



# Job Task Analysis

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|------------------------------|--|
| <b>Employer:</b>             | <b>Stanislaus County</b>   |
| <b>Occupation:</b>           | Road Supervisor  |
| <b>Company Contact:</b>      | Risk Management<br>1010 10 <sup>th</sup> Street<br>Modesto, California 95354<br>(209) 525-5770   |
| <b>Date:</b>                 | February 2010  |
| <b>Analysis Provided By:</b> | Lyle Andersen, PT, CWCE<br>Andersen Physical Therapy, Inc.<br>3500 Coffee Road, Suite 3<br>Modesto, California 95355<br>(209) 549-4626 |

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## INTRODUCTION:

A complete job description is available through Stanislaus County Human Resources. The environmental factors, physical and functional demands for this Job Task Analysis were documented by Andersen Physical Therapy, Inc. The methodology for documentation consisted of on-site visits, using various measuring devices such as dynamometers and scales, as well as observation and interviews with employees and managers. A detailed record was made of the physical and functional demands of the job in terms of force pounds, weight, frequency, height, distance, anthropometric measurements, stamina, and degrees of range of motion. The determination of the frequencies of functional activities is based on standards provided by the National Institute for Occupational Safety and Health (NIOSH) and the Work Practice Guide for Manual Lifting (U.S. Department of Commerce, National Technical Information Service).

The Job Task Analysis is organized as follows: General work description; safety requirements; equipment; environmental factors; and physical/functional demands.

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**GENERAL WORK DESCRIPTION:**

The frequency of the following activities may vary according to the physical requirements of the specific job tasks that the employee may be required to perform at random intervals.

Under the general supervision of the department manager, the Road Supervisor, plans, assigns and supervises the work of a crew that maintains roads, related structures and traffic control devices within road right-of-way as assigned.

**SPECIFIC DUTIES:** Available through the Human Resources Department at the County of Stanislaus.

<http://www.stancounty.com/personnel/PDF/JobSpecifications.pdf>

**Safety Requirements:** All employees are required to observe company safety procedures and standards to insure individual and collective safety, in addition to avoiding unnecessary risk to oneself, co-workers, customers, and property.

**Equipment:**

- |                          |                       |
|--------------------------|-----------------------|
| 1. 10-key adding machine | 5. Computer           |
| 2. 2-way radio           | 6. Drafting equipment |
| 3. Barricade             | 7. Hammer             |
| 4. Cell phone            |                       |

*All employees within the **Road Supervisor** position are required to provide physical assistance for all weight and frequency requirement needs of all job tasks in order to maintain a safe work environment. Employees must be physically capable of working in any of the job tasks within the **Road Supervisor** position.*

**ENVIRONMENTAL FACTORS**



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

|                     |          |                   |            |
|---------------------|----------|-------------------|------------|
| <b>Seldom</b> =     | 1% - 2%  | <b>Frequent</b> = | 34% - 66%  |
| <b>Occasional</b> = | 3% - 33% | <b>Constant</b> = | 67% - 100% |

| ENVIRONMENTAL FACTORS |  | MAXIMUM FREQUENCY                                |
|-----------------------|--|--|
| 1.                    | Unprotected heights: .....   | Not Applicable                                   |
| 2.                    | Being around moving machinery: road traffic, earth moving equipment.....   | Occasional                                       |
| 3.                    | Exposure to marked changes in temperature and humidity: outside temperatures may seasonally vary between 28-110 degrees. | Seldom   |
| 4.                    | Exposure to dust, fumes, smoke, gases, or other irritating substances (specify): field or road dust.....                 | Seldom   |
| 5.                    | Driving: heavy equipment .....   | Seldom   |
| 6.                    | Exposure to excessive noise:.....<br><i>Hearing protection is available</i>  | Seldom   |
| 7.                    | Exposure to radiant or electrical energy:.....   | Not Applicable                                   |
| 8.                    | Exposure to solvents or chemicals:.....<br><i>Refer to MSDS document.</i>  | Not Applicable                                   |
| 9.                    | Exposure to slippery or uneven walking surfaces: underdeveloped ground, hillside, water, ice .....                       | Occasional                                       |
| 10.                   | Working below ground:.....   | Not Applicable                                   |
| 11.                   | Unusual fatigue factors: .....   | Not Applicable                                   |
| 12.                   | Working with explosives:.....  | Not Applicable                                   |
| 13.                   | Excessive vibration: .....   | Not Applicable                                   |
| 14.                   | Working with hands in water or other substance:.....<br><i>Hand protection is available</i>                              | Not Applicable                                   |
| 15.                   | Working proximity:.....  | Alone: Frequent<br>Closely with others: Frequent |
| 16.                   | Working inside:.....   | Frequent   |
| 17.                   | Working outside:.....  | Frequent   |

