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## Places

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Making Choices [Streets: Old Paradigm, New Investment]

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# Making

In the 1950s and 1960s, a standard approach to building communities emerged across the province of Ontario. This conventional model of suburban development was followed from Thunder Bay to Toronto, as it was elsewhere in North America.

The approach was characterized by the predominance of single-family detached dwellings on large lots, the rigorous separation of land uses, the segregation of different housing forms within residential areas and an increasing reliance on automobiles. There was a corresponding standardization of road layouts, which produced a formulaic hierarchy limited to the expressway, the arterial, the collector and the local street (often a cul de sac).

In recent years, however, a convergence of changing conditions — economic, environmental and demographic — has made it clear that Ontario must depart from this formula.





# Choices

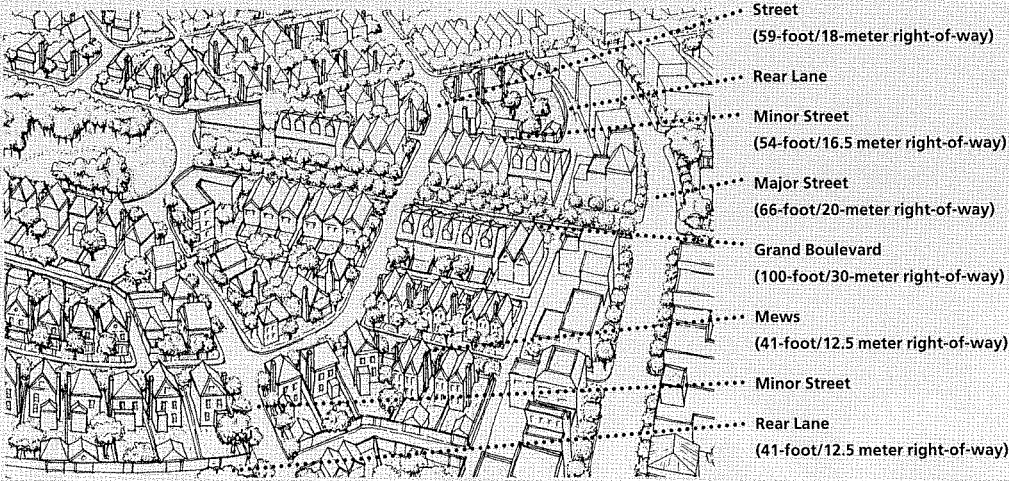
The costs of this type of development are an increasing concern in a time when economic growth is slower and public finances are under stress. Builders complained that these standards forced them to charge tens of thousands of dollars more per house, without improving the houses at all. Home ownership in the form of a detached house on a 50-foot lot is out of the question for most households in most communities.

The environmental impacts of conventional suburban patterns have also become more clear. Low-density development consumes substantial quantities of land and means heavy reliance on the private automobile. More cars on the road leads to a demand for more and wider roads and to lower air quality.

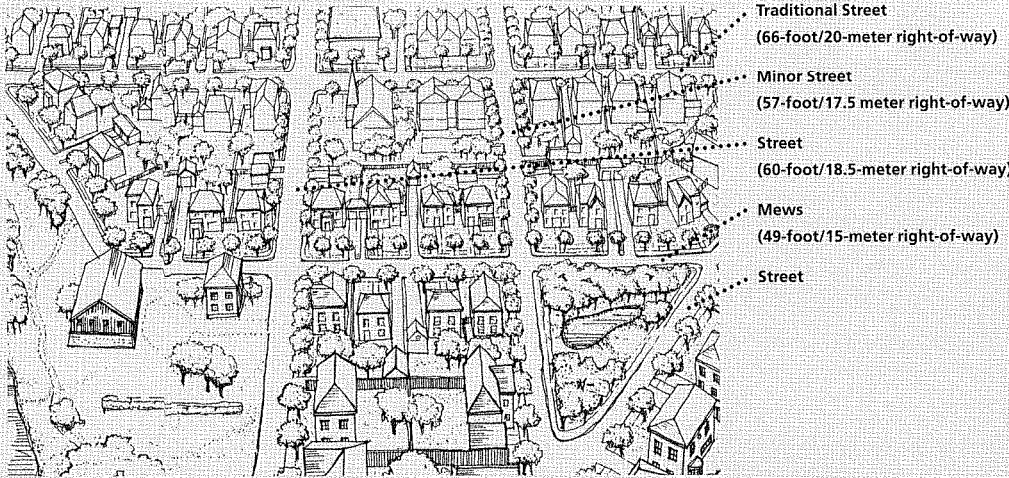
Ontario is undergoing social changes that also have implications for conventional suburban development. The traditional

