

New York Ferry Emissions -- 2003

Bluewater Network October 13, 2003

This analysis compares the air emissions from three existing commuter passenger ferries in New York Harbor to current landside alternatives on a per passenger mile basis. The comparison indicates that ferries produce 20 to 200 times more pollution per passenger mile than other transit options, including single-occupant cars, diesel buses and trains.

The air pollution from these vessels must be reduced by at least 95 percent in order to minimize emissions to be commensurate with automobiles, buses and trains. The problem is that while cars and buses have become 97 percent cleaner over the past three decades, marine engines remain uncontrolled.

The 2003 air pollution comparison was based on current per passenger emissions from three existing routes and ferry engines: Highlands Ferry, Weehawken Ferry and Staten Island Ferry. The landside alternative was based on the average per passenger emissions from automobiles, diesel buses and trains operating in 2003.

The two most problematic criteria air pollutants were analyzed: nitrogen oxides and particulate matter. Nitrogen oxides produce smog in the presence of airborne hydrocarbons when exposed to heat and sunlight. Particulate matter is comprised of tiny particles of unburned fuel resulting from incomplete engine combustion that lodge in human lungs, and are a leading cause of respiratory disease and cancer.

The comparison between ferries and other transit modes becomes even starker after new federal emissions standards for ferries take effect in 2007. A study titled "Air Pollution from Passenger Ferries in New York Harbor" released by Bluewater Network in July 2003 found that by 2007 ferries will produce an astounding 100 to 1,000 times more per air pollution passenger mile than other transit modes as a result of stronger air pollution standards for cars and buses that will take effect in 2007.

The current state of NYC's air quality makes it critical that any increase in air emissions be prevented. For the third year in a row, all of New York City's five boroughs have failed the American Lung Association's *State of the Air* Report. Addressing the quality of the air is a critical public health concern as over 1.1 million people in the New York City metropolitan area and one out of every ten NYC schoolchildren suffer asthma, a chronic and often debilitating disease. Currently, elevated ozone levels in New York City cause over 100,000 people to visit the emergency room and over 36,000 people to be admitted to the hospital each summer.

Passenger ferry service has doubled in New York Harbor since September 11, 2001, providing first emergency service, then regular public transit for commuters and other travelers heading to Manhattan. New terminals have been built and additional ferries put on the water, creating one of

the largest ferry systems in the United States with more than 50 vessels making more than 1,000 trips per day.

Water transit makes absolute sense for traversing the Hudson and East Rivers, freeing commuters from the tyranny of bridges and tunnels. However, the ferry expansion has been conducted with very little, if any, environmental review. Collectively, these interrelated projects have the potential to create tremendous impacts on the harbor and the air quality of the region.

