

# **Sharing the street in urban areas: the example of the “code de la rue” (street use code) in France**

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# Summary

Street design, when associated with appropriate speed and travel regulations, plays a decisive role in promoting a change in travel behaviour and in making cities more user-friendly . The allocation of space, speed limits for vehicles and user priority rules are also elements that influence the comfort and safety of pedestrian and cyclist circulation and, in turn, the choice of travel mode. Several road-sharing concepts developed in other countries are of great interest; the “code de la rue” (street use code) in France provides an excellent example.

This approach, which was launched in 2006, has led to substantial advances, both in terms of regulations and urban street planning. Cities now have at their disposal a range of concepts that are adapted to different categories of urban roads, characterized by speed management associated with a specific way of sharing the public space. In a context where we seek to promote sustainable mobility and to review how the road is shared, this makes for a very interesting example.

These objectives are at the heart of debates in Québec. The proliferation of initiatives, the wide variety of stakeholders involved and the mechanisms of consultation set in place are very important success factors in overcoming major challenges that transportation and road safety present in urban areas.

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## **1 The current status in Québec**

Active transportation, sustainable mobility, traffic calming, sharing the road and the street: for the past several years, many issues have fuelled debates in the transportation community in Québec. The common goals: reduce space for automobiles; encourage walking, cycling and public transit; improve safety for all road users; enhance public space; and, in a more general sense, improve the quality of life in urban areas.

To reach such lofty goals, several types of interventions are needed: land-use planning; trip management; outreach activities to bring about cultural changes in society; traffic calming; and traffic rules for users.

Many initiatives in this area are already being implemented and involve a wide variety of stakeholders within municipalities, associations, government, health and research, etc. For example, in terms of planning, regional and local municipalities are increasingly taking transportation issues into account when they review land-use plans and planning programs. Furthermore, several cities have adopted or are preparing transportation plans, sustainable mobility plans or urban trip plans. The association Vélo Québec is conducting outreach activities to encourage active transportation.

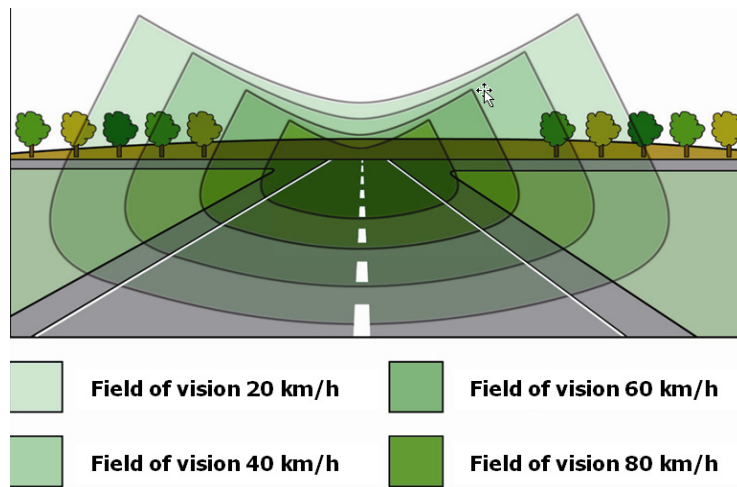
Streets design, when associated with appropriate speed and travel regulations, plays a decisive role in promoting a change in travel behaviour and in making cities more user-friendly. The width of roads, allocation of space, speed limits for vehicles and user priority rules are elements that influence the comfort and safety of pedestrian and cyclist circulation and, in turn, the choice of travel mode. As such, improving road safety and creating a better sense of safety for all users is a key element to a strategy that aims to promote active transportation in cities.

### **1.1 Road safety in urban areas**

In urban areas, roads serve several purposes: vehicle, pedestrian and bicycle traffic, access to residences and businesses, outings, cultural activities, parking, etc. This complexity explains the higher prevalence of accidents in urban areas, especially for vulnerable users. On average, between 2005 and 2009, 76 pedestrians and 16 cyclists died per year, and 3,330 pedestrians and 2,290 cyclists were injured on the road network in Québec. Most of these accidents took place in urban areas (residential, business or commercial environments): that's the case for 86% of accidents involving pedestrians and 87% of accidents involving cyclists.

