

Job Demands Analysis - CLERK 1 (MAIL)

Purpose

- The purpose of the Clerk 1 (mail) position is to provide mail service to the Engineering Services' branches located in the main City Hall building.

Essential Duties

- The Clerk 1 (mail) position has two essential duties:

(1) Mail pick up and delivery. (D1)

(2) Mail sorting. Mail sorting takes up 65% of the shift. (D2)

Summary of Demands

	Sedentary	Light	Medium	Heavy	Very Heavy
Physical			X		
Cognitive			X		

The job is **physically** demanding. The Clerk 1 (mail) needs to:

- Carry combinations of packages that weigh **4 kg** total.
- Occasionally carry packages that weigh up to **40 kg**.
- Continuously stand and walk (95% of their shift).

Workers require physical **endurance** to:

- Spend most of the day walking and standing.
- Climb the set of stairs between the 10th and 11th floors of City Hall as there is no elevator that goes all the way to the top floor.

The job is **cognitively** challenging. The Clerk 1 (mail) needs to:

- Know where the departmental mailboxes are in City Hall.
- Make judgements about the relative importance of incoming mail.
- Handle time pressures since the mail distribution schedule must be followed within the allotted time.

Shift Structure

- The shifts are Monday to Friday from 8:45 A.M. to 5:00 P.M. There are two 15-minute rest breaks and one 50-minute lunch break.



Job Demands Analysis - Clerk 1 (mail): Summary Table

a) Physical Demands		Frequency During Shift					Weight		Comments	
		Never	Rare	Infrequent	Occasional	Frequent	Constant	Usual (kg)		Max (kg)
Strength	Lifting - Floor to Knuckle		X					4	40	Picking up dropped items D1 D2
	Lifting - Knuckle to Waist				X			4	40	Sorting mail D2
	Lifting - Over Head	X						-	-	
	Carrying - with Handles		X					4	40	File boxes D1 D2
	Carrying - without Handles				X			4	40	Boxes, parcels D1 D2
	Pushing - Upper Extremity			X				20	40	Open doors, push cart D1
	Pushing - Hips/Legs assist		X					20	40	Push full mail cart D1
	Pulling - Upper Extremity		X					20	40	Open doors, pull cart D1
	Pulling - Hip/Leg Assist		X					20	40	Pull full mail cart D1
	Reach - Shoulder or Above			X				Get interoffice envelope from top shelf D2		
	Reach - Below Shoulder				X			During mail sorting D2		
	Handling				X			Holding mail D1 D2		
	Fine finger movements			X				Opening mail D2		
Mobility	Neck - Static Flexion				X		Looking down while sorting mail D2			
	Neck - Static Neutral				X		D1 D2			
	Neck - Static Extension		X				D2			
	Neck - Rotation				X		Turning head while sorting mail D2			
	Throwing	X								
	Sitting		X				Look up people's location on computer D1			
	Standing					X	While sorting mail D1 D2			
	Walking					X	While delivering mail in City Hall D1 D2			
	Running/Jumping	X								
	Climbing				X		Stairs between C.H. 10 th and 11 th floors D1			
	Bending/Stooping				X		To place courier mail bag on wall D2			
	Crouching	X								
	Kneeling	X								
	Crawling	X								
	Twisting				X		While sorting mail D2			
Balancing	X									
Travelling				X		Within City Hall D1				



Job Demands Analysis - Clerk 1 (mail): Summary Table (continued)

a) Physical Demands (continued)		Frequency During Shift						Comments
		N	R	I	O	F	C	
Sensory / Perception	Hear/Conversations			X				Interacting with city staff D1 D2
	Hear/Other Sounds		X					Fax machine, telephone D1 D2
	Vision/Far			X				See parcels at security desk D1
	Vision/Near					X		Reading names during sorting D2
	Vision/Colour	X						
	Vision/Depth					X		Sorting mail into piles and cubby holes D2
	Perception/Spatial					X		Moving past office dividers, etc. D1
	Perception/Form				X			Sorting mail into piles to carry D1 D2
	Feeling	X						
	Speech			X				Interaction with city staff D1 D2
Work Environment	Inside Work						X	Work is inside City Hall building D1 D2
	Outside Work	X						
	Slippery	X						
	Congested worksite			X				Moving through cubicles D1
	Chemical Irritants	X						
	Confined Space Entry	X						
	Vapour Fumes	X						
	Noise	X						
	Proximity to Moving Objects	X						
	Hazardous Machines	X						
	Electrical	X						
	Sharp Tools	X						
	Radiant/Thermal Energy	X						
	Hot/Cold	X						
	Humid	X						
	Dust	X						
	Organic Substances	X						
	Medical Waste	X						
Blood Products	X							
Lighting - Direct						X	Working inside City Hall D1 D2	
Lighting - Indirect			X				Delivering mail to places with windows D1	
Vibration - Whole Body	X							
Vibration - Hand/Arm	X							



