



Inform, Engage & Invest
September 2021 - Air Quality Update



Maryland Department of Transportation Maryland Port Administration





Agenda:

- MDOT MPA Background
- MDOT MPA Environmental and Sustainability Strategies
- Improving Air Quality
 - Summary of Maryland Air Quality and Emissions Reduction
 - MDOT MPA Emissions Reduction Initiatives
- Voluntary Air and Energy Workgroup
- Community Outreach and Stakeholder Engagement
- Partnerships
- Closing



The Maryland Port Administration was established in 1956 with a specific mission:

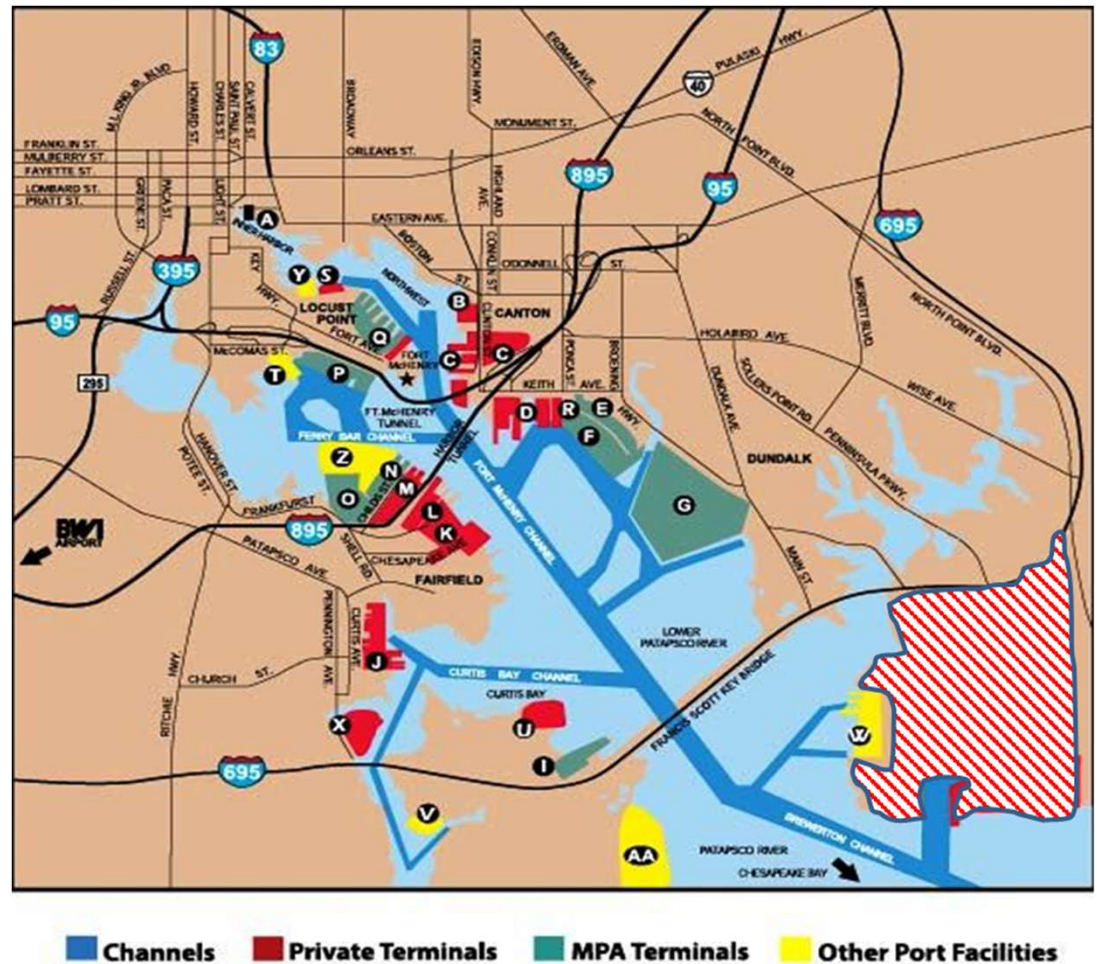
“To increase the flow of waterborne commerce through the State of Maryland in a manner that provides economic benefit to the citizens of the State.”