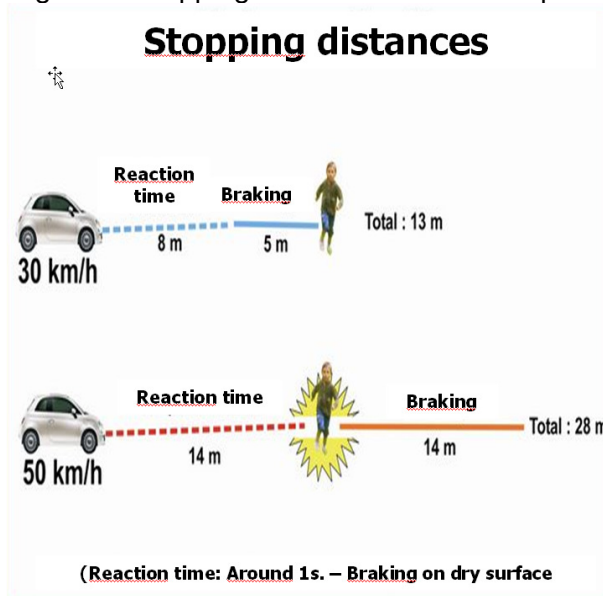
Among the different factors affecting safety conditions for users, vehicle speed is one of the most important: every year in Québec, speed-related crashes accounted for 44% of road fatalities, 37% of serious injuries and 25% of minor injuries (17). Studies have uncovered principles explaining ties between speed and road safety. Higher driving speeds increase the risk of accidents and the severity of injuries. The faster a driver goes, the smaller their peripheral field of vision and the greater the stopping distance. This results in especially serious consequences for pedestrians and cyclists: when the impact speed in a collision is 30 km/h, pedestrians have about a 10% chance of being fatally injured; at 50 km/h, this jumps to over 75% (1).

Figure 1: Peripheral field of vision relative to speed



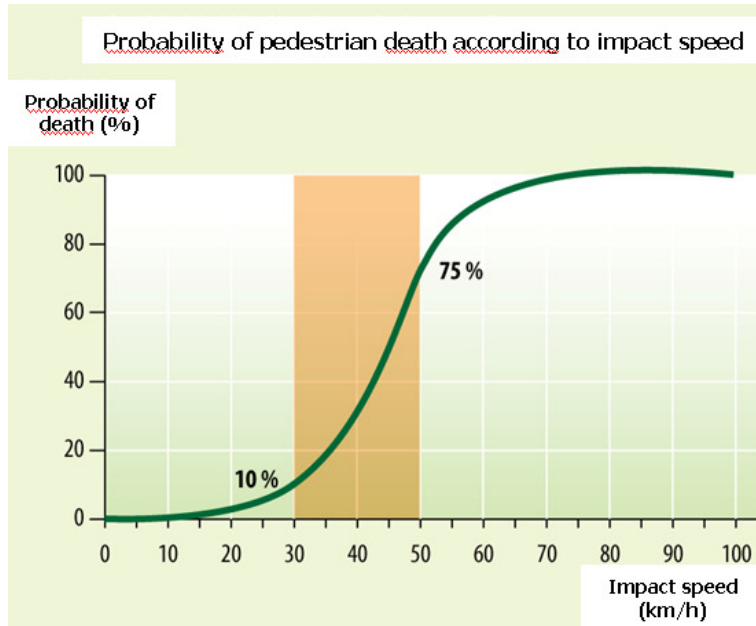
Source: PIARC (20)

Figure 2: Stopping distances relative to speed



Source: CERTU

Figure 3: Probability of pedestrian fatality, according to impact speed



Source: ASHTON (1)

Driver behaviour and their chosen speed are influenced by several road and roadside characteristics, including the number of lanes, pavement width, the presence of street parking, the frequency of access and lateral clearance. These characteristics vary widely from one road type to the next, whether a residential local street, a commercial boulevard with multiple lanes or a primary artery with a mix of functions.

In Québec, the speed limit in built-up areas is set to 50 km/h by the Highway Safety Code. Municipalities may, however, change this limit on the road network they are responsible for, which is the case for most roads in urban areas, in accordance with the procedure in the Highway Safety Code. As such, several municipalities have reduced the speed limit for residential local roads to 40 km/h and for school zones and areas near playgrounds to 30 km/h.