Conventional suburban development pattern. Photos courtesy Berridge, Lewinberg, Greenberg, Dark, Gabor.

### More Urban Neighborhood



### Less Urban Neighborhood



nuclear family no longer dominates; there are now more empty-nesters and single-parent and single-person households. This, along with the aging of the population, is creating an increased demand for a mix of housing types.

Finally, provincial planners were concluding that the streets we were building were, in fact, uninhabitable. They realized that the streets we loved were illegal: if you were a police officer, you could cite them for dozens of infractions of the current regulations.

There was a sense that this was a collective problem, not the job of individual communities, individual developers or individuals to solve. The province took responsibility, and, four years ago, it commissioned alternative development standards that would permit more livable and more affordable communities.<sup>1</sup>

The result was *Making Choices*, a set of advisory guidelines that has several purposes. It is

intended to be used as a philosophical introduction to an alternative approach to standards; a source of specific ideas; a guide to creating new kinds of streets and neighborhoods; a tool to review municipal policies; and a basis for the design of individual projects.

While *Making Choices* offers a range of concepts for alternative development standards, it is not a comprehensive treatment of the subject. Its focus is on design and servicing issues related to streets in greenfield development sites (the ideas are also applicable to the redevelopment of existing urban areas). Additional and complementary benefits can also be achieved through innovative lot design, standards for parks and schools that require less land, and facilities that integrate stormwater management and community activities.

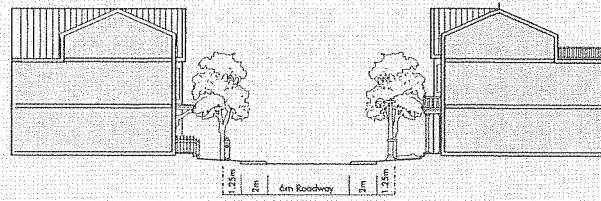
### Many Uses, Many Types

Our team began by conducting a survey of devel-



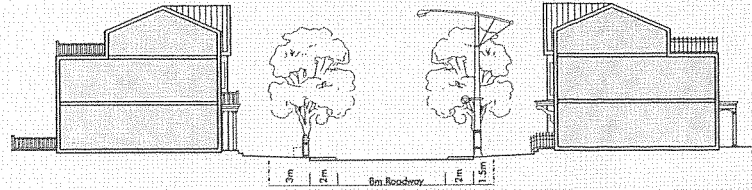
**Mews (41-foot/12.5 meter right-of-way)**

A small-scale street whose primary function is to provide access to the front of individual dwellings rather than to serve through traffic. It would carry minimal traffic.



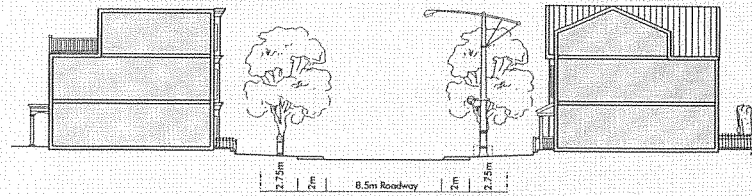
**Minor Street (54-foot/16.5 meter right-of-way).**

A small-scale, generally short, internal, local street serving a local neighborhood.



