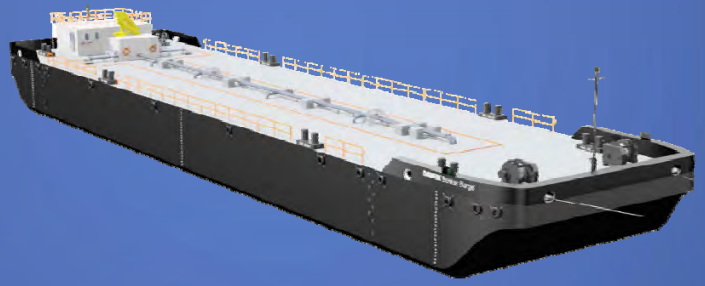
A Cleaner Climate with Chemical Safety

Chemicals In Transit



Nicholas Child, MA MPA MEPP
Chief Emergency Planning & Preparedness Officer

MassDEP
Massachusetts Department of Environmental Protection

Stuff Happens

Hyndman PA Derailment

August 2, 2017 – 5:00 AM

Incident Priorities

#1 – Life Safety

(Responders & general public)

#2 – Critical Infrastructure

(Public water, wastewater, critical transportation points, etc.)

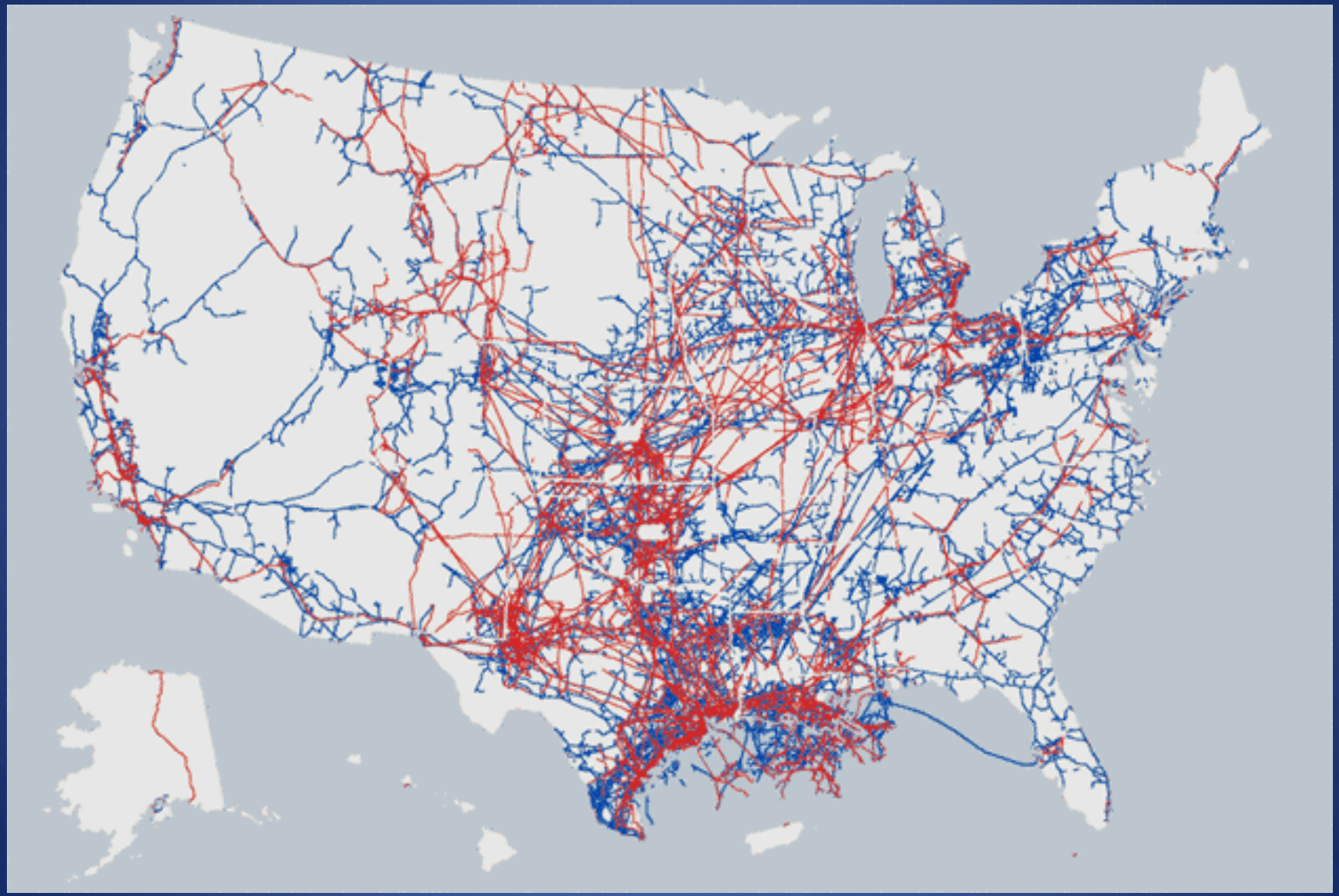
#3 – Environment

(Oil & Hazmat control, containment, cleanup)

