



## JOB DEMANDS ANALYSIS

**Company:** City of Burnaby

**Location:** RCMP Station

**Job Title:** RCMP Communications Officer

**Classification:** Regular Duty

### Purpose of Activities

The purpose of the Communications Officer is to relay information between citizens, the RCMP, the officers in the field and other emergency, justice and social services.

### Tools and Equipment

The Communications Officer will use the following tools and equipment to perform their duties:

- Computer monitor (21") full colour Windows-based software. Two monitors at Dispatch.
- Computer keyboard with right hand number keys.
- Telephone with headset.
- Mouse.
- Radio System at Dispatch.
- Desk (29" in L or U configuration) with document holder and a choice of chairs (all fully adjustable with short backs).

### Usual Methods - Dispatch

This is a critical position since it is the point of communication through which all police work operates. The officers in the field depend on the dispatcher's competence to help them in difficult situations and control the flow of work.

1. Call comes from complaint taker via computer.\*\*
2. Dispatcher evaluates the call and posts it to the system (shows up in field units).\*\*
3. May use radio to call for assistance or assign a car.\*\*
4. Updates the call as it progresses (sometimes on a separate radio channel).\*\*
5. Monitors the progress of the call (from complaint taker) and marshals resources accordingly.

### Usual Methods – Information

The following activities will be carried out (while seated) for each of the batches described above each day.

1. Receive calls via telephone or radio (use foot switch to change between the two).
2. Receive requests for information.



3. Input information via keyboard into the computer to make requests to C.P.I.C. for information.
4. Update officers in the field via radio or phone with respect to the status of their information request.
5. Send CPIC information over computer system to officer or tell them via phone/radio.
6. Often there is a requirement to leave the desk to retrieve information from the file room (20 metres return trip) or to retrieve a warrant that has been faxed.
7. They also take requests in person from other individuals in the detachment.
8. Uses mouse to navigate computer software.

#### Usual Methods – Complaint Taker

These duties are carried out at an L-shaped desk.

1. Call rings in as either a 911 call or as a normal call.
2. Reach to phone and press three buttons to pick-up call.\*\*
3. Initiate contact with caller as the number and address of the caller displays (if it is a land - line).
4. Ask caller for address and input it through the keyboard.
5. Input complaint and post it to the system so that it can be dispatched. May also take notes of key information.
6. Continue conversation with complainant, inputting data via keyboard to update the file.
7. Communicates verbally or through hand signals to dispatcher as required.

**The presence of \*\* indicates non-value added tasks. These are tasks that do not contribute to the stated purpose of the work.**

#### Administrative Issues

These individuals are employees of the City of Burnaby who are working for the RCMP. They are located in an open-style (bullpen) office environment with some natural light penetrating the space from the windows at the perimeter of the work area.

There can be a significant level of psychological strain in this job. Callers may be hysterical or even abusive depending on the situation. This is particularly true in the dispatch position when the volume of work begins to build, especially if the calls are of an urgent nature and there is a lot of information being passed from the call-taker to the dispatcher.

#### Activity Demand Variables

These variables are tasks that must be carried out by the employee and are implicitly or explicitly required as objectives of the job.

- Enter data into a computer using a keyboard and mouse.
- Work from a seated position.
- Manage and deal with emergency situations.
- Use radio system.
- Work in an open environment.



### Worker Decision Variables

These variables are the sub-routines and cognitive/physical decisions made by the worker in carrying out the objectives of the job.

- Choose postures for carrying out duties (outside of remaining seated, limited standing).
- Technique for dealing with callers or officers in the field.
- Placement of some items in the workspace.
- Timing of breaks and rotation of positions.
- Some control over timing and extent of conversation with others.

### Accommodative Considerations

1. People with injuries to the spine in any region may have difficulty with the static and largely seated postures.
2. People with shoulder injuries such as rotator cuff tendinitis, bursitis and instability may have difficulty with static loading and reaching activities.
3. People with any hand and elbow problems may have difficulty with this position.
4. Post-whiplash and other neck problems may have difficulty with this position because of static positioning and high psychological strain.
5. The sitting required for this position would aggravate individuals with hemorrhoids or suffering from vascular insufficiency in the legs
6. Individuals who do not cope under intense pressure or in open low-autonomy work environments would have difficulty with this position.
7. There is a significant learning curve associated with this work.

