



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION

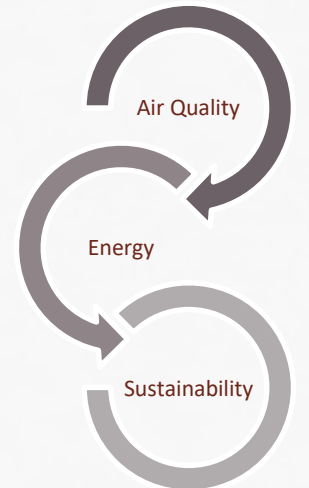


DIVISION OF AIR QUALITY

AIR QUALITY, ENERGY, AND SUSTAINABILITY

APRIL 21, 2021 CLEAN AIR COUNCIL FUGITIVE DUST UPDATE

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DIVISION OF AIR QUALITY



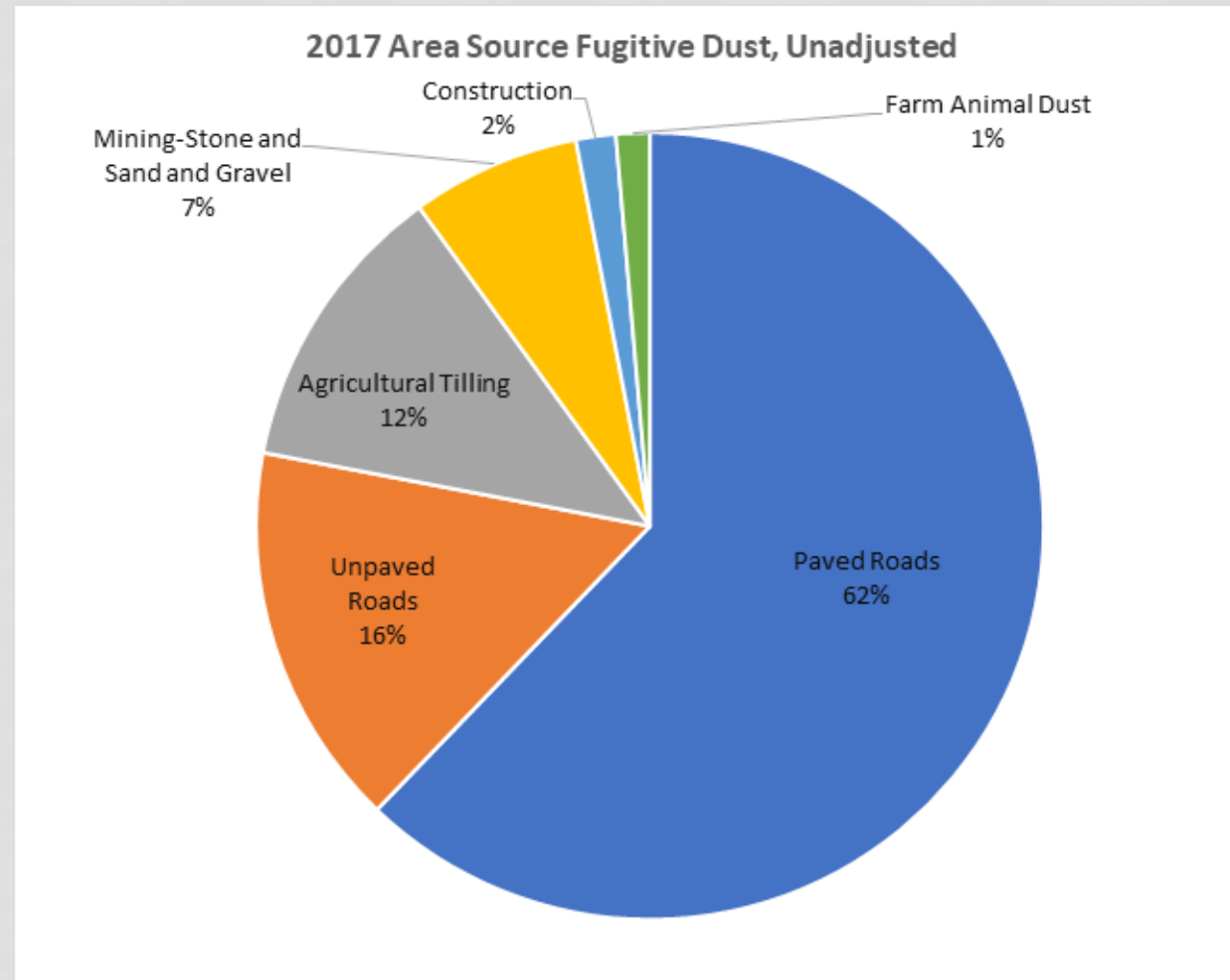
UPDATE TOPICS

- Background
- Sources
- Potential Emissions
- Health and Environmental Effects
- Mitigation
- Current Regulations
 - NJ
 - Federal
 - Other States

WHAT IS FUGITIVE DUST?

- Particles suspended in the air not emitted from an emission point
- The term is used to denote that the dust "escapes" into the atmosphere rather than being exhausted in a "confined flow stream" from a "ducted emitter" (e.g. vehicle exhaust or smokestack)
- About half of fugitive dust particles are larger than 10 microns in diameter and settle more quickly than the smaller particles.
- Composition will be determined by material being processed
 - Soil
 - Minerals from rock
 - Materials being processed or recycled
 - Dredge spoils (metals, toxic materials, sediment)

NEW JERSEY EMISSIONS INVENTORY



FUGITIVE DUST SOURCE TYPES

- Permitted source types
 - Landfills
 - Quarries (limited source types)
 - Recycling Centers (limited source types)
 - Commercial Mining (limited source types)
- Unpermitted source types
 - Land development areas/ Construction Sites
 - Roadways
 - Near-road or off-road areas
 - Material Piles (Sand, wood chips, aggregate, etc.)
 - Building Demolition

MATERIAL PILES



CAMDEN RECYCLING OPERATION



CAMDEN RECYCLING OPERATION



DREDGE SPOIL REDEVELOPMENT PROJECT IN KEARNY



ROCK QUARRY



LANDFILL



PORT UNLOADING OF SALT



AGGREGATE PROCESSING



WHERE ARE THESE FACILITIES LOCATED

- In all counties in New Jersey
- Many in Environmental Justice Areas

FUGITIVE DUST EMISSIONS

- Emissions will depend on the materials that are part of the process generating the fugitive dust and are generally limited to solid particles although there is the possibility of some liquid particles depending on the process.
- Regulated Air Contaminants would include
