

# PROGRAM

## **Better Insight, Onsite**

International design competition for the creation of  
worksite information modules

Bureau du design, Ville de Montréal

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Montréal 

Secrétariat  
à la région  
métropolitaine

Québec 



**MONTREAL**  
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# 1. PROJECT MISSION, APPROACH AND OBJECTIVES

## 1.1 MISSION

Upgrading underground infrastructure, incorporating new public transit networks, developing streets and new parks, as well as building and restoring major buildings and public artworks, are all situations requiring the establishment of urban worksites; these significant transformations to the ways cities function aim at long-term enhancement of the quality of the living environment as well as the cities' overall attractiveness. Although these transitions are essential steps in the renewal of cities for the 21st century, worksites of this nature are disruptive both to the economic activities of business communities and to the daily lives of citizens, with impacts on mobility, access to services and retailers, and general peace and quiet.

Committed to improving citizens' living environment and maintaining the attractiveness and economic health of arteries and districts affected by such work, the Ville de Montréal is seeking to implement a toolbox consisting of various 2D and 3D communications and wayfinding platforms to better inform and direct Montrealers and visitors alike for the duration of worksite activities. The platforms, regardless of their nature, must be designed using formal and graphical language that will enable users to better "read" any worksite established in the city.

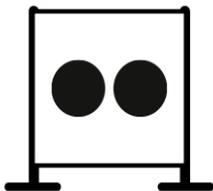
This toolbox project aims to:

- Give site managers greater autonomy (planning phase);
- Simplify the management/operation of worksites (implementation phase);
- Eliminate case-by-case/piecemeal addressing of issues;
- Reduce mitigation costs; and
- Position Montréal as a city that better manages its worksites.

Specifically, the tools developed must fulfil the following three objectives:

- Better **delimiting** (work zone, materials zone, user traffic zone);
- Better **directing** (before and after site; access to retail businesses, building and other services); and
- Better **informing** (summary of the work and the future project).

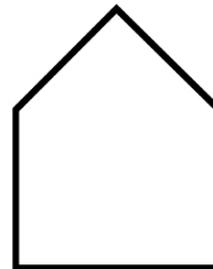
### Delimiting



### Directing



### Informing



This competition's specific focus is on the "Informing" component of the toolbox, to consist of 3D platforms called worksite information modules. These modules must complement the other tools previously developed for the "Delimiting" and "Directing" components. They will be installed before worksites are begun, and for the duration of the work.

By bringing ideas together, the competition will seek to generate innovative, high-quality solutions and will result in the selection and commissioning of a design firm or team that will be awarded a professional services contract for the detailed design, plans and specifications, as well as concept-implementation follow-up and optimization as part of a pilot project to be conducted in summer 2017.

## **1.2 APPROACH AND OBJECTIVES**

This competition invites members of the design community to reflect on the topic of the worksite information module as a mitigation tool and communications platform to assist users in understanding the construction/rehabilitation work in progress. The modules will not only inform residents and visitors about the site and its impacts but may also serve as tools for interpretation of the history of the site, the eventual design, the key stages of construction, the various stakeholders, or any other relevant aspect to be communicated relative to the worksite or its location. Users will gain a better understanding of the work, which will help them better prepare for the resulting disruptions.

Through this competition, the Ville de Montréal intends to acquire modules of at least two scales that can be adapted to differing site contexts and scopes, and rapidly deployed at all sites requiring them (commercial arteries, neighbourhood streets, parks, buildings, etc.). Module 1 will be at a reduced scale, for use on sites with space restrictions, among others. Module 2 will be approximately four times larger and enable communication of information. Both modules must, via both their form and content, achieve the following objectives:

- Be a physical reference marker to support residents in the event of questions or problems related to the worksite;
- Provide information to citizens and visitors well ahead of the start of work;
- Inform citizens and visitors on the nature and scope of the work in progress, as well as about the parties responsible for its execution;
- Enable the provision of periodic information updates for residents, e.g., in case of unforeseen circumstances;
- Inform citizens and visitors about which services and retailers remain accessible and/or have been relocated;
- Inform users about the future design of the site, if applicable;
- Function as an interpretation tool to help people understand the worksite and its location, and engage the interest of passersby; and
- Reduce the number of calls and complaints from citizens regarding the worksite.