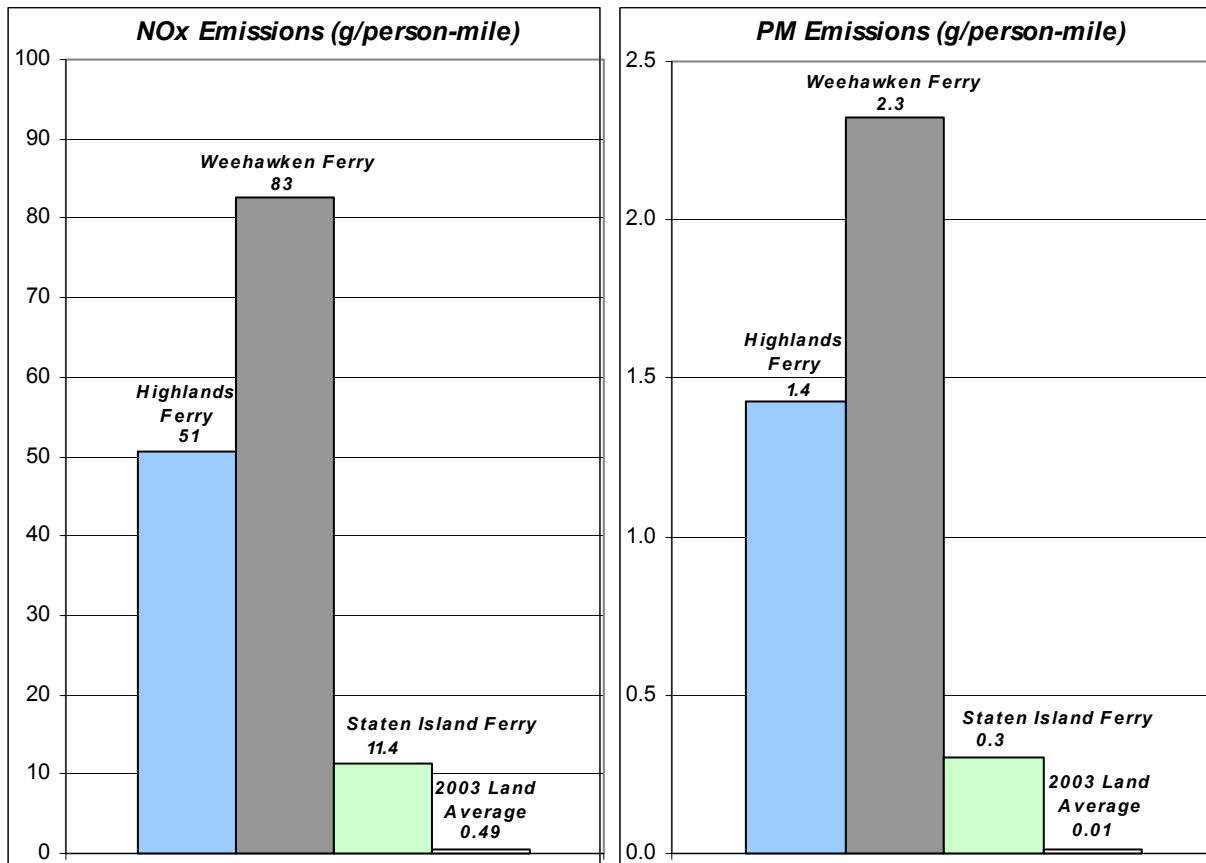
The City and State of New York recently announced funding for an initiative to explore ways to reduce emissions from the existing ferry fleet with a goal of 75 to 90 percent reductions from current uncontrolled engines. This is an important research and development project that will help determine the feasibility of retrofits for the commuter fleet.

However, the initiative does not require that the ferry fleet utilize new fuels or technologies beyond the short-term pilot projects. Neither does it address the number of new vessels being built today and put into service under pre-2007 emissions standards that will operate on dirty engines for decades to come.

New technologies and cleaner fuels that are cost-effective and available today can be utilized to make ferries substantially cleaner in far less time than what has been proposed by New York City and State governments. The need is for New York policymakers to mandate cleaner fuels and new technologies on existing and new vessels in the harbor. The California legislature and other state agencies have already developed emissions reductions requirements for existing and new vessels, and such programs could easily be instituted in New York, bringing rapid reductions in emissions from the expanding ferry fleet.

In 2003, the California legislature passed legislation (SB915) requiring that any new vessel built by the San Francisco Bay Area Water Transit Agency be ten times cleaner than typical diesel ferries operating in the U.S. today (such as the ones in New York Harbor). In 2000, the California legislature passed a bill (AB 2135) that requires ferries to use the nation's cleanest diesel fuels, resulting in significant reductions in nitrogen oxide and fine particle emissions.

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Commute Option		Emissions (g/person-mile)			
		Highlands Ferry	Weehawken Ferry	Staten Island Ferry	2003 Land Average
Pollutant					
NO_x		51	83	11	0.49
PM		1.4	2.3	0.30	0.010
Reduction Needed for Parity with 2003 Land Average	NO_x	99.0%	99.4%	95.7%	
	PM	99.3%	99.6%	96.7%	

NO_x Emission Inventory New York/New Jersey Area, 2003

	Emissions (tons/day)	
	Emissions	Percentage
Total	1,258	100%
Commercial Marine	33	2.6%
All ferries	6.45	0.51%