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CENTERS OF EXCELLENCE
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TRANSPORTATION & WAREHOUSE OCCUPATIONS

SAN BERNARDINO & RIVERSIDE COUNTIES

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**CENTER OF EXCELLENCE,
INLAND EMPIRE**

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**ECONOMIC &
WORKFORCE
DEVELOPMENT**
through the
CALIFORNIA
COMMUNITY
COLLEGES

Scope of Report

This report was requested by San Bernardino Valley College to identify the labor market projections for transportation and warehouse related occupations. Given the nature of the regional economy and resident's commute patterns within the region, the geographical scope for this occupational analysis includes both San Bernardino and Riverside Counties.

The occupations included in this report are:

- Automotive service technicians and mechanics
- Bus and truck mechanics and diesel engine specialists
- Dispatchers, except police, fire, and ambulance
- First-line supervisors/managers of helpers, laborers, and material movers, hand
- First-line supervisors/managers of helpers, laborers, and material movers, hand
- Industrial truck and tractor operators
- Laborers and freight, stock, and material movers, hand
- Locomotive engineers and operators
- Material moving workers, all other
- Packers and packagers, hand
- Rail car repairers
- Rail transportation workers, all other
- Railroad brake, signal, and switch operators
- Railroad Conductors and yardmasters
- Subway and streetcar operators
- Tank car, truck, and ship loaders
- Transportation inspectors
- Transportation workers, all other
- Truck drivers, heavy and tractor-trailer
- Truck drivers, light or delivery services

This occupational cluster of transportation and warehouse related occupations has a projected growth of 12.15% from 2008-2013. Both the location quotient and competitive effect (shift share analysis) are positive indicating that a) this cluster is stronger in the Inland Empire than comparatively in the state, and b) this cluster is exporting services generating revenue for the region.

About the Centers of Excellence

The Centers of Excellence (COE), in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Technical Education (CTE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence are part of the California Community College's Economic and Workforce Development Network. The Centers aspire to be the premier source of regional economic and workforce information and insight for California's community colleges.

More information about the Centers of Excellence is available at www.coecc.net

Data Sources and Calculations

This report has been generated using software customized for the Centers of Excellence, including Environmental System Research Institute's (ESRI) GIS Business Analyst application (version 9.3), 2008 business data provided by InfoUSA, and occupational projection data supplied by EMSI's software (Spring 2008 Release v. 2).

Industry Data

In order to capture a complete picture of industry employment, EMSI basically combines covered employment data from Quarterly Census of Employment and Wages (QCEW) produced by the Department of Labor with total employment data in Regional Economic Information System (REIS) published by the Bureau of Economic Analysis (BEA), augmented with County Business Patterns (CBP) and Nonemployer Statistics (NES) published by the U.S. Census Bureau. Projections are based on the latest available EMSI industry data, 15-year past local trends in each industry, growth rates in statewide and (where available) sub-state area industry projections published by individual state agencies, and (in part) growth rates in national projections from the Bureau of Labor Statistics.

Occupation Data

Organizing regional employment information by occupation provides a workforce-oriented view of the regional economy. EMSI's occupation data are based on EMSI's industry data and regional staffing patterns taken from the Occupational Employment Statistics program (U.S. Bureau of Labor Statistics). Wage information is partially derived from the American Community Survey. The occupation-to-program (SOC-to-CIP) crosswalk is based on one from the U.S. Department of Education, with customizations by EMSI.

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

State Data Sources

This report uses state data from the California Labor Market Information Department.

Important Disclaimer

All representations included in this report have been produced from a secondary review of publicly and/or privately available data. Efforts have been made to confirm the accuracy of the data and the reported findings; however, neither the Centers of Excellence, COE host District, or California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon this report.

SOC System

This analysis of occupations is based upon the Bureau of Labor Statistics' Standard Occupational Classification (SOC) system. The SOC system is used by federal and state statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition.