In order for speed limits to be respected, they must be appropriate for respective road and roadside characteristics. In practice, most drivers do not follow speed limits: more than one out of two people drives faster than posted municipal speed limits in urban areas (17). Speed studies conducted in 2010 on a sample of two-lane urban roads, with an average width of 10 m, where the speed limit is equal or inferior to 50 km/h, show that average driving speeds are 44 km/h and, in the 85th percentile, 52 km/h (studies completed under research conducted for the ministère des Transports by Lynda Bellalite, Laboratoire de recherche et d'application en aménagement, Université de Sherbrooke).

These findings demonstrate the importance of the design of urban roads and the speed management to improve road safety in urban areas, thus promoting active transportation. However, they also indicate the challenges that will need to be overcome to reach that end.

## **1.2 Reflections currently in progress**

Reflections on the matter have been ongoing in Québec for several years, especially at the Table québécoise de la sécurité routière [Québec Road Safety Task Force]. It is a discussion forum made up of nearly 50 members representing road users, municipalities, the police, government departments and organizations, and other areas of activity, such as academia and health care. The task force's second report of recommendations, published in 2009, included measures that would take into account all public roadway users, an integrated approach to urban development and transportation, the development of design standards and best practices guides, and the adoption of a global framework for managing speed limits in urban areas (18).

Many achievements have already been made. The most recent planning guides include guidelines on traffic-calming measures disseminated by the ministère des Transports (12, 13) and technical guidelines from Vélo Québec entitled *Planning and design for pedestrians and cyclists* (19). Pilot projects for planning green, active and healthy neighbourhoods, led by the Montréal Urban Ecology Centre, have also led to the creation of reference documents to show the feasibility of planning neighbourhoods that promote active transportation (3).

The reflections are ongoing, and foreign experiences are being watched closely to help fuel them. In this regard, the “code de la rue” (street use code) in France is especially useful.

## **2 The “code de la rue” (street use code) in France**

The term “code de la rue” refers to a participative approach that brings together several actors, representatives from user associations, community associations, the professional world, and the technical departments of local authorities and government. Inspired by the Belgian example, the French program was launched in April 2006, for the purpose of raising awareness of the Code de la route (Highway Code) as applied to urban areas and exploring possible avenues of change for the Code. Work has already materialized in the form of major changes to regulations and, in the field, through various forms of urban road planning and user cohabitation.

The objectives of the code de la rue are aligned with concerns that fuel Québec debates: improving user safety, especially for the most vulnerable users; sustainably supporting alternatives to automobiles; improving sharing public space among all user categories; and thus achieving better urban living.

Several working themes have been addressed since 2006, including the principle of prudence, a new road hierarchy, two-way cycling traffic, right turn on red for cyclists, priority for pedestrians while crossing and the sidewalk.

### **2.1 The principle of prudence and road hierarchy**

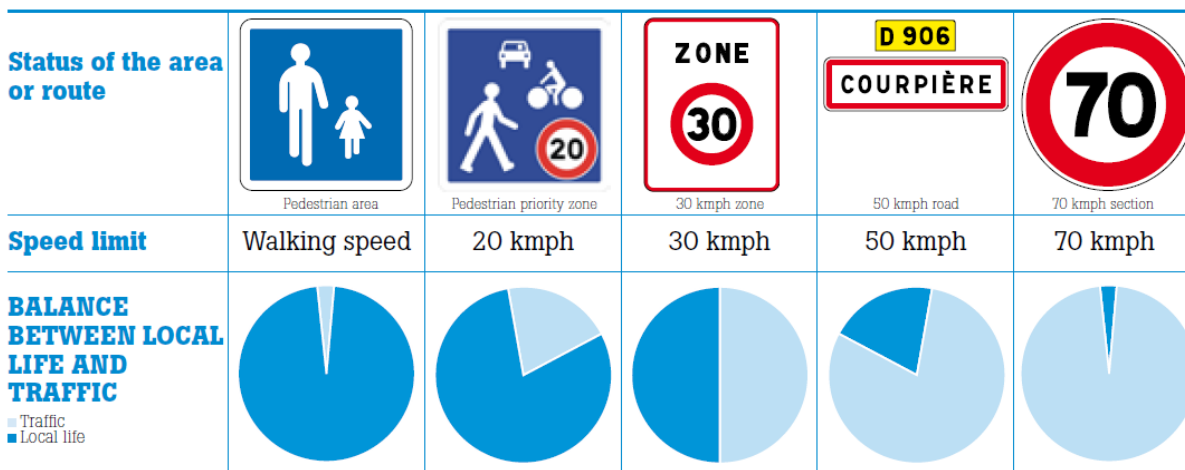
Already part of the Code de la route in Belgium since 2003, a principle of prudence was introduced to the Code de la route in France with a decree dated July 30, 2008: “The drivers must, at all times, behave in a prudent and respectful manner towards other road users. In particular, they must show increased prudence towards the most vulnerable users.” This

principle is based on research on risks to vulnerable users and illustrates the desired cultural change among users. Several other measures adopted within the framework of the Code de la rue are based on this principle.

