

# Analysis of Freight Movements in the San Joaquin Valley

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## Introduction

Freight transportation represents a major role in supply chains and the economy, but it also influences traffic safety and congestion, energy demands, greenhouse gas and air pollution emissions, and infrastructure costs. Good estimates of trade and freight movements are critical to efficiently design and operate our transportation systems. Accordingly, this study had two objectives:

1. To review the characteristics, strengths and limitations, and value of different data sources for understanding freight movements.
2. To understand the patterns and movements of the different types of freight in and out of the different counties of the San Joaquin Valley.

## Study Methods

For the first objective, the team conducted a comprehensive review, and identified and evaluated the strengths and limitations of 14 different freight data sources. Then, the team selected, procured, and evaluated three of the

promising ones: GTA, PIERS, and Streetlight data. For the second objective, the team utilized each of the three data sources (GTA, PIERS, and Streetlight) to estimate freight imports and exports (by freight type) to and from the eight counties of California's San Joaquin Valley. To achieve this objective, data from the three data sources were formatted and processed using database management software and functions (in MS Excel and MS Access), GIS software (ArcMap), and the Streetlight Insights platform.

## Findings

Key findings of this work include the following:

With respect to the freight data sources: Different data sources have different strengths and limitations. For the three data sources utilized in this work:

1. The GTA data is limited to providing state-level freight data.
2. It was possible to use the PIERS data to estimate county-level freight data (by assuming that the freight

transportation company's address is representative to the location from which the freight is being exported or imported).

3. The Streetlight data is better suited for estimating truck volumes on highways, not freight trade movements between counties.

With respect to the freight trade movements, some of the main findings include:

- General freight trade results indicate international trade deficit for the state (i.e., California imports more than it exports). However, the trend is reversed for the San Joaquin Valley, which exports more goods than it imports.
- The San Joaquin Valley's international imports represent about 2–3% of the state's international imports, whereas for exports, that percentage rises to about 6–10% (depending on the type of freight).
- In the San Joaquin Valley, San Joaquin County tops the chart with most imports and exports, with Fresno and Kern counties next in order.
- The majority of the state's international trade happens through the ports of Los Angeles and Long Beach. Oakland port comes third.

Opposite to the state trend, the San Joaquin Valley's counties export more goods than they import.

### Policy/Practice Recommendations

Given the high international trade volumes of the San Joaquin Valley's counties, the congestion in the ports of southern California, and the negative impact of trucking goods from these ports to the Valley's counties, a feasibility study of the potential value of developing inland ports in the San Joaquin Valley could prove highly valuable.

### About the Authors

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### To Learn More

For more details about the study, download the full report at [transweb.sjsu.edu/research/2131](https://transweb.sjsu.edu/research/2131)



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