Every occupation is designated by a six-digit code. The first two digits of the SOC code represent the major group (e.g. Transportation and Material Moving Occupations). The third digit represents the minor group (e.g. Motor Vehicle Operators). The fourth and fifth digits represent the broad occupation (e.g. Driver/Sales Workers and Truck Drivers) and the detailed occupation is represented by the sixth digit (Truck Drivers, Heavy and Tractor-Trailer). For example:

- 51-0000 Production Occupations
- 53-0000 Transportation and Material Moving Occupations
 - 53-1000 Supervisors, Transportation and Material Moving Workers
 - 53-2000 Air Transportation Workers
 - 53-3000 Motor Vehicle Operators
 - 53-3010 Ambulance Drivers & Attendants, Except Emergency Medical Technicians
 - 53-3020 Bus Drivers
 - 53-3030 Driver/Sales Workers and Truck Drivers
 - 53-3031 Driver/Sales Workers
 - 53-3032 Truck Drivers, Heavy and Tractor-Trailer
 - 53-3033 Truck Drivers, Light or Delivery Services

The Centers of Excellence analyze California's workforce according to the 820 SOC codes. A complete description of all SOC codes is available on-line at <http://www.bls.gov/soc/#classification>.

NAICS Codes

The analysis of local businesses is based upon the North American Industry Classification System (NAICS). NAICS codes are a system that classifies economic units (businesses) that have similar production processes or are in the same industry. They replaced the U.S. Standard Industrial Classification (SIC) system in 2002 and better help us define and analyze our changing economy since the codes "break down" into more specific industries. In fact, NAICS codes classify businesses at the 2, 3, 4, 6, and 8 digit level. The more numbers in the code, the more specific the industry classification. Take for example the Construction industry:

- 23 CONSTRUCTION
 - 236 Construction of Buildings
 - 237 Heavy & Civil Engineering Construction
 - 237310 Highway, Street & Bridge Construction
 - 23731014 Road Oiling
 - 23731020 Stripe Painters
 - 237110 Water & Sewer Line and Related Structures Construction
 - 23711014 Water Main Contractors
 - 23711022 Water Pollution Control

The Centers of Excellence have the capacity to analyze statewide and local businesses at varying NAICS levels. For your reference, a spreadsheet of all NAICS code definitions is available for download at <http://www.census.gov/epcd/naics02/index.html>.

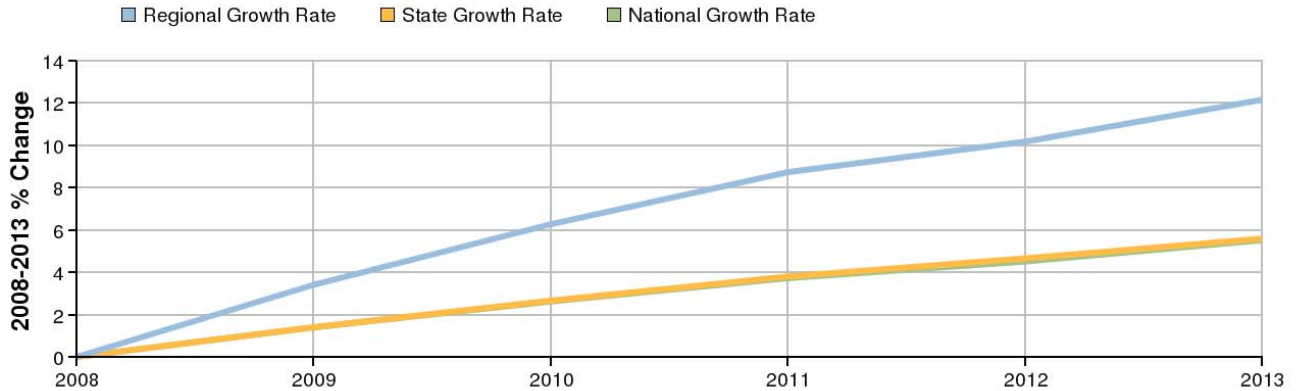
Executive Summary

Basic Information	
2008 Occupational Jobs	135,705
2013 Occupational Jobs	152,200
Total Change	16,495
Total % Change	12.15%
2007 Avg Hourly Earnings	\$16.64

