This section discusses the various possible applications of the street addressing operation with regard to urban management, facilities management, and investment programming.

There is also a paragraph dedicated to continuation and follow-up actions such as equipment maintenance and database updating.
Applications and Maintenance

Objective and anticipated results

The street addressing of a town is an ongoing operation that should be carried out continuously; otherwise the system will rapidly become obsolete, particularly in towns where urbanization is constantly evolving.

The objective is to develop a system that makes it possible to extend street addressing, to update data regularly, and to ensure that the system is maintained.

Responsibility and development

Maintenance is a joint responsibility. The unit responsible for monitoring activities and maintenance may consist of only one person, because other units will be participating in this process.

Methodology

The extension and maintenance of the street addressing operation should be taken into account from the outset, since these factors are an indispensable extension of the operation. In particular, the street addressing should maintain the same pace as the growth of the town. Three elements should be taken into account:

- The street addressing operation should be extended to new urban developments (new street systems and new official sub-divisions).
- Urban rehabilitation and land regularization operations in squatter settlements should be taken into account.
- Addresses and occupations should be updated, including: new entryways or the removal thereof, modifications in the usage of land or premises, etc.
I – A necessity: continuing and expanding the street addressing of DOLOBA

Creating a street addressing operation for a town the size of Doloba takes 2-3 years, during which time the town has continued to expand and to change. New settlements have appeared, new plots of land have been opened up, fresh spontaneous neighborhoods have developed on the outskirts of the town, and other areas have been rehabilitated.

Immediately after the initial street addressing operation is completed, it is necessary to consolidate and continue it. In a town such as Doloba, which has an annual growth rate of five percent, the number of regular (and spontaneous) streets increases rapidly, and the street addressing operation must keep up with the growth. It will be necessary to start with newly developed land and with new buildings, particularly since the method of stenciling numbers requires waiting for the walls to be in their permanent state.

Specific work should also be carried out at the level of certain squatter settlements that are regularized. The quality of street addressing in the secondary settlements will depend in part on how well this continuity is ensured.

Both physical and institutional aspects must be taken into account.

II – Ensure that the physical street addressing, and all that accompanies it, is maintained

We have observed that for some operators, street addressing has become imperative. One such operator, Doloba Electricity and Water Company, takes the initiative of adopting the system, without consulting with the Street Addressing Unit. Additionally, citizens must “have an address” if certain public or private procedures (national identity card, water, electricity and telephone services, bank credit, etc.) are to be accomplished.

Accordingly, a plan of action must be prepared, and this plan will have several objectives:

- Update the town’s new neighborhoods, if possible within a short period of time and in pace with their development (e.g., plots of land, buildings). Then as soon as the required supports are available, the street plaques and entryway numbers can be affixed or stenciled.
- Carry out maintenance on existing addressing – for instance, street signs that may be damaged or that may have disappeared, and numbers for entryways as requested by users.
- On the cartography level, make sure the street addressing maps of the different neighborhoods are updated, and manage their dissemination.
- From the computer point of view, enter new data into the street addressing index (neighborhoods, street numbers, addresses and type of land occupation).
III – Applying the operation to urban management, in the broad sense, with the involvement of the other operators concerned

1. Individual responsibilities
The task of updating the municipal addressing database should be rotated over the years with the support of other operators, such as Doloba Electricity and Water, the Tax Services, and so on. However, the role of the Street Addressing Unit should be defined as a function of the primary responsibility of the Municipality, i.e., to have global management responsibilities, without becoming too cumbersome.

This means that the division of responsibility for addressing should be as follows:

- The municipality (through the Street Addressing Unit) is responsible for the physical addressing and for the first address index (indicating land occupation) which constitutes the initial kernel of information.
- The index is disseminated free of charge to public operators, but sold to concessionaries (profits from sales will finance the Unit’s regular census-taking, equipment maintenance, etc.).
- The public operators adopt the index, linking it to their own database.
- When the Municipality begins a new stage of street addressing (on new zones, or maintaining already addressed zones), the original base index expands, thus constituting what might be referred to as the “Central Street Addressing Database”. The Municipality must then inform the above-mentioned partners of this updating, and it must disseminate the updated index to them upon request. But the Municipality can of course not ensure that other operators’ databases are kept up-to-date.