#4 – Property

Pipelines

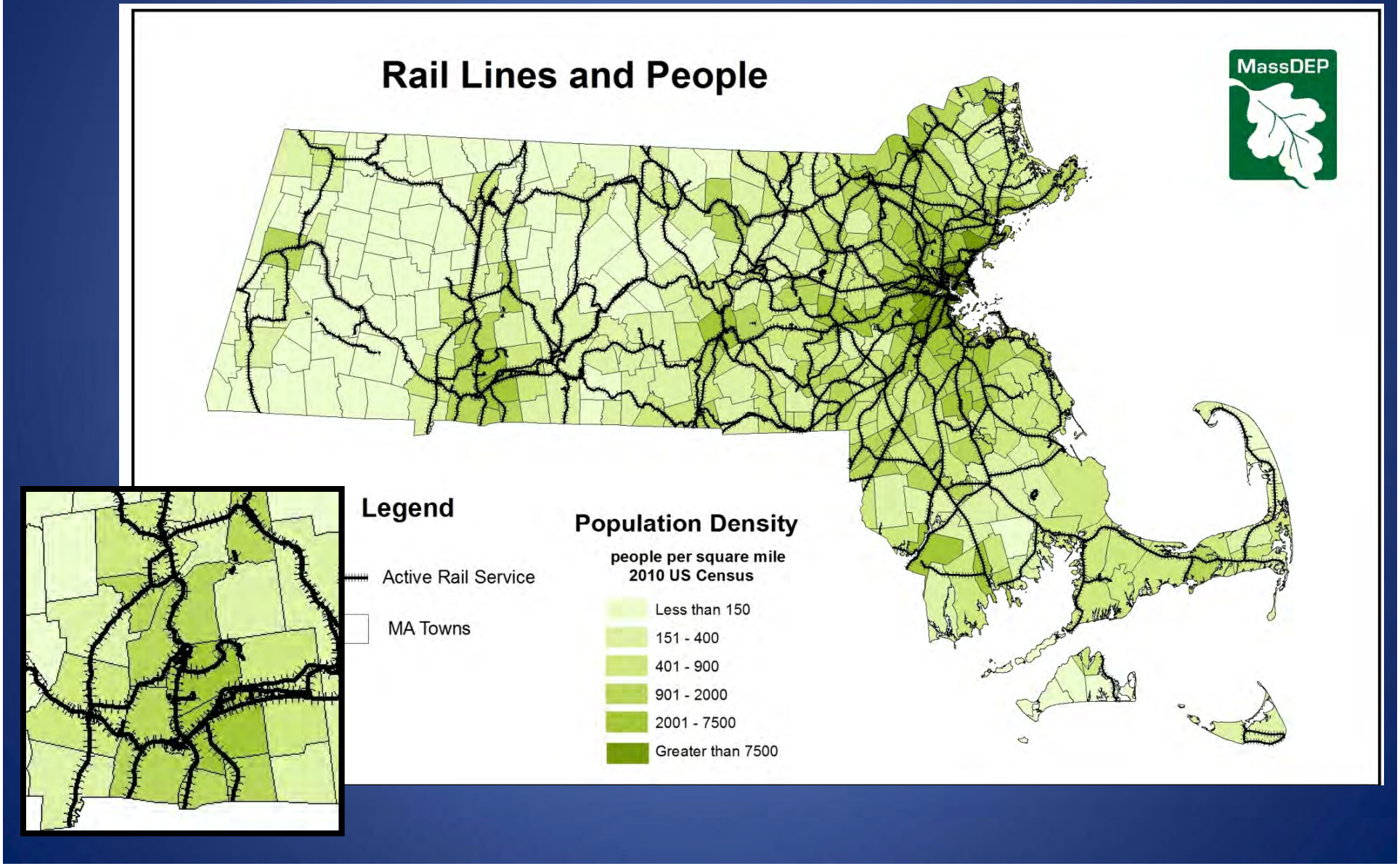
US Pipeline System



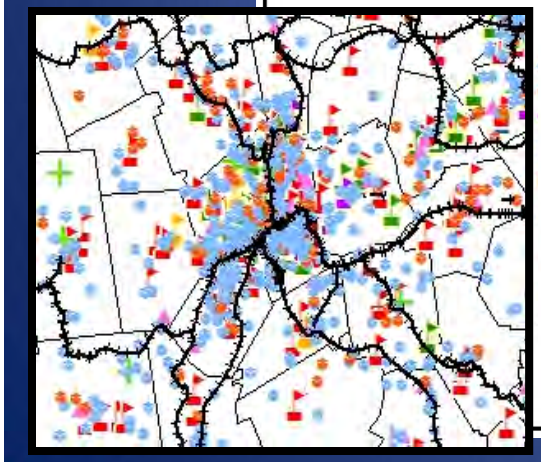
Source: Pipeline and Hazardous Materials Safety Administration.

