

# California Physical Medicine

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*Physical Therapy • Occupational Therapy • Functional Capacity Evaluation*

3/12/2001

Dori Ross  
Senior Personnel Analyst  
County of Kern  
1115 Truxtun Ave.  
Bakersfield, CA 93301

Dear Ms. Ross:

I have enclosed a copy of the completed Job Task Analyses (JTA) for the position of Road Maintenance Worker I & II. The JTA objectively defines the physical demands required to perform the essential job functions.

The JTA identifies the strength demands for a Road Maintenance Worker I & II as occasional lifting, pushing, and pulling up to 75 pounds. Activities requiring more than 75 pounds of lifting, pushing, or pulling should be performed with assistance. Therefore, the physical demand level for this position should be classified as between Medium and Heavy using the categories defined in *The United States Department of Labor's Dictionary of Occupational Titles, 4th Edition Supplement, 1991*. Medium to Heavy work can be defined as follows:

Exerting up to 75 pounds of force occasionally, and/or up to 35 pounds of force frequently, and/or greater than negligible up to 15 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Medium Work.

The above physical demand level will be utilized as the pass/fail criterion for the Pre-Placement Functional Capacity Testing program.

Please review the JTA and call me at 325-5793 if you have any questions or notice any errors or omissions.

Thank you for the opportunity to provide service to your organization.

Sincerely,



Thomas B. Traut, M.Ed., RKT, CWCE  
Director of Work Diagnostics and Ergonomics  
*Master's of Education in Exercise Science and Kinesiotherapy*  
*Registered Kinesiotherapist*  
*Certified work Capacity Evaluator*

## **JOB TASK ANALYSIS**

**Employer:** County of Kern  
**Location:** County Road Yard  
**Occupation:** Road Maintenance Worker I  
**Company Contact:** Dori Ross, Senior Personnel Analyst  
**Telephone:** 868-3480  
**Evaluator:** Thomas B. Traut, M.Ed., RKT, CWCE  
**Facility:** California Physical Medicine  
**Date:** 2/15/2001

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### **Introduction:**

The County of Kern provided the job description for this document. California Physical Medicine documented the environmental factors, physical and functional demands for this Job Task Analysis. The methodology for documentation consisted of an on-site visit using various measuring devices such as dynamometers, scales, and tape measures. Observation of job tasks and interviews with employees and managers was conducted.

The Job Task Analysis is organized as follows: general work description and specific duties; safety requirements; uniform/equipment; required job-related knowledge, education, ability, and experience; work hours; environmental factors; and physical demands.

### **General Work Description:**

Under supervision, to perform a variety of semi-skilled and unskilled tasks in connection with the construction and maintenance of county roads; and to do related work as required.

### **Essential Job Tasks:**

As assigned, performs a variety of semi-skilled and unskilled tasks such as:

1. Cutting brush, hoeing weeds, cleaning culverts, and trimming trees; patches, oils and seals road surfaces.
2. Builds forms, mixes and places concrete.
3. Performs heavy timber construction and repair work.
4. Operates jackhammers, rock drills and other pneumatic tools.
5. May act as a carpenter or mechanic's helper.
6. May occasionally operate a variety of light road construction and maintenance equipment.

### **Safety Requirements:**

All employees are required to observe county safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, patients, and property.

Personal protective equipment worn during performance of essential job tasks includes hardhat, eye protection, ear protection, gloves, steel-toed boots, and Tyvek.

**Uniforms:**

All employees are required to wear orange outerwear.

**Equipment/Instruments:**

A Road Maintenance Worker I utilizes various hand power tools including but not limited to the following equipment:

- Shovels
- Rakes
- Pitchforks
- Hoses
- Brooms
- Power saws
- Tree saws
- Grinders
- Tampers
- Pneumatic hammers.

Vehicles driven as part of the job includes; dump trucks, maintenance trucks, loader, graders, backhoes, vacuum trucks, and pick-up trucks.

**Qualifications and Requirements:**

Any combination of training and experience that would provide the following:

1. Knowledge of tools and materials commonly used in road construction and maintenance.
2. Knowledge of the operation of tools and gasoline powered construction and maintenance equipment.
3. Ability to perform a variety of highway maintenance tasks and operate diversified equipment skillfully.
4. Mechanical aptitude, physical strength, agility, and endurance is necessary as required by the essential job functions.
5. Possession of a valid Class A California Driver's License is required.

**Work Hours:**

Eight hours per day for 5 days per weeks. Overtime is performed as necessary. Two fifteen minute breaks and one 30-minute break each shift. Normal work hours are 7:00 a.m. to 3:30 p.m..