## FUNCTIONAL ACTIVITIES



The frequency of the following activities may vary according to the physical requirements of the specific job tasks the employee may be required to perform at random intervals.

### PHYSICAL AND FUNCTIONAL REQUIREMENTS

| <u>FREQUENCY DEFINITIONS</u> | <u>SELDOM</u> | <u>OCCASIONAL</u> | <u>FREQUENT</u> | <u>CONSTANT</u>   |
|------------------------------|---------------|-------------------|-----------------|-------------------|
| Percent of the Day           | 1-2%          | 3-33%             | 34-66%          | 67-100%           |
| Material Handling            | 1-4 Reps      | 5-32 Reps         | 33-250 Reps     | 251-2,000 Reps    |
| Non Material Handling        | 1-4 Reps      | 5-32 Reps         | 33-250 Reps     | 251-2,000 Reps    |
| Repetitive & Static Work     | 1-50 Reps     | 51-250 Reps       | 251-1,000 Reps  | 1,001-20,000 Reps |

1.) **PUSH**: *Pushing activities may require use of the back in conjunction with leg and arm musculature.*

| <u>MAXIMUM REQUIREMENT</u> |              |
|----------------------------|--------------|
| <b>0-10 pounds:</b>        | Occasional   |
| <b>11-25 pounds:</b>       | Seldom       |
| <b>26-35 pounds:</b>       | Not Required |
| <b>36-50 pounds:</b>       | Not Required |
| <b>51-75 pounds:</b>       | Not Required |
| <b>76-100 pounds:</b>      | Not Required |

**Maximum Force:** 25 Pounds

**Assistive Devices:** 4-Wheeled Cart, Hand Truck. Additionally, one person assistance is available with forces greater than 25 pounds.

**Comments:** Pushing is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment, and supplies (e.g. closures). The employee exerts up to 25 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 10 feet when performing job tasks (e.g. push up to 25 pounds of force to open/close doors, gates, drawers, files, cabinets).

2.) **PULL**: *Pulling activities may require use of the back in conjunction with leg and arm musculature.*

| <u>MAXIMUM REQUIREMENT</u> |              |
|----------------------------|--------------|
| <b>0-10 pounds:</b>        | Occasional   |
| <b>11-25 pounds:</b>       | Seldom       |
| <b>26-35 pounds:</b>       | Not Required |
| <b>36-50 pounds:</b>       | Not Required |
| <b>51-75 pounds:</b>       | Not Required |
| <b>76-100 pounds:</b>      | Not Required |

**Maximum Force:** 25 Pounds

**Assistive Devices:** 4-Wheeled Cart, Hand Truck. Additionally, one person assistance is available with forces greater than 25 pounds.