Railroad

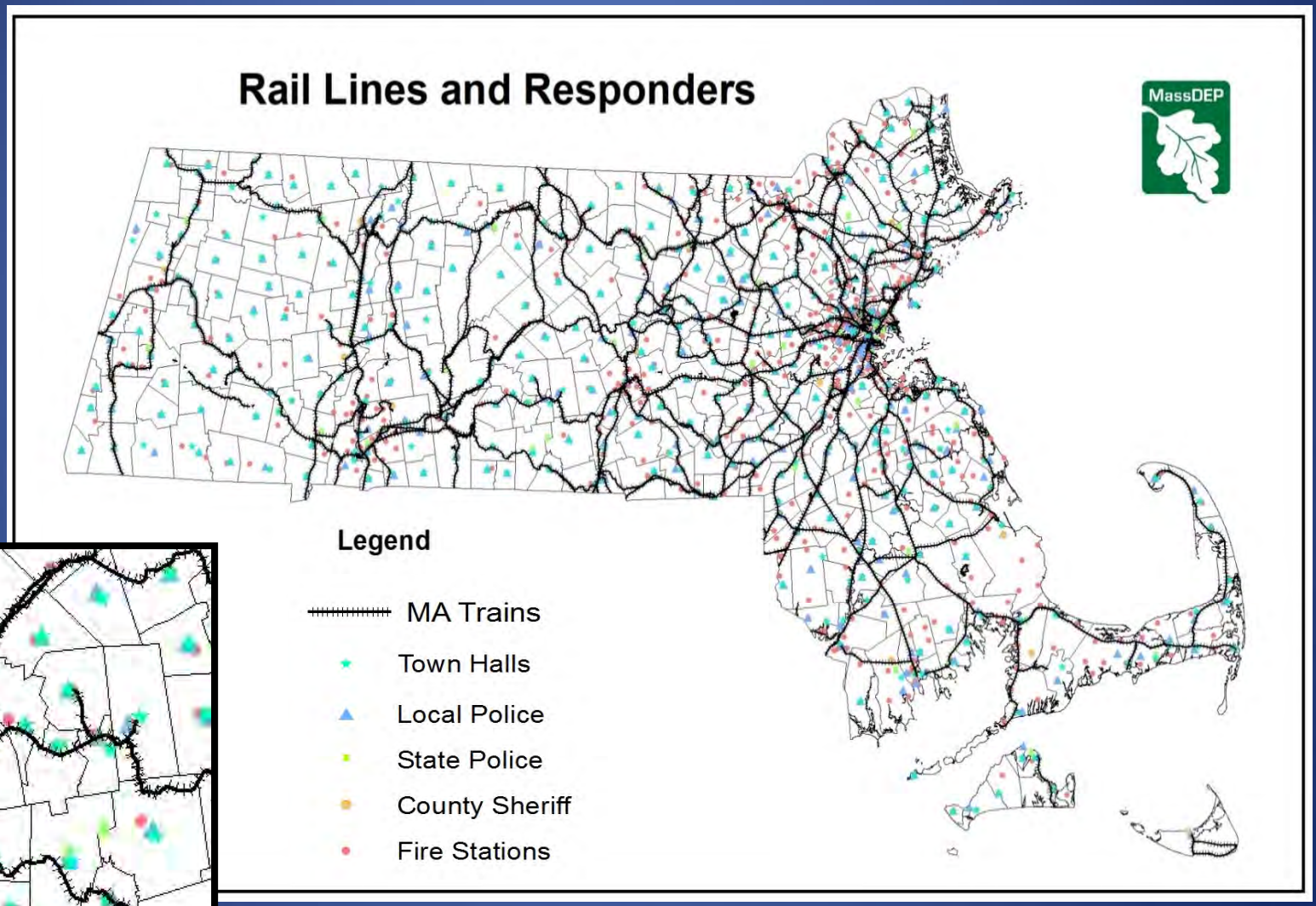
Rail Lines and People



Rail Lines and Receptors



Rail Lines and Responders

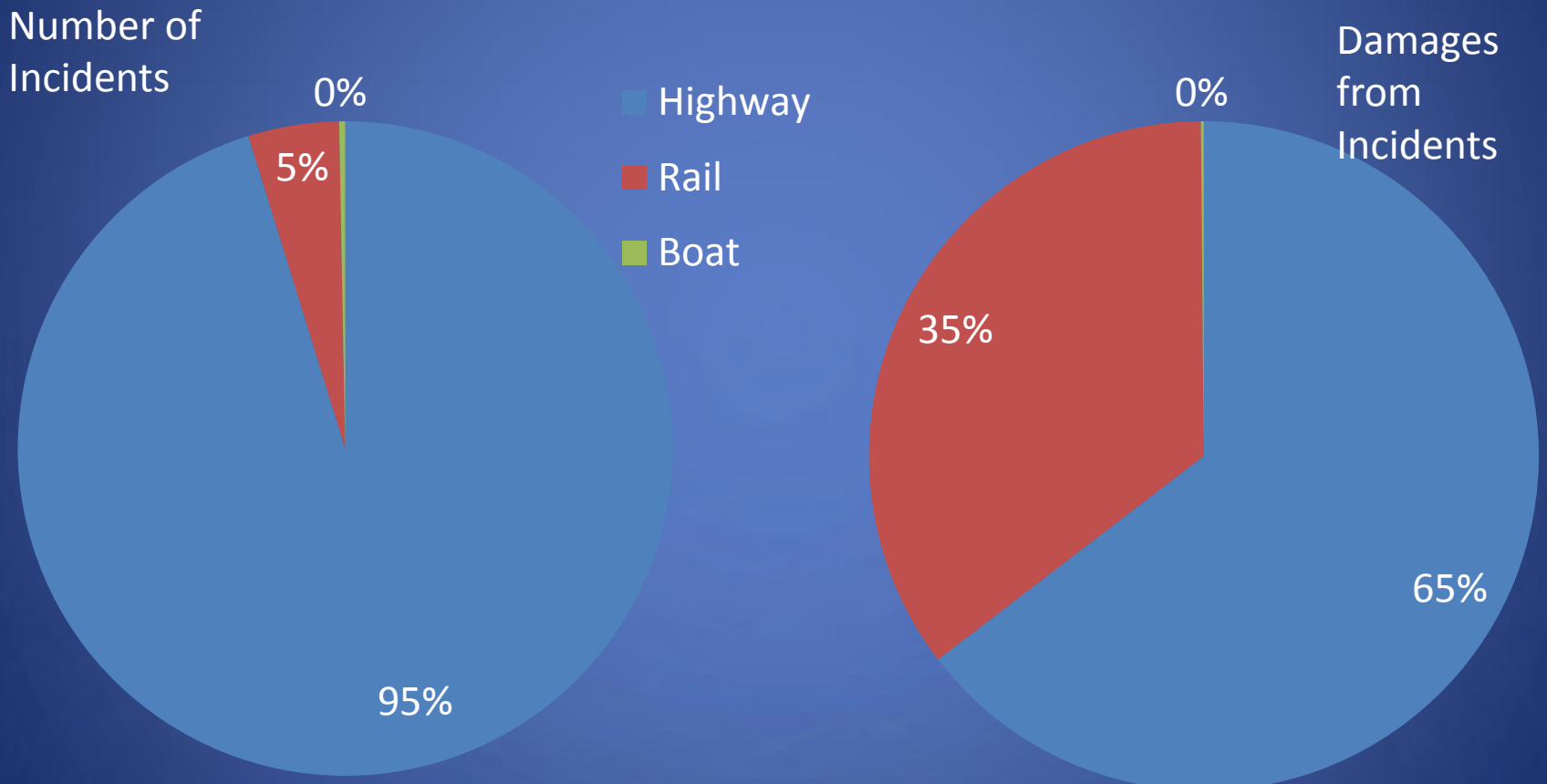


Roadways

Major Highways

Which Mode Has Most Releases

