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.

Asia 17.7m tons

Australia 0.2m tons

South/Central America 7.2m tons

North America 2.2m tons

Europe 9.3m tons

Africa 0.8m tons

POB Tons (Millions)
Imports = Red (13.1m Tons)
Exports = Blue (24.3m Tons)
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:

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

The Port has global reach, connecting many Mid-Atlantic suppliers to the Global Market
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
MDOT MPA’s Sustainability Strategy

- Greenhouse Gas Emission Inventory & Reduction
- Energy Efficiency & Renewable Generation
- Dray Truck Replacement Program
- Cargo Handling Equipment Upgrade Program
- Community Outreach & Stakeholder Engagement
- Environmental Management System (EMS)
### 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
Improving Air Quality

- Newer Trucks
- Hybrid Vehicles
- Modern Tugs
- State-of-the-Art Equipment
Maryland's ozone problem has been shrinking

Lower Ozone Levels and Significant Spatial Risk Reduction

Courtesy of Maryland Department of the Environment
The Statewide sources of NOx have also decreased since 2005

2005 Annual NO\textsubscript{x} Emissions
246,000 tons per year

2017 Annual NO\textsubscript{x} Emissions
92,717 tons per year
More than a 62% reduction

Courtesy of Maryland Department of the Environment
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

Over 5,100 Tons of Pollutants Reduced Since 2008 From Port’s Diesel Equipment Replacement Program

- Nitrogen Oxides: 3,665 tons
- Carbon Monoxide: 1,084 tons
- Particulate Matter: 198 tons
- Hydrocarbons: 163 tons
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
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 is the nation's 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.
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

**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 Modern Street Garden by donating a 20-foot shipping container as a storage facility, courtesy of Ports America Communities (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 Cruz. “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.”

Sidmonn Cagle, 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 Modern Street Community Garden for Dale’s Housing in early July. Here, John Walker (in the white shirt), who is the garden caretaker and C.A.R.E. representative welcomes the new truck driver. Photo by Ben Levy/Alejandro Martinez Josue.
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?