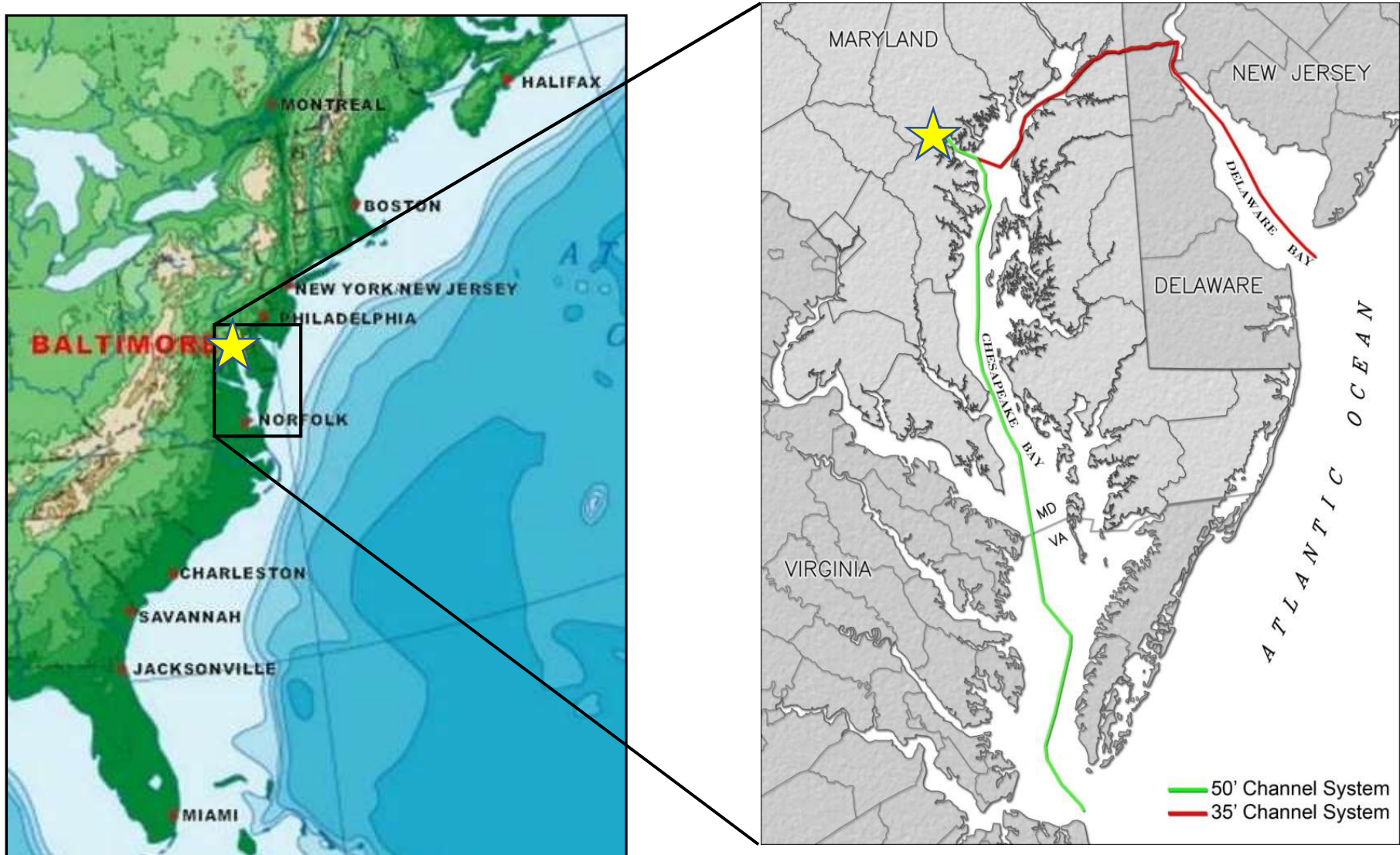
The Port of Baltimore is a complex mix of Private and Public terminals

- 45 miles of waterfront facilities and industries
- 23 private facilities handle nearly all bulk commodities
- Six MPA public cargo terminals handle over 90% of the general cargo
- Active relationships by both public & private sector entities on local, regional, state, national and international levels