Total Number and Damages of Hazmat Incidents by Mode

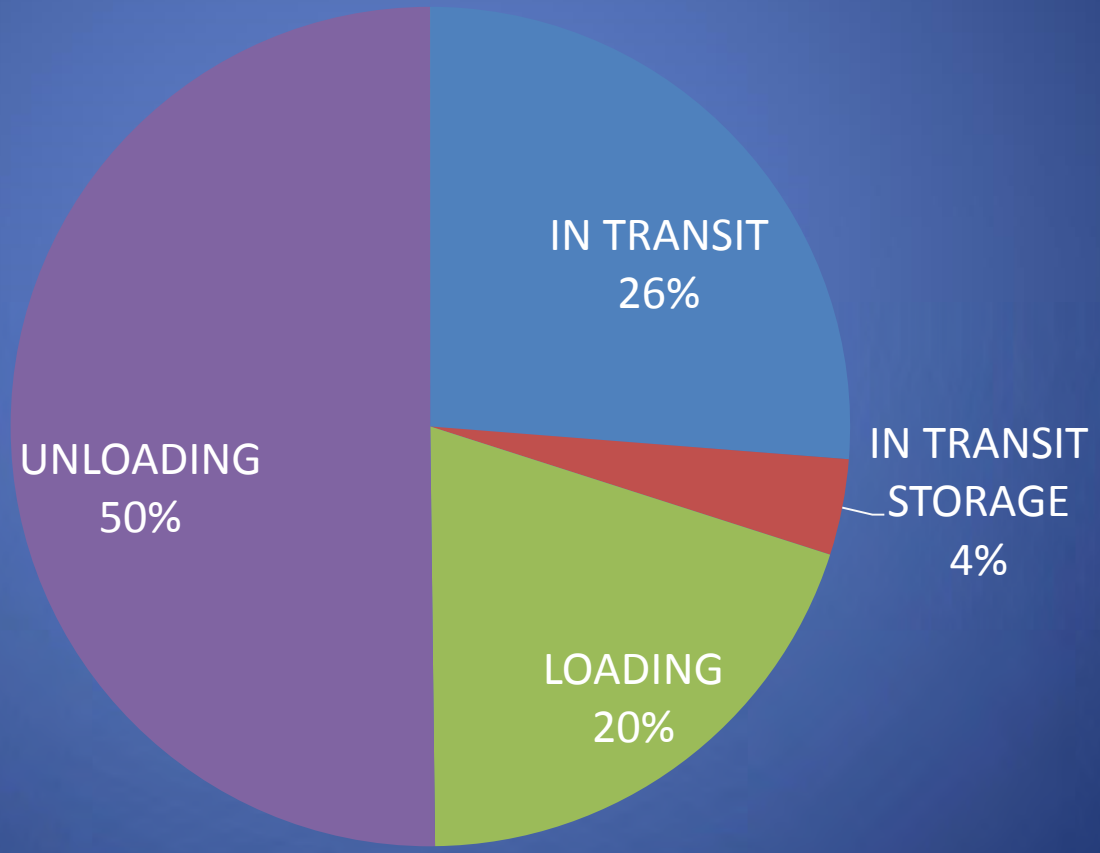


15,928 reported incidents

Source: US DOT PHMSA

When are releases happening?

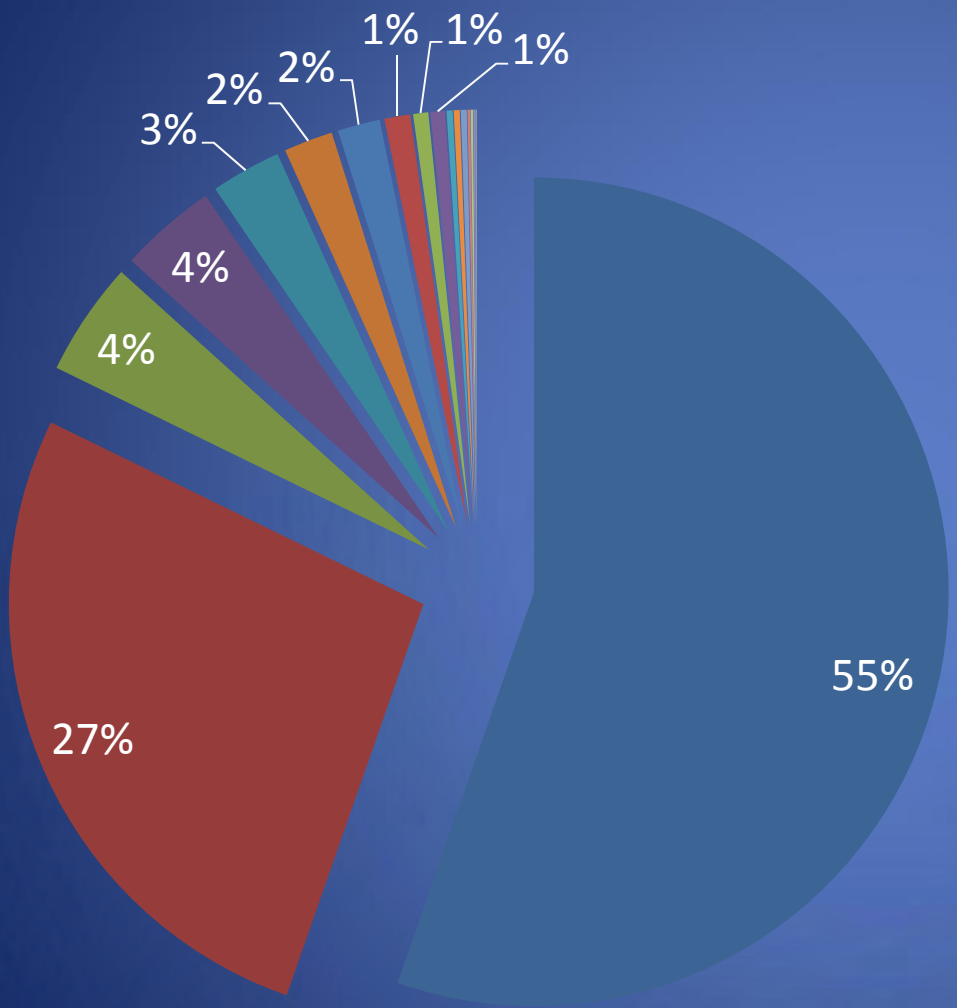
Total Release Summary by Transport Phase