## **2. CONTEXT**

### **2.1 STUDIES OF MUNICIPAL WORKSITES**

Since 2014, the Bureau du design of the Ville de Montréal's Economic Development Service has undertaken a series of initiatives and studies to better understand the problem of worksite development and find design-based solutions to mitigate adverse impacts.

The international colloquium “**Unsitely! – Leveraging Design to Improve Urban Construction Sites**,” organized by the Ville de Montréal as part of the 27th Entretiens Jacques Cartier in October 2014, provided an opportunity to share and explore innovative solutions deployed around the world that leverage design to improve the collective and individual experience of major urban worksites, or, at the very least, help mitigate their negative impact on users’ daily lives. The outcomes of the ideas workshop held as part of the colloquium can be consulted [online](#).

**A site street-furniture directory**, provided in Appendix A (in French), outlines the general context of worksites in Montréal. This furniture, which is the responsibility of the construction contractor, includes all equipment and facilities that allow users to make their way through and safely move about the worksite, in addition to amenities designed to protect worker safety and well-being. Some items must adhere to very stringent standards set forth by the Québec Ministry of Transport, Sustainable Mobility and Transport Electrification (known by its French abbreviation MTMDET) and, consequently, may not be altered in any way. Other items are less heavily regulated and amenable to design-driven changes aimed at enhancing the overall appearance of the worksite. These include, for example, worksite information modules, which are not subject to MTMDET regulations. This document allows prospective competitors to familiarize themselves with this worksite street furniture and gain a better understanding of the context for the use of the modules to be designed.

The document “**Communication de la Ville de Montréal relative aux chantiers - Janvier 2015**,” produced for the Ville de Montréal, as well as various observations by the city, have identified the main irritants of Montréal urban worksites, summarized as follows:

- Noise, dirt and dust;
- Interruptions to water and power supply (whether planned or resulting from emergencies);
- Lack of information about work in progress;
- Lack of information about real or perceived work interruptions (resulting from, e.g., workers being underground and hence not visible to the public or during pipe sanitization or testing operations);
- Difficulty using walkways adjacent to a worksite, especially for people with reduced mobility (e.g., vision-impaired or with a motor deficiency, parents with baby strollers, seniors, children);
- Difficulty navigating through the worksite;
- Lack of information about where shops are located and when they are open for business;
- Reduction in customer traffic to businesses and retailers;
- Difficulty accessing services, businesses and retailers (makeshift access ramps that are not universally accessible);
- Poor optimization of space in the contractor’s area (e.g., for materials, equipment, workers’ vehicles); and
- Worksite cleanliness.

Having modules on worksites will aim to reduce irritants relating to communication overall.

## **2.2 TYPES OF MUNICIPAL WORKSITE**

The main types of worksite suitable for installation of the modules are as follows:

- Underground infrastructure work;
- Street and sidewalk construction/repair;
- Work on parks and public squares;
- Construction/renovation of public buildings;
- Installation of new public equipment/facilities (e.g., electric-vehicle charging stations); and
- Restoration/installation of public art works.

Work on streets and sidewalks, and specifically on underground infrastructure, causes the most disruption. The environment of a street worksite is extremely variable, so it may be necessary to move the modules and install them in different spots for different phases of the work. Operations on this type of site are described in Appendix B.

The other types of site, those not involving streets, are generally more static and circumscribed. The site perimeter can be effectively fenced off, since no access (or very limited access) to residences or businesses is required, and users are generally excluded from the area. For this type of site, the modules will typically remain in the same location for the duration of the work. The communications needs are just as great, however, regardless of the type of site.