Baltimore's inland location is part of the Port's success





The Port of Baltimore handles a diverse range of bulk & general cargoes



Forest Products



Sugar



**Agriculture,
Mining, &
Construction
Equipment**



**Salt &
Fertilizers**



Containers



Coal

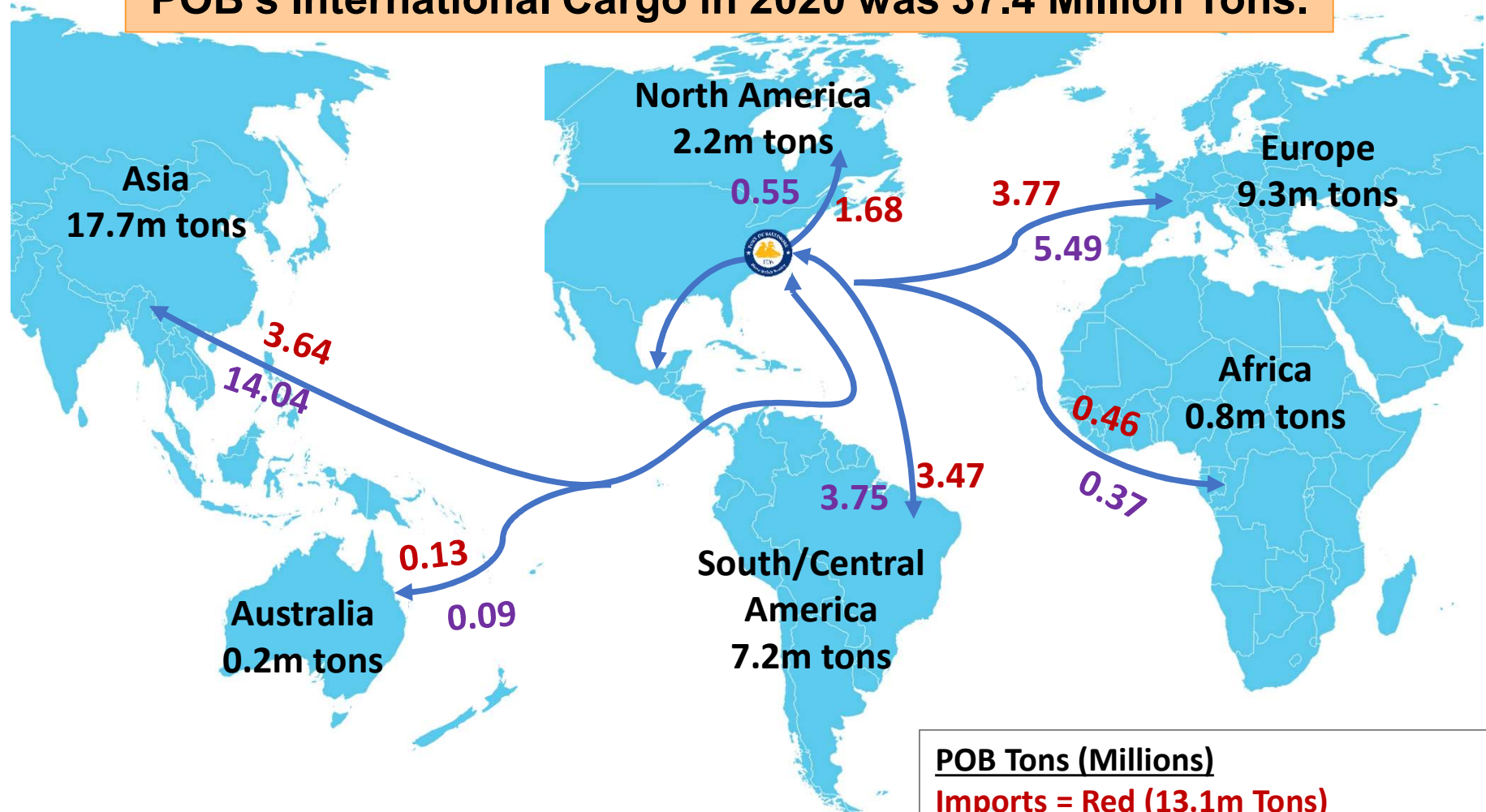


Autos



The Port has global reach, connecting many Mid-Atlantic suppliers to the Global Market

POB's International Cargo in 2020 was 37.4 Million Tons.





The Port has global reach, connecting many Mid-Atlantic suppliers to the Global Market

Maryland Port Administration Terminals:

- General Cargo Tons: 11.1 million tons
- Container TEUs: 1,051,840 TEUs

Port of Baltimore National Port Rankings for 2020 Int'l Cargo:

- 1st in Automobiles/Light Trucks (774,000 vehicles)
- 1st in Ro/Ro Cargo
- 1st in Imported Gypsum
- 2nd in Exported Coal
- 3rd in Imported Sugar
- 10th in Overall Foreign Cargo Value (\$49.6 billion)
- 11th in Overall Foreign Cargo Tonnage (37.4 million tons)



The economic impact of the Port is significant for Maryland and the Region

- 15,330 direct jobs
- 21,970 induced and indirect jobs
- 101,880 related jobs to Port's cargo

TOTAL: 139,180

- \$3.3 billion in personal income to Marylanders
- \$395 million in Maryland state and local tax revenues
- \$2.6 billion in Maryland business revenues

Jurisdiction	Residency of Direct Jobs
Baltimore County	4,863
Baltimore City	4,335
Anne Arundel	3,455
Harford	807
Howard	260
Other Maryland	1,189

- The Port's average annual salary for direct job holders is 9.5% higher than the average annual wage in Maryland.



MPA's Environmental Strategy states that:

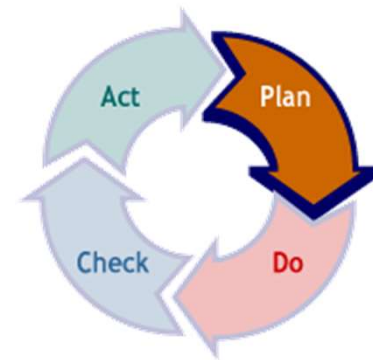
“Stewardship and sustainability of the environment and protection of human health are essential elements of its mission.”





MDOT MPA's Environmental Management System (EMS) was recently recertified

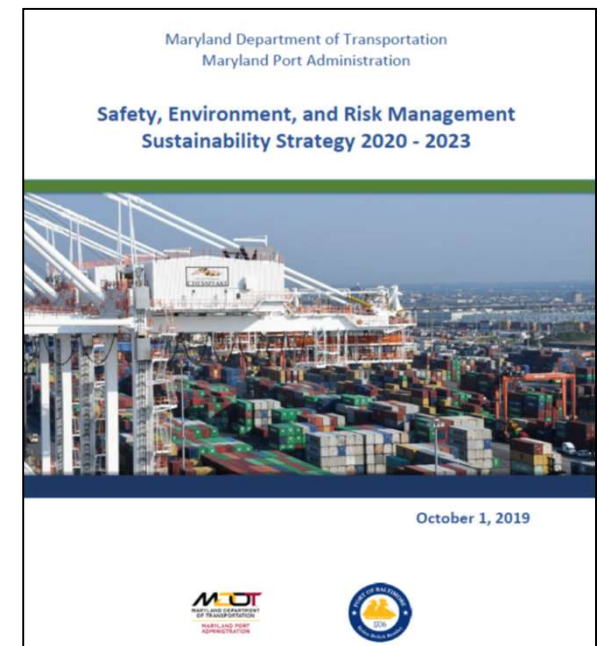
- MDOT MPA received ISO 14001:2015 recertification for its EMS for the third time since being initially awarded in 2011
- Recertification shows that MDOT MPA's environmental practices conform to international standards
- Designed to ensure “continual improvement” and that individual environmental decisions are part of larger strategy





SERM published a Sustainability Strategy to guide Department efforts

- SERM's Strategy to prioritize goals to ensure the department grows sustainably while helping MDOT MPA achieve its mission
- The Strategy has 4 Focus Areas:
 - Safety/Emergency Response
 - Water Quality
 - Air Quality
 - Community Outreach
- Closely aligned with the EMS





**Greenhouse Gas Emission
Inventory & Reduction**



**Energy Efficiency &
Renewable Generation**



Dray Truck Replacement Program



**Environmental Management System
(EMS)**



**Cargo Handling Equipment
Upgrade Program**



**Community Outreach &
Stakeholder Engagement**





Sustainability Plan – Accomplishments

Goal 1: Safety & Protection



Received **5 consecutive years** of Outstanding US Coast Guard fire and life safety reviews



Hosted over **30 education events** for staff on emerging health and safety topics last year