Source: US DOT PHMSA

What is spilling?

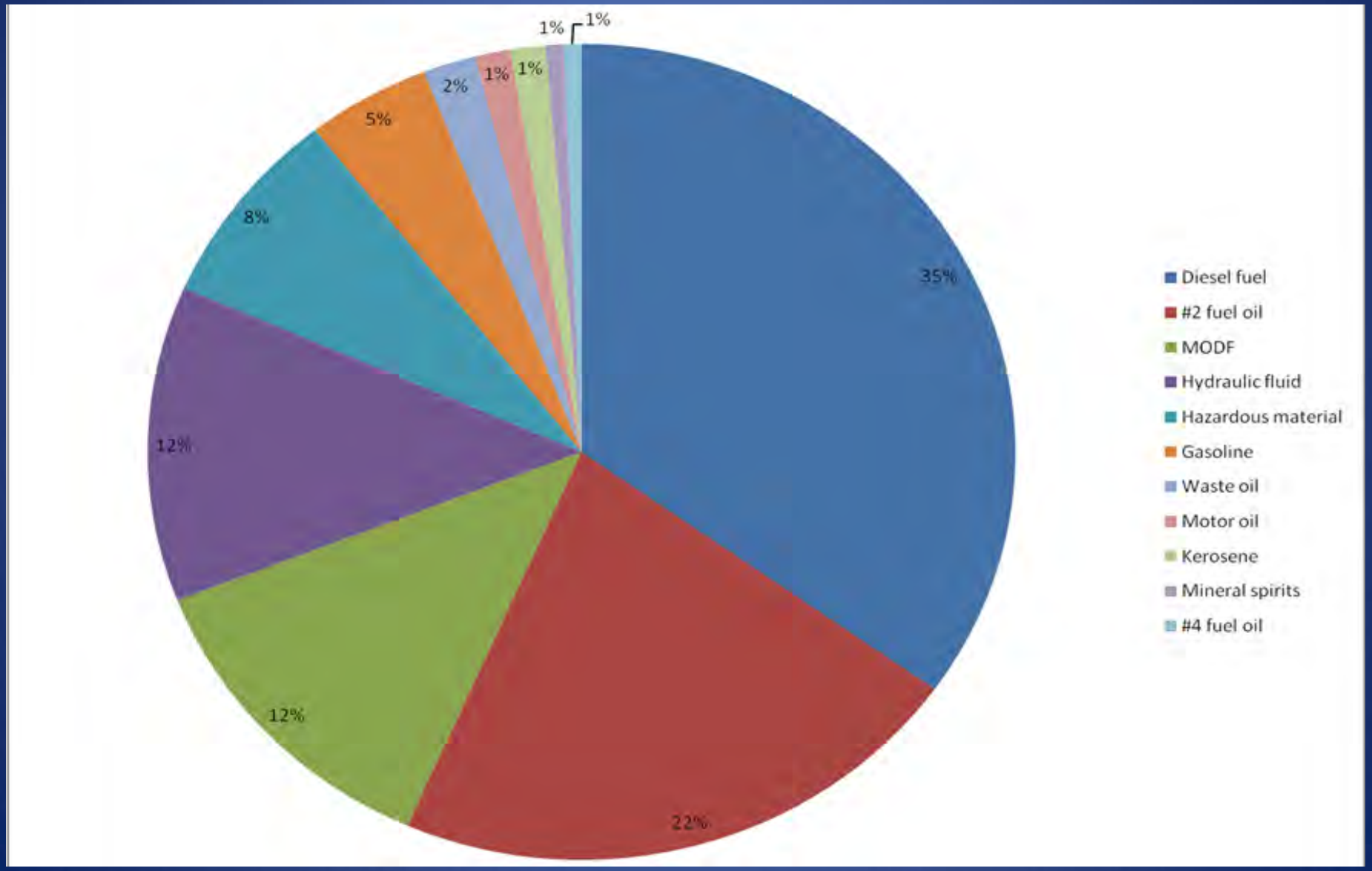
Total Releases by Hazard Class



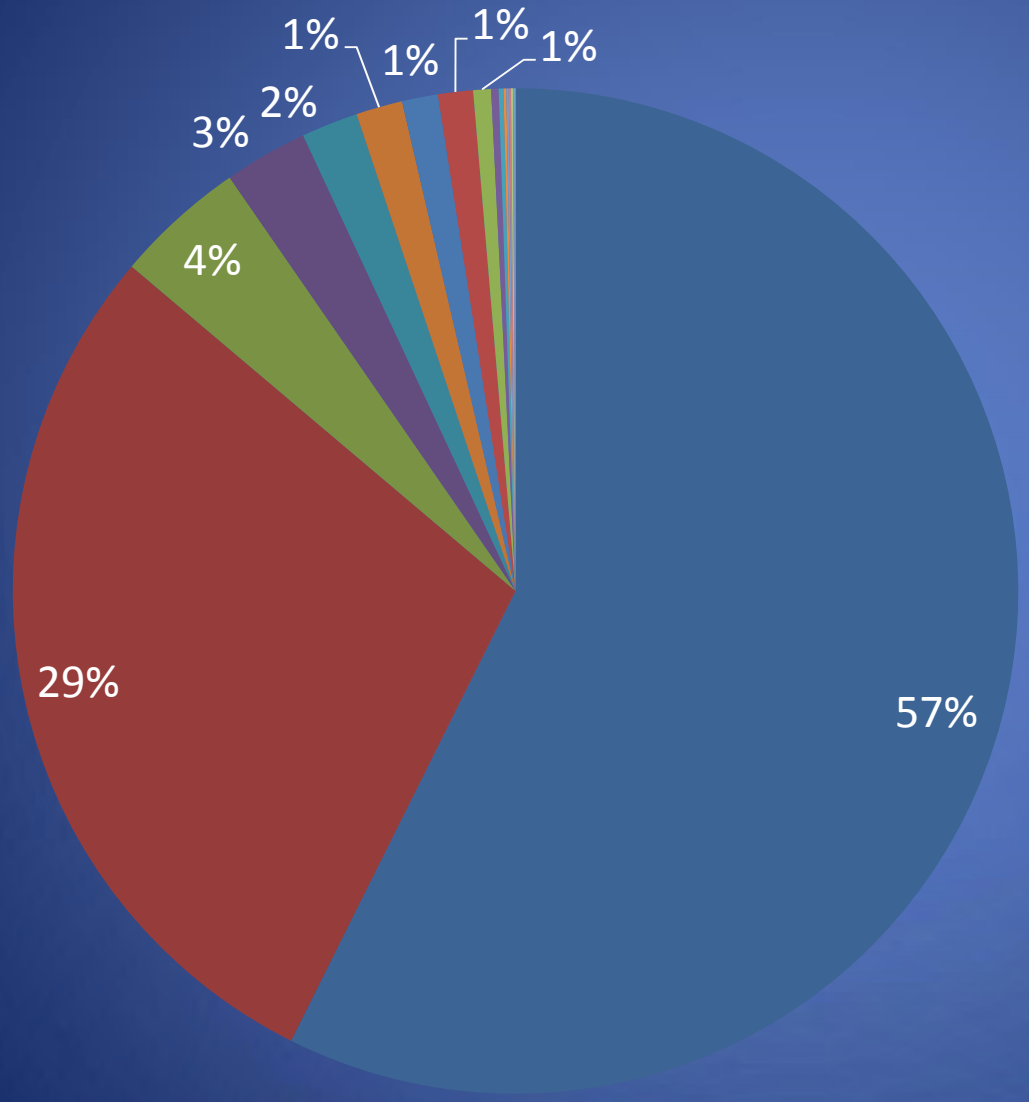
- FLAMMABLE - COMBUSTIBLE LIQUID
- CORROSIVE MATERIAL
- MISCELLANEOUS HAZARDOUS MATERIAL
- OXIDIZER
- FLAMMABLE GAS
- POISONOUS MATERIALS
- NONFLAMMABLE COMPRESSED GAS