## 2.3 TOOLBOX FOR WORKSITE PLANNING

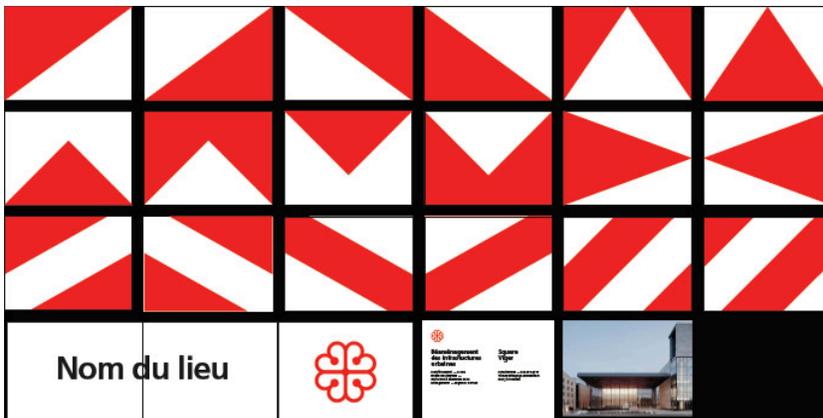
As mentioned, the worksite planning toolbox being developed by the Ville de Montréal aims at improving three main aspects: delimiting, directing and informing.

As of this writing, the Ville de Montréal Communications department has already begun work on the “Delimiting” and “Directing” components, which mainly involve display of information on site fence/wall wrappings and on printed Coroplast signage.

### 2.3.1 Delimiting: fence/wall wrapping system

Wrapping aims at improving the onsite integration of fencing and the legibility of the alternate-route instructions (taking into account users with vision impairments), and at limiting the spread of dirt and dust.

The system developed is flexible and modular. Through different permutations of sheets printed in families of red-on-white blocks, it allows creation of a visual identity specific to each worksite while ensuring a consistent look across the city. Except on certain types of walls/fences, the sheets can be positioned in any order or direction.



Modular system of flexible sheeting for the “Delimiting” component



Application of the flexible sheeting at Square Viger worksite, Montréal

Occasionally, site fencing also features printed messages on flexible sheeting or rigid panels that provide users with a summary of the nature of the work and of the project when completed.



Informational wall/fence wrapping

### 2.3.2 Directing: directional system

A graphical media concept for communication and wayfinding is also in development for the “Directing” component of the toolbox. These media will be used to direct users to retailers and other service locations, as well as to provide traffic-flow instructions (e.g., directions to parking facilities, public transit, cycle paths, delivery routes). A sample of the work under way is provided below.



“Directing” panel at Montréal City Hall

### 2.3.3 Informing: informational and narrative system

The “Informing” component will consist mainly of the 3D platforms referred to as the information modules. They will complement the other (2D) tools developed, and are the subject of this competition.

They are to be developed as a system allowing for adoption of different typologies of structures that can be adjusted to the scale of the worksite.

## **2.4 SITE USERS**

Several types of user are affected by worksites: e.g., workers, retailers, residents, property owners, citizens and tourists. They may be pedestrians, cyclists, motorists, as well as taxi or public-transit riders. The primary user group for the modules is pedestrians, who may include parents with strollers, young children, seniors, and users with mild to severe physical limitations (e.g., impaired agility, mobility, hearing, eyesight, memory). It is therefore important that the module design meet accessibility standards.

Construction contractors are also significant stakeholders in worksites; among other roles, they are the ones who will be managing, installing, moving and disassembling the worksite information modules.

## **3. SITES AND DURATION OF IMPLEMENTATION**

The module installation site is undefined; it varies from one worksite to another. Given the highly variable environments of street-based worksites, it is quite likely that modules will be moved around to different locations as the work progresses. For this type of project, the modules will normally be positioned such that users will see them before reaching the worksite. For example, a street-based worksite might include two modules, one at each end of the site.

Other, non-street-based worksites (parks, buildings, works of art) typically have a well-defined, closed perimeter. On this type of site, the modules will normally remain in the same location throughout the work.