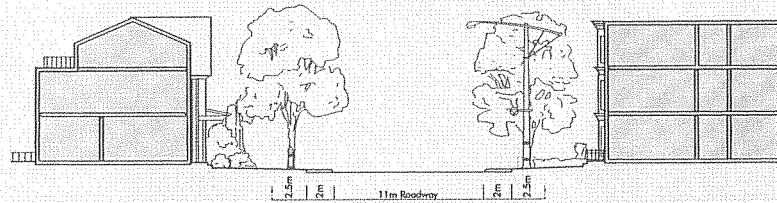
**Street (59-foot/18-meter right-of-way).**

A medium-scale local street linked to the neighborhood network.



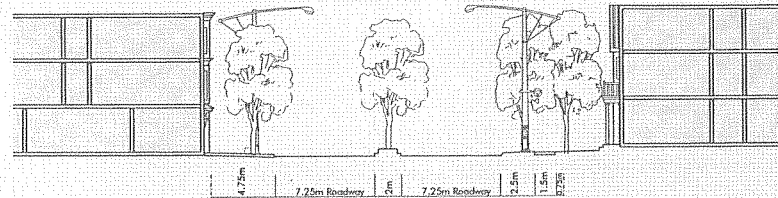
**Traditional Street/Major Street (66-foot/20-meter right-of-way).** A locally oriented street that may play a more important role in traffic distribution than ordinary streets.

May be a perimeter road providing access to streets within the neighborhood.



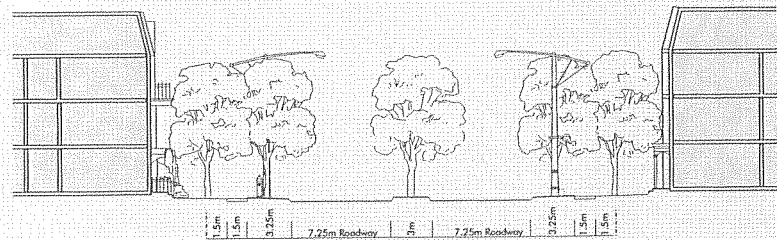
**Main Street (85-foot/26-meter right-of-way).**

A local street with a strong pedestrian orientation, accessible to the surrounding neighborhood, containing a mix of uses (stores, community facilities, apartments, etc.).



**Grand Boulevard (100-foot/30-meter right-of-way).**

A wider-scale street that can accommodate denser development and mixed uses, with generous sidewalks and other features, such as a landscaped median. Serves as the public focus of a neighborhood center.