**Comments:** Pulling is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment, and supplies (e.g. closures). The employee exerts up to 25 pounds of force in a horizontal plane from waist to shoulder height of a distance up to 10 feet when performing job tasks (e.g. pull up to 25 pounds of force to open/close doors, gates, drawers, files, cabinets). *Pushing is the preferred method of moving carts.*

3.) **STAND-UP LIFT:** *Lifting weighted objects between floor and waist height.*

| <b><u>MAXIMUM REQUIREMENT</u></b>      |              |
|--|--------------|
| <b>0-10 pounds:</b>                    | Seldom       |
| <b>11-25 pounds:</b>                   | Seldom       |
| <b>26-35 pounds:</b>                   | Not Required |
| <b>36-50 pounds:</b>                   | Not Required |
| <b>51-75 pounds:</b>                   | Not Required |
| <b>76-100 pounds:</b>                  | Not Required |
| <b>Maximum Force:</b> <u>25</u> Pounds |              |

**Assistive Devices:** Forklift. Additionally, one or more person(s) assistance is available with weights greater than 25 pounds.

**Comments:** A stand-up lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. road hazardous sign, tool). The employee lifts items weighing between <1 pound and 25 pounds off the floor when performing job tasks (e.g. lift up to 25-pound barricade in/out of truck; 5-pound cones; fallen tree branch or road debris). *Safe lifting is performed by utilizing a posture of partial squatting and a straight back.*

4.) **LEVEL LIFT:** *Lifting weighted objects from between waist and chest height level for a maximum horizontal distance of up to four feet.*

| <b><u>MAXIMUM REQUIREMENT</u></b>      |              |
|--|--------------|
| <b>0-10 pounds:</b>                    | Occasional   |
| <b>11-25 pounds:</b>                   | Seldom       |
| <b>26-35 pounds:</b>                   | Not Required |
| <b>36-50 pounds:</b>                   | Not Required |
| <b>51-75 pounds:</b>                   | Not Required |
| <b>76-100 pounds:</b>                  | Not Required |
| <b>Maximum Force:</b> <u>25</u> Pounds |              |

**Assistive Devices:** Forklift, 4-Wheeled cart, hand truck. Additionally, one person assistance is available with weights greater than 25 pounds.

**Comments:** A level lift is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. road hazardous sign, tool, documents). The employee lifts items weighing between <1 pound and 25 pounds when performing job tasks (e.g. lift up to 25-pound barricade in/out of truck; 5-pound cones; fallen tree branch or road debris; binders, books, lap top computer, paper, documents).

5.) **WEIGHT CARRY:** *Carrying weighted objects between waist and chest height beyond a distance of four feet.*

| <b><u>MAXIMUM REQUIREMENT</u></b>      |              |
|--|--------------|
| <b>0-10 pounds:</b>                    | Occasional   |
| <b>11-25 pounds:</b>                   | Seldom       |
| <b>26-35 pounds:</b>                   | Not Required |
| <b>36-50 pounds:</b>                   | Not Required |
| <b>51-75 pounds:</b>                   | Not Required |
| <b>76-100 pounds:</b>                  | Not Required |
| <b>Maximum Force:</b> <u>25</u> Pounds |              |

**Assistive Devices:** Forklift, 4-wheeled cart, hand truck, truck. Additionally, one person assistance is available with weights greater than 25 pounds.

**Comments:** Weight carry is utilized with activities such as retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. road hazardous sign, tool, document). The employee carries items weighing between <1 pound and 25 pounds between 5 feet and 50+ feet when performing job tasks (e.g. carry up to 25-pound barricade; 5-pound cones; fallen tree branch or road debris; binders, books, lap top computer, paper, documents).

6.) **OVERHEAD LIFT/PULL DOWN:** *Lifting weighted object from/to chest and overhead height level.*

| <b>MAXIMUM REQUIREMENT</b>     |              |
|--------------------------------|--------------|
| <b>0-10 pounds:</b>            | Not Required |
| <b>11-25 pounds:</b>           | Not Required |
| <b>26-35 pounds:</b>           | Not Required |
| <b>36-50 pounds:</b>           | Not Required |
| <b>51-75 pounds:</b>           | Not Required |
| <b>76-100 pounds:</b>          | Not Required |
| <b>Maximum Force:</b> 0 Pounds |              |

**Assistive Devices:** A vertical ladder, step ladder or step stool is available to bring items to eye or shoulder level.