The Ville de Montréal's project managers will determine the locations of modules, based on such criteria as user traffic, sidewalk width (so as to ensure corridors compliant with accessibility standards), closing of traffic lanes (where applicable), and visibility cones at intersections. Given the space limitations that sometimes characterize urban worksites, these modules will not necessarily be installed inside the work area, but could be on its periphery; e.g., occupying a nearby parking space or public space.

The duration of implementation will vary depending on the site: it may be anywhere from a few weeks to more than a year. The module must be installed a few weeks before the start of work so as to properly inform users about the work and expected disruptions.

The Ville de Montréal is in the process of identifying the worksites to be equipped with the initial prototype modules as part of a pilot project in the summer of 2017. These sites will be clearly identified when the winning team is chosen. Combination configurations of modules 1 and 2 will be installed at three or four sites alongside the other media from the "Delimiting" and "Directing" toolbox components.

## **4. FUNCTIONAL AND TECHNICAL NEEDS**

### **4.1 MODULE SCALABILITY**

The modules must be designed so as to be adjustable to at least two sizes (modules 1 and 2) depending on the space available at the site, the scope of the site, user traffic, and the amount of information to be communicated.

### **4.2 CONFIGURATION AND MODULAR APPROACH**

A modular system must be considered, so as to optimize production and installation; for example, a basic module (module 1) could be designed such that it can be multiplied and assembled side by side (or otherwise) to expand it into a larger module (module 2). Or the system could consist of a basic structure, expandable for the addition of content-delivery surfaces or functional options. Competitors are free to propose other types of modular system, so long as they meet the goal of optimization and shape-based recognition by users, from one site to another.

Module 2 should have approximately four times the volume of Module 1. These are the needs established by the Ville de Montréal. Given the modularity of the system, however, it is clear that intermediate sizes falling between module 1 and 2 would be possible at certain sites.

In exceptional cases, the system may also be used on sites requiring even larger modules. In these specific cases, designers will be tasked with devising creative assemblies of the available modules. Competitors are not required to design these module assemblies, but the system they submit must be flexible enough to allow for them.

<b>Features</b>	<b>Module 1</b>	<b>Module 2</b>
<b>Configuration</b>	Base element (or system) in its simplest form	Assembly of multiple base elements with additions as needed
<b>Content</b> Distribution of display content - Permanent information (see 4.3.1) - Evolving information (see 4.3.2) - Retailers and services (see 4.3.3) - Interpretive information (see 4.3.4)	25 to 50% of overall content 15% of overall content 25% (if applicable) 35% of overall content	15 to 35% of overall content 5% of overall content 20% (if applicable) 60% of overall content
<b>Dimensions</b> Maximum height Maximum width Maximum occupied volume (module shape may be other than rectangular)	2.5 m 0.9 m 2.5 to 3.5 m <sup>3</sup> (e.g.: 0.75 m x 1.5 m x 2.5 m)	2.5 m 1.8 m 10 to 14 m <sup>3</sup> (e.g.: 1.5 m x 3 m x 2.5 m)

### 4.3 INFORMATIONAL CONTENT

Competitors must consider the following principles for the arrangement of informational content, among others:

- Readable by pedestrians first (the main users for whom the modules are destined); cyclists and motorists second;
- Two levels of visibility for reading at a distance: primary visibility area and secondary visibility area;
- Frequent use of standardized, easily understandable pictograms (provided by the Ville de Montréal), to enable, e.g., rapid identification of categories of information and informational content);
- Contrasting information to ensure faster and universal readability;
- Information positioned at a consistent height to ensure universal readability;
- Consistent distribution of information from one module to another, regardless of scale of installation;
- Graphical content (medium and printed surface) that can be easily replaced in case of damage, wear, or changing information; and
- Content optimally configured to enable reading from more than one direction (more than one face, or other configuration).

Competitors must account for the content positioning and integration principles. For each worksite, writers will be responsible for the content and any graphical adjustments required.

