Using Freight Data in Southern California

I-NUF Conference
October 18, 2017

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Southern California Association of Governments
About SCAG

- Nation’s largest Metropolitan Planning Organization (MPO)
- 38,000 Square Miles
- 15 Subregions
- Nation’s Global Gateway for Trade

SCAG FACTS

191 Cities
18.2 Million People
16th Largest Economy in the World

6 Counties
The region is the largest **international trade gateway in the U.S.**, supported by marine ports, air cargo facilities, railroads, and freeways. In 2014, the Ports of Los Angeles, Long Beach, and Hueneme collectively handled over **$473 billion** of maritime cargo.

In 2014, over **$14 billion** of trade passed through Imperial County POEs. Regional airports handled nearly **$101 billion** in international air cargo in 2014.

- 6 Commercial Airports
- 3 international border crossings
- 2 Class I railroads
- 2 largest U.S. container ports
- Extensive network of freeways and arterials
- Abundant warehousing facilities
Goods movement dependent industries include manufacturing, retail trade, wholesale trade, construction, transportation and warehousing sectors.

**Economic Contributions 2014, $291 billion GRP**
- Manufacturing: $106.87 billion (37%)
- Wholesale Trade: $57.97 billion (20%)
- Retail Trade: $53.66 billion (18%)
- Transportation and Warehousing: $22.60 billion (8%)
- Construction: $28.67 billion (10%)
- Utilities: $12.68 billion (4%)
- Mining: $7.41 billion (3%)
- Forestry, Fishing, and Related Activities: $0.64 billion (0%)

**Employment Contributions 2014, 2.9 million jobs**
- Wholesale Trade: 461,000 jobs (15%)
- Retail Trade: 985,000 jobs (33%)
- Manufacturing: 702,000 jobs (23%)
- Transportation and Warehousing: 437,000 jobs (15%)
- Construction: 332,000 jobs (11%)
- Utilities: 26,000 jobs (1%)
- Mining: 26,000 jobs (1%)
- Forestry, Fishing, and Related Activities: 30,000 jobs (1%)
Trade Flow Through the San Pedro Bay Ports

San Pedro Bay Ports Container Forecast
(millions of TEUs)

<table>
<thead>
<tr>
<th>Year</th>
<th>TEUs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 (actual)</td>
<td>14</td>
</tr>
<tr>
<td>2015 (actual)</td>
<td>15.3</td>
</tr>
<tr>
<td>2020</td>
<td>22</td>
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<tr>
<td>2030</td>
<td>35</td>
</tr>
<tr>
<td>2035</td>
<td>35</td>
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</tbody>
</table>
Trade Flow Through the San Pedro Bay Ports

Port Trucks Distribution
Ports of Los Angeles & Long Beach Marine Terminal Gate Surveys – Year 2010

- 12%: Ports & nearby area
- 30%: Gateway cities area
- 20%: off-dock yards
- 33%: rest of the SCAG region
- <5%: out of state truck trips

LEGEND

- Origins
- Destinations

500 Miles
0 7.5
Trade Flow Through Southern California

378.49 Billion – Total Imports Going Through Southern California

131.73 Billion – Total Exports Going Through Southern California

Import Flows 2015 Values (Value in Millions)
- Greater than $10,000
- $5,000 - $10,000
- $2,500 - $5,000
- $1,000 - $2,500
- $100 - $1,000
- Less than $100

Export Flows 2015 Values (Value in Millions)
- Greater than $5,000
- $2,500 - $5,000
- $1,000 - $2,500
- $100 - $1,000
- Less than $100
Trade Flow Through Southern California

ATRI Truck OD Distribution in SCAG region
SCAG Truck Origin & Destination Distribution - Year 2015 (May)
HDT Model Data Update

Key Policy Considerations

• Need to better understand international versus domestic freight activities (including local distribution and service truck activities)
  – Ability to link secondary port trips to the warehousing analysis
• Evaluate Regional Freight Corridor System for Clean Technology Truck lanes application
  – Including consideration for local truck usage
• Need to understand market needs when analyzing alternative goods movement technology systems
• Land use policy needs to be considered when evaluating warehousing projections and resulting truck traffic
• Understand which industries benefit from improvements
HDT Model Data Update
Benefits Relative to Policy Needs

- New data provided trip rates that were statistically valid, resulting in a robust internal truck trip generation model.
- A combination of the establishment surveys and GPS data-enabled coverage of critical gaps in data required to update the internal truck trip generation model.
- Also served as a tool to cross-check trip rates that were derived from the two sources—establishment surveys and GPS data.
- Establishment surveys proved to be a cost effective means of collecting trip generation data with high accuracy and response rates.
Importance of a Thriving Logistics Industry

- The SCAG region has one of the nation’s largest concentration of warehousing space
  - Over 1.2 billion sq. ft. of warehousing and distribution centers
  - Nearly 97% of this space is occupied
  - About 750 million sq. ft. of this space are facilities larger than 50,000 sq. ft.
Importance of a Thriving Logistics Industry

- Planning Challenges for Warehousing in SCAG Region
  - Aging existing infrastructure
  - Increasing total logistics cost due to congestion on roadways
  - Limited supply of suitably-zoned land
  - Variation in cost of real-estate development
  - Variation in rents of commercially available space
  - Competition from warehousing infrastructure in other port cities and freight hubs
  - Differences in tax rates, incentives and environmental regulations from other regions and states
  - Flux in industry supply chain lines and strategies
Warehousing Space Scenario Planning Data

