Boats can speed people and cargo to their destinations, reduce air pollution and relieve traffic congestion. But there are challenges:

- **ENVIRONMENTAL ISSUES**
- **INSUFFICIENT PUBLIC/PRIVATE SUPPORT**
- **LACK OF LAND-SIDE TRANSIT CONNECTIONS**
- **NO STANDARD DESIGNS FOR VESSELS AND LANDINGS**

Solutions? Turn the page...
MASS WATER TRANSIT

Our subways and buses are more crowded than ever; our streets, bridges and tunnels are choked with cars and trucks – and the city’s greatest natural resource flows by, largely untapped for mass transportation. The couple dozen ferries that crisscross the harbor and rivers, linking boroughs and states, are a far cry from a century ago when more than 110 ferry lines carried passengers and freight around the metropolitan region.

At a time when we are seeking sustainable solutions in many ways, expanded ferry service unquestionably serves the public interest. Ferries can speed people to their destinations, reduce air pollution and relieve traffic congestion. Ferries can also reach areas underserved by other modes of mass transit such as the subway system and be cost competitive, since the building of a network of docks costs far less than the construction of a tunnel.

**Water Transit: A Short History**

Henry Hudson, an English explorer for the Dutch East India Company, sailed into this mighty harbor 400 years ago and was struck by the area’s strategic prospects for trade and transportation. Once the European outpost was established, the waterways soon grew crowded as trade flourished and vessels brought immigrants to the new land.

The colony’s first ferry service was launched in 1642, between Manhattan and Brooklyn. By 1807 Robert Fulton had developed a steamboat, and soon steam-powered ferries connected Brooklyn and Hoboken to Manhattan. By 1870, East River ferries alone carried 50 million passengers a year.

Early in the 20th century, however, waterborne transit began to wane. As automobiles became more popular, new bridges and tunnels offered alternative river crossings. Government hastened the decline by raising the price of a ferry trip while removing tolls at bridges. By 1968, the Staten Island Ferry was the only waterborne passenger service in the region.

Ferries began to make a comeback locally in 1986, when Arthur Imperatore launched the first NY Waterway boat. Today, dozens of ferries owned by NY Waterway, NY Water Taxi, BillyBey, SeaStreak and other private operators carry approximately 40,000 passengers every day on the region’s waterways, complementing the Staten Island ferry’s 19 million annual riders.
Mass Water Transit Today

New York’s great avenues of water, once teeming with vessels of all types and sizes, are relatively quiet in the early 21st century. Too quiet, considering that the region is growing at its fastest rate in 50 years and urgently needs greater transit capacity and access.

Day after day the tidal rivers flow, unaffected by problems that have paralyzed our transportation systems in the past such as black-outs, labor strikes or acts of terror. Unlike our crowded highways and jammed train platforms, the waterways offer new space to support the region’s transit needs.

City and state government are beginning to re-embrace waterborne transportation options. “This is an important time in our region,” says Janet Cox, general manager of ferry services for the Port Authority of New York and New Jersey. “We need to have redundancy in our transportation network. If PATH is not working one day, how are we going to move people from New Jersey to New York?” The Port Authority supports private ferry operators with capital funds for infrastructure. New or refurbished terminals funded by the Port Authority will be completed soon in Battery Park City and Hoboken.

In spring 2008, City Council Speaker Christine Quinn and Mayor...
Michael Bloomberg launched new public transportation in the form of affordable ferry service linking Queens, Brooklyn and Manhattan, part of a wide expansion of ferry routes that the city is planning. Hailed as forward-looking policy, the development of a comprehensive ferry system for the NYC region will lessen burdens on other transportation modes, create more access to the waterfront and move people in a manner that can be less polluting to the environment.

The notion of taking a ferry instead of a bus, subway or taxi is appealing. It’s often a faster trip to one’s destination – the trip from Bay Ridge, Brooklyn to Midtown Manhattan, for example, is cut from an hour on wheels to 20 minutes by ferry – and you can’t beat the views.