Prepared By:           Greg Hart, Kinesiologist                           February 4, 1999



## Summary of Stresses

### **Metabolic Stresses**

The aerobic energy system supplies the vast majority of energy required to complete the tasks in this position since the work can be characterized as being very sedentary. There are possible exceptions in localized regions of the body, specifically the upper extremities and possibly muscles around the spine and in the region of the neck and shoulder. The tasks are very static in nature and there are repeated actions that increase static load in some of the aforementioned areas for stabilization purposes. This can interfere with normal blood flow and thus, oxygenation. If this is the case, the tissues will be increasingly required to turn to the anaerobic energy system for their requirements. This can produce a sensation of fatigue and can also lead to tissue damage.

There are likely to be times where there are heightened metabolic responses that are provoked by reactions to stress in the work environment.

### **Structural Stresses**

**Spine** – the sedentary nature of this work can place significant passive loads on the spinal structures. Prolonged sitting increases disc compression forces alone. If great care is not taken to control posture, it is not unusual to have people adopt a flexed spine posture that requires no activity from the torso musculature, but increases asymmetrical disc compression, passive stretch on the posterior ligaments and disc fibres. This can contribute to disc integrity problems over time as well as contributing to deconditioning of the torso support musculature.

**Shoulders and Neck** – due to the static positions required and the frequent reaching for documents, the muscles in the rotator cuff of the shoulder (especially left) and the upper trapezius and scalene muscles of the neck, maintain significant and often constant static load. Operating the mouse on the desk surface with the arm away from the body is a significant stress. This can lead to the development of pain and eventually to tendinitis and even possibly contribute to adverse neural tension. If individuals are too low in their position with respect to the desk, this increases the load on the neck and shoulders further since the arms must be lifted and held above the level of the top of the desk. The stressful nature of the work will precipitate increased static muscle tension through the neck and upper back in most individuals further compounding the physical issues already mentioned.

**Arms and Hands** – since the mouse is on the desk it forces the officer to hold the hand in extension which increases pressure in the Carpal Tunnel and transmits constant static load to the lateral epicondyle (outside) of the elbow. This can increase the risk for developing Carpal Tunnel Syndrome and lateral epicondylitis (tennis elbow) respectively.



## **INTERVENTIONS**

Recommendations that could be implemented to increase productivity and lessen the risk of injury are listed below:

1. Encourage the officers to maintain an increased level of fitness away from work that will focus on cardiovascular endurance, muscular strength, muscular endurance and flexibility. This can help compensate for the lack of movement in the job.
2. Provide regular education in effective use of the body and neutral joint positions for this type of work.
3. Adjust monitor heights so that the individual is maintaining a neutral head position when looking at the screen (this varies according to individual visual bias).
4. Increase the size of the monitor and the font size displayed on the screen to decrease visual strain and static muscle tension.
5. Purchase sit/stand adjustable work stations so that all individuals can break up their day, posturally speaking.
6. Consider the use of the Bambach Saddle chair and/or Physio Ball as an alternative for seated posture.
7. Bring mouse to the same height as the keyboard.
8. Insure that the operator is maintaining a neutral elbow and shoulder position while working at the keyboard (chair height may need to be increased).
9. Provide a footrest if necessary to maintain normal contact with the floor.
10. Encourage employee to rest hands in the lap momentarily (less than five seconds) every few minutes to allow static load to abate.
11. Encourage employee to approach keying with more arm movement and avoid fixed arm positions. Do not use wrist rests.

