

# Transportation

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## Key Message 13.1

### Limiting Transportation Sector Emissions and Integrating Climate Projections Can Reduce Risks

The transportation sector is the largest source of greenhouse gas emissions in the United States, although transportation emissions sources are changing (*very high confidence*). The sector also faces increasing risk from climate-related extreme weather (*very high confidence*). Incorporating climate projections and adaptation and resilience best practices into transportation planning, design, operations, and maintenance can reduce such risks to the sector (*very high confidence*).

## Key Message 13.2

### Climate Change Combined with Other Disruptors Requires New Frameworks and Competencies

Climate action creates an opportunity to address concurrent disruptors, including cyber-technology integration, challenges with the condition of existing assets, and a changing workforce (*medium confidence*). Climate change has accelerated a transition to the use of more advanced approaches, including updated technologies, tools, and best practices (*high confidence*). Further recruitment and training of the sector's workforce is needed to effectively address these fundamental challenges (*high confidence*).

## Key Message 13.3

### Sustainable Transportation Would Produce Societal Benefits

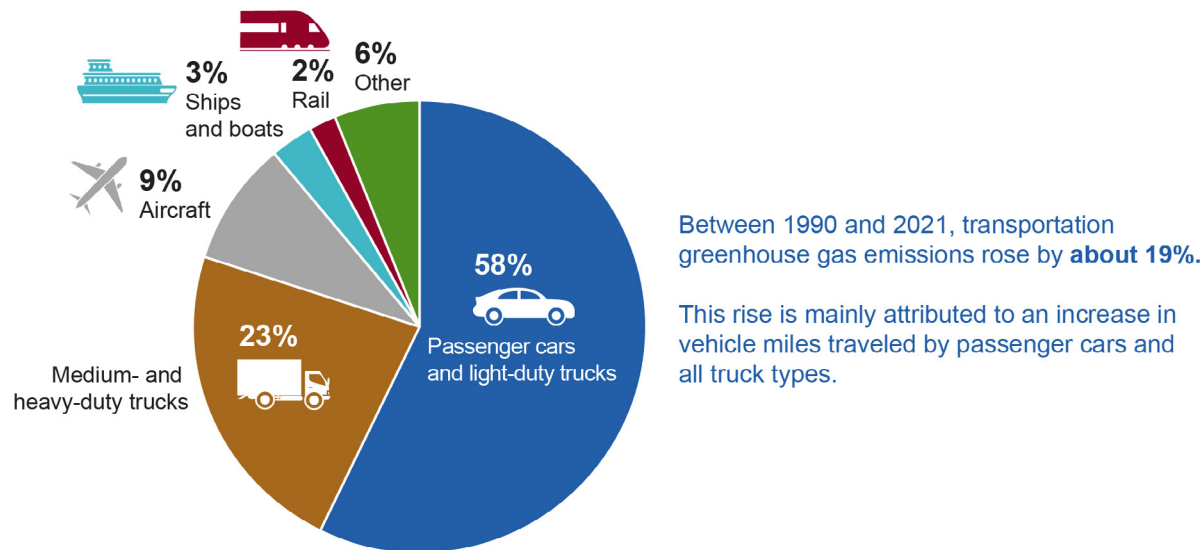
A carbon-free, sustainable, and resilient transportation system would have co-benefits for human health, environmental justice, the natural environment, and economic development (*very high confidence*). When these co-benefits are considered, the benefits of greenhouse gas mitigation actions in the transportation sector far outweigh the costs (*high confidence*).

## Key Message 13.4

### Equitable Distribution of Transportation Trade-Offs and Benefits Requires Community Involvement

Although implementing adaptation and mitigation measures in the transportation sector will produce essential benefits and co-benefits, including addressing existing inequities, additional consideration is needed to avoid or reduce potential adverse consequences associated with these measures (*high confidence*). Moving toward climate resilience and environmental justice requires that these considerations, as well as current and historic inequities, be assessed through transparent and inclusive processes in order to provide equitable protection from environmental and health hazards and equitable access to transportation benefits (*high confidence*).

#### 2021 Greenhouse Gas Emissions from US Domestic Transportation by Mode



**Transportation remains the largest source of emissions in the US, with cars and light-duty trucks as the largest contributors.**

**Figure 13.1.** Greenhouse gas (GHG) emissions from the US domestic transportation sector rose by about 19% between 1990 and 2021 and remain the largest source of total national GHG emissions, with passenger cars and all types of trucks being the most significant contributors to the rise in transportation emissions. “Other” refers to buses, motorcycles, pipelines, and lubricants. Numbers do not add up to 100% due to rounding. Figure credit: Arizona State University and Texas Tech University. See figure metadata for additional contributors.

#### Recommended Citation

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