So what’s holding up this terrific transit alternative from rapid expansion? Two overriding obstacles: affordability and access.

Not subsidized like other forms of mass transit, most ferry routes are forced to charge fares that are higher than those charged by the city for a bus or subway ride, leaving the fast, scenic, reliable ferry unaffordable for many. To make matters worse, not only are docks scarce around the city, but other types of transportation – buses, in particular – are not usually connected to the few docks in place.

Development along the New York/New Jersey waterfront – particularly in the form of new parks and luxury housing – is growing. As more and more decision makers recognize that docks are critical to the success of shoreline development, transportation agencies and companies can work in tandem, providing ferry landings on the water side and mass transit connections, bicycle lanes and sidewalks on the land side.

City, state and federal government agencies have committed funds to the expansion of ferry service in the metropolitan area, but some of these lie untapped. The funds must be spent—or they may be lost.

“Finding ways to move more people more efficiently is what the Port Authority is all about. Ferries are a key piece of the transportation puzzle”

- Christopher Ward, Executive Director, Port Authority of New York & New Jersey, June 2008
CALL TO ACTION

What better way to commemorate the 400th anniversary of Henry Hudson’s historic 1609 voyage (as well as more than 200 years of ferry transit technology) than by expanding state-of-the-art waterborne transportation options in the metropolitan region? The urban planners, transportation officials and ferry operators convened by the Metropolitan Waterfront Alliance to form the Mass Water Transit Task Force have discussed the myriad challenges and developed practical, creative solutions for the best ways to move goods and people by water.

AIR POLLUTION FROM DIESEL FUEL

A mid-sized passenger ferry can carry 10 times the number of people as the average bus. The Staten Island ferry carries triple the number of passengers as a crowded subway train. Oil and construction barges can transport hundreds of times the amount of cargo aboard a typical 18-wheel truck. So what’s the problem? Because marine engines do not have to comply with the same federal emissions regulations as those in cars and trucks, diesel fuel exhaust from boats of all sizes pollutes the air. This happens in transit, of course, and also when vessels idle dockside. New rules on marine emissions are scheduled to come into effect in 2012, but that date has already been postponed once and could be postponed again.

To reduce emissions, vessel operators must switch to cleaner fuel, but ultra-low sulfur diesel (ULSD) for boats is hard to find. The few facilities that do offer it are not located near marine enterprises, making it impractical for most operators to fill up with ULSD no matter how willing they are to do so.

SOLUTION

MAKE CLEAN FUEL AVAILABLE FOR BOATS

In 2008, New York City mandated the use of less polluting, ultra-low sulfur diesel (ULSD) by city-owned ferries. The City Council has proposed legislation that would extend the ULSD regulation to private ferries. Going forward,

• Encourage bulk purchase of low-sulfur diesel, ultra-low-sulfur diesel or bio-diesel to help lower the cost of clean fuel for smaller operators.
• Provide electric power to cruise and container ships that now idle their diesel engines when docked.
• Set aside public funding for commuter ferries that use cleaner fuel, similar to the subsidizing of clean fuel for school bus fleets.
LACK OF LAND-SIDE TRANSIT CONNECTIONS

Commuters and tourists disembarking from a ferry generally need to connect with another mode of transportation to continue their trips, but in most cases there is no easy transfer from a boat to a bus or a train. Bus routes generally do not extend to the water’s edge, and subway stations are often far from the shoreline. Sidewalks and bike paths to ferry hubs also need improvement.

CHALLENGE

DEVELOP NEW FERRY HUBS

• Identify specific waterfront gateways.
• Extend public transportation lines closer to the shoreline.
• Broaden MetroCard or SmartCard technology to include ferries.
• Augment public operating subsidies to include all ferry services (building on NYC’s new subsidized route from the Rockaways to Wall Street).
• Provide start-up funds for new routes.
• Encourage a trend seen at major new waterfront complexes such as those under construction along the East River and in Bayonne and Elizabeth, NJ, where developers recognize the added value of ferries at their doorsteps and are including landings at their sites. Ferry service at a particular location cannot be sustained, however, if only people who live or work in the immediate area are served. Transportation planners must be included in the design process and upland connections must be provided. Parking lots may be necessary where good transit connections do not exist.

