean the other transit stops within the system and will have a negligible impact on that budget. Annual maintenance of the terminal piers, gangways, and floats will primarily consist of painting and minor maintenance, with an annual budget of $2,100 per terminal per year.

MOORAGE

The annual operating budget should include the cost of overnight moorage for the vessels. For this study, a budget of $150 per month was assumed for each vessel.

INSURANCE

The three types of insurance required for vessel operations are hull machinery insurance, liability insurance, and pollution insurance. Hull and machinery insurance is based on the replacement cost of the vessel and generally costs 5¢ per $1,000 of value. For a 40 passenger, diesel mono hull with a replacement cost of $80,000; the hull and machinery insurance will cost about $1,500 per year.

Liability insurance is a function of the number of passengers carried annually and is a fixed amount for the initial $l million in coverage, a somewhat smaller amount for each additional $l million in coverage up to $5 million in total coverage, and yet another amount for each $1 million above $5 million. This liability insurance does not cover passengers before they enter the boarding facility or after they depart. For a system carrying approximately 5,000 passengers per year, $2 million in total coverage will cost about $3,000 per year.

Pollution insurance is required to cover the cost of any accidental fuel, oil, or other hazardous material spills. It is not required for electric boats. The amount of pollution insurance required is a function of the size of the vessel and the amount of fuel carried.

MANAGEMENT & ADMINISTRATION

The operation of a waterborne transit system will require some support from personnel on shore. This shore–based staff will be responsible for managing the crews, scheduling maintenance, and ordering supplies. In addition, customer SERVICE and/or marketing support may be required, depending on the relationship between the waterborne SERVICE and the rest of the transit system administration.
For a system comprised of two or fewer vessels, the maintenance planning can be performed by the Chief Master, in which case only a general manager will be required. For a fleet of three vessels or more, a general manager, port captain, and an administrative assistant would be recommended. The annual budget for a General Manager should be $65,000; for Port Captain, $50,000; and for an administrative assistant, $25,000. Benefits will add an additional 25 to 30 percent to these rates.

OVERHEAD

Overhead costs include dock access fees, overnight vessel moorage, rents, utilities, license fees, etc. In addition to the administrative offices, a small workshop for vessel maintenance and parts storage will be required. The total overhead costs can be estimated at 12 percent of all other operating costs.

SAMPLE ROUTE COST ESTIMATES

For Each part of the study area, a sample circular route was developed and the capital and operating costs estimated. The results are shown in the tables below.

	Route Costs			Overhead Costs
	West	Central	East	
Operating Days/Week	7	7	7	
SERVICE Hours/Day	12	12	12	
# Vessels on Route	1	1	1	
Vessel Size (passengers)	40	40	40	
Minimum Headway	0:58	0:38	0:44	
Annual Operating Hours	6,636	6,636	7,454	
Round Trips/Day/Vessel	6	9	5	
Daily Round Trip Capacity	240	360	200	
Fuel				
Gallons/Hour	5.0	5.0	5.0	
Gallons/Year	24,197	24,197	41,296	
$/Year	$ 71,381	$ 71,381	$ 121,893	
Lube Oil				
Gallons/Year	2,473	2,473	3,473	
$/Year	$ 4,463	$ 4,463	$ 6,946	
Operator				
$/Hour	$ 26.00	$ 26.00	$ 26.00	
$/Year	$ 82,240	$ 82,240	$ 82,240	
Maintenance				
Machinery	$ 5,000	$ 5,000	$ 5,000	
Hull & Outfit	$ 5,000	$ 5,000	$ 5,000	
Terminals	$ 1,350	$ 1,350	$ 1,350	
Insurance				
Hull & Machinery	$ 1,500	$ 1,500	$ 1,500	
Liability & Pollution				$ 10,000
Homeport Moorage	$ 1,350	$ 1,350	$ 2,200	
Office Rent				$ 2,400
Maint. Shop Rent				$ 3,800
Management & Admin				
General Manager				$ 65,000
Port Captain				$ 0
Admin Assistant				$ 25,000
Total Salaries				$ 90,000
Benefits				$ 30,000
Total Shore Personnel				$ 120,000
Direct Costs	**$ 181,284**	**$ 181,284**	**$ 226,129**	**$ 418,697**
Overhead	$ 35,000	$ 35,000	$ 50,000	**$ 120,000**
Total Costs	**$ 216,284**	**$ 216,284**	**$ 276,129**	**$ 538,697**
Total System Cost				
Vessel Acquisition	**$ 80,000**	**$ 80,000**	**$ 80,000**	**$ 240,000**

Table 6 – Sample Cost Estimates

REVENUE SOURCES

Funding for waterborne transportation can come from various sources, potentially including grant assistance from the Federal Highway Administration's Ferryboat Discretionary Program and the North Dakota Department of Transportation's transit funding program. The latter program may be particularly effective for service that provides an alternative for congested bridges and roads on the state highway system. Those sources may be used for both capital and operating costs¡ However, they are typically limited in duration, with the expectation that local sources will eventually be used to cover costs.