Received **3 health and safety awards** in the past seven years



Trained **100% of MPA's fleet and maintenance staff** in cutting edge arc flash and silica safety measures

Goal 2: Air & Energy Management



Helped truckers **replace 200 older Port dray trucks** with newer models to reduce diesel emissions



Repowered or **replaced 110 pieces of Port cargo handling equipment** since 2008



Reduced greenhouse gas emissions by over **3,800 metric tons** through HVAC and lighting upgrades



Decreased air emissions by 19% while **cargo tons increased by 10%** between 2012 and 2016

Goal 3: Water Quality Management



Restored over **2,500 feet** of eroded streambanks and shorelines at the Baltimore Zoo and Arlington Echo Education Center



Treated the equivalent of more than **122 acres** of stormwater runoff from marine terminals



Removed over **300,000 pounds** of sediment from storm drains and inlets at marine terminals



Planted over **1,000 trees** in Baltimore neighborhoods

Goal 4: Stakeholder Engagement



Attended **10 public events** and met with **25 community groups** throughout Baltimore in the past 2 years



Hosted **80 stakeholders** for guided Port Tours of the marine terminals last year



Introduced stakeholders to the Port of Baltimore through **12 "Port 101" presentations** by MDOT MPA



Participated in multiple community cleanups and other volunteer events last year with over **60 Port staff members** in attendance



Newer Trucks



Hybrid Vehicles



Improving Air Quality



Modern Tugs



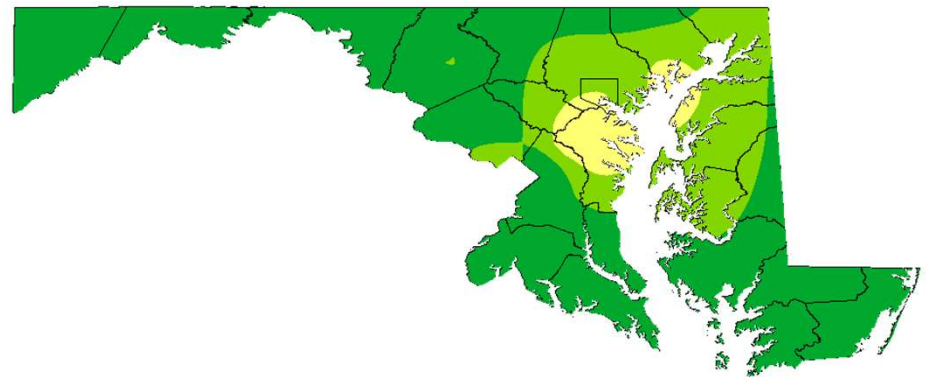
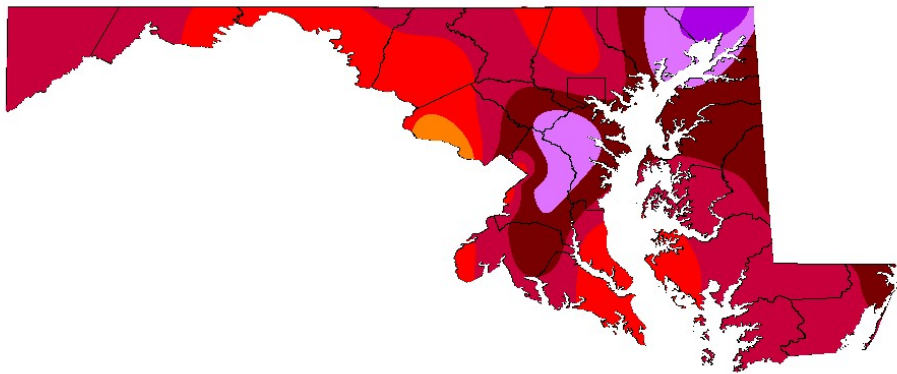
State-of-the-Art Equipment



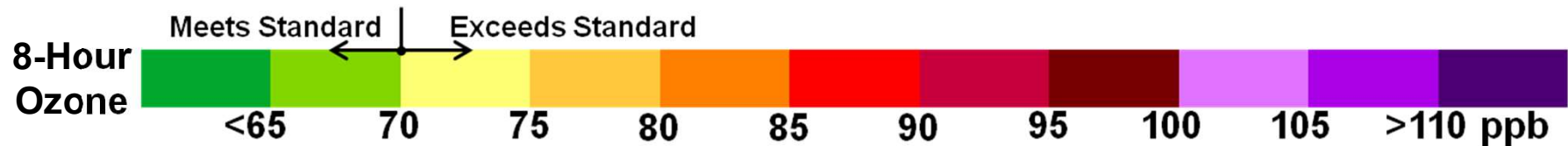
Maryland's ozone problem has been shrinking