Economic Indicators	
2008 Location Quotient	1.48
2013 Location Quotient	1.52
Shift Share: Regional Competitiveness Effect	9,619
Shift Share: National Effect	10,508

Selected Occupations	Education Level Required
Dispatchers, except police, fire, and ambulance (SOC 43-5032)	Moderate-term on-the-job training
Automotive service technicians and mechanics (SOC 49-3023)	Postsecondary vocational award
Bus and truck mechanics and diesel engine specialists (SOC 49-3031)	Postsecondary vocational award
Rail car repairers (SOC 49-3043)	Long-term on-the-job training
First-line supervisors/managers of helpers, laborers, and material movers, hand (SOC 53-1021)	Work experience in a related field
First-line supervisors/managers of transportation and material-moving machine and vehicle operators (SOC 53-1031)	Work experience in a related field
Truck drivers, heavy and tractor-trailer (SOC 53-3032)	Moderate-term on-the-job training
Truck drivers, light or delivery services (SOC 53-3033)	Short-term on-the-job training
Locomotive engineers and operators (SOC 53-4019)	Moderate-term on-the-job training
Railroad brake, signal, and switch operators (SOC 53-4021)	Moderate-term on-the-job training
Railroad conductors and yardmasters (SOC 53-4031)	Moderate-term on-the-job training
Subway and streetcar operators (SOC 53-4041)	Moderate-term on-the-job training
Rail transportation workers, all other (SOC 53-4099)	Moderate-term on-the-job training
Transportation inspectors (SOC 53-6051)	Work experience in a related field
Transportation workers, all other (SOC 53-6099)	Short-term on-the-job training
Industrial truck and tractor operators (SOC 53-7051)	Short-term on-the-job training
Laborers and freight, stock, and material movers, hand (SOC 53-7062)	Short-term on-the-job training
Packers and packagers, hand (SOC 53-7064)	Short-term on-the-job training
Tank car, truck, and ship loaders (SOC 53-7121)	Moderate-term on-the-job training
Material moving workers, all other (SOC 53-7199)	Moderate-term on-the-job training

Occupational Change Summary



Region	2008 Jobs	2013 Jobs	Change	% Change	2007 Avg Hourly Earnings
Regional Total	135,705	152,200	16,495	12%	\$16.64
State Total	1,016,405	1,073,212	56,807	6%	\$16.83
National Total	9,408,423	9,927,422	518,999	6%	\$16.01

San Bernardino & Riverside Counties (the Inland Empire) can expect to experience a 12% growth within the transportation and warehousing occupational cluster within the next 5 years; a growth rate that far exceeds the state's average of 6%.