**Comments:** Overhead lift/pull down is not utilized to perform job tasks. *Variables to overhead reaching will be the employee's height and anthropometric reach.*

7.) **OVERHEAD REACH:**

|                           |              |
|---------------------------|--------------|
| <b>MAXIMUM FREQUENCY:</b> | Not Required |
|---------------------------|--------------|

**Comments:** Overhead reach is not required to perform job tests. *A ladder (appropriate height) or step stool may be utilized to bring items to eye or shoulder level. Variables to overhead reaching will be the employee's height and anthropometric reach.*

8.) **FORWARD REACH:**

|                           |          |
|---------------------------|----------|
| <b>MAXIMUM FREQUENCY:</b> | Frequent |
|---------------------------|----------|

**Comments:** Forward reach is performed to a distance of 28 inches when retrieving, returning, storing, road infrastructure, adjusting, moving, enabling and/or transporting equipment, and supplies (e.g. reach lateral or forward for desktop work; operate equipment, vehicle, business machine; set up road hazardous warning signs and cones; worksite evaluation). *The degree of elbow extension required for reaching will vary according to the employee's anthropometric reach.*

9.) **STOOP:**

|                           |        |
|---------------------------|--------|
| <b>MAXIMUM FREQUENCY:</b> | Seldom |
|---------------------------|--------|

**Comments:** Stooping is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. stoop to reach below waist height for worksite evaluation; reach into/out of lower storage shelves and/or cabinets). *Variable to stooping will be the employee's height. Stooping of the head, trunk and knees can be minimized or avoided by substituting alternate positions of squatting, kneeling or bending when performing job tasks.*

10.) **SQUAT:** (*Unloaded*)

**MAXIMUM  
FREQUENCY:** Not Required

**Comments:** Squatting is not required to perform job tasks. *Squatting may be minimized or avoided by substituting alternate positions of bending or kneeling. Partial squatting is a preferred lifting posture.*

11.) **FORWARD BEND:**

**MAXIMUM  
FREQUENCY:** Seldom

**Comments:** Bending forward at the waist is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. bend to reach near or far below waist height for worksite evaluation; reach into/out of lower storage shelves and/or cabinets). Maximum forward trunk flexion required is 60 degrees. *Employee may minimize or avoid excessive forward bending of the trunk up to 80 degrees by using alternate positions of bending at the hips, kneeling, half kneeling, stooping, sitting or squatting.*

12.) **TWIST:**

**MAXIMUM  
FREQUENCY:** Occasional

**Comments:** Twisting at the waist is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. twist to reach for work site evaluation; drive vehicle). *Twisting at the waist may be minimized by turning the whole body, including the feet and working from a swivel office chair.*

13.) **TURN:**

**MAXIMUM  
FREQUENCY:** Occasional

**Comments:** Turning is performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. turn for worksite evaluation; reach into/out of storage shelves and/or cabinets).

14.) **KNEEL:**

**MAXIMUM  
FREQUENCY:** Not Required

**Comments:** Kneeling is not required to perform job tasks. *Kneeling may be minimized or avoided by substituting alternate positions of bending, squatting, or half kneeling.*

15.) **CRAWL:**

**MAXIMUM  
FREQUENCY:** Not Required

**Comments:** Crawling is not required to perform job tasks.

16.) **STAIR CLIMB:**

**MAXIMUM  
FREQUENCY:** Seldom

**Comments:** Stair climb is required in order to go to/from the private office of residence entry, shop office). Maximum number of 21 steps is climbed.

17.) **LADDER CLIMB:**

**MAXIMUM  
FREQUENCY:** Not Required

**Comments:** Ladder climbing is not required to perform job tasks. *Variables to overhead climbing will vary according to the employee's height and anthropometric reach.*

18.) **WALK:**

**MAXIMUM  
FREQUENCY:** Occasional

**Comments:** Walking is performed when retrieving, returning, storing, adjusting, observing, moving, and/or transporting equipment and supplies (e.g. walk for worksite evaluation; work crew supervision; to/from office; to/from collaborating agency and/or colleague). Walking length varies between 3 feet and 600+ feet depending on job task.

