Current

To better understand the sustainability progress of U.S. freight and logistics, the current trends in energy consumption and greenhouse gas emissions related to freight transportation have been selected for depiction of the various impacts and trends over the past decade."(这是总体介绍)

以下三段可以跟着各个表走也可以一起出现在侧面（类似这种效果）

图片包含 图形用户界面

描述已自动生成

**Greenhouse Gas Emissions by Transportation Type**: This chart was selected to show the specific contributions of different modes of transportation to overall emissions, identifying key areas where interventions can have the most significant environmental impact.

**Total Transportation Greenhouse Gas Emissions**: Comparing total emissions from passenger and freight transportation, this visualization underscores the growing impact of freight operations on the environment, advocating for innovative policies and technologies to curb emissions.

**Energy Consumption by Freight Transportation Modes**: Analyzing energy consumption trends in U.S. freight transportation, this graph showcases the substantial energy demand of trucking. It reinforces the necessity for energy-efficient practices and the adoption of green technologies to ensure sustainable logistics.

Future

**Percent of shipments within a state（放在地图上方的表述性文字）**

**(我就是觉得开头第一个词大写很酷)**

**Looking** into the future of U.S. freight transportation, the Freight Analysis Framework (FAF) database provides estimates of U.S. freight flows from 2020 to 2050, with values expressed in millions of 2017 constant dollars. As we project into the future up to 2050, it suggests a significant increase in the economic value of intrastate freight shipments across the United States. This growth is driven by a combination of factors, including economic expansion, increased domestic production, and advancements in logistics and freight technologies.

Hello everyone, we are group 5 and our visualization topic is about sustainable freight and logistics.

Our website focuses on the question: How will sustainable freight and logistics influence the future? Using the United States as a case study, we have divided our visualizations into three parts.

In the first Current State of U.S. Freight section, we conduct a detailed analysis of the current state of U.S. freight and logistics from both national and state perspectives. This allows us to understand the progress and challenges related to sustainability in the freight sector.

The second Policy and Trends section is dedicated to exploring relevant policies and trends that shape sustainable freight logistics. Here, we delve into the direction of sustainable freight development, examining how legislative and technological trends influence the industry.

In the final Future Projections section, we use professional predictive data to emphasize future growth trends in freight logistics. This segment is designed to highlight the importance of sustainability, showcasing projected changes and their potential impacts on the environment and economy.

Next is our output demonstration.

In the first part, we use data from the United States Department of Transportation and D3.js ,Dimple.js techniques. Use freight consumption and emissions data from the past decade to demonstrate the negative impact of freight, especially trucks, on the environment and sustainability.

Firstly, we examine energy consumption trends across various freight modes. The data shows that trucking consumes the most energy, underscoring the urgency for more efficient practices and the adoption of green technologies in the sector.

Next, we compare the total greenhouse gas emissions from passenger and freight. This analysis shows a noticeable increase in emissions from freight operations, emphasizing the need for policies and technologies that can decrease these impacts.

Our final point of focus is the greenhouse gas emissions by different freight types. This chart helps identify which modes of freight contribute most significantly to emissions, highlighting areas where targeted environmental interventions are most needed is trucking.

In the Future Projections section.

Looking into the future of U.S. freight transportation, we use the prediction data from the United States Department of Transportation. They use Freight Analysis Framework (FAF) database to provides estimates of U.S. freight flows from 2020 to 2050, with values expressed in millions of 2017 constant dollars. As we project into the future up to 2050, it suggests a significant increase in the economic value of intrastate freight shipments across the United States. It also shows that trucks will still account for a large proportion of value in various states in the future.

For the Technologies use in this part：

We use Leaflet.js to built an interactive maps on web platforms.

A slider control allows users to navigate through temporal data sets, dynamically adjusting the map display according to the selected time frame, allow users to navigate through a timeline of data from the year 2020 to 2050. And we also make Interactive behaviors embedded within the map features, like users can hover over to see detail information in each year and each state.