There are four main categories of module informational content:

#### **4.3.1 Permanent information about the site and the nature of the work**

This content must convey factual information about the ongoing work, to include, at a minimum:

- The title of the project (e.g.: “Réhabilitation des conduites d’eau potable – Côte du Beaver Hall, entre la rue De La Gauchetière Ouest et le boulevard René-Lévesque Ouest” [“Restoration of water mains – Beaver Hall Hill between De La Gauchetière St. W. and René-Lévesque Blvd. W.”]);
- The nature of the work (if not stated in sufficient detail in the title of the project);
- An image of the completed project (digital rendering by architects or designers), or a summary explanatory diagram in the case of infrastructure work (diagrams developed by the Ville de Montréal, concurrently with the competition, employing the same graphics design standards as the toolbox);
- The total project budget amount (referred to as “Investissement”);
- The main stages of the work along with the completion timetable;
- The names and logos of the project funding partners (includes the logo of the Ville de Montréal and/or the borough, logos of the various levels of government if applicable, or other);
- Links to further information available online (website, QR code and URL, social media tags);
- The names and logos of the contractors; and
- The names and logos of the architects or designers, where applicable.

Unless there is a change during the work, the printed information in this category will remain displayed throughout the duration of the work. The printing method and the medium may therefore be adapted accordingly (longer-lasting, better integrated).

#### **4.3.2 Evolving information about the worksite and the nature of the work**

Worksites are constantly changing environments, so temporary content must also be displayed on modules. There must be a dedicated area on the module for display of, e.g.: the work schedules, reasons for interruption of work, unforeseen circumstances (as applicable), updates on the progress of the work, information to citizens such as upcoming water supply interruptions, new garbage pickup location, positive messages, etc.

This information must be easy to add and update by the Ville de Montréal or the contractor directly (similar to a billboard). The printing method and the medium must therefore be adapted accordingly.

#### **4.3.3 Semi-permanent information about retailers and services**

While not always present, this content is highly important. It must have a different treatment (graphical or formal) so as to capture user attention. Types of information include:

- Relocation of citizen services, as applicable;
- Indication that retailers remain open and accessible, as applicable; and
- Names and locations of services, retailers, offices or businesses.

This content is not intended to change as the work progresses, but changes (e.g., reprinting) may be required.

#### **4.3.4 Permanent interpretive information about the worksite, the site, or the development/construction project**

This content will emphasize the benefits of the work and present the outcomes of the development or construction project, rather than limiting the communication to nuisance management. This content will not be standardized, and will vary by worksite. Information will be provided relative to the interpretation of the worksite, the location, or the development/construction project. For example, content describing the nature of the work (e.g., restoration of water mains), the types of trade and professions involved in the design and construction, the “hidden face” of the worksite, or the history of the location may be communicated as part of a temporary exhibition.

#### **4.4 VISUAL IDENTITY**

The various modules must be designed in accordance with the graphical language already developed for the “Delimiting” and “Directing” toolbox components, to ensure coherent, consistent reading by users regardless of worksite. Whether they intend to define the modules in harmony with or in contrast to this existing graphical concept, the designers must work with the components of the Ville de Montréal visual identity, including the Frutiger font family (all fonts available except italic), and the city’s corporate identity (the logotype plus the rosette symbol or the rosette alone). The logo and the graphics standards guide are available on the Ville de Montréal [website](#). Alterations to the shape or colour of the rosette, or use of only a part of the rosette, are forbidden.

The official colours used by the Ville de Montréal are generally as follows:

- Black;
- White;
- Pantone Red 032;
- Pantone Grey 425.

Use of colours other than those listed is permitted (e.g., for contrast), but competitors must justify their choices.

Competitors must also take road signage into account so as to avoid proposing solutions or visual patterns that could prove confusing to motorists.

#### **4.5 STREET FURNITURE AND AMENITIES**

The following table outlines the features and functionalities to be incorporated into the various modules.