1998

2020



Lower Ozone Levels and Significant Spatial Risk Reduction

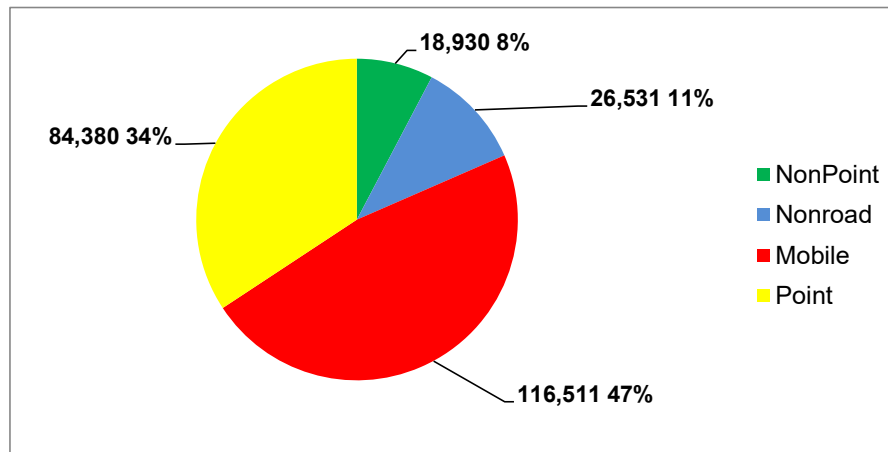


Courtesy of Maryland Department of the Environment

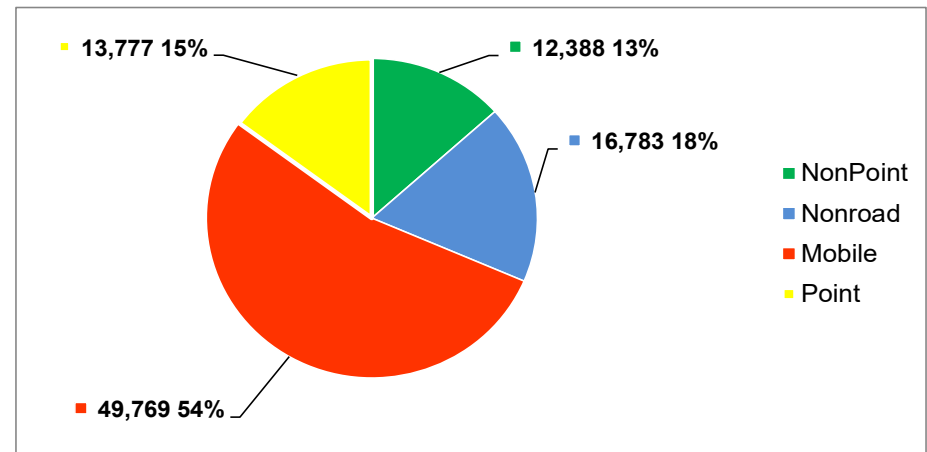


The Statewide sources of NO_x have also decreased since 2005

2005 Annual NO_x Emissions
246,000 tons per year



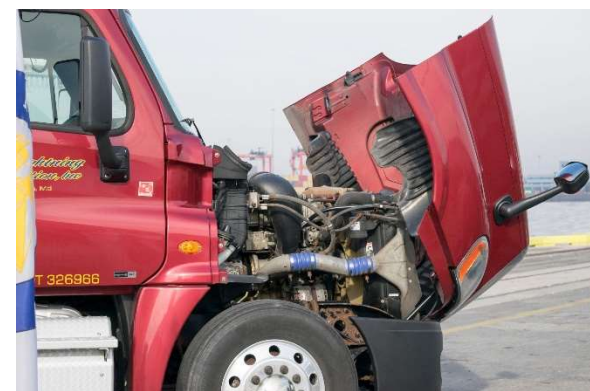
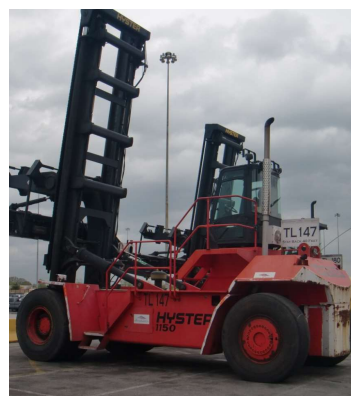
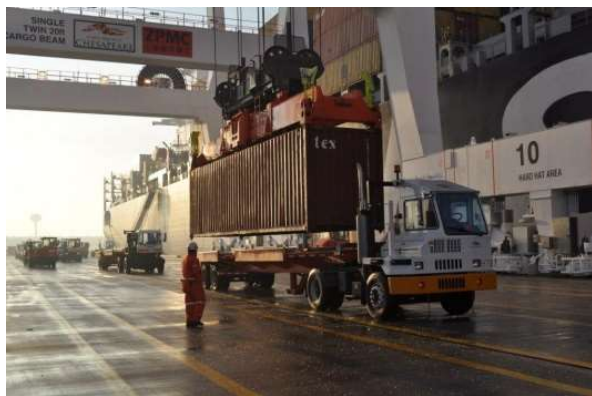
2017 Annual NO_x Emissions
92,717 tons per year
More than a 62% reduction





There are several initiatives designed to reduce air emissions at the Port

- Perform emission inventories every four years to benchmark reductions and prioritize future actions
- Focus on modernizing CHE and drayage trucks fleets
- Leveraging funds available through state and federal programs, such as Diesel Emission Reduction Act (DERA)
- MDOT MPA has been awarded over \$14 million in state and federal grants for emission reduction since 2008
- Community and stakeholder support has been pivotal to our success in being awarded competitive grant funds