More than likely, there will be a need for 20% local funding to cover development costs to initiate water taxi service, and to cover operating costs not covered by passenger fares, fees or advertising revenue. Revenue from fares can be expected to cover up to 60 percent of operating costs for commuter–oriented service, and a higher percentage of operating costs for recreational service. The reason for this difference is that recreational travelers are generally more willing to pay a higher fee for a one–time trip, whereas commuter service fares must be low to attract riders to the service.

One opportunity to assist with local funding match for a demonstration service in Lake Sakakawea is the Three Tribes small trust fund for public transportation that can been created from gaming incentives. The Three Tribes have indicated an interested in starting a new transit system to serve various communities' and developments and points of interest/activity. As part of the transit system a water taxi system could be a potential project for funding as well.

Private contributions from advertising, in–kind contributions and developer–incentives from other jurisdictions should also be considered as viable sources. In addition, the vessels could be made available for private charter or used for special events to generate additional revenue.

Fares for the service would most likely fall within the $3 to $8 range. For comparison, the Ft. Lauderdale water taxi charges $5 per day for unlimited rides. The fare should be set so that a reasonable amount of operating costs can be recovered relative to any public funding commitment for ongoing waterborne transit operations.

The fare structure can help create a more seamless system between water taxis and the existing public transportation system. Ft. Lauderdale's system allows patrons who purchase a l–day or 5– day bus pass for Broward County Transit to use the same bus pass for the water bus system. Even though the Manatee Island Trolley is free, a similar system would Help market and broaden access to other elements of the transit system.

IMPLEMENTATION ACTIONS

Guidance from a public workshop in 2017 could suggested that a pilot program should be initiated to demonstrate the potential value and feasibility of water taxi service in the region. Although there are several viable service markets and potential routing options, the Three Tribes has gone farthest among local governments in preparing for a bussing service Comprehensive Plan. It is important that other local governments participate as well, particularly considering the regional nature of this concept and its applicability to other areas. The lessons learned from the demonstration project will be helpful to reviewing the feasibility of an expanded water taxi service throughout Lake Sakakawea.

There are several logical steps that should be followed to move from water taxis as a desirable concept to reality.

- First, from a state or federal grant funding perspective, it is important that the Stake holder endorse the feasibility of water taxi service and agree in principle to partner with the Three Tribes on a demonstration project.
- Most grant funds for transportation go through the Stake holder, so the support of the Stake holder Board is imperative.
- The Stake holder would then need to include development of a water taxi system as part of its adopted Long Range Transportation Plan, preferably as part of the Financially Feasible list of projects based on reasonably available funding or specific funding commitments from one or more sources.
- Second, a more detailed Level II implementation plan is needed to define operations and design considerations, including specific routes and stops.
- The Three Tribes should gather data to support this analysis. The Stake holder and Three Tribes could partner on a more detailed implementation Phase, but such a partnership is not necessary.

A more detailed implementation plan is needed to move the project forward. This can be a substantial undertaking, and would include estimating patronage, refining operating costs, defining terminals and vessel requirements, developing fares and the proper funding mix, and defining the process for private sector participation.

A grant application may be pursued either with the Stake holder as a partner or solely by the local government. Governance is an important consideration because of consistency of service and inter–jurisdictional connections. It is not necessary to have one system operated by a single regional entity or governmental oversight agency as long as inter-local agreements are in place regarding basic operations and minimum standards. However, a joint board or authority may be desirable if public transportation evolves in that direction and shared expenses/revenue becomes an issue.