19.) **SIT:**

**MAXIMUM  
FREQUENCY:** Constant

**Comments:** Sitting is performed for a maximum of 120-minute intervals when performing job tasks (e.g. sit for desk work; drive vehicle; operate equipment). *Specific work tasks may require up to frequent standing and/or walking.*

20.) **STAND:** (Static)

**MAXIMUM  
FREQUENCY:** Occasional

**Comments:** Static standing is performed for a maximum of 60-minute intervals when performing job tasks (e.g. stand for meetings or interviews with public, collaborating agency and/or colleague; evaluation of worksite; work crew supervision). *Specific work tasks may require up to frequent sitting and/or walking.*

21.) **BALANCE:**

**MAXIMUM  
FREQUENCY:** Frequent

**Comments:** Adequate balance is required for safe walking, standing, climbing, reaching and lifting.



22.) **HAND/FOOT CONTROL:**

| <b><u>MAXIMUM REQUIREMENT</u></b> |              |
|-----------------------------------|--------------|
| <b>HAND:</b>                      |              |
| <b>Right:</b>                     | Occasional   |
| <b>Left:</b>                      | Occasional   |
| <b>Both:</b>                      | Occasional   |
| <b>Either:</b>                    | Not Required |
| <b>FOOT:</b>                      |              |
| <b>Right:</b>                     | Occasional   |
| <b>Left:</b>                      | Seldom       |
| <b>Both:</b>                      | Not Required |
| <b>Either:</b>                    | Not Required |

**Comments:** Hand controls are utilized to operate equipment (e.g. vehicle) when adjusting controls (e.g. drive vehicle). Foot controls are utilized to operate equipment (e.g. vehicle).

23.) **UPPER AND LOWER EXTREMITY COORDINATION:**

| <b><u>MAXIMUM REQUIREMENT</u></b> |            |
|-----------------------------------|------------|
| <b>Simple Grasp:</b>              | Frequent   |
| <b>Firm Grasp:</b>                | Seldom     |
| <b>Fine Manipulation:</b>         | Occasional |
| <b>Eye/Hand Coordination:</b>     | Frequent   |
| <b>Hand/Foot Coordination:</b>    | Occasional |

**Comments:** Grasping and coordination activities are performed when retrieving, returning, storing, adjusting, moving, and/or transporting equipment and supplies (e.g. desktop work; driving).

**Simple grasping** is utilized to perform job tasks (e.g. lift and manipulate objects weighing less than 5 pounds).

**Firm grasping** is utilized to perform job tasks (e.g. lift and handle objects weighing 5 pounds or greater).

**Fine manipulation** is utilized to perform job tasks (e.g. keyboard, mouse, 10-key, telephone, 2-way radio; handwrite, draw, page turn, sort, file).

**Eye/hand coordination** is utilized to perform job tasks (e.g. keyboard, mouse, 10-key, telephone, 2-way radio; handwrite, draw, page turn, sort, file; drive vehicle, operate equipment).

**Hand/foot coordination** is utilized to perform job tasks (e.g. drive vehicle; operate equipment).

*Depending on individual hand dominance, one hand may be used more frequently than the other when performing job tasks.*

24.) **CERVICAL (NECK) MOVEMENT:**

|                                 | <b><u>MAXIMUM REQUIREMENT</u></b> |
|---------------------------------|-----------------------------------|
| <b>Static Neutral Position:</b> | Frequent                          |
| <b>Flexing:</b>                 | Occasional                        |
| <b>Rotating:</b>                | Occasional                        |
| <b>Extending:</b>               | Seldom                            |

