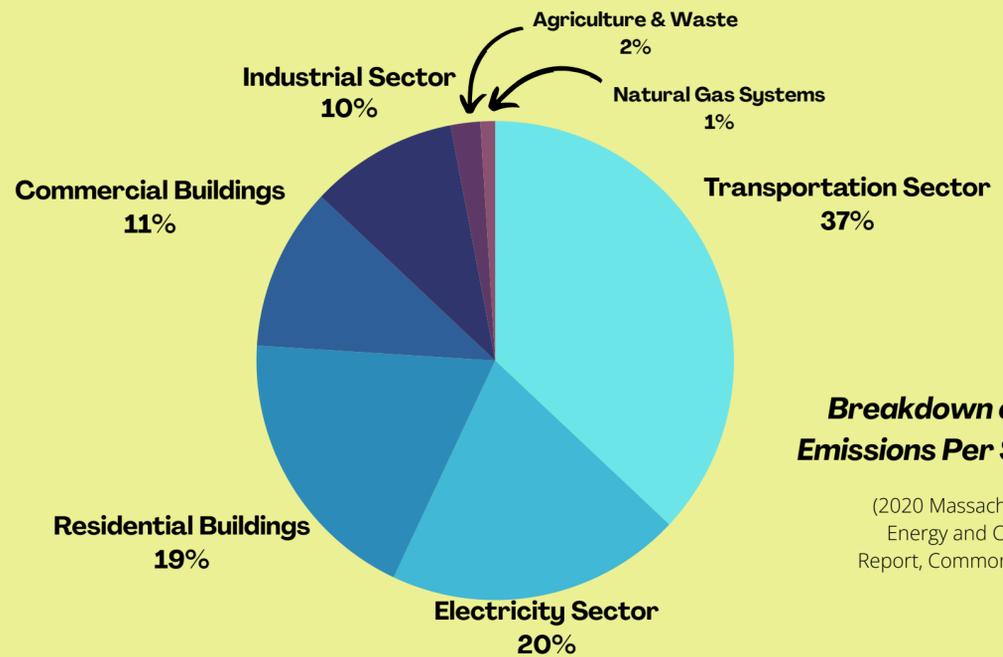


## WHAT IS THE PROBLEM?

- **Excess carbon dioxide** from the combustion of petroleum-based products (gas, diesel) in internal combustion engines
- **Methane & nitrous oxide** are emitted during fuel combustion
- Another byproduct, **particulate matter** (i.e. smoke, soot, dirt), leads to smog when mixed with atmospheric pollutants



## WHAT ARE COMMON IMPACTS?

### DISTURBED NEIGHBORHOODS



- Transportation infrastructure projects displace and isolate low-income & minority residents
  - These groups are more likely to live near areas where air pollution from transportation is abundant

### HEALTH IMPLICATIONS



- Poor air quality can lead to higher rates of **asthma, cancer & cardiovascular disease**
- The American Lung Cancer Association estimates 90,000 premature deaths could be prevented by 2050 if gasoline powered vehicles disappeared from roads by 2035

### NATURAL HABITAT IMPACTS



- Degradation & fragmentation of natural habitats
- Animal communication, mating behavior, foraging behavior, and spatial orientation are all impacted

### Emissions from Passenger Vehicles in MRPC Region (CMRPC PCAP GHG Inventory)

Town	Gasoline Miles Traveled	Metric Tons CO2 Emitted
Ashburnham	64,081,550	26,387
Ashby	32,090,335	13,393
Athol	100,226,547	40,729
Ayer	73,422,079	29,022
Clinton	119,836,966	47,092
Fitchburg	272,086,920	108,479
Gardner	155,767,891	61,835
Groton	102,363,977	41,503
Harvard	51,007,503	21,096
Hubbardston	48,518,593	19,774
Lancaster	61,744,898	24,725
Leominster	327,497,391	128,584
Lunenburg	104,049,807	42,475
Petersham	13,822,997	5,640
Phillipston	20,731,334	8,456
Royalston	14,004,432	5,953
Shirley	55,377,588	22,291
Sterling	79,793	32,675
Templeton	81,855,416	33,037
Townsend	93,217,459	37,855
Westminster	81,514,171	33,406
Winchendon	96,197,216	39,395
<b>Total</b>	<b>2,049,154,441</b>	<b>823,802</b>

## GENERAL GOALS TO CONSIDER FOR THE TRANSPORTATION SECTOR

1

REDUCE VEHICLE TRAVEL DEMAND/IMPROVE TRANSPORTATION MOBILITY

2

IMPROVE OVERALL FUEL EFFICIENCY

3

ELECTRIFY PERSONAL TRANSPORTATION NETWORKS + SCALE UP FUEL SWITCHING EFFORTS

4

IMPROVE OPERATIONAL EFFICIENCY OF FREIGHT AND FLEET