Freight in Greater Philadelphia

DVRPC – PPTF Meeting

Michael Ruane
Manager, Office of Freight & Aviation
Office of Freight & Aviation Planning

Promote freight and aviation considerations in the planning process to encourage the development and preservation of safe, efficient multimodal transportation systems that maximize Greater Philadelphia’s position in the global economy.

Improve **visibility + availability** of freight and aviation data

**Educate** planners and the public

Encourage **smart, multimodal** transportation systems

Inform transportation infrastructure investment
What is Goods Movement?
Greater Philadelphia Freight Network
Greater Philadelphia Freight Network

Conrail on Northeast Corridor

Photo Source: DVRPC
Typologies Overview

An analysis of each of the freight centers, grouping them by economic, transportation, and development activity resulted in classification into five typologies:

- International Gateway
- Heavy Industrial
- Distribution & Logistics
- High Tech Manufacturing
- Local Manufacturing & Distribution
Preference should be given to end of block loading zones.

Minimum 5’ buffer between bike lane and loading zone.

Loading zones should be 60’ minimum with 100’ preferred for greater than single vehicle occupancy.

Mid-block loading zones should provide a curb ramp.

Greater Philadelphia Freight Network

Urban Freight & More Complete Streets

Source: DVRPC 2019
“[2020] is setting up to be the e-commerce inflection year as the combination of shelter-in-place, lower spend on experiences (dining out, bars, travel, etc) and [government] stimulus have driven dollars online”

- Analyst at Morgan Stanley
Greater Philadelphia Freight Network

Industrial Market Trends

Source: CoStar 2020, DVRPC 2020

Deliveries
Demolitions
Net Deliveries

Forecast

Deliveries in SF

Deliveries
Demolitions
Net Deliveries

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11/30/2020
Thank You!

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Goods Movement and Air Quality
Reducing Impacts on the Environment

Sean Greene
Manager, Air Quality Programs

December 17, 2020
Public Participation Task Force
Air Pollution in Greater Philadelphia

Ozone
✓ Classified as a Non-attainment Area
✓ Ozone damages lungs tissue, aggravates respiratory problems, and damages vegetation
✓ Summertime problem (~15 high ozone days/yr.)

Fine Particle Pollution (PM$_{2.5}$)
✓ Classified as a Maintenance Area
✓ PM$_{2.5}$ Impairs lung function, aggravates respiratory and pulmonary conditions
✓ Year-round issue (~2-3 high PM$_{2.5}$ days/yr.)
✓ Can also be a localized issue
Air Quality Non-Attainment Area
Sources of Air Pollution

National

✓ Point sources – Factories, power plants etc.
  (28% NO\textsubscript{x}, 4% VOC, 14% PM\textsubscript{2.5})

✓ Area sources – dry cleaners, auto body shops
  (10% NO\textsubscript{x}, 48% VOC, 9% PM\textsubscript{2.5})

✓ Mobile sources
  ❖ On-road (38% NO\textsubscript{x}, 14% VOC, 3% PM\textsubscript{2.5})
  ❖ Non-road (21% NO\textsubscript{x}, 11% VOC, 3% PM\textsubscript{2.5})

Transportation is a higher % in Greater Philadelphia.

NO\textsubscript{x} + VOC = Ground-level Ozone

Source: FHWA Transportation Air Quality Selected Facts and Figures, 2016
Freight Sources of Emissions
Emissions From Goods Movement

Freight responsible for 29% of GHG Emissions Nationally

- Trucks – 78%*
- Pipelines – 9%
- Rail – 7%*
- Ships – 3%
- Air – 3%

* Modes that DVRPC programs can impact.

Source: Bureau of Transportation Statistics 2018
Map of Freight Centers

- International Gateway
- Heavy Industrial
- Distribution and Logistics
- High Tech Manufacturing
- Local Manufacturing and Distribution
Who Lives Near Goods Movement Centers?

According to EPA:

✓ At least 13 million people lived in close proximity to freight facilities.

✓ Studies found that a disproportionate number were low-income, African American, or Hispanic. (Source: National Port Conversation, US EPA 2014)

✓ DVRPC 2015 Study of Ports in region found similar results (Impacts of Diesel Emissions from Ports on Local Communities, DVRPC 2015)
Why Does it Matter?

These communities bear the environmental and health impacts from these facilities.

✓ Higher asthma rates, generally poorer health outcomes, missed work and school days.
✓ More traffic congestion, air pollution, noise, quality of life issues. (*Source: National Port Conversation, US EPA 2014*)
How Can Planning Help?

Limitations
✓ No regulatory authority & limited funding.