There might eventually be an exchange of data for the two items, address and occupation. However, this would involve taking precautions that would be difficult, at least at the beginning of any such exchange, and in any case this is still only a remote possibility. In actual fact, each urban service or administrative entity should monitor its client list individually.

2. How the street addressing system is applied

Since street addressing assumes an exhaustive census to inventory all the town’s facilities and streets, it is a good idea to profit from the creation of such a database for facilities management and for investment programming. This helps with the urban diagnostic and identifying and ranking priorities, particularly if specialized software is used to compile such data.

**Equipment/facilities:**
The index allows comparisons to be made between different neighborhoods, particularly as regards their facilities (hydrants, water, energy, telecommunications, education, health, commercial facilities, sports, administration, etc.).
Road systems:
The road system is a major investment for any urban entity, because of the capital invested in it and the annual costs of maintenance. Thus it requires a major investment and rigorous monitoring on the part of municipal authorities and technical leaders. To slow the deterioration of roads, adequate and timely maintenance must be applied to the road network; this will ensure the longest possible lifetime and a level of service that will guarantee user convenience. Successful management of this asset is achieved through a thorough knowledge of its characteristics (type, state, dimensions, etc.). Only with an overall view of the state of the network can the municipal authorities and technicians make the decisions needed to ensure its maintenance and development. In addition, data collection over a number of years will be valuable in revealing the different phenomena that result in degradation (materials, climate, type of traffic, etc.).

Since managers are often faced with budgetary constraints that make it impossible to carry out all the maintenance measures they would like, they must choose their priorities and take emergency action. The computerized database makes it easier to prioritize actions to be taken, and even to take preventative measures in order to avoid degradation and the need for emergency intervention.

Data collection: Streets are divided into homogeneous sections running from one intersection to another. Each of these sections is identified by a number, to facilitate data collection on a computerized form. The typical inventory file corresponds to one section and contains the following information:
- length, width and surface area of the street and constituent elements (sidewalks, gutters and ditches)
- materials
- condition (evaluated visually by the operator using a predefined grid).

With specialized software, the cost of rehabilitating each sector (work required, and the type of materials used) may be estimated.

Local taxation:
Local government income derives principally from local taxes and in particular from commercial and residential taxes.

For the revenue office, street addressing makes it easier to identify what is taxable, particularly in terms of commercial activities. Commercial taxpayers are easily identified during the entryway-numbering exercise.

Tax registers:
The tax registers include a list of entryways and of taxpayers, their addresses, the amount taxable, possibly a reference to the calculation method used, and an indication of whether or not payment has been made. The same type of register can be applied to property taxation, particularly in the case of a simple form of urban taxation. The registers are implemented in accordance with the following schema:
- the town’s fiscal potential is estimated
- priority zones are determined
- the street addressing operation is carried out in priority zones
- the street index is utilized
- the register is created
- taxes are recovered.
Index

Street addressing:
Street addressing is a system that makes it possible to locate a dwelling with the help of a map, of street signs, and of an index.

Public awareness campaign:
The public awareness campaign informs local inhabitants about the street addressing operation, detailing both the advantages and the changes it will bring.

Codifying:
Codifying is the allocation of a name or a number to facilitate identification and location.

Financial underwriter:
The financial underwriter controls and finances the operation and makes decisions.

The designer:
The designer designs the project and prepares its implementation. (S)he submits proposals to the financial underwriter.

Executor:
The executor implements and completes the required work.

Address index:
The address index is a list of all buildings and urban structures recorded during the door-to-door census. It also includes data such as, for example, the type of construction, the number of households in each building, the level of services, the state of equipment, etc.

Street index:
The street index is a table listing streets in alphabetical order or by neighborhood, so that they can be found on a map by means of a system of references using an alpha-numeric grid.
Pilot operation:
The pilot operation covers an area containing only a small number of streets that serves as a testing ground for the sign and codification systems selected.

Signing:
Signing is the installation of street plaques and signposts.

Street addressing map:
The street addressing map shows the names or numbers of the streets, the beginning and the end of each street, facilities, etc. Using this street index and an alphanumeric grid, it should be easy to locate the different streets.

Sign map:
The sign map indicates where street plaques or signposts are to be installed.