## ENVIRONMENTAL FACTORS

The following percentages are expressed in terms of an eight-hour workday:

**Occasional =1-33%      Frequent =34-66%      Continuous =67-100%**

|     | Environmental Factors                                      | Frequency            |
|-----|------------------------------------------------------------|----------------------|
| 1.  | Unprotected Heights                                        | Never                |
| 2.  | Moving Machinery                                           | Continuous           |
| 3.  | Walking on uneven ground or slippery surfaces              | Continuous           |
| 4.  | Exposure to chemicals and hazardous materials (pesticides) | Occasional           |
| 5.  | Driving cars or other moving equipment                     | Continuous           |
| 6.  | Exposure to noise                                          | Occasional           |
| 7.  | Exposure to extreme temperature changes                    | Occasional           |
| 8.  | Exposure to dust, gas, or fumes                            | Occasional           |
| 9.  | Excessive vibration                                        | Occasional           |
| 10. | Working proximity:<br>Alone-<br>Closely with others-       | Frequent<br>Frequent |
| 11. | Working inside                                             | Occasional           |
| 12. | Working outside                                            | Continuos            |

## SUMMARY OF PHYSICAL DEMANDS

The following percentages are expressed in terms of an eight-hour workday:

**Occasional =1-33%      Frequent =34-66%      Continuous =67-100%**

| <b>PUSHING – Force Required</b>                                                                                                                                                                                                                                            |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 0-10 Pounds: Frequent                                                                                                                                                                                                                                                      | 35-50 Pounds: Occasional    |
| 11-24 Pounds: Frequent                                                                                                                                                                                                                                                     | 51-75 Pounds: Occasional    |
| 25-34 pounds: Occasional                                                                                                                                                                                                                                                   | 76-100 Pounds: Not Required |
| <b>Job Duties/Comments:</b> Pushing is involved with such job duties as removing debris such as furniture, tree limbs, tires, and other large objects from the roadway. Involved with shoveling sand and road mix, opening/closing vehicle doors, and operating equipment. |                             |

| <b>PULLING – Force Required</b>                                                                                                                                                                                                                                           |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 0-10 Pounds: Frequent                                                                                                                                                                                                                                                     | 35-50 Pounds: Occasional    |
| 11-24 Pounds: Frequent                                                                                                                                                                                                                                                    | 51-75 Pounds: Occasional    |
| 25-34 pounds: Occasional                                                                                                                                                                                                                                                  | 76-100 Pounds: Not Required |
| <b>Job Duties/Comments:</b> Pulling is involved with such job duties as removing debris such as furniture, tree limbs, tires, and other large objects from the roadway. Involved with shoveling sand and road mix, opening/closing vehicle doors and operating equipment. |                             |

| <b>LIFTING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| 0-10 Pounds: Continuous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 36-50 Pounds Occasional     |
| 11-25 Pounds: Continuous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 51-75 Pounds: Occasional    |
| 26-35 Pounds: Frequent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 76-100 Pounds: Not Required |
| <b>Job Duties/Comments:</b> Lifting from the ground to a height of 60 inches is required when stacking barricades and signs (19-30 lbs.), sanding (15 lbs. shovel 56" long), shoveling road mix (35 lbs.), and when lifting grader edge (68 lbs.). Up to 200 barricades/signs may be lifted per day and up 12,000 pounds of material may be spread in per day. Lifting is also required when removing items from the roadway such as boxes, chains, tires, paper wrappers, car parts, concrete chunks and other miscellaneous debris. |                             |

| <b>OVERHEAD LIFT</b>                                                                                             |                            |
|------------------------------------------------------------------------------------------------------------------|----------------------------|
| 0-10 Pounds: Occasional                                                                                          | 36-50 Pounds: Not Required |
| 11-25 Pounds: Occasional                                                                                         | 51-75 Pounds: Not Required |
| 26-35 Pounds: Occasional                                                                                         | 76-100 Pounds: Required    |
| <b>Job Duties/Comments:</b> Overhead lifting is performed when loading and unloading barricades and road debris. |                            |

| <b>CARRYING</b>          |                             |
|--------------------------|-----------------------------|
| 0-10 Pounds: Occasional  | 36-50 Pounds Occasional     |
| 11-25 Pounds: Occasional | 51-75 Pounds: Occasional    |
| 26-35 Pounds: Occasional | 76-100 Pounds: Not Required |

**CARRYING CONTINUED**

**Job Duties/Comments:** Carrying up to 20 feet is required to clear the roadway of miscellaneous debris and when placing barricades and signs (see above).

**OVERHEAD REACH**

**Frequency:** Occasional

**Job Duties/Comments:** Reaching overhead is performed when climbing in/out of dump trucks, and when performing overhead lifting.

