

# Potential for High Wage – High Demand Career Sectors

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## Transportation & Materials Moving Occupations

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## Background

In January 2002, the VTEA Industrial and Technical Statewide Collaborative began to focus on identifying and supporting Best Practice Models in California Community College vocational and technical education programs. Project outcomes have included faculty and staff workshops and trainings, student and industry surveys, posting of hundreds of vocational and technical education Best Practice Models on the [www.vteabp.org](http://www.vteabp.org) web site, collaboration with a wide variety of industry and academic partners, and analysis of potential job growth in Engineering and Related Industrial Technologies occupational areas.

This study supports the Collaborative's efforts by identifying Transportation & Materials Moving high wage – high demand career opportunities that are projected to grow through the year 2012 in the State of California. This publication is available online at [www.vteabp.org](http://www.vteabp.org).

The study was produced under California Community College Chancellor's Office grant #05-0162. Chancellor's Office Project Monitor: Barry Noonan; Project Manager: Arthur Curry; Researcher/Analyst: Carol Pepper-Kittredge.

# Transportation & Materials Moving Occupations

**The health of California's electric, agricultural, seafood, textiles and automotive industries is dependant on the ability to move goods with a high level of reliability. More than 32,000 California transportation and warehousing firms and establishments employ more than 421,000 employees, with an annual payroll that exceeds \$15 billion. (1)**

These businesses include the following sub-specialties:

- Truck transportation – 54% of all businesses
- Support activities for transportation – 24% of all businesses
- Transit & ground passenger transportation – 7.5% of all businesses
- Couriers & messengers – 6% of all businesses
- Warehousing & storage – 3.8% of all businesses
- Air transportation – 2.2% of all businesses
- Scenic & sightseeing transportation – 1.8% of all businesses
- Water transportation – 0.6% of all businesses
- Pipeline transportation – 0.1% of all businesses

**More than 300,000 new employment opportunities, including jobs created by separation (e.g. retirement or transfer to another occupational area), are projected in transportation and materials moving occupations through 2012 in California. (3)**

The U.S. Department of Transportation projects that freight movement in California and other western states will double between 2000 and 2020, 82% of which will be conducted by trucks. (2) Additionally, daily vehicle hours of delay are projected to increase by 35% by 2015 on California's roadways. In response, the Governor has announced a statewide strategic growth plan for transportation called *GoCalifornia*. The plan includes \$18.9 billion to expand trade corridors and regional priorities; and \$4.5 billion to expand existing transit rail, commuter rail and intercity passenger rail systems, financed by general obligation bonds. (4)

**The majority of employment opportunities in transportation and materials moving occupations do not require a post secondary degree or certificate. (3)**

However, many occupations do require licenses and/or special certifications for health and safety reasons in addition to on the job training (e.g. Hazmat truck drivers must be certified by an EPA approved school; ship captains and mates must obtain a merchant marine license; pilots must obtain a commercial pilot's license, etc.). Occupations identified by the California Employment Development Department that require post secondary training (and higher) include:

- Bus and Truck Mechanics and Diesel Engine Specialists
- Aircraft Mechanics and Service Technicians
- Airline Pilots, Copilots, and Flight Engineers
- Avionics Technicians
- Commercial Pilots

