

GreenPort 2016 of Baltimore

Annual Review

The Port of Baltimore: On Board with Excellence

The Maryland Department of Transportation’s Port Administration (MPA) champions success on three fronts: the economy, the environment, and our neighboring communities. This effort continued in 2016 through a combination of existing programs and new initiatives, aimed at deriving the best possible results for all stakeholders in and around the Port of Baltimore.

Infrastructure improvements and cargo-handling efficiency continued to position Baltimore as a thriving center of maritime commerce. The port was recognized for its productivity and, thanks to renovations at the Seagirt Marine Terminal, saw the arrival of its first “supersize” cargo ship. Visits by Governor Hogan, Senator Ben Cardin, Major General Donald Jackson of the U.S. Army Corps of Engineers, and Administrator Shawn Garvin of the U.S. EPA Mid-Atlantic Region underscored the importance of port operations.

The MPA continued taking proactive steps for environmental stewardship, with a focus on air quality. A federal grant of nearly \$1 million will help reduce emissions from port-related equipment, complementing the



Officials and community members celebrated a \$1 million grant to reduce emissions from port-related equipment. Pictured here (left to right) are Shawn M. Garvin, former administrator for the U.S. EPA Mid-Atlantic Region; Edie Brooks and Gloria Nelson of the Turner Station Conservation Teams; and U.S. Senator Ben Cardin.

achievements taking place through the Dray Truck Replacement Program. The MPA’s cooperative agreement with the Maryland Department of the Environment is enabling new efforts to improve air quality for communities located near port operations.

Long-range planning has become increasingly important, resulting in climate adaptation strategies and an interagency partnership for advanc-

ing the potential re-use of dredged sediment for restoration projects and construction materials.

The port also marked the 2016 passing of Helen Delich Bentley, whose work as a five-term Congresswoman left an invaluable legacy for the port. “We say a very deep thank you to a truly incredible woman,” said MPA executive director James White, “the First Lady of the Port of Baltimore.”



GreenPort 2016 is the Maryland Department of Transportation Port Administration’s annual update of projects and programs that contribute to a thriving economy, environmental stewardship, and community partnerships. We thank the many private sector businesses, government leaders, communities, and individual citizens who have helped make these achievements a reality.

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In 2016, Baltimore saw the first arrival of a “supersized” ship at the Seagirt terminal.

Port Productivity

The Port of Baltimore had a record-setting year in 2016. For the first time, the port surpassed 10 million total tons of general cargo handled at its public terminals. General cargo includes automobiles, containers, farm and construction equipment, forest products, and breakbulk cargo.

The *Journal of Commerce* again named Baltimore the most productive port in the U.S. for berth productivity, based on 2015 data. This is the third consecutive year in which Baltimore received this honor. The analysis includes factors such as a ship’s arrival and departure time at a berth and the number of container moves per hour.

Overall, port business generates about 13,650 direct jobs, with more than 127,000 jobs in Maryland linked to port activities.

The port is responsible for nearly \$3 billion in personal wages and salary and \$310 million in state and local tax revenues.

Supersized

On July 19, Baltimore welcomed the first “supersized” ship to arrive at the Seagirt Marine Terminal through the newly expanded Panama Canal, carrying approximately 8,400 containers as measured in 20-foot equivalent units (TEUs).

Baltimore is one of only four East Coast ports able to accept ships of this size, thanks to a partnership with Ports America Chesapeake that provided the cranes and berth necessary for these enormous ships.

Managing Dredged Material

In 2016, work began at the Cox Creek dredged material placement site to prepare the upland area for accepting dredged material and significantly increase the site’s capacity.

At the Masonville facility, a project is underway to demonstrate and evaluate Confined Aquatic Disposal (CAD), a technique for placing dredged material in a specially created underwater cell. Extensive monitoring and

analysis will take place to evaluate its potential for future use.

Work has also continued on the increased potential for innovative and beneficial reuse of dredged material. Results include interagency coordination on the technical criteria for such projects and a suite of outreach tools to explain the characteristics of sediment dredged from the harbor.

Infrastructure Investments

The MPA has continued working with partners in CSX and the Maryland Department of Transportation to secure funds for reconstructing the Howard Street railroad tunnel. The reconstruction is needed to accommodate freight trains carrying double-stacked cargo containers from the Seagirt Marine Terminal. The state and CSX have committed \$270 million toward the total approximate cost of \$425 million, and a 2016 application was submitted to obtain federal funds for the remaining \$155 million.

The MPA is also partnering with Baltimore City to fund improvements to the Colgate Creek bridge that will strengthen the bridge for port-related commerce and route truck traffic away from neighborhoods.