**FORWARD REACH**

**Frequency:** Continuous

**Job Duties/Comments:** Reaching forward is required during operation of vehicles.

**STOOPING AND FORWARD BENDING**

**Frequency:** Frequent

**Job Duties/Comments:** Stooping and forward bending at the waist is required during lifting of large items such as motor grader cutting edge, removing large and small road debris, and when shoveling sand or road mix.

**SQUATTING**

**Frequency:** Occasional

**Job Duties/Comments:** Squatting is performed when performing lifting from the ground level.

**TWISTING**

**Frequency:** Frequent

**Job Duties/Comments:** The employee twists when broadcasting sand during shoveling and when removing bulky barricades (2' x 4') from the back of a truck, although this can be minimized by pivoting of the feet..

**KNEELING**

**Frequency:** Occasional

**Job Duties/Comments:** Kneeling is occasionally performed when picking up small debris or inspecting under vehicles.

**STAIR CLIMB**

**Frequency:** Occasional

**Job Duties/Comments:** The employee may utilize the stairs to climb in and out of larger vehicles.

**LADDER CLIMB**

**Frequency:** Occasional

**Job Duties/Comments:** Ladder type climbing is performed to get in and out of the dump truck and when climbing in and out of a maintenance truck.

**WALKING****Frequency:** Frequent**Job Duties/Comments:** Walking is performed while carrying items as well as in and around roadways on all types of surfaces and varying grades.**SITTING****Frequency:** Continuous**Job Duties/Comments:** Sitting may be performed the entire shift while operating vehicles.**STANDING****Frequency:** Frequent**Job Duties/Comments:** Standing is performed in combination with walking and lifting activities/**BALANCE****Frequency:** Occasional**Job Duties/Comments:** Excellent balance is required on slippery surfaces including wet, ice, mud, and snow. Varying grades are also present ranging from the flat valley or desert floor to the sides of hills and mountains.**POWER GRASPING****Frequency:** Frequent**Job Duties/Comments:** Performed when pushing, pulling, lifting, and carrying.**SIMPLE GRASPING****Frequency:** Frequent**Job Duties/Comments:** Performed with vehicle operation, shoveling, opening and closing doors, and using hand tools.**PINCH GRIPS****Frequency:** Occasional**Job Duties/Comments:** When using small tools.**FOREARM AND WRIST TURNING, FLEXING, EXTENDING****Frequency:** Frequent**Job Duties/Comments:** During shoveling, lifting, pushing, pulling and dragging of debris.**FINE MANIPULATION AND MEDIUM DEXTERITY****Frequency:** Occasional**Job Duties/Comments:** Writing and small tools require fine manipulation and medium dexterity.

## **JOB TASK ANALYSIS**

**Employer:** County of Kern  
**Location:** County Road Yard  
**Occupation:** Road Maintenance Worker II  
**Company Contact:** Dori Ross, Senior Personnel Analyst  
**Telephone:** 868-3921  
**Evaluator:** Thomas B. Traut, M.Ed., RKT, CWCE  
**Facility:** California Physical Medicine  
**Date:** 2/15/2001

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### **Introduction:**

The County of Kern provided the job description for this document. The environmental factors, physical and functional demands for this Job Task Analysis was documented by California Physical Medicine. The methodology for documentation consisted of an on-site visit using various measuring devices such as dynamometers, scales, and tape measures. Observation of job tasks and interviews with employees and managers was conducted.

The Job Task Analysis is organized as follows: general work description and specific duties; safety requirements; uniform/equipment; required job-related knowledge, education, ability, and experience; work hours; environmental factors; and physical demands.

### **General Work Description:**

Under supervision, to perform a variety of semi-skilled and unskilled tasks in connection with the construction and maintenance of county roads; to service and operate light road maintenance equipment and to do related work as required.

### **Essential Job Tasks:**

1. As assigned, operates varied road construction and maintenance equipment and performs both skilled and unskilled manual tasks.
2. Operates a variety of light equipment such as tractors of less than 75h.p. and their attachments, trucks of 8 yards capacity or less, or their equivalent
3. Operates crawlers and rubber tired roller, wheel loaders, and compressors
4. Performs a variety of semi-skilled and unskilled tasks such as:
5. May be assigned to work in the paint and sign section preparing surfaces to be painting, installing and repairing signs and barricades, and under supervision apply paint by brush or spray equipment and perform related work
  - Cutting brush, cleaning culverts, patching, oiling, and sealing road surfaces;
  - Builds forms, mixes and places concrete;
  - Performs heavy timber construction and repair work
  - Operates jack hammers, rock drills and other pneumatic tools
  - Acting as a carpenter's or mechanic's helper
  - May occasionally operate a variety of light road construction and maintenance equipment.

**Safety Requirements:**

All employees are required to observe county safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, patients, and property.

Personal protective equipment worn during performance of essential job tasks includes hardhat, eye protection, ear protection, gloves, steel-toed boots, and Tyvek.