The decree dated July 30, 2008, also introduced to the Code de la route a pedestrian priority zone and specified rules for the 30 km/h zone and the pedestrian area. In urban areas, municipalities therefore have a whole range of planning concepts at their disposal, which differ by the scheme of users priority, the speed limit, the rules of access for motorized vehicles, as well as specific measures and signage. The different concepts are the pedestrian area, the pedestrian priority zone, the 30 km/h zone, and 50 km/h and 70 km/h sections. Concepts are chosen based on the importance given to the local life along the street and therefore on the road hierarchy of the road network. For road-safety purposes, vulnerable-user protection principles also come into play.

The decree specifies that, in pedestrian priority zones and 30 km/h zones, planning must be consistent with posted speed limits. In addition, two-way cycling traffic is generalized throughout one-way streets for motorized vehicles within pedestrian priority zones and 30 km/h zones. Legislative texts and legislations on road access and public spaces for persons with disabilities also apply.

Figure 4. The different concepts applicable to urban roads in France



Source: CERTU (5)

## 2.2 Pedestrian priority zone

Compared to the pedestrian area and the 30 km/h zone, the pedestrian priority zone is the concept that focuses the most on user cohabitation. The key characteristics provided for under the regulation are giving priority to pedestrians over all vehicles throughout the traffic zone; a speed limit of 20 km/h; planning that is consistent with the speed limit; and mandatory signage at entrances and exists.

The pedestrian priority zone is suited to public spaces promoting urban activities and mixed use: residential roads, historic neighbourhoods, centre squares, school exits, commercial streets, etc. The design of a pedestrian priority zone therefore has a set of objectives, including the improvement of traffic and safety conditions, especially for pedestrians and cyclists, urban revitalization and on the development of a strategic city-centre area.

In general, the size of pedestrian priority zones is limited and corresponds to a square or an especially lively street segment. Their design is of high quality: different pavements, raised intersections, streetscape and street furniture. Considering the prescribed speed limit and the cohabitation objective, they are usually free of sidewalks, crosswalks and bikeways. As far as people with reduced mobility are concerned, pedestrian walkways must remain easy to find and free of obstacles, giving preference to the simplest and most direct routes possible.

The first pedestrian priority zone in France was established in the city of Metz in 2009; about a hundred others have been added since then.

Figure 5. Pedestrian priority zone



Photo: CERTU

### 2.3 30 km/h zone

Introduced in 1990 through the Code de la route, the 30 km/h zone is a tailored response to objectives for automobile traffic calming, road-safety improvement and the conviviality of urban space. The regulation provides that planning must be consistent with the 30 km/h speed limit; signage at entrances and exits is also mandatory.

Experience surrounding the 30 km/h zone is plentiful, as zones with 30 km/h speed limits have existed in many European countries for decades. The first interventions were mainly directed at school zones; they were then expanded to residential streets and streets where local life plays a primary role. Assessments show the benefits in terms of driving speeds (decrease of speeds and elimination of extreme speeds), a decrease in injuries crashes (up to 40% over five years in some cities), an increase in walking or an improvement in quality of life (9).



Considering this positive outcome, in a growing number of cities, the concept is being expanded to all residential neighbourhoods. According to the CERTU, all the local road network of a city is expected to be designed as 30 km/h zones, which, based on the experience of several European cities, corresponds to about 70% of the network.

Space in a 30 km/h zone is generally shared conventionally, with a road and sidewalks. However, crosswalks are not necessarily recommended, as pedestrians can cross anywhere. In addition, designing bicycle lanes or paths is not necessary, in light of the small difference in speed between vehicles and cyclists. Finally, pavement markings and traffic lights should be avoided.

As the July 2008 decree made it a requirement for designs to be consistent with the speed limit, an analysis process is in progress for all pre-existing 30 km/h zones. Municipalities must determine if the design of their 30 km/h zones meets this requirement and, in the event that they don't, make the necessary changes or even review the status of the zones.