- ORGANIC PEROXIDE
- OTHER REGULATED MATERIAL,CLASS D
- FLAMMABLE SOLID
- EXPLOSIVE NO BLAST HAZARD
- INFECTIOUS SUBSTANCE (ETIOLOGIC)
- COMBUSTIBLE LIQUID
- POISONOUS GAS
- RADIOACTIVE MATERIAL

Source: US DOT PHMSA

MassDEP Releases by Material



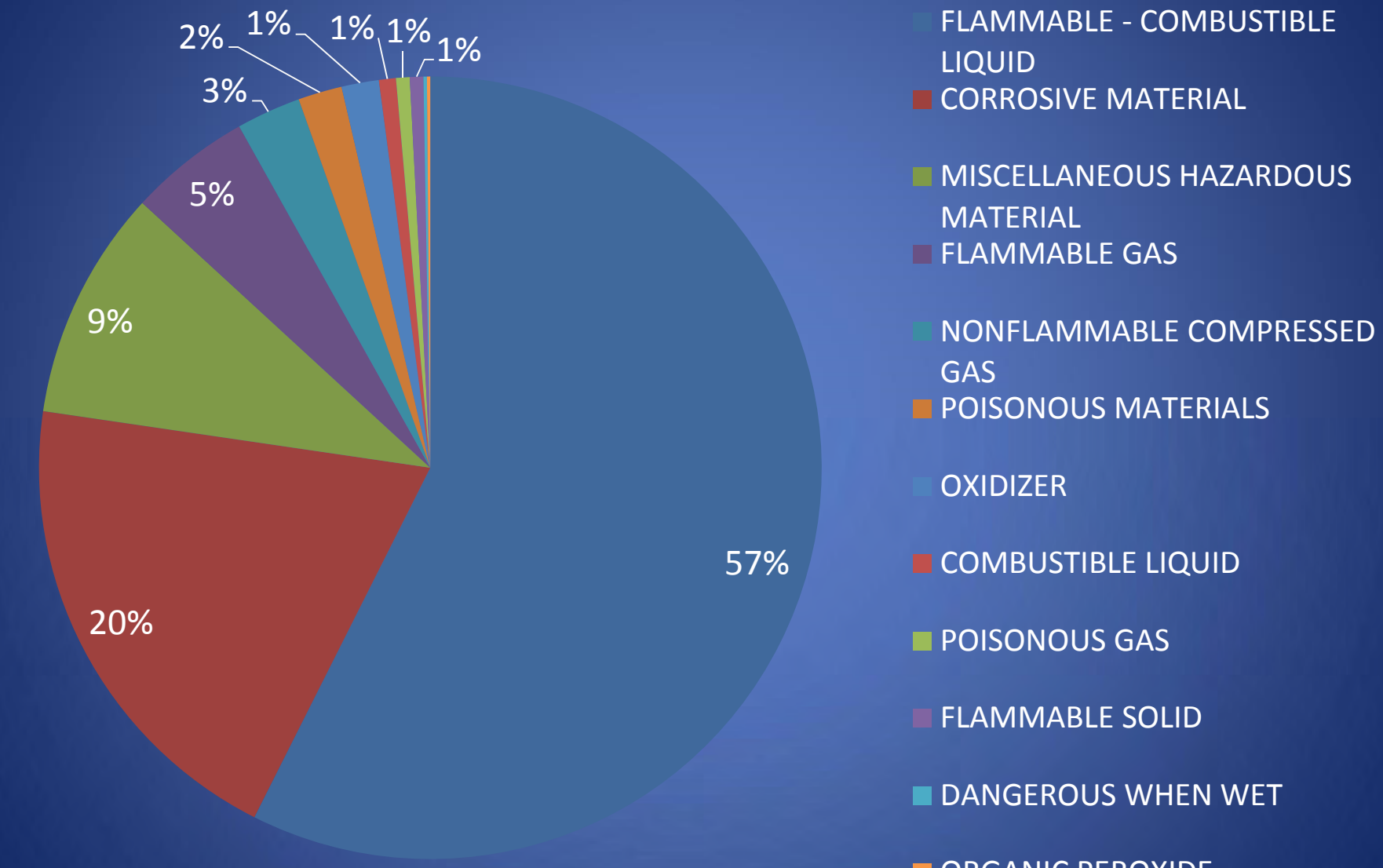
Truck Releases by Class (15,167)