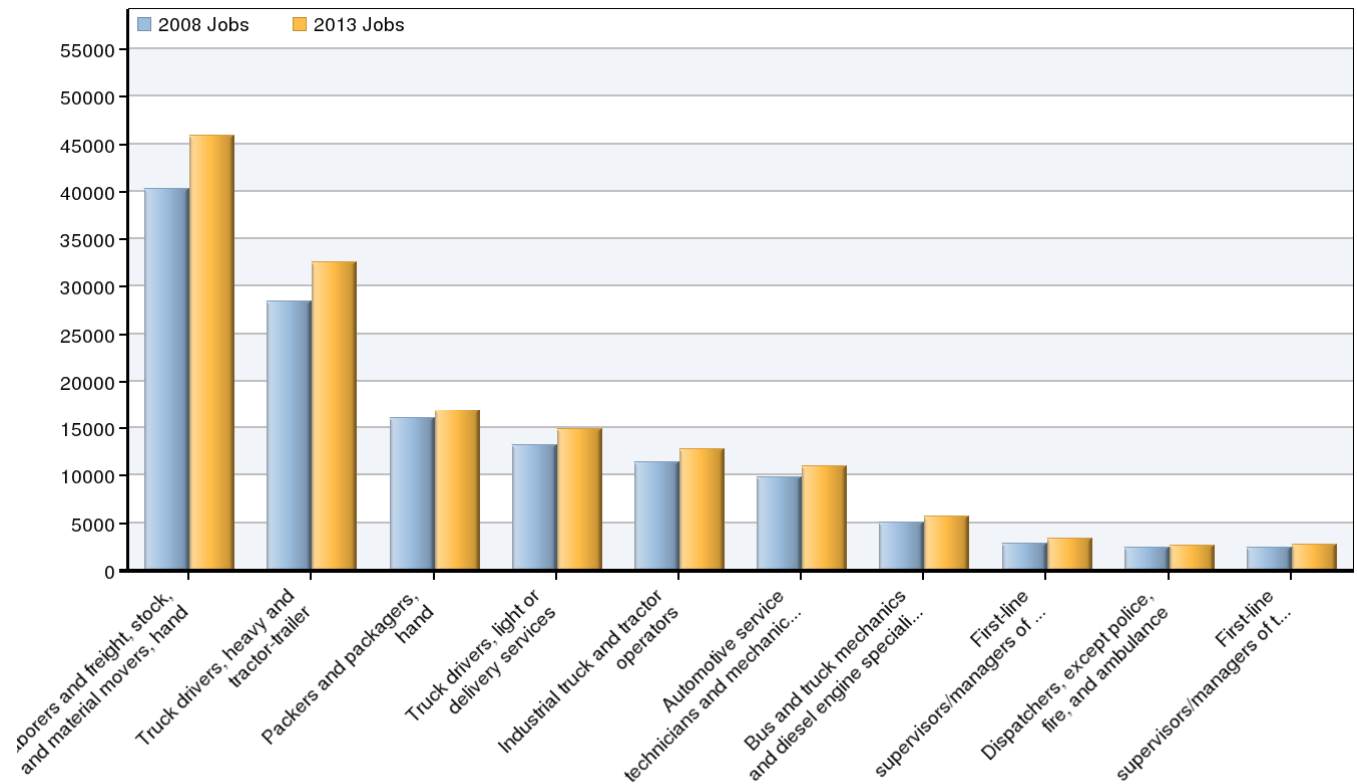
Adjusting for anticipated retirements and moderate turnover, this cluster will grow within the region an estimated 16,495 jobs. To put this figure in context, the region is expected to increase by 1,172 legal occupations, 3,652 Architecture and engineering occupations, 4,963 Registered Nurses, 15,868 retail salespersons, and 24,090 construction trade workers. The transportation and warehousing occupational cluster is significant within the Inland Empire.

County Distribution

San Bernardino County currently maintains 60.6% of the employees within this occupational cluster while Riverside County supports 39.4% of the cluster.