Job Demands Analysis - Clerk 1 (mail): Summary Table (continued)

b) Cognitive and Psychosocial Demands	Frequency During Shift			Comments
	Never / Rare	Infrequent / Occasional	Frequent / Constant	
Degree of Supervision	X			Work is generally unsupervised; Have limited interaction with direct supervisor D1 D2
Time Pressure			X	Deadlines to meet for courier pick up; Mail runs need to be completed in a certain time D1 D2
Attention to Detail			X	Required for some tasks, i.e. mail sorting but not at an intensive level D1 D2
Memory			X	Need to know where people are in the City Hall building and the best route to get to them D1 D2
Interact with co-workers			X	Interacting with city staff while picking up and delivering mail D1 D2
Interact with public	X			Brief discussions with mail couriers D1
Work Alone			X	Briefly works with Classification Clerk D1 D2
Reading			X	Need to read letters, names of people on letters for delivery D1
Writing		X		Writing notes; Rerouting mail D2
Irregular Hours	X			Shifts take place during normal City Hall hours, Monday to Friday 8:45am - 5:00pm D1 D2
Operating Equipment		X		Computer and fax machine D1 D2

Frequency rating definitions

The frequency rating definitions are from the Dictionary of Occupational Titles (DOT, 1991, 4rth edition) published by the US Department of Labor.

	Time per Day	Percentage of Shift
Never	0 minutes	0 %
Rare	0 - 5 minutes	0-1 %
Infrequent	6 - 25 minutes	2-5 %
Occasional	26 minutes - 2.5 hours	6-33 %
Frequent	2.6 - 5.25 hours	34-66 %
Constant	5.26 - 8 hours	67-100 %



Physical Environment



Figure 1: Mail Sorting Area

Work takes place inside the City Hall building during regular office hours. The sorting area is an open room. The area where the Clerk 1 (mail) works is pictured in Figure 1. The sorting table is 1 metre above the ground. The bottom shelf of cubby holes in front of the worker pictured in figure 1 is 1.5 metres above the ground. The top of the shelf is 1.8 metres above the ground and 3.2 metres wide. The bottom shelf of cubby holes to the right of the worker pictured in figure 1 is 1.2 metres above the ground. The top of the shelf is 2 metres above the ground and 1 metre wide. The area behind the worker pictured in Figure 1 contains a computer desk, computer, and chair.

The mailroom lighting was measured to be 200 Lux. This is less than the 500-1000 Lux recommended for mail sorting in IES/ANSI standard RP-7-1991. The illumination can be increased to 500-1000 Lux by use of lamps located underneath the cubbyholes. The delivery and pick up of mail takes place throughout City Hall, thus lighting will be affected by outdoor and indoor lighting.



Staffing Levels

The worker works unsupervised and alone, but is in regular contact with other City of Vancouver employees throughout the performance of their duties.

Tools and Equipment Used

- Manual letter opener
- Mail cart: For large or awkward parcels, a mail cart (pictured in figure 2) is available for use. The cart is used irregularly (once or twice a week for short periods) as it can be cumbersome when navigating through the office space within City Hall. The mail cart is nearly identical to the one shown in figure 2 save for the wheels are pneumatic and the wheels located at the back of the cart are similar to the wheels at the front. The top of the bottom basket is 36 cm above the ground. The top of the top basket is 93 cm above the ground. The handle is 100 cm above the ground.



Figure 2: Mail cart

The mail cart is located next to the computer desk in the mailroom.

- Fax machine: the fax machine is located next to the mail sorting table, to the left of the worker pictured in figure 1.
- Photocopier: the photocopier is located 2 metres north of the entrance to the mailroom.
- Computer: the computer is located 1 metre behind the worker pictured in figure 1.



Description of Essential Duties

Essential Duty 1: Mail Pick Up and Delivery

The tasks that make up this essential duty are: Obtain mail from mail processing centre, prepare mail for delivery, delivery of mail to departments, periodically checking with security for packages, and fax preparation.

Obtain Mail from Mail Processing Centre (Duty 1, Task 1)

The worker walks from the mailroom to the elevator (a distance of about 10 metres). The worker uses the elevator to go the sub ground level. The elevator is controlled by pressing raised buttons that have a diameter of 1 cm. Once the elevator stops on the sub ground level, the worker walks another 10 metres to get to the mail processing centre. The worker picks up mail, carries it in their arms, and returns to the elevator to go back to the mailroom to sort the mail. The mail consists of letters, newspapers, parcels, diagrams or other packages.