PLAN FOR CLIMATE CHANGE

• Consider designs for floating terminals that would be less affected by a rise in sea level. Remember that waterfront facilities may be damaged by storm surges and floods.
• Make provisions for the possible curtailing of the operations of lighter vessels, which could be affected by floating debris following catastrophic storms.
NO COORDINATED PLANNING, OPERATIONS OR SCHEDULING

Those working to increase the viability of ferry service in the NY/NJ region are hampered by the absence of a lead agency, one that would take a regional approach to mass transportation planning efforts.

Every day hundreds of thousands of commuters travel across city and state lines: from New Jersey or Connecticut to New York, from New York to Westchester, or from Connecticut to New Jersey. Most highway and rail transit providers overcame some of these boundaries long ago— but not ferry operators. Coordination among transportation and planning agencies in NYC and the three states is necessary if ferry landings are to be strategically located and operators are to provide effective service.

When power fails in the city, as it did in 2003, commuters can overwhelm the ferry system.

SOLUTION

ESTABLISH A COMPREHENSIVE FERRY POLICY

MAKE FERRIES PART OF THE REGIONAL TRANSPORTATION SYSTEM

- Extend bus transit routes to serve ferry landings.
- Improve connections between rail and ferry hubs.
- Improve accessibility to ferry landings for pedestrians and cyclists.
- Introduce children to the water by getting every school class on a ferry (see example at right).

PROMOTE MORE EFFICIENT USE OF BOATS TO LOWER COSTS FOR

- Use smaller vessels during off-peak hours.
- Use ferries during off-peak daytime hours for tourists’ sightseeing trips.
- Use ferries during nighttime hours for freight transportation and cross-subsidize ferry and freight companies, an arrangement that would require close coordination between agency and company executives.

All Hands on Deck

All Hands On Deck is a program coordinated by the New Jersey Marine Science Consortium and the New Jersey DOT Office of Maritime Resources that introduces schoolchildren to marine commerce and the environment of the water and waterfront. Lessons in maritime history are complemented by tours of marine facilities of the Port of New York and New Jersey as well as visits to aquaria with harbor-indigenous species. The long-term goals of All Hands on Deck include career development in the local maritime industry, support of sustainable harbor practices, protection of the environment and stewardship of a precious resource.
INSUFFICIENT PUBLIC/PRIVATE SUPPORT

Due to rising costs of fuel, staff, maintenance and operations, ferry tickets are becoming more expensive. With fewer people opting for ferries because they are the costlier alternative, some operators are struggling and have been forced to reduce service.

Surprisingly undervalued, ferry service receives far fewer government subsidies than other forms of mass transit (although the NYC Council's 2008 decision to subsidize a new ferry route between the Rockaways and Lower Manhattan bodes well). For instance, subway cars and commuter buses all have as much as 80% of their capital costs covered by federal transportation funds. Public support is also available for roads, bridges, tunnels and tracks. With the exception of the Staten Island ferry, however, all ferries, crews and fuel in our region are financed by private companies.

SOLUTION

USE FERRIES AS ECONOMIC DEVELOPMENT TOOL

SUBSIDIZE FERRY SERVICE

- Help keep fares affordable for commuters.
- Funnel capital investment funds toward new docks – much less expensive to build and therefore a much easier sell than a new tunnel.
- Provide mass water transit services to neighborhoods historically underserved by subway or bus lines.

INTEGRATE HARBOR-WIDE FERRY SERVICE WITH

- New shoreline developments in Brooklyn and Bayonne.
- Tourist destinations such as Governors Island and Coney Island.
- Existing waterfront communities such as Roosevelt Island or Staten Island's South Shore.

MARKET FERRY SERVICE TO TOURISTS AND COMMUTERS

- Target sightseers and the cruise industry.
- Promote greater use of high-speed ferry service connecting Lower Manhattan – surrounded on three sides by water–to airports (a much less expensive alternative to a $6 billion rail link discussed by elected officials).