- CoStar Property® data for SCAG region
- REMI-based National Gross Domestic Product forecasts
- Developable lands for future industrial warehousing & General Plan Land Use data
- San Pedro Bay Ports’ data and TEU forecasts
Forecast regional warehouse space and allocate space to submarket areas

Identify alternate scenarios based on key logistics trends and evaluate implications using warehouse space model

Understand warehousing related policies and associated effects on the transportation system for the SCAG region
Assessing Last-Mile Delivery Conditions

- Study Purpose: Provide delivery and curb management strategies using citywide data analysis, field data collection, and stakeholder input
Assessing Last-Mile Delivery Conditions

- GIS screening of citywide data to understand existing conditions, identify gaps and focus data collection, characterize street and delivery typologies, and identify case study locations

- Types of data:
  - land use, zoning and parking
  - Street: designation, parking meters, bus stops, curb conditions
  - Activity: parking citations, collisions, average daily truck traffic
How Do We Simplify This?

1. Asian Factories
2. Vessel to Port of Entry
3. Local Regional Distribution Center (RDC)
4. RDCs in other Regions
5. Import warehouses
   Cross-docks (optional stage)
6. Local Retail Outlets in SCAG Region
7. Retail Outlets in other Regions
8. Domestic Container/Trailer
9. Domestic Rail or Truck to other Regions
10. RDCs in other Regions
11. Local RDC
12. Local Retail Outlets
13. Retail Outlets in other Regions
How Do We Tell Our Story?

How Significant is Southern California?

$2.5 billion: estimated daily cost when West Coast port disruptions continued for 20 days.

1 in every 3 SoCal jobs:
- 980,000+ retail
- 700,000+ manufacturing
- 460,000+ wholesale trade
- 330,000+ transportation & warehousing

21,000 Manufacturing Establishments in 2011 (second largest to the state of California)

1. How Significant is Southern California?

How Significant is Southern California?

PORT OF HUENEME
1 in 3 new BMW automobiles sold in the U.S. from here

PORTS OF LOS ANGELES & LONG BEACH
9th largest container port complex in the world; largest in the U.S.

CALEXICO EAST PORT OF ENTRY
$6.2 billion
15+ million 20-foot equivalent units (TEUs) of ocean containers handled in 2014 = $343 billion

RAIL TRANSPORT
120+ freight trains in 2010
Cotln Crossing = Among the most critical freight rail-to-rail crossings in the country, moving imports and exports through Southern California

ROADWAYS
3,747 miles of centerline roadway in California

INTERMODAL TRANSPORT
Moving goods via more than one transportation mode:

SAVES FUEL
MINIMIZES FREEWAY CONGESTION
REDUCES TRUCK EMISSIONS

LARGE-SCALE OPERATIONS
Southern California’s goods movement-dependent industries play a vital economic role, generating nearly 3 million trade-related jobs in 2014.

SHOP WORLD WIDE WEB
Our freight transportation infrastructure connects online goods with your front door.

E-Commerce on the Rise
U.S. SPENDING (IN BILLIONS)

2012: $277
2002: $45

#1 producer in the nation
California strawberries are refrigerated and trucked from field to roadway within 36 hours of harvest and distributed throughout the U.S.

$609 million—worth produced in Ventura County alone in 2013

EXPORT FUTURE
Globally, with an expanding middle class, “Made in America” goods are expected to be in high demand. Our freight infrastructure will become more important to serve export needs.

1 The National Impact of West Coast Shoppa, June 2014
2 The IDM model for the SCAG region
3 The U.S. Census
How Do We Tell Our Story?

FreightWorks
Southern California Delivers the Goods

Goods Movement Knowledge Database

Welcome to the Goods Movement Knowledge Database. Please use the filters below to browse SCAG's library of goods movement studies.

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Search

Keyword: 
Completion Date: 
Start Date: 
End Date: 

FreightWorks is the result of the combined effort of regional stakeholders to create a world-class, coordinated Southern California goods movement system.

How to Use the Map:
- Use the options below to select projects to view.
- Click the [REFRESH MAP] button at the bottom to display your selections.

Select County:
Select Time Horizon:
Select Project Type:
- On-Dock Rail
- Off Dock and Near Dock Intermodal Yard Projects
- Rail Improvements
- Rail-Highway Grade Separations
- Truck Butterfield Relief Projects
- Highway Access
- Proposed Regional Clean Freight Corridor System
- Proposed Maritime Rail Enhancements
- Future Initiative Serving Goods Movement
- County Boundary SCAG 2012
- Select/Deselect All

Refresh Map
SOUTHERN CALIFORNIA DELIVERS
INVEST IN A NATIONAL PARTNERSHIP FOR A NATIONAL ASSET
Thank You
Trade Flow Through
Southern California

ATRI-Truck OD Distribution
SCAG Truck Origin & Destination Distribution - Year 2015 (May)
ATRI Truck OD Distribution
Truck Origin & Destination Distribution - Year 2015 (May)

Legend
ATRI OD Trips
100,000
50,000
Orange Trips
Green Destination Trips