The weight of the mail picked up can vary dramatically from day to day. It can be anywhere between 0.5 to 40 kg. An example of a heavy item is a box of files. The combination of items can be awkward to carry.

Prepare Mail for Delivery (Duty 1, Task 2)

The sorted mail (essential duty 2, task 1) is taken from each cubbyhole and then placed into folders on the table in the mailroom. When the clerk does not know where a mail recipient is located, they will look up their location using the Quick Find city directory software on the City of Vancouver intranet. This is done in order to know what area and floor the recipient's mail needs to be routed to. The mail in the



folders on the sorting counter is then picked up and carried to the Engineering Services' branches to be delivered (see figure 3).



Figure 3: Mail Pick Up

Delivery of Mail to Departments (Duty 1, Task 3)

The Clerk 1 (mail) has a regular route of departments to go through every day. A set schedule, with predefined times is followed. They are required to walk to the various departments in City Hall. They pick up mail at the “out” boxes and drop off mail in the “in” boxes at each department. The boxes are located in each department on counters or tables of varying heights.

Individuals in some departments receive their mail directly from the Clerk 1 (mail). When the delivery sequence allows it, the Clerk 1 (mail) delivers mail picked up departments earlier in the mail run (see on the go sorting: essential duty 2, task 3).



Periodically Check with Security for Packages (Duty 1, Task 4)

The Clerk 1 (mail) periodically checks the ground floor security area for packages that need to be routed through City Hall. Large packages could require the Clerk 1 (mail) to travel back to the mailroom to get the mail cart.

Fax Preparation (Duty 1, Task 5)

The Clerk 1 (mail) will occasionally pick up faxes from the fax machine located next to the sorting counter and route them to the appropriate person.

Table of Physical, Cognitive, and Psychosocial Demands

The physical, cognitive, and psychosocial demands of essential duty 1 are summarized in table 1. Table 1 located at the end of the report starting on page 15.



Essential Duty 2: Mail Sorting

The tasks that make up this essential duty are: Mail opening and sorting, courier preparation, on the go sorting, and correcting mislabelled envelopes.



Figure 4: Mail Sorting Area

Mail Opening and Sorting (Duty 2, Task 1)

In the mailroom, the worker opens letters received from the mail processing centre and places them on a worktable. The letters are opened using a manual letter opener. The letters are removed from the envelope and read. The Clerk 1 (mail) then makes a determination as to whether the mail needs to be given to Records Management or not. Mail for records management (with invoices, letters of complaint, requests for service, etc) is stamped twice, once with a file stamp in the upper right and once with a routing stamp in the lower left.

The stamped mail is then taken to the Classification Clerk. The Classification Clerk works in the room next to the mailroom (2 meters away). The rest of the mail is placed into piles, sorted according to the department that it needs to go to. The piles are then placed into the cubbyhole for the department.



If the letters are marked confidential or personal, they are not opened and are directly sorted by placing them into the cubbyhole of the department of the individual they are addressed to. The Clerk 1 (mail) takes the mail from each cubbyhole and places it into a separate folder. The folders are carried by the Clerk 1 (mail) in the mail delivery process as shown in Figure 3 on page 9.

Courier Preparation (Duty 2, Task 2)

The Clerk 1 (mail) places the mail for departments that are not located in City Hall into mailbags located below the cubbyholes. These bags are placed on a counter near the entrance of the mailroom at regular times to allow a City of Vancouver courier to pick up the mail.

On the Go Sorting (Duty 2, Task 3)

“On the go” sorting involves the Clerk 1 (mail) sorting the mail during the pick up/delivery process. This involves scanning new mail while picking it up and determining whether the mail destination is at a department that is along the current mail run. If the mail is destined to a department that the mail clerk is going to go to on the run, it is placed in the departmental folder. This involves placing the mail on a surface, such as a desk or filing cabinet, and sorting the mail into folders.

Correcting Mislabeled Envelopes (Duty 2, Task 4)

The Clerk 1 (mail) will infrequently identify mail that was not properly addressed. To correct that, they will reach up and grasp the large interoffice envelopes located on the top of the cubbyholes and write a re-direct address on mail.



Table of Physical, Cognitive, and Psychosocial Demands

The physical, cognitive, and psychosocial demands of essential duty 2 are summarized in table 1. Table 1 located at the end of the report starting on page 18.