Government-Owned Boats

NJ Transit and NYC Transit purchase buses and lease them back to private operators. Transportation experts suggest that a similar arrangement would work well for ferries and water taxis.

CREATE JOB TRAINING PROGRAMS

- Get high school students interested in maritime work.
- Continue maritime career opportunities with paths to colleges such as Stevens Institute of Technology, SUNY Maritime and the US Merchant Marine Academy.
LACK OF STANDARD DESIGNS FOR VESSELS AND LANDINGS

Most ferry landings are configured for only one type of boat design, which can limit use by others. Sideloaders, for example, may not be able to use the same dock that a frontloading or bowloading vessel uses.

Many waterfront esplanades and piers in the metropolitan area lack the equipment necessary for boats to dock safely. Standard bollards (thick metal posts for attaching dock lines), dock cleats (metal pieces on which ropes can be tied), gates and fenders are lacking from most waterfront development plans. This is not only a matter of efficiency and convenience. In case of emergency, boats can be used to transport people to safety, making standard docking hardware along the rivers’ edges imperative.

SOLUTION

DEVELOP DESIGN GUIDELINES FOR NEW FERRY TERMINALS, PIERS AND BULKHEADS

• Design ferry landings to accommodate all types of boats, whether they load from the bow, stern or side.
• Include fendering, cleats and bollards in standard design guidelines for waterfront infrastructure, so that ferries and water taxis may tie up securely and shut down their engines while loading and unloading.
• Utilize floating docks to ensure that ramps between boats and land are accessible at all times.

The tide level in and around the harbor can range from 4 1/2 to 8 feet.

Operating Subsidies from Private Developers

As the value of waterfront sites increase with expanded waterborne transportation connections, private developers and property owners may have a future role to play in supporting the operations of ferry service. Already, private companies like UBS and Goldman Sachs help fund ferry routes to better connect their employees to their work places.
While waterborne transportation is a more environmentally friendly option than land-based transportation, there's room for improvement in terms of wake damage. Wakes from passing vessels can damage or erode shoreside infrastructure, natural habitats, and even other vessels. Wakes are determined by a vessel's size, hull design and speed, and are especially damaging in environmentally sensitive areas.

**SOLUTION**

**MINIMIZE WAKES WITH TECHNOLOGY AND ENFORCEMENT**

**SAVE MONEY WITH BETTER VESSEL DESIGNS**

- Utilize lighter, more efficient hulls that reduce damaging wakes.
- Consider alternative propulsion methods.
- Invest in low-emission engines and high-grade mufflers.

**ENFORCE EXISTING WAKE RULES**

- Some local waterways, such as the Harlem River, are “No Wake Zones,” which means vessels must be operated at a speed minimizing wake production. (In all cases, state law forbids operating a boat within 100 feet of the shoreline at more than five miles per hour.)
A Letter from the President of the MWA

In an unprecedented series of meetings, hundreds of leaders of maritime organizations, government agencies and businesses came together over the course of a year to address issues relating to the stewardship and redevelopment of the New York and New Jersey waterfront. This is the Metropolitan Waterfront Alliance.

Divided into six Task Forces, they shared their expertise and collaborated across boundaries, recognizing that timing is crucial. Critical land use, regulatory, and environmental decisions made now will determine the success or failure of efforts to reclaim the waterfront for public use, preserve the water-dependent businesses that underlie our quality of life, and nurture the recovery and health of our harbor estuary.

This is one of six policy papers drawn from hundreds of hours of discussion and debate and informed by a wide range of practical knowledge. These papers provide background on key issues and offer a series of challenges and solutions. Together they led to the Waterfront Action Agenda, which is forward-looking, as well as socially, environmentally and commercially responsible. Civic and political leaders take note: our waterfront is not what it could be.

Following the prescriptions set forth in the MWA Waterfront Action Agenda, we can begin to realize our Harbor’s potential.

- Roland Lewis
President and CEO
Metropolitan Waterfront Alliance

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