SUMMARY AND CONCLUSIONS

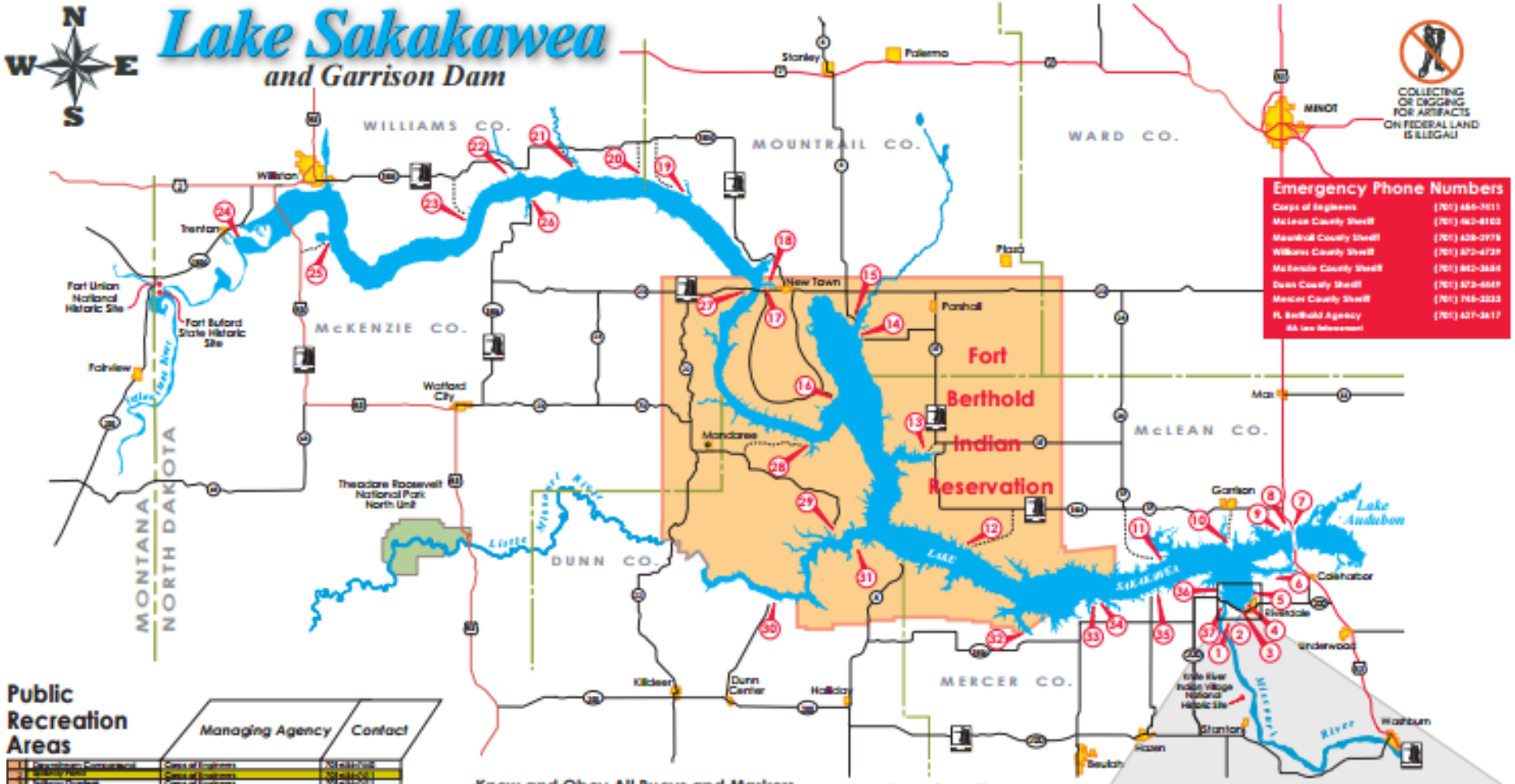
This report provides information that is intended to help frame the discussion of local stakeholders regarding the feasibility of initiating water taxi service in the Lake Sakakawea region. What is considered feasible is ultimately a policy decision by local elected officials. The basis for that decision includes the estimated costs of operating the service, the plans for terminals or receiving areas where service would originate or reach a destination, the potential demand for service, and its ability to provide an alternative to other modes in remote areas.

Based on this analysis, it is recommended that the more feasible types of service in the multi-county area would focus primarily on the recreational market, rather than purely commuter–oriented service, and that service routing would link key destinations where travel time, comfort and convenience support the service. However, it is anticipated that direct and frequent recreational–oriented routes would also attract commuters who work in the oil and gas industry.
If the Stake holder desires to move this initiative forward, next steps include incorporation of waterborne service into the Stake holder's 2030 Long Range Transportation Plan and working with the Three Tribes to prepare a detailed operating plan to initiate service. Charter boat operators interested in partnering to help deliver water taxi service need to be invited to take an active role as stakeholders in developing the operating plan, developing vessel performance requirements, and participating in the process to decide how best to organize and govern the implementation of service from the pilot program to regular service.