- FLAMMABLE - COMBUSTIBLE LIQUID
- CORROSIVE MATERIAL
- OXIDIZER
- MISCELLANEOUS HAZARDOUS MATERIAL
- POISONOUS MATERIALS
- FLAMMABLE GAS
- NONFLAMMABLE COMPRESSED GAS
- ORGANIC PEROXIDE
- FLAMMABLE SOLID
- COMBUSTIBLE LIQUID
- OTHER REGULATED MATERIAL,CLASS D
- POISONOUS GAS
- EXPLOSIVE NO BLAST HAZARD
- DANGEROUS WHEN WET
- RADIOACTIVE MATERIAL
- SPONTANEOUS COMBUSTION
- INFECTIOUS SUBSTANCE (ETIOLOGIC)
- VERY INSENSITIVE EXPLOSIVE

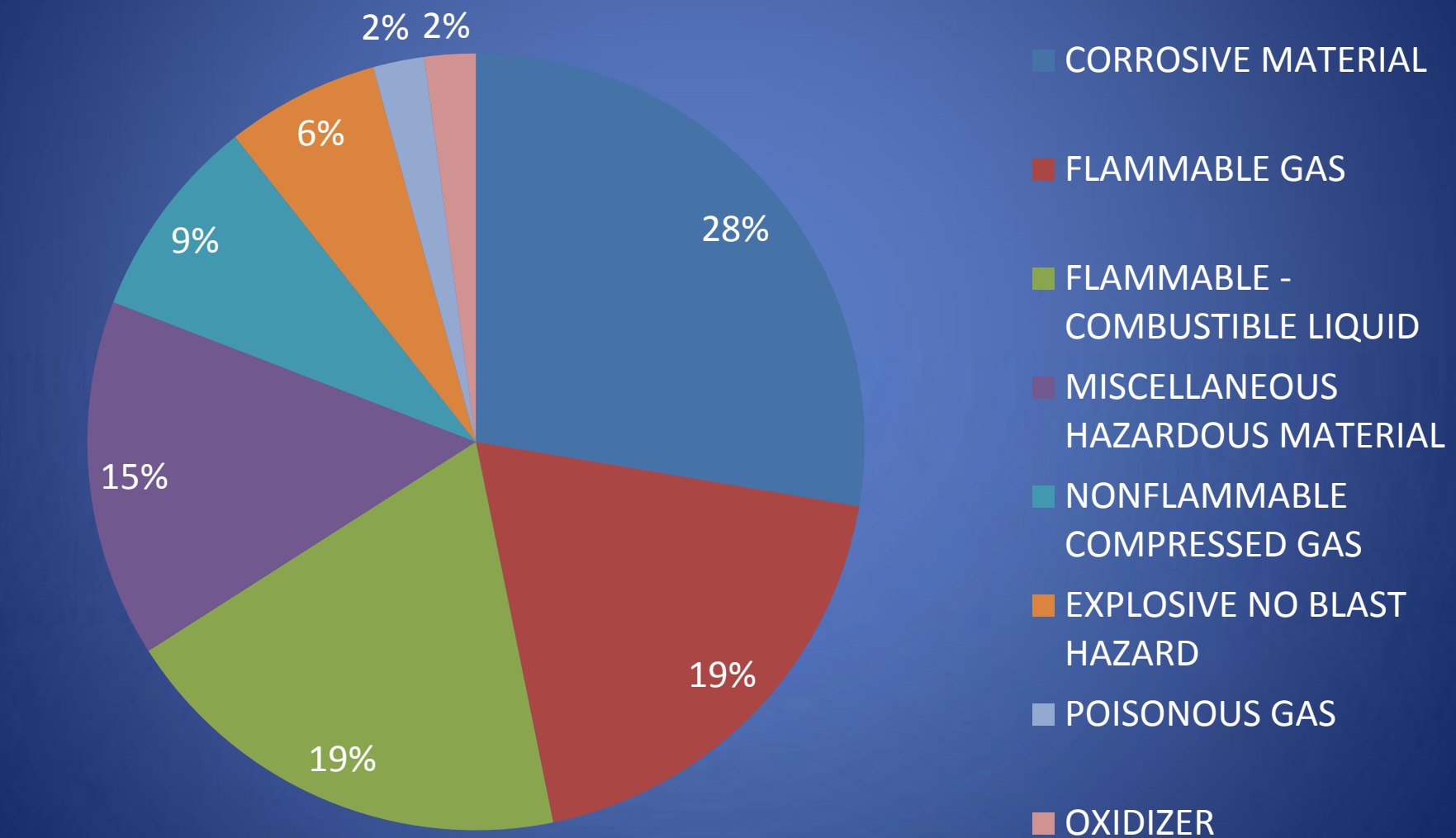
Source: US DOT PHMSA - DOT

Rail Releases by Class (714)