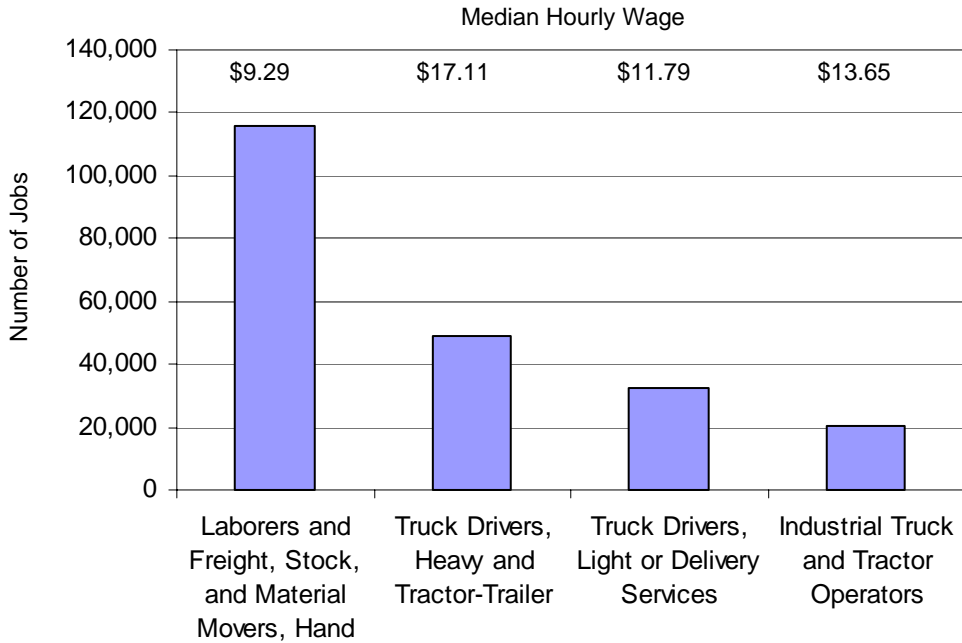
**High wage transportation and material moving occupations include:**

- Air Traffic Controller - \$52.54 (median hourly wage)
- Crane & Tower Operator - \$30.53 (median hourly wage)
- Airfield Operations Specialist - \$27.56 (median hourly wage)
- Locomotive Engineer - \$27.52 (median hourly wage)
- Transportation Inspector - \$26.51 (median hourly wage)

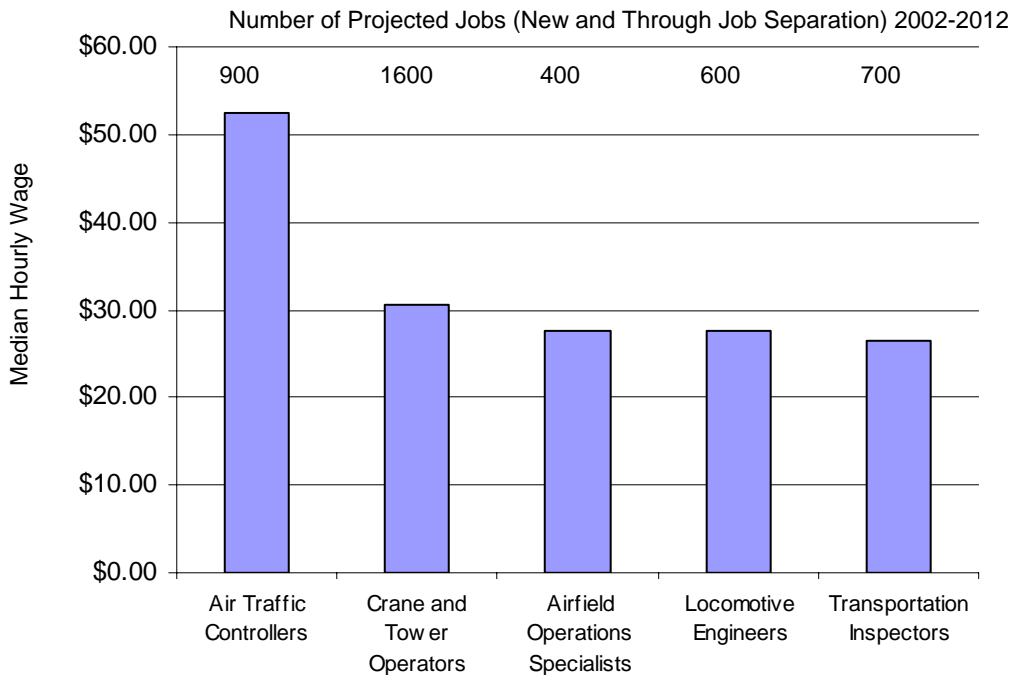
**Community College TOPs Code programs and courses that can prepare students for employment opportunities in transportation and materials moving occupations include:**