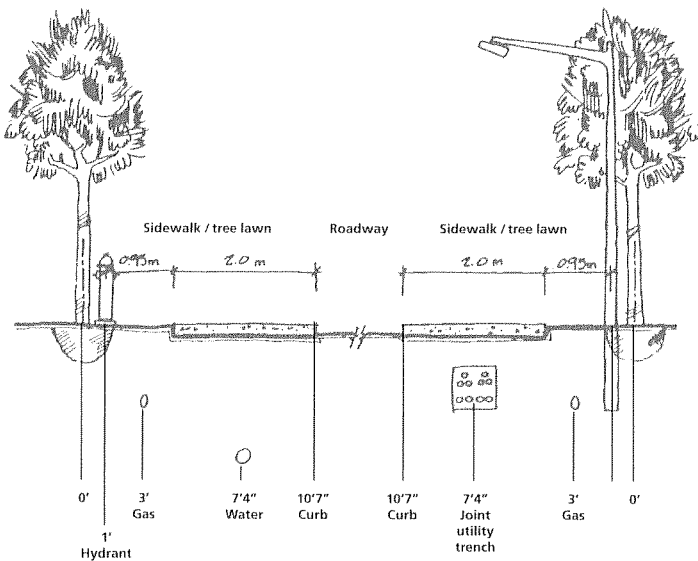
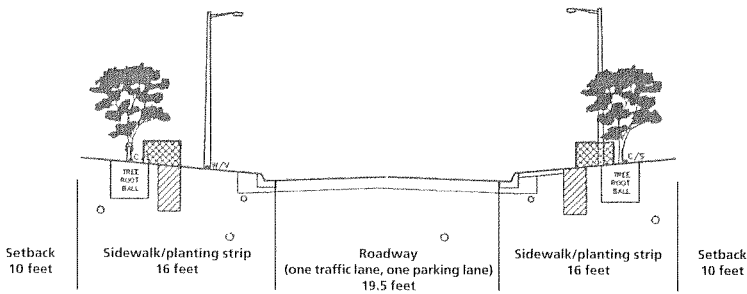
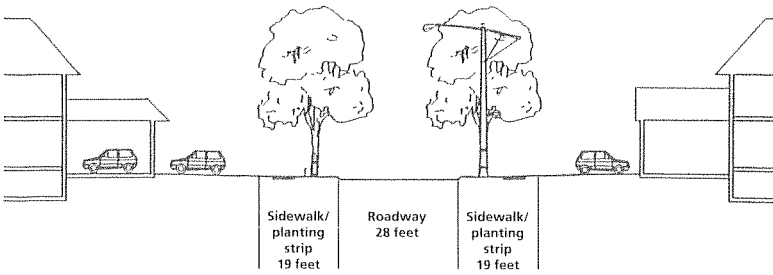


opment standards currently used in Ontario municipalities and by reviewing studies from other provinces and the U.S. We established an advisory committee with a wide range of participants, including municipal officials, planners, engineers, builders, developers, architects, landscape architects, utility companies and environmentalists. The problems were straightforward—standards and practices for utility locations, traffic

engineering and storm water management.

We also realized that our primary source of information would be the towns and communities that predated the imposition of the contemporary standards. We would have to look at their characteristics and how they work technically, and see what could be brought forward again and adapted.

Streets perform many functions. They are public spaces that define collective values and



Top: Conventional right-of-way. Center: A one-way local street built in the town of Orangeville. The cartway has one traffic lane and one parking lane; garages are accessed from a rear lane. Bottom: *Making Choices* demonstrates how utilities can be laid in joint trenches or under sidewalks and planting strips instead of the roadway.

civic sensibility; spaces for social interaction; walking environments and play spaces; a framework through which buildings gain an address, access and identity; public infrastructure for vehicular traffic and cycling; places for parking vehicles; locations for underground servicing including sewer, water, gas, electricity, cable television and telephone; and places for storing snow.

This range of uses suggests that there should be many types of streets in each community. But Ontario's conventional street hierarchy for new

suburban development included only one standard for local streets — a 66-foot right of way with a 28-foot pavement and 38 feet for sidewalks, utilities and other elements. This single standard was regarded as far too limiting for the creation of diverse new community forms.

We concluded that there should be a more subtle differentiation of local street types based on a broader set of urban design and engineering concerns. *Making Choices* presents an expanded hierarchy of street types that addresses a range of issues, including house-to-house relationships, lot frontages and parking treatment, on-street parking, sidewalks, the use of rear lanes, road pavement design, snow clearing, underground services, street tree planting and lot grading.

We developed two alternative hierarchies, one more urban, the other less urban. The difference is a matter of the context in which a street is designed to fit. "More urban" streets are more appropriate for urban or suburban development or redevelopment in major urban centers. "Less urban" streets are better for small towns, at the edge of urban areas or where a particular pastoral character is appropriate.

Instead of drawing in the typical manner, which represents streets only as two-dimensional spaces, we did all of our work in three dimensions, always relating street type to building type. We made recommendations about appropriate proportional relationships and about how the building types worked in plan and cross-section, in relation to the street itself.