Source: US DOT PHMSA - FRA

Boat Releases by Class (47)



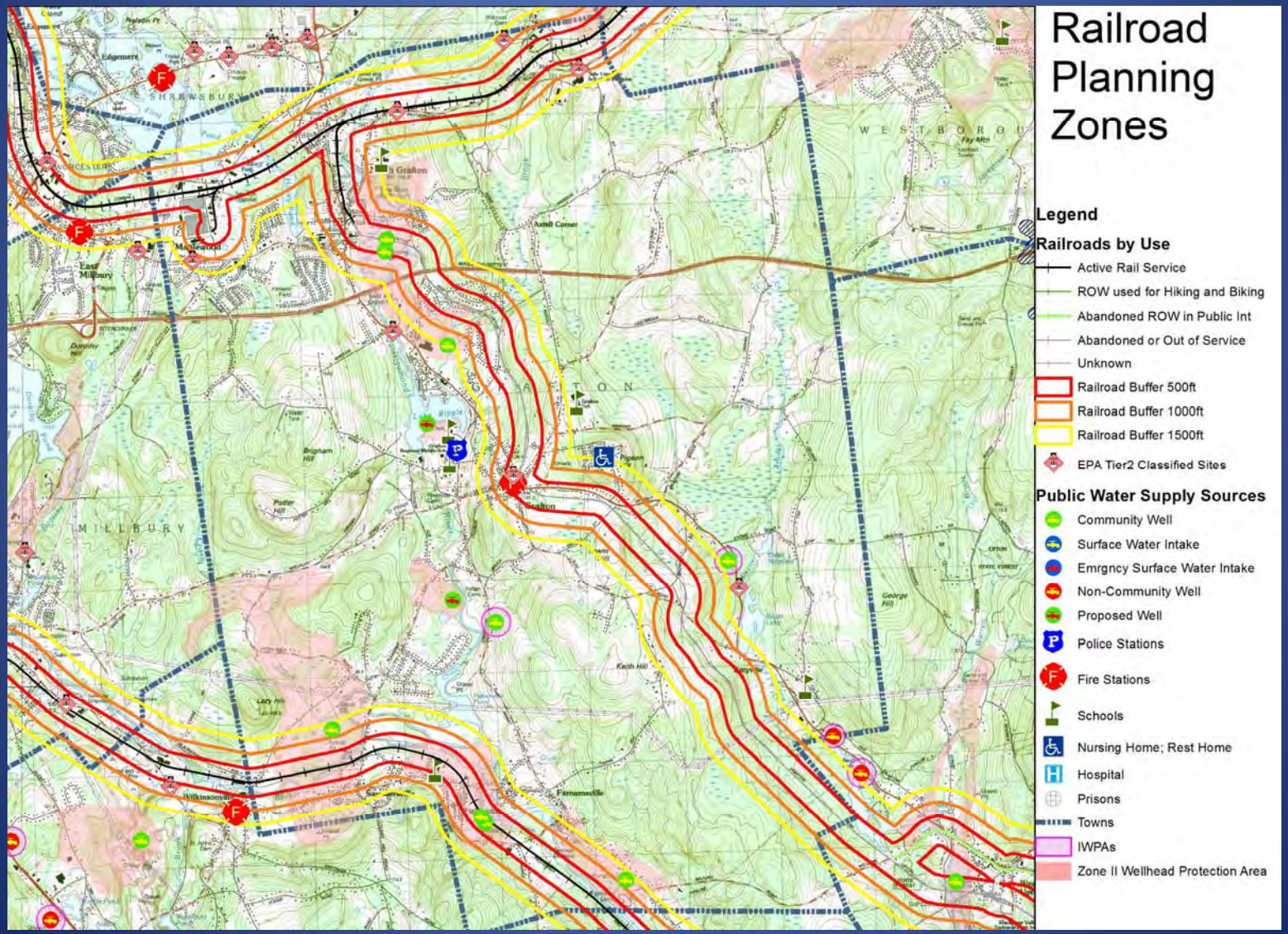
Source: US DOT PHMSA - USCG

So how should we prepare?

- Focus on the most likely modes for accidents
  - Roadway / Truck
  - Rail / Train
- Focus on the most likely hazard classes:
  - Flammable liquids
  - Corrosives
- Facilities in your town and your neighboring towns.

Hazardous Materials at Fixed Facilities

Transportation Routes as Local Planning Buffer Zones



Statewide HazMat Transportation Study

The Maine Example

Maine Priority Hazardous Materials

Anhydrous Ammonia	Methanol
Chlorine	Nitric Acid
Crude oil	Nitrogen, Liquid
Compressed Natural Gas	Potassium Cyanide
Ethanol	Sodium Cyanide
Formaldehyde	Sodium Hydroxide
Hydrochloric Acid	Sodium Chlorate
Hydrofluoric Acid	Sulfuric Acid
Hydrogen Peroxide	

Upcoming Training

Computer Aided Management of Emergency Operations

Hands-on CAMEO System Training
October 10-11, 2017 8:30 AM to 4:30 PM
MassDEP Worcester,
SuAsCo Main Conference Room
8 New Bond Street, Worcester MA 01606

Presented in collaboration with the Environmental Protection Agency Region I

Thank You

Nicholas Child

MassDEP 2nd Floor

1 Winter Street,

Boston, MA 02108

(617) 574-6847

Nick.Child@state.ma.us