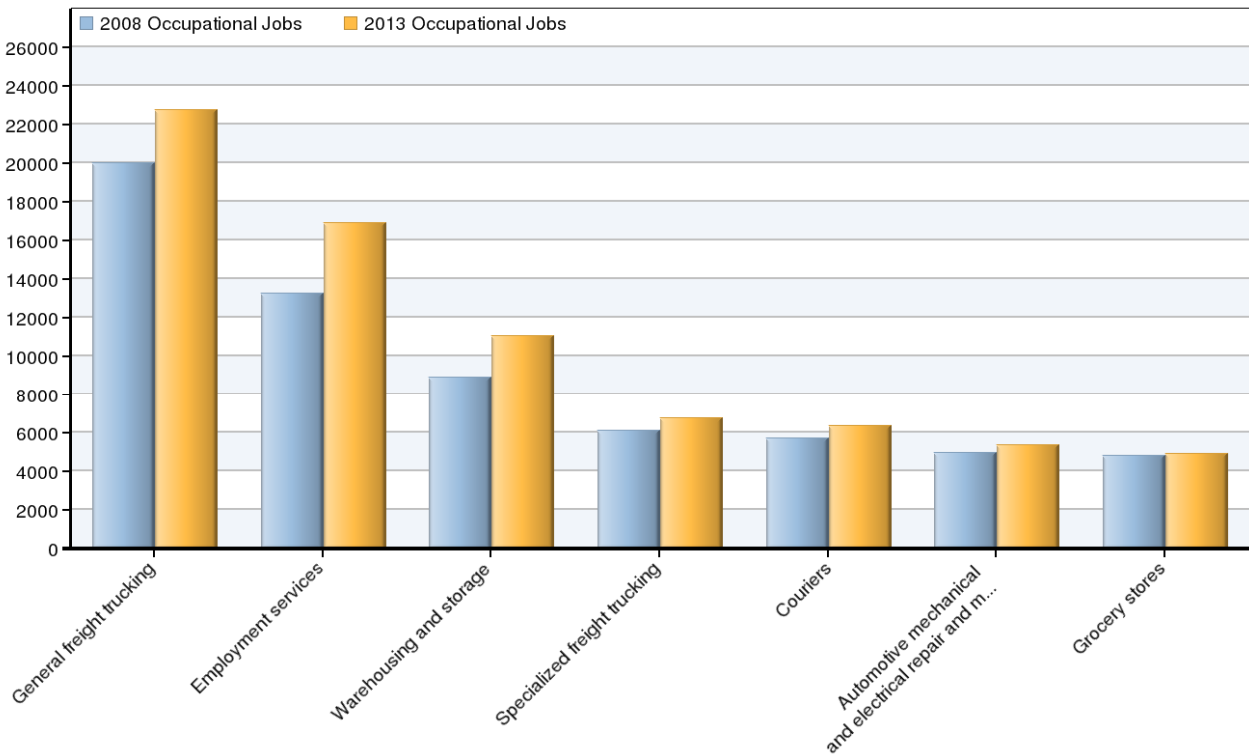
County	2008 Jobs
San Bernardino, CA (6071)	82,278
Riverside, CA (6065)	53,427

Occupational Breakdown



SOC Code	Description	2008 Jobs	2013 Jobs	2007 Avg Hourly Earnings
53-7062	Laborers and freight, stock, and material movers, hand	40,332	45,923	\$11.50
53-3032	Truck drivers, heavy and tractor-trailer	28,448	32,589	\$22.68
53-7064	Packers and packagers, hand	16,099	16,932	\$8.93
53-3033	Truck drivers, light or delivery services	13,267	14,868	\$20.00
53-7051	Industrial truck and tractor operators	11,463	12,753	\$14.08
49-3023	Automotive service technicians and mechanics	9,868	10,951	\$21.59
49-3031	Bus and truck mechanics and diesel engine specialists	5,070	5,677	\$19.96
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	2,878	3,377	\$21.64
43-5032	Dispatchers, except police, fire, and ambulance	2,414	2,619	\$19.38
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	2,397	2,735	\$26.74
53-7199	Material moving workers, all other	1,938	2,122	\$15.22
49-3043	Rail car repairers	316	330	\$37.35
53-4019	Locomotive engineers and operators	280	297	\$55.01
53-7121	Tank car, truck, and ship loaders	254	299	\$18.36
53-6099	Transportation workers, all other	203	222	\$11.59
53-4031	Railroad conductors and yardmasters	172	187	\$72.85
53-4021	Railroad brake, signal, and switch operators	158	152	\$49.06
53-6051	Transportation inspectors	83	93	\$44.65
53-4041	Subway and streetcar operators	59	68	\$27.18
53-4099	Rail transportation workers, all other	<10	<10	--
	Total	135,705	152,200	\$16.64