Collaboration and Cooperation
✓ Grant programs and application assistance.
✓ Conduct studies that provide implementable solutions.
✓ Facilitate conversations that create synergies.
Examples

Support grant applications to reduce diesel emissions

✓ Driving PA Forward Program (VW Funds)
✓ MARAMA Dray Truck Replacement Program
✓ Federal CMAQ funding
  - locomotive repowers, port cargo handling equipment, traffic operations improvements
Examples

Studies that provide implementable recommendations

✓ *Impacts of Diesel Emissions from Ports on Local Communities* (2015)
✓ *Truck Wayfinding in the City of Chester* (2018)
✓ Trenton Health and Air Quality Project (2021)
Examples

Participate in Conversations that Create Synergies
✓ Goods Movement Task Force
✓ *Vibrant Ports Healthy Ports Workshop*
✓ Camden Collaborative

www.dvrpc.org/VibrantPorts
How can you help?

**Participate in local government**

- Land-use decisions are local
  - Plan for goods movement facilities and truck routes
- Encourage participation in grant programs to improve congestion and reduce emissions

**Reduce your emissions from goods movement**

- Consolidate your orders
- Avoid rush deliveries
- Use Alternative Delivery Locations
Thank You!
Questions? Comments?

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For more information please visit,
http://www.dvrpc.org
DRBC Update

Kristen Bowman Kavanagh
Deputy Executive Director

Delaware Valley Regional Planning Commission
Public Participation Task Force
December 17, 2020
The Delaware River Today

Photo: Greg Breese, USFWS

Photo: Justin Curtis

Photo: Delaware River Soloun

Photo: https://camdenwd.weebly.com/
Delaware River Basin Commission

- Five Equal Members:
  - Delaware
  - New Jersey
  - Pennsylvania
  - New York
  - Federal Government

- Four Governors are the Commissioners
- Commissioner may select alternates
- Federal Commissioner is Commanding General, USACE, NAD
- Majority rules in most voting
- Meets quarterly

Note: New York City and Philadelphia are “advisors” and not members.
DRBC Core Water Resource Management Responsibilities

- **Water QUANTITY** - Adequate, sustainable and resilient flow.

- **Water QUALITY** - Clean and healthy.

Partnering to achieve for the Basin what individual members could not accomplish alone.
Fast Facts:
- Main stem is **330 miles long**
- Forms an interstate boundary over its entire length
- Drains **13,539 square miles** in 4 states
- **13.3+ million people** (about 5% of the U.S. population) rely on the waters of the Delaware River Basin
- Water **withdrawal in the Basin = 6.4 billion gallons/day**
- Significant Exports: NYC (up to 800 MGD) and NJ (up to 100 MGD)
- Longest, un-dammed U.S. river east of the Mississippi
- **Contributes over $21B** in economic value

“A river is more than an amenity, it is a treasure” - Oliver Wendell Holmes, US Supreme Court Justice
Complex Flow Management

Water Management Schematic for the Delaware River Basin

- Out-of-Basin Diversion
- Primarily Water Supply Reservoirs
- Multi-Purpose (Flood/Power/Water/Recreation) Reservoirs
- Primarily Flood Control Reservoir
- Flow Management Objective

Delaware River
- To NYC Water Supply
  - Up to 800 MGD
- To New Jersey Water Supply
  - Up to 100 MGD

Lackawaxen River
- Non Drought Target = 1750 cfs (1130 MGD)

Lehigh River
- Non Drought Target = 3000 cfs (1940 MGD)

Schuylkill River
- USACE Owned and Operated Reservoirs
- Release or Spill

Note: Not all reservoirs, tributaries, and diversions are shown.
Freshwater Hydrologic Climate Considerations:
- Precipitation
- Flow
- Temperature
- Evapotranspiration
- Snowpack

Salt Water Climate Considerations:
- Sea Level Rise
“What do we want to use this water body for?”

CWA “Fishable / Swimmable” goals

Examples:
- Public water supply (drinking water)
- Aquatic Life
- Water based recreation
- Fishing / fish consumption
- Industrial water supply
- Agriculture water supply
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<td>88</td>
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<tr>
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<tr>
<td>6</td>
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Possible Sources of Bacteria?

- Combined Sewer Overflows
  - Sanitary sewage and storm water in same pipes
  - Legacy systems (100+ years) in our oldest, largest communities
- Other Urban Runoff (MS4s)

Image credit: Jersey Water Works

http://archive.phillywatersheds.org/watershed_issues/stormwater_management/combined_sewer_system
Reducing Bacterial Loads?