Shipping & Cruise Contracts

Long-time forest products customer UPM entered into a 10-year contract extension with the MPA, guaranteeing the continued shipment of UPM paper products from the Port of Baltimore.

Also, the cruise line Royal Caribbean International has extended its contract for year-round departures from the Port of Baltimore through June 2020. Carnival Cruise Line agreed to a contract extension through December 2018.

Second Trash Wheel

The MPA has partnered on another trash reduction project with the Waterfront Partnership of Baltimore, debuting "Professor Trash Wheel" on Harris Creek in December 2016. The MPA provided \$200,000 toward the installation, operation and maintenance of the trash wheel.

Professor Trash Wheel is the second water wheel to collect waterborne trash in the Baltimore area. The first was installed at the mouth of the Jones Falls in 2014 with financial support from the MPA. It has since collected more than one million pounds of trash and earned the MPA awards from the Maryland Department of Transportation and American Association of Port Authorities.

Clean Diesel Grant

The U.S. EPA awarded a \$978,302 Diesel Emissions Reduction Act grant to Maryland Environmental Services on behalf of the MPA for air quality initiatives at the Port of Baltimore.

The grant will pay for the replacement or retrofitting of up to 26 pieces of cargo-handling equipment, such as forklifts and yard tractors.

The project also includes the installation of start-stop technology on



A geothermal heat sink at the World Trade Center provides oxygenated water to the harbor.



The MPA helped fund a second "trash wheel" to reduce litter in local waterways.

locomotives at a nearby railyard to improve air quality in the area.

Planning for Climate Change

In 2016, the MPA introduced a resilience program for climate change, largely aimed at ensuring flood-resistant infrastructure. The program emphasizes Coast Smart best management practices for new and existing structures. Principles include elevating structures above the floodplain and avoiding new floodplain construction where possible; using non-corrosive, weather resistant materials for construction and repair; providing adequate tie-downs for cranes; and improved flood protection at the Baltimore World Trade Center.

Heat Sink at Work

The recent installation of a geothermal heat sink at the World Trade Center in Baltimore is saving energy while adding oxygen to water in the harbor.

The geothermal heat sink uses a loop between water in the air conditioning system and the harbor to maintain appropriate air temperature in the building.

Small water falls in the system cool and oxygenate the water before it returns to the harbor. The highly oxygenated water flows back into the harbor and helps aquatic life.

Powered up with Algae

The MPA is partnering with the U.S. Department of Transportation Maritime Administration on a demonstration project at the Dundalk Marine Terminal that grows natural algae to remove excess nutrients from Patapsco River water. The system has been operating successfully and may soon be able to generate its own power.

The goal is to feed algae produced by the "algal flow-way technology" into a digester to produce biogas. The biogas will power a fuel cell that generates electricity for the system's pump, making external power unnecessary.



Cyclists enjoy trails on a new tract of land at Hart-Miller Island State Park that once served as the "south cell" of the dredged material placement site.

Hands-on, Outside

With support from the Maryland Environmental Service, National Aquarium, and Living Classrooms Foundation, approximately 18,891 people joined in port-related programs at schools, field tours, and community events in 2016.

On Hart-Miller Island, a dredged material placement site, a section of the island known as the "south cell" was added to Hart-Miller Island State Park. Already, more than 1,100 hikers and bikers have enjoyed its trails, spectacular views, and interpretive programs.

Community Engagement

Advisory groups and community meetings offer ongoing conversations between MPA and neighboring communities. Citizens play an important role on advisory committees through-

out the year, and the 2016 annual meeting of the Dredged Material Management Program drew an audience of approximately 100 people. The general public is welcome to attend any of these meetings.

The MPA also met with residents of Baltimore County, Baltimore City, and Anne Arundel County to discuss initiatives for improving air and water quality, and worked with the Baltimore Port Alliance to provide tours for representatives from nonprofit organizations and other stakeholder groups.

Partnering for Clean-Ups

The National Aquarium organized approximately 90 volunteers to remove a half-ton of debris from the shoreline of Masonville Cove, a natural area that has been restored by MPA leadership

and community partnerships.

The Baltimore Port Alliance, including the MPA, partnered with the St. Helena Community Association for a spring clean-up with 115 volunteers who collected 9.26 tons of debris and a fall project that helped complete stormwater management features at the community center.

Support for Pearce Creek

The MPA continues to assist residents near Pearce Creek, a dredged material placement site owned and operated by the U.S. Army Corps of Engineers in Cecil County. Operations from 1937 to 1993 contributed to degraded water quality in some private wells.

The MPA is supporting the Corps' work to address these concerns by providing bottled water to residents and funding a pipeline that will allow impacted homes to draw water from the town of Cecilton. Construction of the pipeline began in 2016.

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