Potential roles for government in this endeavor may vary considerably. There is a hierarchy of several roles that one or more government entities can fulfill:
Setting minimum standards for operation;
Planning for SERVICE and securing facility space for docking, ticketing and parking¡
Subsidizing operations for desired service markets;
Procuring vessels and contracting for operations through a Request for Proposals;
Complete turnkey operations with government ownership and operations, much like public transportation is now run in multiple counties. This could entail some form of private contracting for one or more service functions.

Water taxi SERVICE is feasible as part of the transportation solution in the Three Tribes region if the Stake holder and its partners can ensure delivery of several essential factors. These include whether the service is adequately funded, routes are direct and positioned well to serve key destinations through careful land use/redevelopment planning and design with equal partnership from the private sector for operations, the service is aggressively marketed and promoted, and terminals are supported by an effective public transportation system operating at the same hours of service, and a connected public bus network. Liven the area's growth to more than 10,000 people by 2030 and its resulting traffic congestion challenges, creative development of alternative travel options to expand choices available for all types of travel needs is an imperative closely linked with the region's continued economic vitality and mobility.

Lake Sakakawea and Garrison Dam



Emergency Phone Numbers

Corps of Engineers	(701) 465-7011
McLean County Sheriff	(701) 462-8103
Mountrail County Sheriff	(701) 628-2978
Williams County Sheriff	(701) 572-4729
McKenzie County Sheriff	(701) 842-3484
Dunn County Sheriff	(701) 573-4569
Mercer County Sheriff	(701) 745-3333
Ft. Berthold Agency BIA Law Enforcement	(701) 627-3617

Public Recreation Areas

	Managing Agency	Contact
1	Corps of Engineers	701-465-7011
2	Corps of Engineers	701-465-7011
3	Corps of Engineers	701-465-7011
4	Corps of Engineers	701-465-7011
5	Corps of Engineers	701-465-7011
6	Corps of Engineers	701-465-7011
7	Corps of Engineers	701-465-7011
8	McLean County	701-462-8577
9	ND Parks & Recreation Dept.	701-328-5357
10	Corps of Engineers	701-465-7011
11	Corps of Engineers	701-465-7011
12	Corps of Engineers	701-465-7011
13	Mountrail County Park Board	701-628-2979
14	Mountrail County Park Board	701-628-2979
15	Three Affiliated Tribes	701-627-3627
16	New Town Park Board	701-627-3808
17	New Town Park Board	701-627-3808
18	Mountrail County Park Board	701-628-2979
19	Williams County Water Resource District	701-774-7500
20	Williams County Water Resource District	701-774-7500
21	ND Parks & Recreation Dept.	701-328-5357
22	Williams County Water Resource District	701-774-7500
23	Three Affiliated Tribes	701-627-3627
24	Three Affiliated Tribes	701-627-3627
25	Watford City Park Board	701-842-3866
26	Dunn County	701-573-4569
27	Three Affiliated Tribes	701-627-3627
28	Three Affiliated Tribes	701-627-3627
29	Three Affiliated Tribes	701-627-3627
30	Dunn County Park Board	701-573-4569
31	Three Affiliated Tribes	701-627-3627
32	Three Affiliated Tribes	701-627-3627
33	Three Affiliated Tribes	701-627-3627
34	Three Affiliated Tribes	701-627-3627
35	Three Affiliated Tribes	701-627-3627
36	Three Affiliated Tribes	701-627-3627
37	Three Affiliated Tribes	701-627-3627

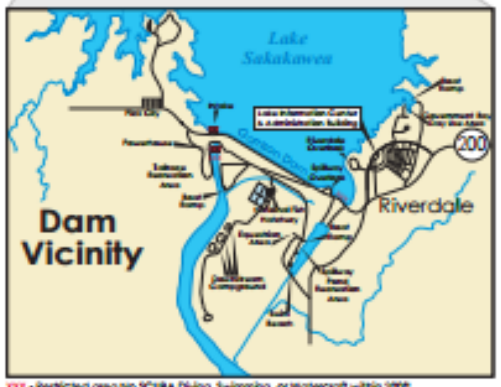
Know and Obey All Buoys and Markers

All Federal lands at Lake Sakakawea are governed by the regulations set forth in Title 36, Section 327. Copies of the "Rules and Regulations" are available at the project office and on bulletin boards on Federal lands.

Scale in miles

Paved Road
Gravel Road
County Line

Tribal Headquarters
Three Affiliated Tribes
(701) 627-3627



XXX - Restricted area no SCUBA Diving, Swimming, or Watercraft within 300ft of Powerhouse, Intake, or Spillway structures.