*Comments:* Neck movement is required when performing job tasks (e.g. desk work; worksite evaluation; drive vehicle; operate equipment). *Participation in the observation of the work environment allows for safe working conditions. Full cervical range of motion is required to safely perform the job tasks.*

{End of Report}



# Stanislaus County

## JOB TASK ANALYSIS SUMMARY

| <u>FREQUENCY DEFINITIONS</u> | <u>SELDOM</u> | <u>OCCASIONAL</u> | <u>FREQUENT</u> | <u>CONSTANT</u>   |
|------------------------------|---------------|-------------------|-----------------|-------------------|
| Percent of the Day           | 1-2%          | 3-33%             | 34-66%          | 67-100%           |
| Material Handling            | 1-4 Reps      | 5-32 Reps         | 33-250 Reps     | 251-2,000 Reps    |
| Non Material Handling        | 1-4 Reps      | 5-32 Reps         | 33-250 Reps     | 251-2,000 Reps    |
| Repetitive & Static Work     | 1-50 Reps     | 51-250 Reps       | 251-1,000 Reps  | 1,001-20,000 Reps |

The following is a summary of the physical demands of the Job Task Analysis that were obtained for the position of:

### ROAD SUPERVISOR

| Functional Activities                | Maximum Requirements | Functional Activities                        | Maximum Requirements |
|--------------------------------------|----------------------|--|----------------------|
| <i>Push (Force)</i> <sup>1</sup>     | 25 pounds            | <i>Stair Climb</i> <sup>1</sup>              | Seldom               |
| <i>Pull (Force)</i> <sup>1</sup>     | 25 pounds            | <i>Ladder Climb</i> <sup>1</sup>             | Not Required         |
| <i>Stand Up Lift</i> <sup>1</sup>    | 25 pounds            | <i>Walk</i> <sup>1</sup>                     | Occasional           |
| <i>Level Lift</i> <sup>1</sup>       | 25 pounds            | <i>Sit</i> <sup>1</sup>                      | Constant             |
| <i>Weight Carry</i> <sup>1</sup>     | 25 pounds            | <i>Stand (Static)</i> <sup>1</sup>           | Occasional           |
| <i>Overhead Lift/Pull Down</i>       | 0 pounds             | <i>Balance</i> <sup>1</sup>                  | Frequent             |
| <i>Overhead Reach</i> <sup>1</sup>   | Not Required         | <i>Hand Control</i> <sup>1</sup>             | Occasional           |
| <i>Forward Reach</i> <sup>1</sup>    | Frequent             | <i>Foot Control</i> <sup>1</sup>             | Occasional           |
| <i>Stoop</i> <sup>1</sup>            | Seldom               | <i>Simple Grasp</i> <sup>1</sup>             | Frequent             |
| <i>Squat (Unloaded)</i> <sup>1</sup> | Not Required         | <i>Firm Grasp</i> <sup>1</sup>               | Seldom               |
| <i>Forward Bend</i> <sup>1</sup>     | Seldom               | <i>Fine Manipulation</i> <sup>1</sup>        | Occasional           |
| <i>Twist</i> <sup>1</sup>            | Occasional           | <i>Eye/Hand Coordination</i> <sup>1</sup>    | Frequent             |
| <i>Turn</i> <sup>1</sup>             | Occasional           | <i>Hand/Foot Coordination</i> <sup>1</sup>   | Occasional           |
| <i>Kneel</i> <sup>1</sup>            | Not Required         | <i>Cervical (neck) Movement</i> <sup>1</sup> | Frequent             |
| <i>Crawl</i>                         | Not Required         |  |                      |

<sup>1</sup> The critical demands of the job.

*Lyle Andersen, PT*

|                         |             |                |             |
|-------------------------|-------------|----------------|-------------|
| Lyle Andersen, PT, CWCE | Date: _____ | Contact Person | Date: _____ |
| Preparer Signature      |             | Title          |             |
| Contact Person          | Date: _____ | Contact Person | Date: _____ |
| Title                   |             | Title          |             |

LA/au