<b>Feature</b>	<b>Module 1</b>	<b>Module 2</b>
Provide moderate shelter (from rain, wind, sun)	Optional	Yes
Provide rest or seating	No	Yes, but optional (unfolds or installs as needed)
Flat horizontal surface (welcome counter)	No	Yes, but optional (unfolds or installs as needed)
Entertainment (games/play modules, with or without technology)	No	No
Electrical power and lighting	No	No
Other simple features responding to the issues/needs	At the competitor’s option	At the competitor’s option

The level of street lighting is generally sufficient to ensure the modules will be legible without lighting or backlighting. This approach will help reduce light pollution, ensure ease of operation, and manage costs.

For the larger modules that may be developed as needed for certain worksites, other features could be added as necessary. Competitors are not required to address this aspect.

#### **4.6 MATERIALS AND ASSEMBLY**

The materials used to construct the modules must be available in modest quantities and easy to access. They must be durable, given the fact that some worksites are active for more than a year. They must be flame-retardant and impact-resistant. In some cases, the Ville de Montréal may decide to re-use modules from one worksite at another, modifying the display surfaces.

The display surfaces must be designed for easy replacement, and printing standards must be taken into consideration to ensure cost efficiency and compliance with delivery times.

Since the modules will eventually be needed to be installed on all worksites requiring them (e.g., on commercial arteries and residential streets, in parks, on buildings), it must be easy for construction contractors (or subcontractors hired to integrate the modules into the worksites) to manufacture, assemble, disassemble and, if need be, store them. A simple, efficient and inventive design must be the foundation of this project.

#### **4.7 SUSTAINABILITY**

Sustainable development is a core concern of the Ville de Montréal. As such, solutions submitted must promote the use of recycled and/or recyclable materials, and use supplies with minimal environmental impact.

Given that the temporary nature of these installations, competitors must be prepared to reduce the green footprint for module manufacturing, assembly, installation period, and end-of-life disposal. Some of the components (e.g., the structure) may be re-used on another worksite, with only the content-display surfaces changed.

#### **4.8 ACCESSIBILITY**

The Ville de Montréal has adopted a policy on universal accessibility covering all facets of municipal operations, including land occupancy and services to citizens. Accessibility addresses all aspects of people's lives and is rooted in respect of the rights of all Montrealers. Universal accessibility takes an inclusion-based approach to ensure that all people, no matter what their level of ability, can enjoy the independent, simultaneous use of services that are identical or similar to those offered to the general population.

Disabilities are not an inherent trait of any individual, but rather the result of an inadequate environment, which leads to dysfunctional interaction and reduced social participation. Disabilities can therefore be mitigated by eliminating obstacles or, at the very least, creating environments that are as obstacle-free as possible.

The worksite information modules must meet the following criteria in this regard:

- The same information must be available on various media to ensure contents are accessible to all users, regardless of their abilities in terms of sight, hearing, mobility and so on.
- Graphic and visual elements must have sufficient contrast. All information must also be visible and accessible for people of below-average height, people in wheelchairs and children.
- All elements must be white-cane-detectable, and protruding elements should be avoided in the height range of 150 mm to 2,030 mm. At the base of all construction elements, there should be an element on the ground that allows white-cane users to determine the overall width of the module.

The following user mobility guidelines must be adhered to on the approach to as well as within the module (as applicable):

- Whenever possible, routes should be straight, obstacle-free and at least 1,800 mm wide. If this width is impossible to obtain, 1,500 mm is acceptable if there are spaces where a person using a motorized mobility aid has the clearance required to make a 180-degree turn.
- Routes should not have any steps or protrusions of 30 mm or more. Protrusions under 30 mm must be bevelled. The maximum ramp slope is 1 : 12.

## **5. RESTRICTIONS**

### **5.1 MANUFACTURING CONTEXT**

The modules must be designed in compliance with the principles of modularity, repeatability and/or optimization. Competitors must keep in mind, however, that the modules may well be manufactured independently at each worksite, by the construction contractor or another company assigned this task by the Ville de Montréal.

The modules will not be manufactured in large runs (two or three modules per batch), which means the designers must select materials available in modest quantities and easily accessible, and keep in mind manufacturing processes that do not require significant production volumes. To that end, the manufacturing of the modules should not require any equipment (or very limited equipment), since, for each worksite, the equipment must be factored into the cost of the modules. Different companies or contractors may be required to build modules, and the Ville de Montréal is not prepared to provide storage for any production equipment required.