- CSO Long Term Control Plans
- MS4 Permitting
- Stormwater management
- Capture & disinfect more combined sewage

- Happening now
- Long Term Proposition
- More reduction requires more $$$
Other Hazards & Challenges

- Beaches have an elaborate protocol for monitoring, beach closures, re-opening
- Busy shipping ports; security concerns
- Hazardous currents
- Debris, pilings, junk
Stakeholder and Public Input, Outreach, Expertise and Collaboration

- Public input, engagement, partnership, and outreach
- Science, engineering, planning and input through Advisory Committees:
  - Water Quality (WQAC)
  - Water Management (WMAC)
  - Toxics (TAC)
  - Monitoring (MACC)
  - Regulated Flow (RFAC)
  - Flood (FAC)
  - Climate Change (ACCC)

www.drbc.gov
EAC’s In Action:
The Value of EAC’s
What is an EAC: Environmental Advisory Council

- An official arm of the municipal government
- 3-7 members appointed members
- Advisor to governing boards
- Provide objective, in-depth analysis about environmental resource issues
- Provide information in the decision making processes of environmental ordinances
- EAC’s are created through a municipal ordinance
Enabling Legislation: ACT 148

- **Specific Powers**
  - Identify environmental issues and recommend plans and programs
  - Make recommendations for the use of open land areas.
  - Promote a community environmental program.
  - Index all open space (public and private)
  - Advise local government agencies on the acquisition of property.
Elements of an EAC

- **Municipal Governance**
  - Building and maintaining positive relationships is essential
- **Mandated Responsibilities**
  - Agenda, Meeting minutes, Annual report
- **Membership & Terms**
  - 3 year commitment
  - Best if one member is from planning commission
- **Funding**
  - Act 148 enables appropriation of funds
- **Budget**
  - Essential to cover operating costs ($500- $1000)
  - Grows with increasing responsibility and demonstration of successful programs
Ambler EAC in Action: Update of Open Space Plan

- Recommended an update of Ambler’s 2006 Open Space Plan
- Collaborated with Planning Commission and Montgomery County Planning Commission
- Final draft accepted by Borough Council in April 2020
Ambler EAC in Action: Land Acquisition

► Worked with developer to purchase 1 of 4 lots on a steep sloped, environmentally sensitive piece of land
► Raised over $40,000 of the $75,000 asking price
► Assured land was deeded as Permanent Open Space
► Obtained maintenance plan for space
► Continues to explore options for BMP’s of this space
Ambler EAC in Action: Review plans and make suggestions

- Densely developed community with minimal new development
- Work with Code Enforcement to identify avenues for outreach
- Meet with property owners and encourage implementation of BMP’s in plans
  - Zaccone Motors: porous pavement and tree trenches
  - House Rebuild: permeable pavers
  - Infill housing: street trees
  - Septa parking lot: new trees and rain garden
Ambler EAC in Action: Stormwater Management Program

► Wrote and acquired *Growing Greener* Grant $206,000
► Implementing and managing this essential program
► Helps municipality to meet *MS4 requirements*
  ► *Minimum Control Measures*
    ► Public education and outreach
    ► Public involvement and participation
► Provides funding for homeowners to put in place
  ► Rain Gardens, permeable pavers, rain barrels, and down spout planter boxes
Ambler EAC in Action: EarthFest

- Plan and execute an annual community wide EarthFest in April
- Vendors, kids activities, business participation
- Electronics Recycling
Ambler EAC in Action: TreeVitalize

- PHS TreeVitalize manages plant one million
- Planted 58 trees in 2019 and 39 trees in 2020 in public and private spaces
- Worked with Septa to get 6 new trees planted at Ambler train station in Spring of 2019 and working on a rain garden for Spring of 2021
Ambler EAC in action: Work with High School students on environmental projects

- Connie Liu: Plastics Awareness
- Charlotte Wachter: Biodegradeable take out containers
- Rebecca, Tori, and Kayla: Rain Barrel building and installation
- Thomas: Recycling and Open Space acquisition
- Chan: Current Recycling issues
- Elena: Upcycling
Ambler EAC in Action: Develop outreach on environmental issues

- **Emerald Ash Borer**
  - Developed brochure
  - Identified Ash Trees in Ambler, provided education

- **Spotted Lantern Fly**
  - Social media campaign
  - Monitoring our parks

- **Stormwater**
  - Workshops for grant
  - Municipal education on MS4

- **Ready for 100**
  - Created momentum for Energy Transition Plan
  - Continue to provide support and alert Borough to opportunities
Environmental Advisory Councils

EAC’s

- Volunteers
- Provide valuable resources and information
- Work with, not against municipalities
- Create a sense of community
- Work with other EAC’s and local environmental organizations

- QUESTIONS???