Description of Non-essential Tasks

Rarely (once per week) the mail clerk will assist the staff on the 11th floor of City Hall by assisting them in moving boxes of files. The file boxes weigh close to 10kg each. To do this, the Clerk 1 (mail) carries the boxes of files down the flight of stairs between the 11th and 10th floors. Other non-essential duties include tidying office space, and assisting other departments in moving items out of city hall for special events.

Data Collection

The PDA observations took place May 13th, 2004. The mail clerk was observed during the morning mail run that took 2 hours. Supplementary data was gathered by asking the Clerk 1 (mail) specific questions about the work performed.

Report finalized on June 9th by Christopher Kimmie, MSc candidate, UBC School of Occupational and Environmental Hygiene



Table 1: Essential Duty 1 - Mail Pick Up/Delivery (approximately 2.25 hours of shift)

a) Physical Demands		Frequency (% of duty)					Weight		Comments	
		Never	Rare	Infrequent	Occasional	Frequent	Constant	Usual (kg)		Max (kg)
Strength	Lifting - Floor to Knuckle		X					4	40	Picking up dropped items
	Lifting - Knuckle to Waist				X			4	40	Picking up mail
	Lifting - Over Head	X						-	-	
	Carrying - with Handles		X					4	40	Carrying boxes w/handles
	Carrying - without Handles						X	4	40	
	Pushing - Upper Extremity			X						Opening doors, cart
	Pushing - Hips/Legs assist		X							Push full mail cart
	Pulling - Upper Extremity			X						Opening doors, cart
	Pulling - Hip/Leg Assist		X							Pull full mail cart
	Reach - Shoulder or Above	X								
	Reach - Below Shoulder					X				Putting mail in in/out box
	Handling					X				Picking up/placing mail
Fine finger movements			X						Computer use	
Mobility	Neck - Static Flexion			X						Looking at in/out box while grabbing mail
	Neck - Static Neutral					X				
	Neck - Static Extension		X							Looking up while climbing stairs
	Neck - Rotation			X						Navigating offices while delivering mail
	Throwing	X								
	Sitting	X								
	Standing					X				
	Walking					X				Between departments
	Running/Jumping	X								
	Climbing	X								
	Bending/Stooping	X								
	Crouching	X								
	Kneeling	X								
	Crawling	X								
	Twisting	X								
	Balancing	X								
Travelling	X									



Job Demands Analysis - Clerk 1 (mail): Essential Duty 1 (continued)

a) Physical Demands (continued)		Frequency (% of duty)						Comments
		N	R	I	O	F	C	
Sensory / Perception	Hear/Conversations				X			Interactions with city staff
	Hear/Other Sounds		X					Fax machine
	Vision/Far			X				See parcels at security desk
	Vision/Near					X		Reading names during mail hand delivery
	Vision/Colour	X						
	Vision/Depth					X		
	Perception/Spatial						X	Moving through space while delivering
	Perception/Form	X						
	Feeling	X						
	Speech	X						
Work Environment	Inside Work						X	Work takes place within city hall
	Outside Work	X						
	Slippery	X						
	Congested worksite				X			Navigating thorough city departments
	Chemical Irritants	X						
	Confined Space Entry	X						
	Vapour Fumes	X						
	Noise	X						
	Proximity to Moving Objects	X						
	Hazardous Machines	X						
	Electrical	X						
	Sharp Tools	X						
	Radiant/Thermal Energy	X						
	Hot/Cold	X						
	Humid	X						
	Dust	X						
	Organic Substances	X						
	Medical Waste	X						
Blood Products	X							
Lighting - Direct						X		
Lighting - Indirect			X					
Vibration - Whole Body	X							
Vibration - Hand/Arm	X							



Job Demands Analysis - Clerk 1 (mail): Essential Duty 1 (continued)

b) Cognitive and Psychosocial Demands	Frequency During Shift			Comments
	Never / Rare	Infrequent / Occasional	Frequent / Constant	
Degree of Supervision	X			The mail run is unsupervised
Time Pressure			X	Mail runs need to be completed in a certain time
Attention to Detail			X	Required for some tasks, i.e. hand delivering mail
Memory			X	Need to know where people are in the City Hall building and the best route to get to them
Interact with co-workers			X	Interacting with city staff while picking up and delivering mail
Interact with public	X			
Work Alone			X	
Reading			X	Need to read names of people on letters for delivery
Writing		X		
Irregular Hours	X			Shifts take place during normal City Hall hours, Monday to Friday 8:45am - 5:00pm
Operating Equipment		X		Use of computer to look up locations of people

Rating Frequency Definitions

The frequency rating definitions are from the Dictionary of Occupational Titles (DOT, 1991, 4rth edition) published by the US Department of Labor.

