



# Guiding Principles

City of Winnipeg Printer and Multi-Function Printer (MFP) Fleet



Innovation, Transformation & Technology



## 1.0 General Requirements

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1. The goal shall be to reduce single-function desktop and personal printers, scanners and faxes and migrate this volume to fully networked, shared Multi-Function Printers (MFP's).
2. All devices shall be networked where possible.
3. Server based printing, either traditional or pull printing (i.e. follow printing) shall be implemented over direct IP based print environments. Exceptions will require documented justification and approvals.
4. Primary placement of new devices shall be located where power, network and fax drops already exist. If a device must be placed in a location without power or network, power will be given priority; that is, the device shall be placed in a location with only power over a location with only network. A site may request that a device be installed at a net new location if they have appropriate funds available for the installation of power, network drop and/or fax line.
5. All requirements for device space must be met (i.e., a device shall not be placed in an area with insufficient space). Equipment shall not be placed in locations that would require building changes other than power or network as described above.
6. Physical placement of devices shall be in a central location within a workgroup wherever possible.
7. During a refresh of the entire Fleet or the replacement of an expired device, a like-for-like (or better) replacement is the requirement, unless there is a change in business need or a redesign of the workspace, in which case a reassessment would be required.
8. Libraries shall prioritize ease of public access above all other criteria when placing devices, and this would not be considered within the "cost of non-conformance" (i.e. any cost associated with not complying with these Guiding Principles).
9. Large sites shall be reviewed and designed based on specific location requirements, including but not limited to security requirements, access limitations, and job functional activities performed.
10. Departmental directors and elected officials shall be encouraged to participate in these Guiding Principles as part of the change management strategy. Departmental directors and elected officials may opt out and the City shall permit these individuals to have their own personal printers. This shall not be considered within the cost of non-conformance.

## 1.1 Colour Requirements

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1. If a floor is expected to print over 1,000 colour impressions per month (as per the volume bands in Section 1.8), at least one colour MFP shall be placed within the floor. The expectation of printing shall be calculated based on actual usage where data exists.
2. If there is material business demand for colour in an area lacking a colour device, and the need cannot be addressed by the nearest colour device, then a colour device should be provided and this would be considered within the cost of non-conformance.

## 1.2 A3 (11”x17”) Requirement

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1. If a floor is expected to print A3 impressions, at least one A3-capable MFP shall be placed within the floor. The expectation of printing shall be calculated based on actual usage where data exists.
2. If there is material business demand for A3 printing in an area lacking such a device, and the need cannot be addressed by the nearest A3 device, then an A3 device should be provided and this would be considered within the cost of non-conformance.

## 1.3 User-to-Device Ratio Information

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1. The following parameters should be used as guidelines to gauge the validity of all future recommendations.
2. The user-to-device ratio should be 5:1 or higher based on an average at an organization level. This device ratio may not be achievable at every location and shall be based on business requirements.
3. All devices shall be mapped to determine the current state physical layout of the site in relation to end users and their related document production areas. The goal shall be to provide at a minimum the same functionality to the groups/users within the area.
4. A device utilization of 3% – 7% will be considered an ideal target.

## 1.4 Walking Distances and End User Preference

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1. The primary goal shall be to first determine where end users are currently walking to acquire their documents. Based on this information, along with the goal to move to a fully networked, multi-functional technology, new devices shall be placed to ensure all work groups have access to enhanced document functionality and that productivity, confidentiality and security are not hindered based on the placement of any new device.
2. 90% of all end users shall be within 60 feet of monochrome print/copy/fax/scan capability.
3. The exception to the above goals shall be for any existing personal print devices. In these cases, the goal would be to ensure that the end user does not increase their walking distance beyond the desired 60 feet.

## 1.5 Additional Design Considerations

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1. Building Type: Determination for placement of new equipment may be limited by the physical layout of the building. Hallway width, arrangement of office spaces and existing location for equipment may all be factors in determining placement.
2. Safety Considerations: Buildings may have specific safety consideration that dictate how equipment can be placed. Certain spaces may limit the physical placement of equipment or, due to space consideration in those areas, may limit the available devices for the new placement.
3. Secure Print: Secure print functionality shall be incorporated during the refresh or installation of any new device within the Fleet with the exception of personal printers.
4. Restricted access zones: For floors with secured areas, these areas shall be individually zoned and recommendations shall be based on each zone’s requirement (e.g. secured areas within Winnipeg Police Service facilities, or segregated areas within other City of Winnipeg locations).
5. General accessibility guidelines shall be followed for those with limited mobility and/or special needs.