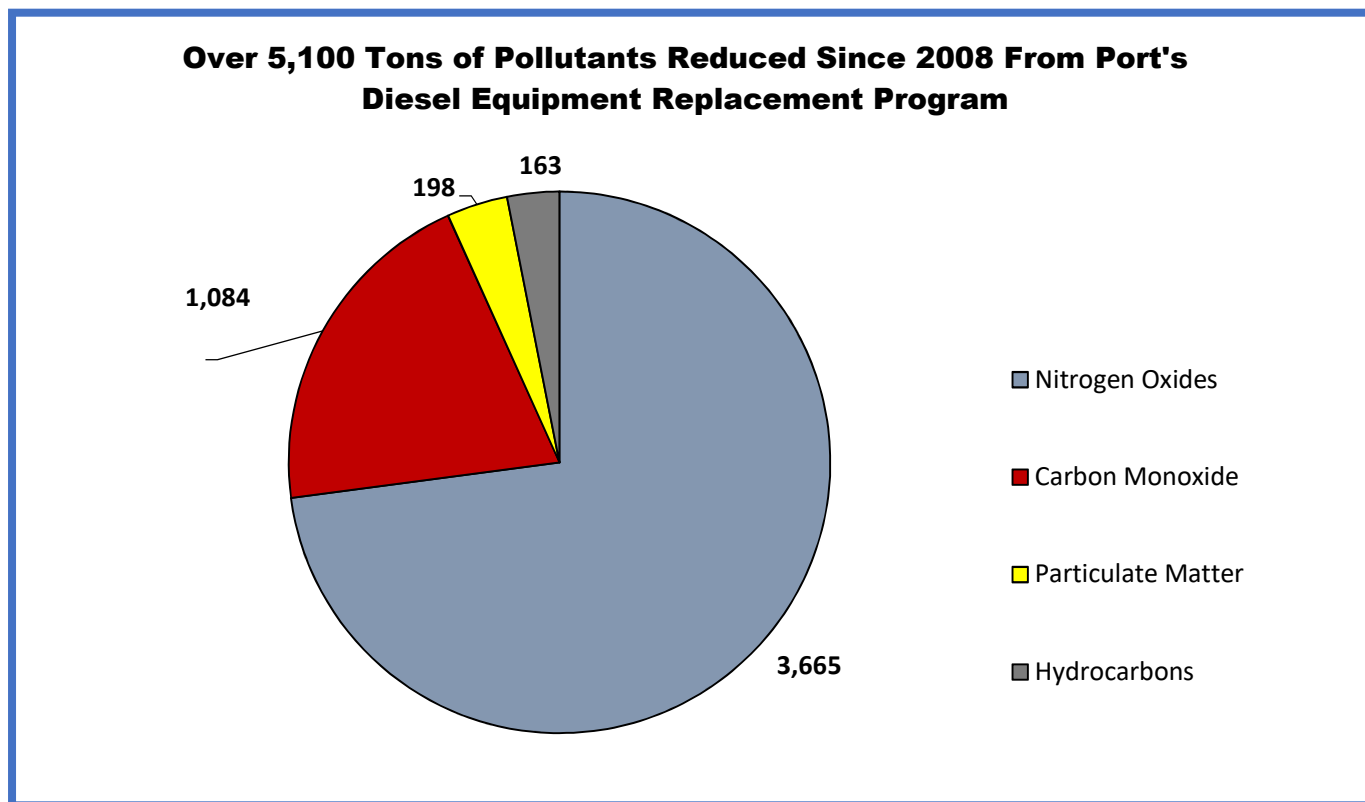
The Dray Truck Replacement Program reached a new milestone

- The Port's Program offers up to \$30,000 to help truck owners upgrade older model vehicles
- 267 trucks have been replaced since 2009
- The Program received an award of \$2 million from the VW Settlement
- MPA recently launched a media campaign to increase awareness about "Dollars for Drays"