Top Industries for Selected Occupations



NAICS Code	Name	2008 Jobs	2013 Jobs	Change	% Change
484100	General freight trucking	20,001	22,728	2,727	14%
561300	Employment services	13,230	16,921	3,691	28%
493100	Warehousing and storage	8,887	11,039	2,152	24%
484200	Specialized freight trucking	6,107	6,744	637	10%
492100	Couriers	5,719	6,374	655	11%
811110	Automotive mechanical and electrical repair and maintenance	4,954	5,341	387	8%
445100	Grocery stores	4,786	4,906	120	3%

Location Quotient Breakdown

Industry Location Quotient (LQ) is a way of quantifying how “concentrated” an industry is in a region compared to a larger geographic area, such as the state or nation. The basic uses of industry LQs (and, by extension, for clusters and occupations as well) include these:

- To determine which industries make the regional economy unique.
- To identify the “export orientation” of an industry and identify the most export-oriented industries in the region.
- To identify emerging export industries beginning to bring money into the region.
- To identify endangered export industries that could erode the region’s economic base.

The Location Quotient can reveal what makes a particular sub-region “unique” in comparison to the national average. Industry LQs are calculated by comparing the industry’s share of regional employment with its share of national employment. Suppose that Breweries (NAICS 31212) account for 0.16% of all regional jobs but only 0.015% of all national jobs. A given region’s LQ for Breweries would then be $(.16 / .015) = 10.67$, meaning that Breweries are nearly 11 times more concentrated in the region than average.