## 1.6 Out-of-Scope Devices

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1. Specialty print devices would be out-of-scope for the MFP Fleet. The following are examples of out-of-scope print devices:
  - 1.1 High-volume production-class print engines;
  - 1.2 Large-format printers and plotters;
  - 1.3 Receipt printers;
  - 1.4 Cheque printers;
  - 1.5 Microfiche readers;
  - 1.6 Envelope printers;
  - 1.7 Impact printers;
  - 1.8 Card printers;
  - 1.9 3D printers;
  - 1.10 Mobile and ruggedized printers; and
  - 1.11 Devices for specialty business applications.

## 1.7 Redeployment/Recycling of Existing Equipment

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1. Certain existing devices may be recycled or redeployed on a per-site basis provided they meet these requirements:
  - 1.1 Only new devices should be added during the implementation of a new Fleet or for the replacement of an expired device. is put in place. The smaller device may be redeployed elsewhere in the fleet as the need arises).
  - 1.2 Once added to the fleet, any device may be redeployed to another location as the needs of the organization change (e.g. If, after deployment of a new fleet, it is assessed that a larger device is required in a specific location due to change in business needs, and a new larger device
  - 1.3 Once a device is deemed at end of life and requires disposal, the device should be disposed of in accordance with EPRA regulation at a local approved EPRA (Electronic Product Recycling Association) facility, where possible.

## 1.8 Volume Banding and Device Utilization

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1. Print devices within the City’s existing Fleet are divided into three volume categories (Low, Med and High Volume) for both colour and monochrome. The volume banding for each of these categories is illustrated with examples from our current fleet in the table below.

Example Devices	Average Monochrome Monthly Volume	Average Colour Monthly Volume
Monochrome Low Volume – WorkCentre 3635	2,000	0
Monochrome Med Volume – WorkCentre 5225	6,000	0
Monochrome High Volume – WorkCentre 5755	16,000	0
Colour Low Volume – WorkCentre 6400X	1,000	1,000
Colour Mid Volume – WorkCentre 7120	2,500	2,500
Colour High Volume – WorkCentre 7346	8,000	8,000

2. For new installations, devices shall be placed based on the volume requirements as well as other criteria described above. For areas falling below the lowest Low Volume band available, the smallest device available shall be considered acceptable even if utilization is lower than the expected volume targets.
3. Device utilization should strive to meet the optimum range of 3% to 7%.
4. The utilization rate is the monthly output volume divided by the theoretical monthly maximum output. This is the total output a device could produce for a standard 8 hour / 21 working day month based on device print speed.
  - For example, a 35 ppm B&W MFD theoretical maximum monthly output would be:
  - $35\text{ppm} \times 60 \text{ min/hr.} \times 8 \text{ hrs./day} \times 21 \text{ days/month} = 352,800 \text{ pages}$
5. For a 5% utilization rate this would target =  $.05 \times 352,800 = 17,640 \text{ pages a month.}$
6. These Guiding Principles are subject to the physical layout of the City's buildings. In some instances it may not be possible to meet all of the guidelines listed due to the physical arrangement of the available space. In all cases, the assessment and placement shall endeavor to meet all of the Guiding Principles.
7. For locations that operate on extended hours, the device utilization shall be calculated on the actual hours of operation.
8. The fleet volumes should be continuously monitored by the Contractor. Where there are changes in business needs or volumes, the area may be reassessed and where appropriate the environment is to be amended to ensure the technology continues to meet end user requirements.

## 1.9 Redundancy

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1. The main goal shall be to provide redundancy at all locations where reasonable.
2. Redundancy shall be determined based on volumes, number of devices in a given location and business requirements. Redundancy is required to provide short term print capability to a location when the main device for that location is unavailable (e.g. out of service) where there is a business requirement for continuous print availability. Elements that shall be taken into consideration when considering a redundant device shall include:
  - Business requirements;
  - Distance to a secondary device;
  - Accessibility; and
  - Capabilities of the device (e.g. colour device may have a monochrome redundancy).

## 2.0 Approval Process

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The following is the Move/Add/Change/Delete (MACD) approval process for the City of Winnipeg:

1. All MACD activities shall require an assessment to be performed by the Contractor to ensure Guiding Principles are being adopted along with their recommendation for approval.
2. All MACD assessments and recommendations not conforming to these Guiding Principles shall require an approval from the Contract Administrator prior to implementation.
3. An appeal of MACD request denial can be made with authorization by the associated Department Head. The requesting business unit shall submit the business rationale for not being able to comply with the Guiding Principles to the Contract Administrator. Exceptions to the Guiding Principles would be considered as a cost of non-conformance and would be the responsibility of the Department.
4. Any new assessments that do not directly meet all the Guiding Principles shall be annotated.