### **5.2 TRANSPORTATION AND STORAGE**

The modules must be optimized for transportation, for reasons of environmental protection and cost reduction. They must be easy to assemble and disassemble onsite. The modules may be stored by Ville de Montréal or contractors (or a third party) between work projects if necessary. It is therefore important that they be designed so as to minimize the storage space required (flat-packable and/or stackable).

The worksite information modules must be designed to be easily and quickly moved around on the worksite depending on the sequence or phases of work. They must be easy for the contractor or operating teams to transport using a forklift or excavator.

### **5.3 ANCHORING**

The module design must take into account uneven ground and diverse surfaces on worksites (type of ground covering, artificial or natural, etc.). Competitors must design a simple system that allows for levelling onsite, if needed, by the personnel tasked with installation and transportation.

The modules must also be properly anchored to prevent theft or being overturned by winds. The competitor must plan for a ballast system (concrete blocks or other). The system must be easy to install and move while the work is in progress.

In addition to the ballast system (which must be available at all times), a complementary ground anchoring system will be developed for greater flexibility across different sites. This system will be developed by the winning team only and is not part of this competition.

## **5.4 SAFETY AND MAINTENANCE**

The worksite information modules must be safe both for users and for staff tasked with transportation, handling, installation, and maintenance. They must abide by safety standards applicable to the public domain and construction sites. It is suggested that the modules be designed in a way that requires little or no surveillance. This requires selecting items that are unlikely to be stolen or vandalized. The modules must also be designed to take into account the risk of incivilities.

Reflective elements must be installed at appropriate locations to increase visibility during cleaning and snow-removal operations, which are often done at night.

The modules must offer ease of maintenance. The display surfaces must require minimal maintenance while being easy to replace if damaged or when changes to the informational content require it.

## **5.5 WEATHER CONDITIONS**

The worksite information modules must be designed in consideration of changing weather conditions. They must be designed to tolerate seasonal temperature variations (-35° to 35° Celsius) and be resistant to strong winds, rain, ice/sleet, and constant or abundant snowfall. Although the majority of construction sites are active between spring and fall, some remain active in winter, and modules may be required in some cases.

## **5.6 LIFE CYCLE**

The worksite information modules must have a minimum lifespan of two years, keeping in mind that the display surfaces may be replaced as needed.

## **5.7 LEGISLATION AND POLICIES**

The worksite information module design must abide by all applicable legislation, as well as all codes, acts, federal and provincial regulations, and municipal bylaws.

# **6. IMPLEMENTATION OBJECTIVES**

## **6.1 PROJECT COST OBJECTIVES**

The budget for completion of prototypes for the pilot project is \$50,000, plus taxes. This includes production and implementation of a configuration of seven to nine modules, of all scales, on three or four worksites in the summer of 2017.

The estimated final maximum production budget, following optimization of the prototypes, is estimated \$3,000 for module 1 and \$6,000 for module 2. These prices include all materials (structures plus display surfaces), construction labour costs, and profits (value of sale to the Ville de Montréal). These amounts exclude graphics refinement and production of the content specific to each module (tasks performed by the Ville de Montréal before manufacturing of each module).

## **6.2 COMPLETION TIMETABLE AND PILOT PROJECT**

The first prototype worksite information modules will be installed on various worksites beginning in May 2017. Completion of the plans and specifications required for prototyping of the different scales of modules is scheduled for March and April 2017.

Companies will be selected to manufacture and install the modules under the supervision of the winner.

A prototype observation exercise will be conducted by another firm, which will provide a summary of information gathered relative to the experiences of users and contractors, traffic at sites, advantages and

disadvantages observed, durability, and so on. The winner will be required to take these comments into account in the process of refining the drawings and make the required adjustments.

The plans and specifications will be finalized by December 2017 so that the modules can be incorporated into a suite of standard tools for worksites (already including the “Delimiting” and “Directing” components).