- 0510 - Logistics & Materials Transportation
- 0947 – Diesel Technology
- 0948 – Automotive Technology
- 0950 – Aeronautical & Aviation Technology
- 0957 – Civic & Construction Management Technology
- 0959 – Marine Technology
- 1920 – Ocean Technology
- 2105.3 – Industrial & Transportation Security
- 3009 – Travel Services & Tourism
- 3020 – Aviation & Airport Management and Services

**Transportation & Materials Movement Occupations with the Greatest Number of Projected Jobs (New and through Job Separation) 2002-2012**



**Transportation & Materials Movement Occupations with the Highest Median Hourly Wage**



Source: [http://www.calmis.ca.gov/FILE/OCCPROJ/cal\\$OccProj.xls](http://www.calmis.ca.gov/FILE/OCCPROJ/cal$OccProj.xls)

## Projected Number of Jobs: Transportation & Materials Movement Occupations 2002-2012

<a href="#">SOC Code</a>	Occupational Titles	Annual Average Employment		New Jobs + Separations	Median Hourly Wage*	Hourly Entry Level	Hourly Experience Level	<a href="#">Education &amp; Training Levels</a>
		2002 [6]	2012					
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	264,300	293,900	116,000	\$9.29	\$7.81	\$12.54	Short-Term OJT (11)
53-3032	Truck Drivers, Heavy and Tractor-Trailer	121,900	150,900	48,900	\$17.11	\$13.00	\$20.58	Moderate-Term OJT (10)
53-3033	Truck Drivers, Light or Delivery Services	104,300	127,100	32,400	\$11.79	\$8.87	\$14.96	Short-Term OJT (11)
53-7051	Industrial Truck and Tractor Operators	60,700	69,400	20,200	\$13.65	\$10.09	\$18.37	Short-Term OJT (11)
53-3021	Bus Drivers, Transit and Intercity	33,500	39,200	13,000	\$17.82	\$11.65	\$20.32	Moderate-Term OJT (10)
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	25,900	30,500	11,300	\$19.84	\$14.80	\$24.30	Post-Sec. VocEd (7)
53-3031	Driver/Sales Workers	45,600	49,300	11,100	\$8.96	\$7.90	\$14.64	Short-Term OJT (11)
53-3022	Bus Drivers, School	22,500	26,500	8,900	\$12.96	\$10.39	\$15.61	Short-Term OJT (11)
53-1031	First-Line Supervisors/Managers of Transportation and Material-Moving Machine and Vehicle Operators	23,400	26,300	8,400	\$23.84	\$16.28	\$30.06	Work Experience (8)
53-1021	First-Line Supervisors/Managers of Helpers, Laborers, and Material Movers, Hand	16,600	19,000	6,300	\$20.34	\$13.22	\$23.86	Work Experience (8)
53-7081	Refuse and Recyclable Material Collectors	13,200	15,700	5,900	\$16.82	\$13.06	\$21.53	Short-Term OJT (11)
43-5021	Couriers and Messengers	20,700	21,900	5,900	\$9.05	\$7.89	\$12.47	Short-Term OJT (11)
49-3011	Aircraft Mechanics and Service Technicians	10,500	12,300	4,300	\$22.11	\$18.14	\$29.62	Post-Sec. VocEd (7)
53-3041	Taxi Drivers and Chauffeurs	14,700	17,400	4,100	\$9.68	\$7.97	\$12.66	Short-Term OJT (11)
53-2011	Airline Pilots, Copilots, and Flight Engineers	7,300	8,600	3,200	[4]	-	-	BA/BS Degree (5)
53-7011	Conveyor Operators and Tenders	7,000	8,200	3,200	\$12.11	\$9.78	\$16.04	Short-Term OJT (11)
53-4041	Subway and Streetcar Operators	2,900	3,600	1,600	-	-	-	Work Experience (8)
53-7021	Crane and Tower Operators	3,500	4,300	1,600	\$30.53	\$14.59	\$30.46	Moderate-Term OJT (10)
47-2071	Paving, Surfacing, and Tamping Equipment Operators	4,500	5,500	1,600	\$21.10	\$13.97	\$25.57	Moderate-Term OJT (10)
53-7121	Tank Car, Truck, and Ship Loaders	3,400	3,800	1,300	\$16.77	\$12.51	\$22.45	Moderate-Term OJT (10)
53-5011	Sailors and Marine Oilers	2,600	2,900	1,200	\$15.01	\$9.01	\$19.33	Short-Term OJT (11)
53-2021	Air Traffic Controllers	2,200	2,500	900	\$52.54	\$36.39	\$60.71	Long-Term OJT (9)
49-2091	Avionics Technicians	2,100	2,400	800	\$23.56	\$20.38	\$26.95	Post-Sec. VocEd (7)