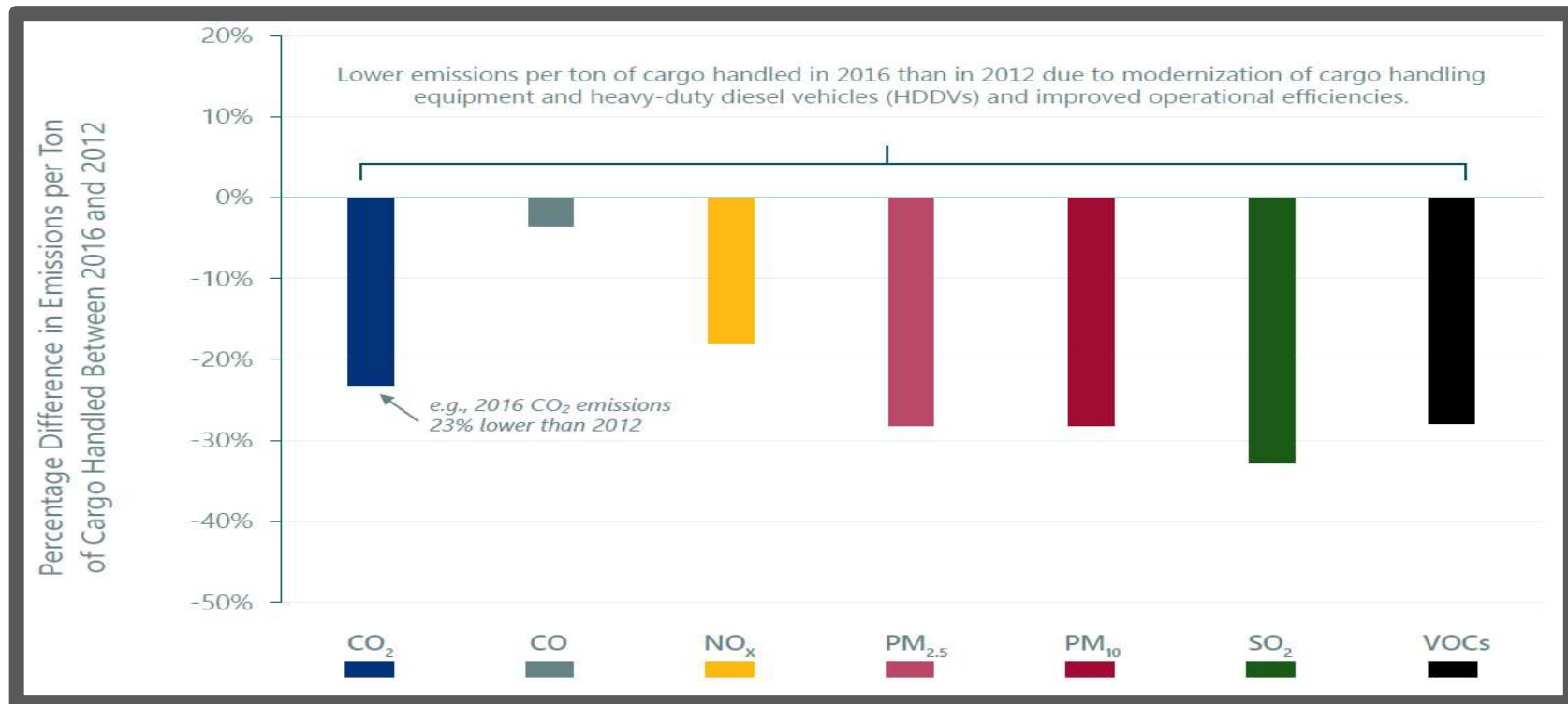


Port of Baltimore Diesel Equipment Replacement Program Pollutant Reductions Since 2008





Even as cargo volumes increased by 10%,
air emissions decreased by 19%



- Emissions per ton cargo handled comparing 2012 to 2016 MDOT MPA Landside Emissions Inventories
- Decreases due to modernization of CHE, replacement of older dray trucks and operational changes



Grants help fund MPA studies to improve air quality and energy efficiency at Terminals

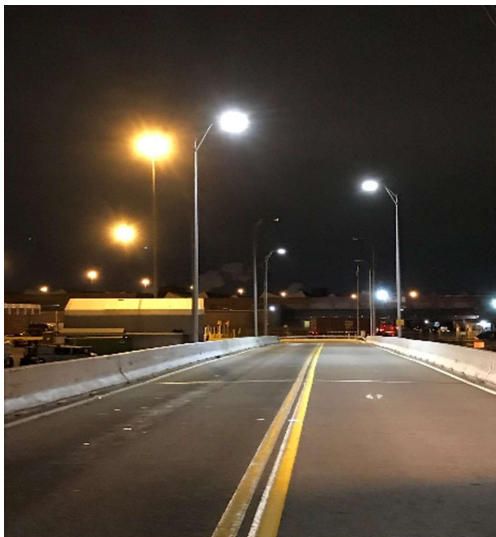
- Maryland Energy Administration awarded a grant to study the feasibility of Microgrid technology at Dundalk Marine Terminal
- MPA and MDE were part of a regional Team that was awarded a Department of Energy grant to advance electrification in the Mid-Atlantic region
- SERM has been representing MPA on the Secretary's electric vehicle task force





MDOT MPA also seeks reductions in energy production and consumption

- Lighting upgrades and HVAC renovation have reduced energy consumption and greenhouse gas emissions
- Rooftop solar at Port marine terminals generates energy





The 2015 agreement between MDE and MDOT MPA has been highly productive

Overall Goals:

- Work cooperatively to identify, develop, and when appropriate, implement new, cost-effective, voluntary programs to reduce emissions and increase energy efficiency
- Establish a workgroup of representatives from the agencies to meet regularly, share information, and pursue these goals
- Identify and assist MDOT MPA in applying for federal and state grants for these purposes



Major Focus Areas:

- Identifying and evaluating air pollutant sources and air pollution reduction technologies
- Prioritizing actions and projects that could improve air quality for communities near Port operations
- Expanding Stakeholder engagement and awareness



The agreement has helped to foster a strong relationship between the agencies

Opportunities and Outcomes:

- Helps both agencies advance mutual objectives that benefit Maryland communities
- Enables open and frank discussion about air quality topics and projects
- Facilitates the sharing of technical information and guidance for projects that reduce air emissions
- Creates opportunities for the partners to support each other when seeking competitive funds or project implementation
- Joint MDE/MPA discussions with Port stakeholders and community groups on air quality
- MDE participation in Baltimore Port Alliance (BPA) Air Quality Stakeholder Tours held twice a year and at the first ever International Greenport Congress held in North America
- Letters of support for highly competitive DERA grants
- Technical assistance and guidance for projects eligible for Volkswagen settlement funding



Updated 2021 Agreement



Maryland
Department of
the Environment



Maryland
Energy
Administration

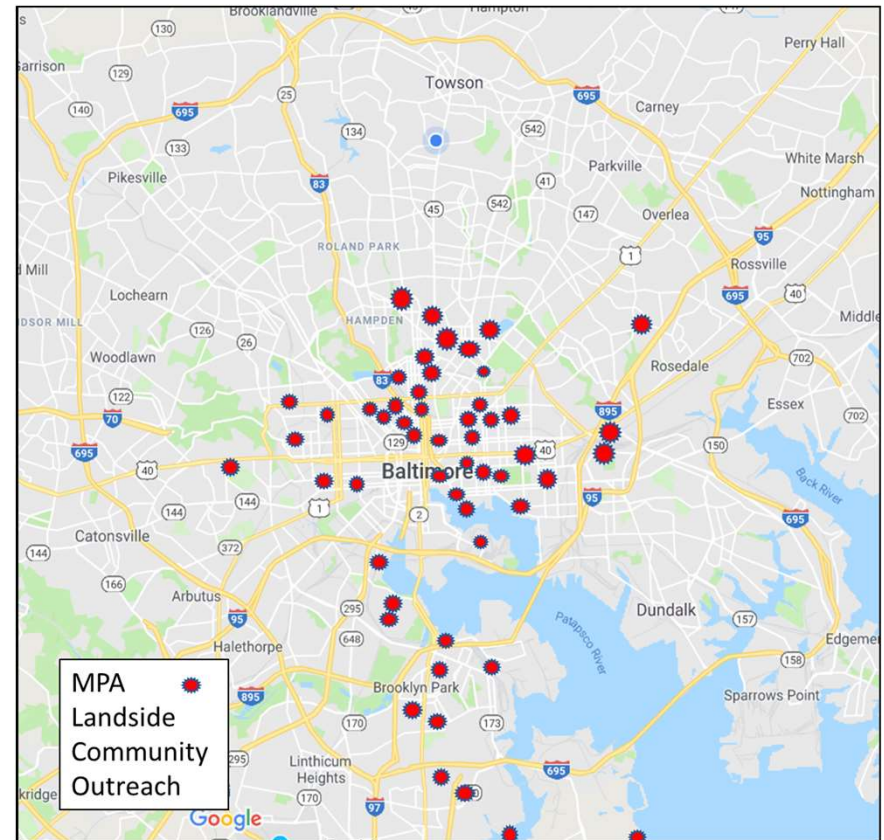
To build on the progress of the last five years, the Agreement has been updated to include:

- The Maryland Energy Administration as a participating agency. This brings greater focus and additional resources to address energy efficiency and clean energy.
- Recognition of the importance of climate change and the need to work cooperatively to address this threat.
- Acknowledgement of the co-benefits from implementing air quality projects for both air quality and water quality improvements.
- Greater focus on stakeholder engagement with underserved and overburdened communities.



Stakeholder and community outreach is a major focus of Port operations

- MDE and MDOT MPA have collaborated to engage with local communities and faith-based organizations
- Port Air Quality Tours introduce communities to how the Port operates
- Many organizations also support MDOT MPA grant applications and projects





The Port recognizes the importance of being a Good Neighbor

- Community Outreach and Stakeholder Engagement is crucial to the success of the Port of Baltimore
- Inform
 - Share the facts about the Port
- Engage
 - Build relationships with community organizations
- Invest
 - Partner with communities to be a good neighbor





We Inform, Engage and Invest in our Communities

- Informing and Telling the Story of the Port
 - Terminal and Facility Tours
 - Port 101 Presentations
- Building Relationships
 - Booth/Table at Community Meetings & Events
 - Commitment to Students
 - Hosting Special Events
 - Assisting Neighbors with Questions and Inquiries
- Investing in Communities Creates “Win-Wins” for the Port and our Stakeholders
 - Creating Partnerships that Support Mutual Priorities
 - Identifying How we Can Help Each Other
 - Mitigation Projects that benefit our Neighbors
 - Community Cleanups and Volunteerism





Masonville Dredged Material Containment Facility and Masonville Cove

DMCF Site Cleanup



Masonville Cove





Masonville Cove Before Cleanup





Masonville DMCF received the National Environmental Excellence Award from the National Association of Environmental Professionals



Masonville Cove is the nations 1st Urban Wildlife Refuge. The Environmental Education Center and campus is open for community and educational education activities and passive recreation.





Partnerships have been crucial to the Port's success

MDOT MPA partners with many communities, organizations and agencies to be a good neighbor.



Maryland
Department of
the Environment



University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

MARYLAND ZOO



The Baltimore Port Alliance

Provides a forum for maritime business representatives, government agencies, and community leaders to meet regularly to discuss issues that may affect the current and future prosperity of the Port of Baltimore.

- Maintaining and improving Maritime Commerce
- Monitoring legislation that affects the safety and health of the Port and its navigational channels in the Chesapeake Bay
- Adhering to Federal and State Maritime/ Seaport Security policies
- Protecting industrial/commercially zoned property surrounding the Port of Baltimore waterfront community



Examples of BPA's Community Engagement Efforts



COMMUNITY

Baltimore Port Alliance Takes Container Gardening to New Level

The **Baltimore Port Alliance (BPA)** stepped in to help East Baltimore's C.A.R.E. – Cleaning, Active, Restoring Efforts – Community Association's Madeira Street Garden by donating a 20-foot shipping container as a storage facility, courtesy of **Ports America Chesapeake (PAC)**.

"We have over 70 lots in total that we help maintain through the adopt-a-lot program. Some of the lots are dedicated vegetable gardens, others are flower gardens or open space," said C.A.R.E. President Cynthia Gross. "So, we have to have all types of equipment on hand to cover all types of scenarios. We lend equipment to residents or other nearby community groups if asked and available."



Solomon Egbe, a committee member and PAC employee, coordinated the project and Darren Thompson, PAC's Director of Operations at Seagirt Marine Terminal, oversaw the container preparation and delivery.

PAC donated the used container, painted it and arranged for delivery to the Madeira Street Community Garden by Ted's Towing in early July. Here, John Walker (in the white shirt), who is the garden caretaker and C.A.R.E. representative welcomes the tow truck driver.

Photo by Dan Spack/EcoLogic Group, Inc.



BALTIMORE PORT ALLIANCE

HIRING & CAREER EXPO

Calling all Job Seekers!

MAY 1, 2019 - 10AM TO 2PM
CCBC DUNDALK CAMPUS
COLLEGE COMMUNITY CENTER
7200 SOLLERS POINT ROAD
BALTIMORE, MD 21222





Building Partnerships for Off-Site Projects

Urban Forestry Partnership



Arlington Echo Living Shoreline



Maryland Zoo Riparian Restoration





Building Partnerships for On-Site Projects



Algal Flow-Way Technology: to remove nitrogen, phosphorus and sediment using native algae



In Closing

- As the Port of Baltimore continues to grow, our air emissions have continued to decline.
- Our Port air emission reduction projects have been highly successful.
- Support from our neighbors enables us to do even more positive, impactful projects.
- Partnerships, such as with MDE and the BPA, help get the message out and builds greater coalitions.
- We continue to seek opportunities to further reduce air and greenhouse gas emissions from Port activities.

Questions?