	Percentage of Duty
Never	0 %
Rare	0-1 %
Infrequent	2-5 %
Occasional	6-33 %
Frequent	34-66 %
Constant	67-100 %



Table 2: Essential Duty 2 - Mail Sorting (approximately 5.25 hour of shift)

a) Physical Demands		Frequency (% of duty)					Weight		Comments	
		Never	Rare	Infrequent	Occasional	Frequent	Constant	Usual (kg)		Max (kg)
Strength	Lifting - Floor to Knuckle		X					4	40	Picking up dropped items
	Lifting - Knuckle to Waist				X			4	40	Sorting mail
	Lifting - Over Head	X						-	-	
	Carrying - with Handles		X					4	40	File boxes
	Carrying - without Handles				X			4	40	Boxes, parcels
	Pushing - Upper Extremity			X				4	40	Opening doors, sort mail
	Pushing - Hips/Legs assist		X					4	40	Sort heavy parcel
	Pulling - Upper Extremity		X					4	40	Sort heavy parcel
	Pulling - Hip/Leg Assist		X					4	40	Sort heavy parcel
	Reach - Shoulder or Above				X			While sorting mail during delivery		
	Reach - Below Shoulder					X		During mail sorting		
	Handling					X		Holding mail		
Fine finger movements				X			Opening mail			
Mobility	Neck - Static Flexion				X		Looking down while sorting mail			
	Neck - Static Neutral				X					
	Neck - Static Extension		X				While grabbing interoffice envelope			
	Neck - Rotation				X		Turning head while sorting mail			
	Throwing	X								
	Sitting		X				Look up people's location using computer			
	Standing						X	Standing by sorting counter		
	Walking					X				
	Running/Jumping	X								
	Climbing	X								
	Bending/Stooping			X			Placing courier bags on wall			
	Crouching	X								
	Kneeling	X								
	Crawling	X								
	Twisting			X			Twisting while sorting			
	Balancing	X								
Mobility	X									
Travelling	X									



Job Demands Analysis - Clerk 1 (mail): Essential Duty 2 (continued)

a) Physical Demands (continued)		Frequency (% of duty)							Comments
		N	R	I	O	F	C		
Sensory / Perception	Hear/Conversations			X					Interacting with city staff, couriers
	Hear/Other Sounds	X							
	Vision/Far	X							
	Vision/Near						X		Reading mail during sorting
	Vision/Colour	X							
	Vision/Depth				X				Placing mail in cubby holes, courier bags
	Perception/Spatial				X				Placing mail in cubby holes, courier bags
	Perception/Form				X				Sorting mail into piles
	Feeling	X							
	Reading						X		Reading mail during sorting
	Writing			X					Rerouting improperly labelled mail
	Speech			X					Interaction with city staff
Work Environment	Inside Work						X		In mail room on 4rth floor City Hall
	Outside Work	X							
	Slippery	X							
	Congested worksite	X							
	Chemical Irritants	X							
	Confined Space Entry	X							
	Vapour Fumes	X							
	Noise	X							
	Proximity to Moving Objects	X							
	Hazardous Machines	X							
	Electrical	X							
	Sharp Tools	X							
	Radiant/Thermal Energy	X							
	Hot/Cold	X							
	Humid	X							
	Dust	X							
	Organic Substances	X							
	Medical Waste	X							
	Blood Products	X							
	Lighting - Direct						X		In mail room
Lighting - Indirect	X								
Vibration - Whole Body	X								
Vibration - Hand/Arm	X								



Job Demands Analysis - Clerk 1 (mail): Essential Duty 2 (continued)

b) Cognitive and Psychosocial Demands	Frequency During Shift			Comments
	Never / Rare	Infrequent / Occasional	Frequent / Constant	
Degree of Supervision	X			Work is generally unsupervised, have limited interaction with direct supervisor
Time Pressure		X		Deadlines to meet for courier pick up
Attention to Detail			X	Required for some tasks, i.e. mail sorting but not at an intensive level
Memory		X		Need to know what cubby hole sorted mail gets placed into
Interact with co-workers		X		Interacting with other city staff during sorting on the fly and mail room sorting
Interact with public	X			Briefly discussions with mail couriers
Work Alone			X	Briefly worked with classification clerk
Reading			X	Need to read letters, names of people on letters for delivery
Writing		X		Writing notes, rerouting mail
Irregular Hours	X			Shifts take place during normal City Hall hours, Monday to Friday 8:45am - 5:00pm
Operating Equipment		X		Computer and fax machine

Rating Frequency Definitions

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