PJDC-RCMP Communications

Referral: Lana Ho		Organization: City of Burnaby						Title: RCMP Communications Officer		
Dept.: RCMP		Division:						Contact: Sharon Wenzlaff		
		FREQUENCY*						Date: February 4, 1999		
PHYSICAL DEMANDS		R E Q D	S I D E	Sel 1	Low 2	Mod 3	High 4	Max. Weight (kg)	Usual Weight (kg)	COMMENTS
S T R E N G T H	Lifting - Floor to Knuckle									
	Lifting - Knuckle to Waist									
	Lifting - Waist to Shoulder									
	Lifting - Over Head									
	Carrying - With Handles									
	Carrying - Without Handles		E			X		4	neg.	Papers, files, binders
	Pushing - Upper Extremity		D		X			5	1	Close drawer or file cabinet
	Pushing - Hip/Leg Assist									
	Pulling - Upper Extremity		D		X			5	1	Open drawer or file cabinet
	Pulling - Hip/Leg Assist									
	Reach - Shoulder or Above		D			X		4	arm	Exchange notes with others, access binders
	Reach - Sho. or Above extnd									
	Reach - Below Shoulder		D				X	arm	arm	Mouse, phone panel, printer
	Reach - Bel. Shoulder extnd		E		X			arm	arm	Papers, mouse in some work areas
Handling		B			X		light	light	Papers, pens, pencils, mouse	
Gripping		D				X	light	light	Writing instrument for notes, comp. Mouse	
Fine Finger Movements		B				X	light	light	Keyboarding, mouse click, papers, buttons	
E	Aerobic (percent)						95	Even in poorly conditioned people(energy demand 1-2 MET)		
N	Anaerobic (percent)			5				Local to small structures for brief periods of tome		
R	High Energy Expenditure									
G	Low Energy Expenditure					X		Sedentary work, seated virtually whole shift		
P O S T U R E + M O B I L I T Y	Neck - Static Flexion		B			X		Looking at keys, notes, files and papers		
	Neck - Static Neutral						X	Looking at computer screen if adjusted to proper height		
	Neck - Static Extension				X			Talking to people who are standing		
	Neck - Rotation		B				X	Usually dynamic to see other people, can be static-briefly		
	Throwing									
	Sitting						X	All work stations are seated, multi-adjustable task chairs		
	Standing				X			Occasionally to look at something or if a break is available		
	Walking				X			Less than 20 metres at a time in work area on hard floor		
	Running/Jumping									
	Climbing - Arms and Legs									
	Climbing - Legs Only									
	Bending/Stooping				X			Access a low file or drawer		
	Crouching									
	Kneeling									
T R A V E L I N G	Crawling									
	Twisting		E		X			Turning to talk to someone while keeping hands on keys		
	Balancing									
	Traveling									
G E N E R A L	Work Alone							Always several other people around		
	Interact with Public						X	Constantly via phone in call-taker position		
	Operate Equip/Machinery						X	Computer system (Windows based), printer, radio, phones		
	Irregular/Extended Hours						X	Ten hour shifts, 4 or 5 on with 4 or 5 shifts off		

\* Frequency Legend      1 = Seldom; Not Daily    2 = Low Daily Activity; < 1hr  
3 = Moderate Demand; Repetition 1 - 3 hrs daily      4 = High Frequency Demand; Repetition > 3 hrs daily

The following shading denotes a      HIGH RISK TASK:      Modifications should be considered

**REQD** is marked with an X if the particular demand or category is relevant to the purpose of the job.

**SIDE** refers to the side or limb required to execute a task. If it is marked **E**, it indicates either side, the most common choice is listed first. **D** refers to dominant and **B** to both sides.

Referral:		Organization:				Title: see 1st page header			
Dept.:		Division:				Contact:			
PHYSICAL DEMANDS		R E Q D	S I D E	FREQUENCY*				COMMENTS	
				Sel. 1	Low 2	Mod. 3	High 4		
P E R C E P T I O N	Hearing - Conversations		B				X	From callers via phone, officers on radio, co-workers in room	
	Hearing - Other Sounds		B				X	Phone tones, radio sounds	
	Vision - Far						X	View screens, see other people in the area	
	Vision - Near				X			Some note-taking and reading	
	Vision - Colour						X	Display information is colour coded	
	Vision - Depth						X	Quickly reaching buttons and keyboard or papers	
	Perception - Spatial					X		Reaching around objects	
	Perception - Form								
	Feeling (Tactile)		B				X	Keyboarding	
	Reading						X	Information on computer screen, from notes and files	
N	Writing		D			X		Notes, short reports	
	Speech						X	Via phone to callers, radio to officers, co-workers in the room	
W O R K E N V I R O N M E N T	Inside Work						X	Office cubicle environment open format	
	Outside Work								
	Hot Conditions >25 deg. C								
	Cold Conditions <10 deg.C								
	Humid								
	Dust								
	Vapor Fumes								
	Hazardous Machines						X	Close proximity to officers carrying loaded firearms	
	Proximity to Moving Object								
	Noise								
	Electrical Hazard								
	Sharp Tools								
	Radiant/Thermal Energy						X	Sunlight from windows, computer emf (low level)	
	Slippery Conditions								
	Vibration and Related								
	Chemical Irritants						X	Printer and copier toner, officers carrying pepper spray	
	Organic Substances								
	Medical Waste								
	Blood Products								
	T	Congested Worksite							
Lighting - Direct							X	Ovrehead , some task lighting	
Lighting - Indirect						X		Through windows	
Lighting - Adjustable					X			Some task lighting	
Lighting - Fluorescent							X	Narrow spectrum, normal diffusion	
Lighting - Incandescent									
Lighting - Shadows etc.									

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For detailed descriptions of each of the different categories, please refer to the reference guide or inquire with Human Effort at 1-888-4EFFORT