39-6032	Transportation Attendants, Except Flight Attendants and Baggage Porters	2,500	3,000	800	\$10.27	\$8.02	\$11.87	Short-Term OJT (11)
53-6051	Transportation Inspectors	2,200	2,400	700	\$26.51	\$12.49	\$34.08	Work Experience (8)
33-3041	Parking Enforcement Workers	1,800	2,200	700	\$19.22	\$13.78	\$22.86	Short-Term OJT (11)
53-4011	Locomotive Engineers	1,700	1,800	600	\$27.52	\$18.68	\$29.81	Work Experience (8)
53-5021	Captains, Mates, and Pilots of Water Vessels	1,800	1,900	600	\$22.08	\$14.16	\$30.05	Work Experience (8)
53-3011	Ambulance Drivers and Attendants, Except Emergency Medical Technicians	1,400	1,900	600	\$10.62	\$8.27	\$15.52	Moderate-Term OJT (10)
53-2012	Commercial Pilots	1,600	1,700	500	[4]	-	-	Post-Sec. VocEd (7)
53-2022	Airfield Operations Specialists	1,200	1,300	400	\$27.56	\$17.78	\$30.64	Long-Term OJT (9)
53-2022	Airfield Operations Specialists	1,200	1,300	400	\$27.56	\$17.78	\$30.64	Long-Term OJT (9)
49-3051	Motorboat Mechanics	1,000	1,200	400	\$15.49	\$10.48	\$20.39	Long-Term OJT (9)

[1] Occupations with employment below 1,000 in 2002 are excluded.

[2] Subtotals may not add to the California total due to rounding and the suppression of data.

[3] Some data are suppressed because of confidentiality or other issues.

[4] For some occupations, workers may not work full-time all year-round. For these occupations it is not feasible to calculate an hourly wage.

[5] Because of the 2000 revision in SOC codes, the employment for these occupations will be redirected to other codes in the future. These occupations are not in the SOC Manual, but are included here because in some cases, they represent substantial employment.

[6] March 2003 Benchmark

\* Median Hourly Wage is the estimated 50th percentile of the distribution of wages; 50 percent of workers in an occupation earn wages below, and 50 percent earn wages above the median wage.

NA = Data not available.

Source: [http://www.calmis.ca.gov/FILE/OCCPROJ/cal\\$OccProj.xls](http://www.calmis.ca.gov/FILE/OCCPROJ/cal$OccProj.xls)

# References

- (1) U.S. Census Bureau. Statistics of U.S. Businesses: 2001: Transportation and Warehousing California. [www.census.gov/epcd/susb/2001/ca/CA48.HTM](http://www.census.gov/epcd/susb/2001/ca/CA48.HTM)
- (2) Transportation California. [www.transportationca.org](http://www.transportationca.org)
- (3) California Employment Development Department. [http://www.calmis.ca.gov/FILE/OCCPROJ/cal\\$OccProj.xls](http://www.calmis.ca.gov/FILE/OCCPROJ/cal$OccProj.xls)
- (4) Governor's Strategic Growth Plan. Transportation Investments for Mobility: GoCalifornia. <http://www.dot.ca.gov/docs/strategicgrowth/SummaryofGovernorsStrategicGrowthPlan-GoCalifornia.pdf>