 - PM-10
 - PM-2.5
 - Hazardous Air Pollutants
- Emissions are primarily impacting local communities

HEALTH AND ENVIRONMENTAL EFFECTS

- The potential health effects of particle pollution are related to the makeup and size of the particles.
- The smallest particles pose the greatest health problems because they can be inhaled deeply into the lungs.
- People most at risk from breathing particle pollution are children, the elderly, and people with existing heart and respiratory disease.
- Healthy individuals can be affected as well, especially those who work and recreate outdoors.
- The health effects of inhaling particle pollution include:
 - Irritation to the eyes, nose and throat.
 - Respiratory distress, including coughing, difficulty in breathing and chest tightness.
 - Increased severity of bronchitis, asthma and emphysema.
 - Heart attacks and aggravated heart disease.
 - Premature death in individuals with serious lung or heart disease.
- Fugitive dust can also reduce visibility (i.e., cause hazy conditions) which can result in driving or work-site accidents.

MITIGATION

- The most practical way to address fugitive emissions is through the requirement to implement Best Management Practices (BMPs).
- At a minimum, BMPs should address the following elements:
 - Wetting surfaces prior to and during demolition activities.
 - Watering, treating, sweeping, sealing or paving roadways.
 - Maintaining stockpiles to include watering, reducing drop distance between discharge point and top of stockpile, covering or enclosing.
 - Constructing windbreaks, vegetative control, embankment construction or topographic controls.
 - Enclosing crushers, screens or other material transfer points, wetting and dust collection equipment. If enclosed, further collection and treatment is possible.
 - Controlling the loading and movement of vehicles throughout the site, such as reducing speed, under unfavorable conditions.

CURRENT REGULATIONS

- NJ State Regulations
 - Under permitting rules Case by case
 - Dust management plans
 - Rules may need to be amended to cover additional sources
- Federal
- Other States

QUESTIONS