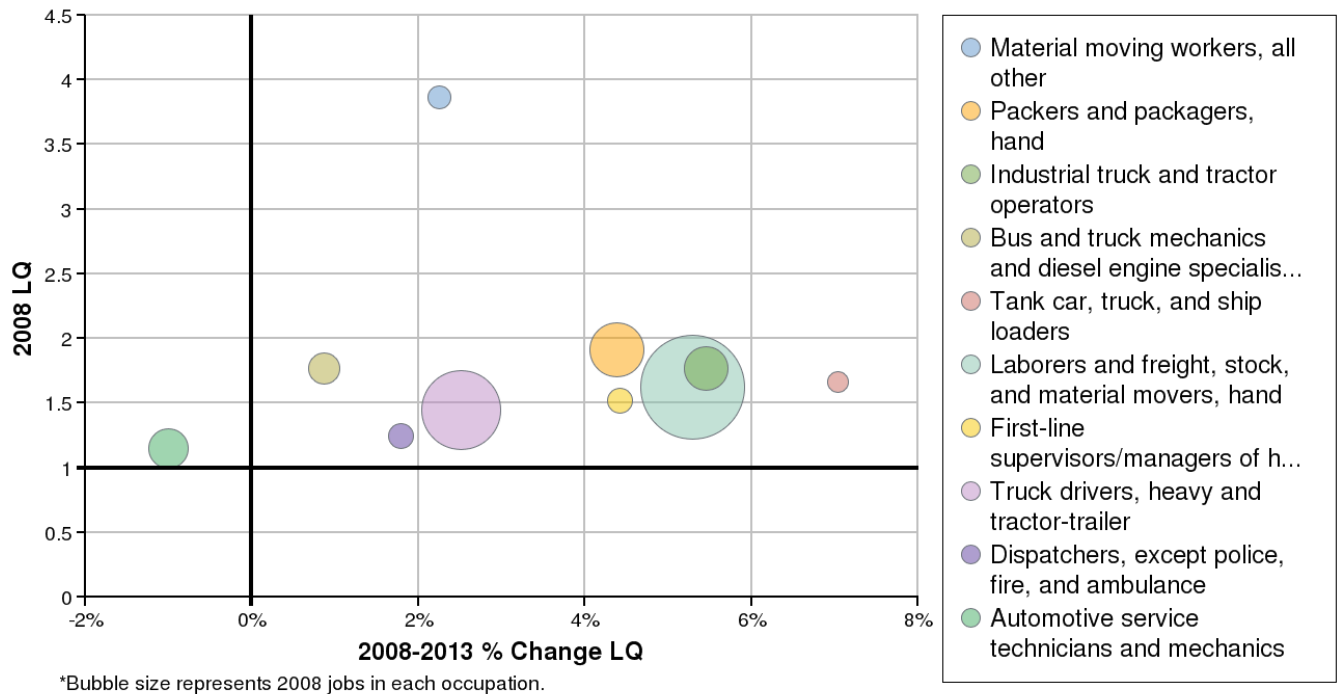
How to read the bubble chart

The bubble graph and table on the next page show the regional location quotients for all occupations from 2008-2013. The vertical axis has the basic LQ measurement, while the horizontal axis shows the percent change in LQ over time. Occupations are plotted as circles (or “bubbles”), with the circle size corresponding to their relative size (in jobs).

An occupation in the upper right quadrant (all except for Automotive service technicians and mechanics) is more concentrated in the region than average, and also is becoming more concentrated over time. These occupations are “standouts” that distinguish the area’s regional economy and are doing so more every year - and they are especially important if they are also large in terms of jobs. Large occupational groups in this quadrant are both important and high-performing, which means they will have increasing workforce demand. Small occupational clusters in this quadrant are within emerging, high-potential regional export industries that should be developed further.

The upper left quadrant contains occupations that are more concentrated in your service area than average, but whose concentration is declining. If a mid-size or large occupation is in this quadrant as is “Automotive service technicians and mechanics,” it is an important warning that the region is losing a major part of its export base and should form planning and investment priorities accordingly. Generally, if the region does not bolster these industries, the industry will likely enter a general recession. A large occupation in this quadrant usually indicates that the major industry employing people in that occupation is in decline or not growing at a significant pace beyond state and national figures.

The chart on the following page, sorted by 2008 Location Quotient, provides the specific data for each occupation. **The data shows that the Inland Empire does not have a projected strategic advantage for transportation and warehousing occupations and that these occupations will grow over time compared to the rest of the state and nation.**



SOC Code	Description	2008 Jobs	2008 LQ	2013 LQ
53-7199	Material moving workers, all other	1,938	3.86	3.95
53-7064	Packers and packagers, hand	16,099	1.91	2.00
53-7051	Industrial truck and tractor operators	11,463	1.77	1.87
49-3031	Bus and truck mechanics and diesel engine specialists	5,070	1.76	1.78
53-7121	Tank car, truck, and ship loaders	254	1.66	1.78
53-7062	Laborers and freight, stock, and material movers, hand	40,332	1.62	1.71
53-1021	First-line supervisors/managers of helpers, laborers, and material movers, hand	2,878	1.52	1.58
53-3032	Truck drivers, heavy and tractor-trailer	28,448	1.45	1.48
43-5032	Dispatchers, except police, fire, and ambulance	2,414	1.24	1.27
49-3023	Automotive service technicians and mechanics	9,868	1.15	1.14
49-3043	Rail car repairers	316	1.12	1.09
53-3033	Truck drivers, light or delivery services	13,267	1.09	1.10
53-1031	First-line supervisors/managers of transportation and material-moving machine and vehicle operators	2,397	1.03	1.06
53-4041	Subway and streetcar operators	59	0.95	0.96
53-4021	Railroad brake, signal, and switch operators	158	0.78	0.76
53-4019	Locomotive engineers and operators	280	0.71	0.71
53-4031	Railroad conductors and yardmasters	172	0.55	0.55
53-6099	Transportation workers, all other	203	0.49	0.48
53-6051	Transportation inspectors	83	0.35	0.35
53-4099	Rail transportation workers, all other	<10	--	--
	Total	135,705	1.48	1.52