Figure 6. 30 km/h zone



Photo: CERTU

In practice, cities often keep to cheaper measures: installing mandatory signage at entrances and exits, giving priority to the right at intersections, reintroducing two-way traffic, using parking to create chicanes and designing gateways (narrower roads, curb extensions). However, if speeds still remain too high,<sup>1</sup> traffic-calming measures will need to be implemented.

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<sup>1</sup> I.e., in most cases, when the 85th percentile of driving speeds exceeds 35 km/h. According to the Swiss Council for Accident Prevention, this is also the threshold under which additional traffic-calming measures are not necessary (3). Note that, in France, the minimum speed for issuing speeding tickets in a 30 km/h zone is 35 km/h, in consideration of reading inaccuracies.

## 2.4 Two-way cycling traffic

The July 2008 decree also generalized two-way cycling traffic on one-way streets for motorized vehicles within pedestrian priority zones and 30 km/h zones. The objectives are to make bike riding in cities easier by reducing distances to travel and reinforcing the bike network, and to help reduce the speeds of motorized vehicles.

Signage for two-way cycling traffic is mandatory. Using the pictograph of a bicycle in markings is also strongly recommended in the opposite direction of vehicle traffic. Moreover, intersections must be designed to avoid catching users of transverse lanes off guard. The 30 km/h zones that predate the decree are being brought into compliance. Municipalities must conduct a safety analysis and determine whether two-way cycling traffic is admissible. Should it not be possible, they will need to ban it on certain roads.

Figure 7. Two-way cycling traffic



Photo: CERTU

## 2.5 Right turn on red for cyclists

The Code de la rue programme resulted in a new change to the Code de la route in November 2010. The November 12, 2010, decree makes it easier for local authorities to arrange “right turns” on red for cyclists.

At certain intersections with specific characteristics, when indicated by a new sign, cyclists are authorized to go through red lights to continue on to the right. This measure will not take effect automatically: municipalities will decide whether or not to apply the right turns on red for cyclists on certain routes, at selected intersections meeting all safety conditions. When there is no signage indicating that a right turn on red is authorized, cyclists will need to stop at the red light. In all cases, cyclists are required to yield to pedestrians who are crossing the street.

## 2.6 Priority given to pedestrians while crossing

The same decree specified rules giving priority to pedestrians while crossing. Under the Code de la route, pedestrians already had priority in pedestrian areas and pedestrian priority zones, as well as when crossing the street. Since November 2010, a new provision also requires all drivers to yield, by stopping if necessary, to pedestrians who clearly intend to cross the street, even if they are not yet on the road.

The Code de la route details the conditions under which this provision applies: if the distance, speed of the vehicle and the shared visibility between pedestrian and driver allow it, if the pedestrian is in a crosswalk where there is no traffic light, or if the pedestrian is more than 50 metres away from a crosswalk (pedestrians are required to use crosswalks when less than 50 m away). This measure is another application of the principle of prudence towards the most vulnerable user.

## 2.7 The sidewalk

Finally, the November 2010 decree provided clarification for the use of sidewalks. As such, drivers who drive onto sidewalks, for example to get to a building, must do so at walking speed and not pose a danger to pedestrians. Further, vehicles may drive onto sidewalks to get to another road: that is the concept of the crossing sidewalk. It is an extension of the sidewalk that is raised as it carries onto the road. Pedestrians continue on their way, while vehicles must cross the sidewalk, therefore at a walking speed and looking out for pedestrians. Technical guides provide details on provisions for the visually impaired; boundaries separating crossing sidewalks and roads must not only be visible but also detectable (with a foot or cane).

Figure 8. Crossing sidewalk



Photo: CERTU

### 3 Conclusion: a very promising example

The Code de la rue programme, launched in France in 2006, has led to substantial advancements, both in terms of regulations and planning of urban roads. Cities now have a whole range of concepts at their disposal tailored to different categories of urban streets, characterized by a specific space-sharing arrangement. In a context where we seek to promote sustainable mobility and to review how the road is shared, this makes for a very interesting example.

These objectives are at the heart of debates in Québec. The proliferation of initiatives, the wide variety of stakeholders involved and mechanisms of consultation set in place are very important success factors in overcoming major challenges that transportation and road safety present in urban areas.

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