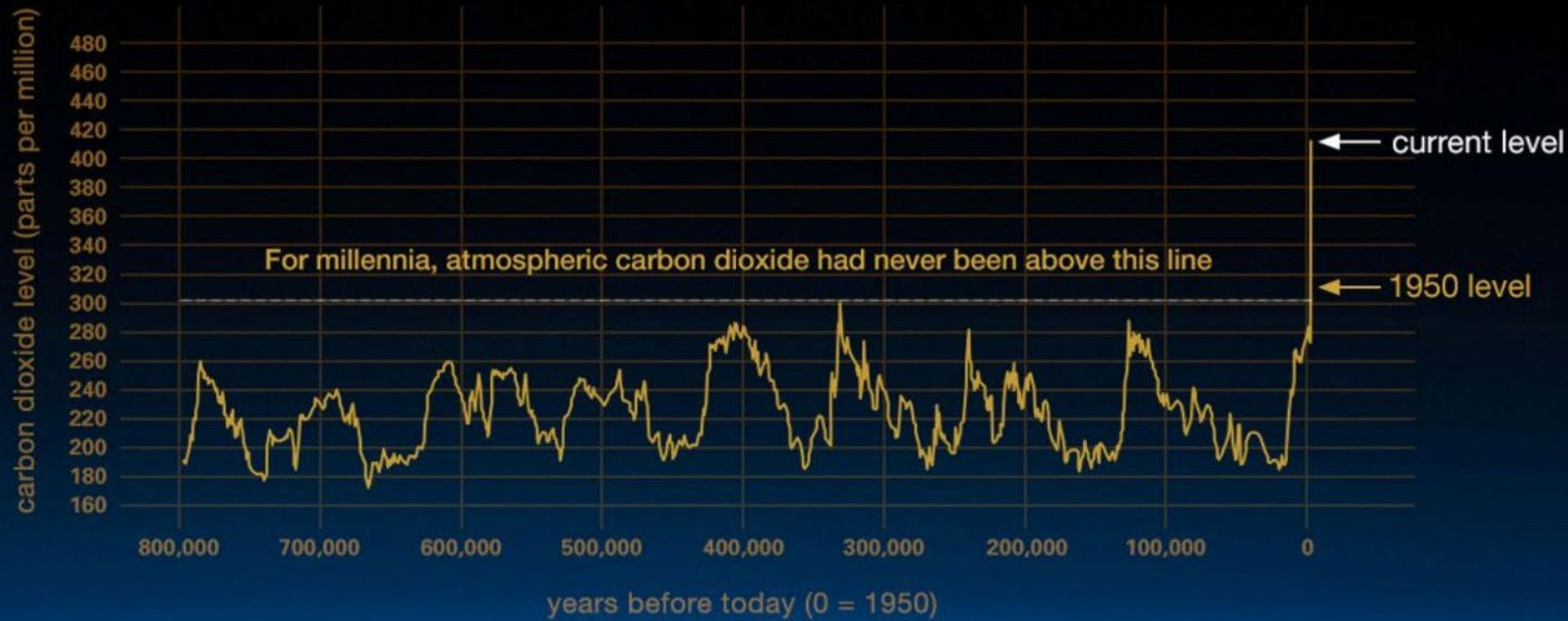

Density & Emissions

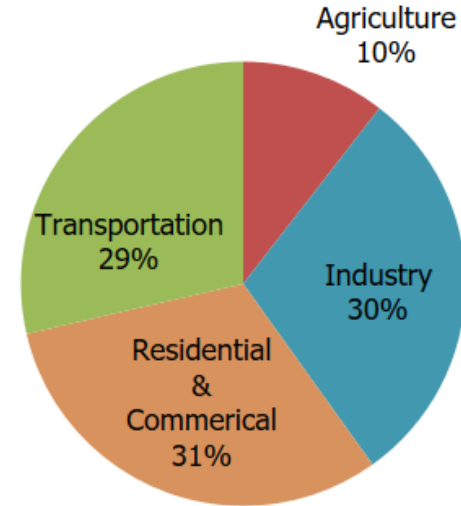
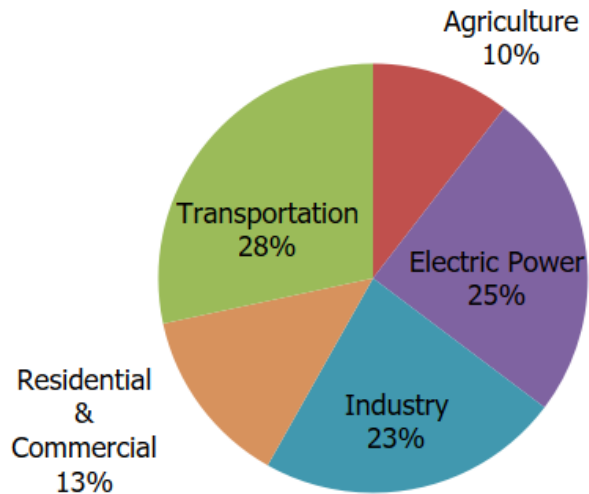
— How smart urban planning can —
decrease emissions...
...and create healthier communities.