**Uniforms:**

All employees are required to wear orange outerwear.

**Equipment/Instruments:**

A Road Maintenance Worker I utilizes various hand power tools including but not limited to the following equipment:

- Shovels
- Rakes
- Pitchforks
- Hoses
- Brooms
- Power saws
- Tree saws
- Grinders
- Tampers
- Pneumatic hammers

Vehicles driven as part of the job includes; dump trucks, maintenance trucks, loader, graders, backhoes, vacuum trucks, and pick-up trucks.

**Qualifications and Requirements:**

Any combination of training and experience that would provide the following:

1. Knowledge of tools and materials commonly used in road construction and maintenance.
2. Knowledge of the operation of tools and gasoline powered construction and maintenance equipment.
3. Ability to perform a variety of highway maintenance tasks and operate diversified equipment skillfully.
4. Mechanical aptitude, physical strength, agility, and endurance is necessary as required by the essential job functions.
5. Possession of a valid Class A California Driver's License is required.

**Work Hours:**

Eight hours per day for 5 days per weeks. Overtime is performed as necessary. Two fifteen minute breaks and one 30-minute break each shift. Normal work hours are 7:00 a.m. to 3:30 p.m..

## ENVIRONMENTAL FACTORS

The following percentages are expressed in terms of an eight-hour workday:

**Occasional =1-33%      Frequent =34-66%      Continuous =67-100%**

|     | Environmental Factors                                      | Frequency            |
|-----|------------------------------------------------------------|----------------------|
| 1.  | Unprotected Heights                                        | Never                |
| 2.  | Moving Machinery                                           | Continuous           |
| 3.  | Walking on uneven ground or slippery surfaces              | Continuous           |
| 4.  | Exposure to chemicals and hazardous materials (pesticides) | Occasional           |
| 5.  | Driving cars or other moving equipment                     | Continuous           |
| 6.  | Exposure to noise                                          | Occasional           |
| 7.  | Exposure to extreme temperature changes                    | Occasional           |
| 8.  | Exposure to dust, gas, or fumes                            | Occasional           |
| 9.  | Excessive vibration                                        | Occasional           |
| 10. | Working proximity:<br>Alone-<br>Closely with others-       | Frequent<br>Frequent |
| 11. | Working inside                                             | Occasional           |
| 12. | Working outside                                            | Continuos            |

## SUMMARY OF PHYSICAL DEMANDS

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| <b>PUSHING – Force Required</b>                                                                                                                                                                                                                                            |                             |
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| 0-10 Pounds: Frequent                                                                                                                                                                                                                                                      | 35-50 Pounds: Occasional    |
| 11-24 Pounds: Frequent                                                                                                                                                                                                                                                     | 51-75 Pounds: Occasional    |
| 25-34 pounds: Occasional                                                                                                                                                                                                                                                   | 76-100 Pounds: Not Required |
| <b>Job Duties/Comments:</b> Pushing is involved with such job duties as removing debris such as furniture, tree limbs, tires, and other large objects from the roadway. Involved with shoveling sand and road mix, opening/closing vehicle doors, and operating equipment. |                             |

| <b>PULLING – Force Required</b>                                                                                                                                                                                                                                           |                             |
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| <b>LIFTING</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |
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| <b>OVERHEAD LIFT</b>                                                                                             |                            |
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| 0-10 Pounds: Occasional                                                                                          | 36-50 Pounds: Not Required |
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| <b>CARRYING</b>          |                             |
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**CARRYING CONTINUED**

**Job Duties/Comments:** Carrying up to 20 feet is required to clear the roadway of miscellaneous debris and when placing barricades and signs (see above).

**OVERHEAD REACH**

**Frequency:** Occasional

**Job Duties/Comments:** Reaching overhead is performed when climbing in/out of dump trucks, and when performing overhead lifting.

**FORWARD REACH**

**Frequency:** Continuous

**Job Duties/Comments:** Reaching forward is required during operation of vehicles.

**STOOPING AND FORWARD BENDING**

**Frequency:** Frequent

**Job Duties/Comments:** Stooping and forward bending at the waist is required during lifting of large items such as motor grader cutting edge, removing large and small road debris, and when shoveling sand or road mix.

**SQUATTING**

**Frequency:** Occasional

**Job Duties/Comments:** Squatting is performed when performing lifting from the ground level.

**TWISTING**

**Frequency:** Frequent

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**Frequency:** Occasional

**Job Duties/Comments:** Kneeling is occasionally performed when picking up small debris or inspecting under vehicles.

**STAIR CLIMB**

**Frequency:** Occasional

**Job Duties/Comments:** The employee may utilize the stairs to climb in and out of larger vehicles.

**LADDER CLIMB**

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