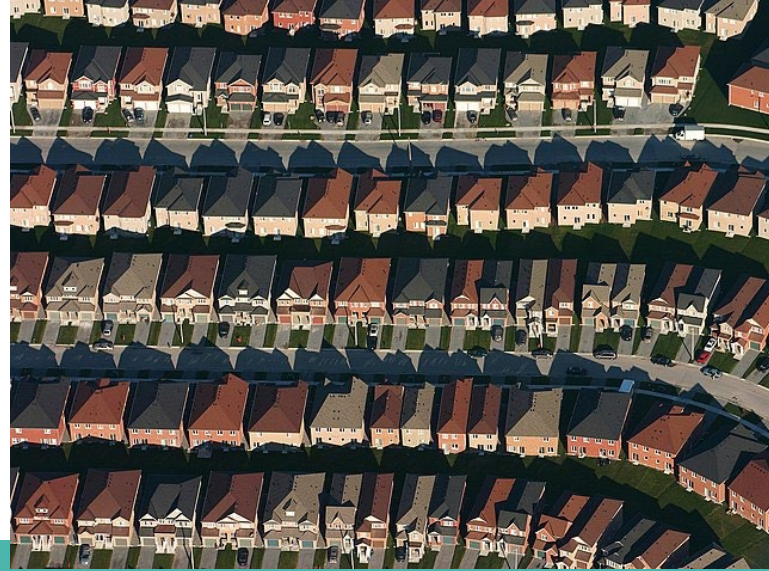
Source: climate.nasa.org

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2022



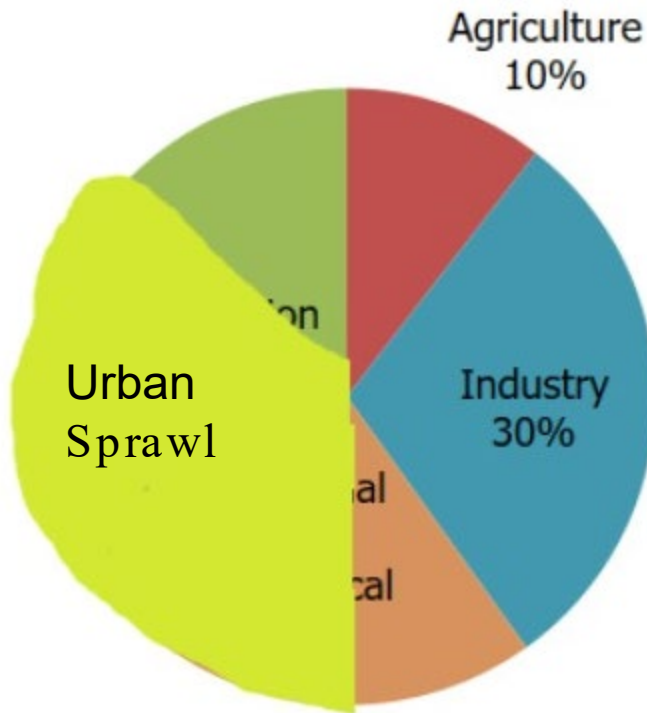
Source: EPA website

Urban Sprawl



“Globally, urban sprawl is directly or indirectly responsible for one-third of all greenhouse gas (GHG) pollution but is generally overlooked as a major contributor to the climate crisis.” ([source](#))

Urban Sprawl



Urban Sprawl

How does it contribute to emissions?

- Longer distance traveled/ Greater car dependency
- More embodied carbon in the built environment
- Less efficient buildings
- More land consumption
- Increased loss of natural carbon sinks

Source: Why State Land Use Reform Should Be a Priority Climate Lever for America, RMI, Feb 2024

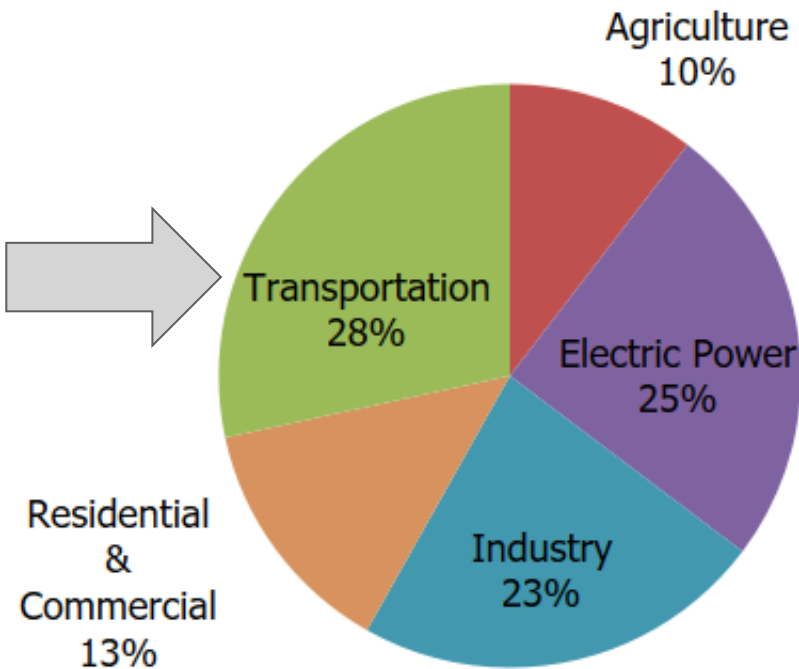
Transportation

How does it contribute to emissions?

28% of total US carbon emissions are from transportation sector

Light-duty trucks, which include SUVs pickup trucks, and minivans **(37%)**; medium- and heavy-duty trucks (23%); passenger cars **(21%)**.

(VMT) by light-duty motor vehicles (passenger cars and light-duty trucks) *increased* by 45% from 1990 to 2021



Transportation

How does it contribute to emissions?

Why not just EVs?

- Even if all new cars were electric now, it would take 15 -20 years to replace the world's fossil fuel fleet.
- \$\$\$
- Car dependency still calls for massive amounts of space & concrete to deal with travel and then storing cars at their destinations.

Transportation

Gas vs EVs

Land use is the same



Density

How does that impact transportation?

- Building public transportation, sidewalks, and bike paths to increase lower - emission transportation choices.
- Zoning for mixed use areas, so that residences, schools, stores, and businesses are close together, reducing the need for driving



Density

What policies should be supported?

- Complete streets/ADUs/Complete Neighborhoods/TOD
- Denser land use in area plans
- Updated zoning
- Build out bike network/BRT

“There's a very strong relationship between urban form and per capita emissions, and it's a near universal relationship, regardless of differences in climate, wealth, culture, demographics.”