We also considered the placement of utilities and street trees, as well as servicing issues such as stormwater drainage and snow removal. By working out all the technical problems for each of these street types, we could publish a document that says the various ministries would accept anything in the lexicon — not limited to the 24 types. The 24 types have many aspects that can be combined so that

you have an almost infinite variety of options. Local municipal engineers, along with the planners, urban designers and builders, can pick the most appropriate designs.

### Parking and Alleys

There are a number of urban design factors that must be considered when adapting these alternative street types to actual conditions — most importantly, the treatment of parking on narrow lot frontages and the re-introduction of rear lanes.

The way parking is handled is important to the quality of the streetscape, the public realm and, ultimately, community livability. This is particularly critical when dealing with parking in front of houses. As lots become narrower, reflecting increased density, parking spaces, garages, carports and asphalt aprons account for a larger proportion of the frontage. For narrow townhouses, the parking area and pavement can take up virtually the entire front yard. When this pattern is repeated, the public realm is dominated by cars, garages and asphalt.

The guideline proposes, as a rule of thumb, that no more than half of the frontage should be taken up by parking. This means that lots with a frontage of 33 feet or more can accommodate a two-car garage or side-by-side parking in front of the house. For lots between 18 and 33 feet wide, a single-car front or back garage is acceptable, but not a two-car garage in front of the house. The guideline illustrates several ways to meet the 50 percent rule on narrow lots, such as a single-car garage and a driveway space in front, a single-car garage with a second space on the street, and rear-lot parking accessed by a private or mutual driveway or from a rear lane.

The re-introduction of the rear lane is a useful adaptation of an old idea. In the prewar period,



lanes were commonly used in both residential and commercial areas in Ontario. Today, there is renewed interest in lanes because of the economic, environmental and social benefits they offer.

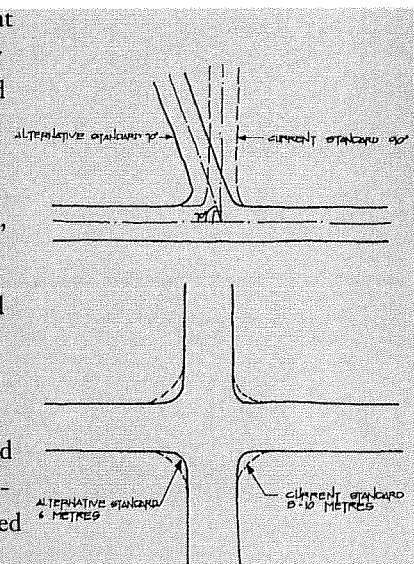
When garages are removed from the front of the house, lot frontages and building setbacks can be reduced. Frontages as narrow as 18 feet become feasible and functional, and create a high-quality, lively streetscape. This translates into significant land savings, and because most subdivision infrastructure is linear in nature, it also reduces the capital cost per housing unit of pavement, streetlights and underground services. The additional costs of providing a second access to houses with rear lanes are offset, at least in part, by the savings from narrower lots.

Rear lanes also allow for an improved streetscape. Placing garages and parking spaces at the rear of the lot frees the front of the house for community-supporting features like gardens and front porches. The internal layout of houses can also be improved with the front of the house devoted entirely to living space. Security on the street is enhanced with more “eyes on the street” from ground-level windows. And where utilities are placed in the lane, the width of the street and the right-of-way can be reduced.

Although there is increasing acceptance and use of rear lanes, our advisory committee raised some concerns about them, particularly in regard to snow removal, security and safety. Like all elements of public space, rear lanes must be designed with those factors in mind. The same design

Above: This traditional neighborhood street could not be built under the rules that govern most contemporary street design.

Below: *Making Choices* includes alternative guidelines for geometric characteristics like intersection angles and turning radii.



measures that apply to streets, sidewalks and parks also apply to rear lanes, including providing adequate lighting, avoiding dead spaces and allowing for views from adjacent residences.

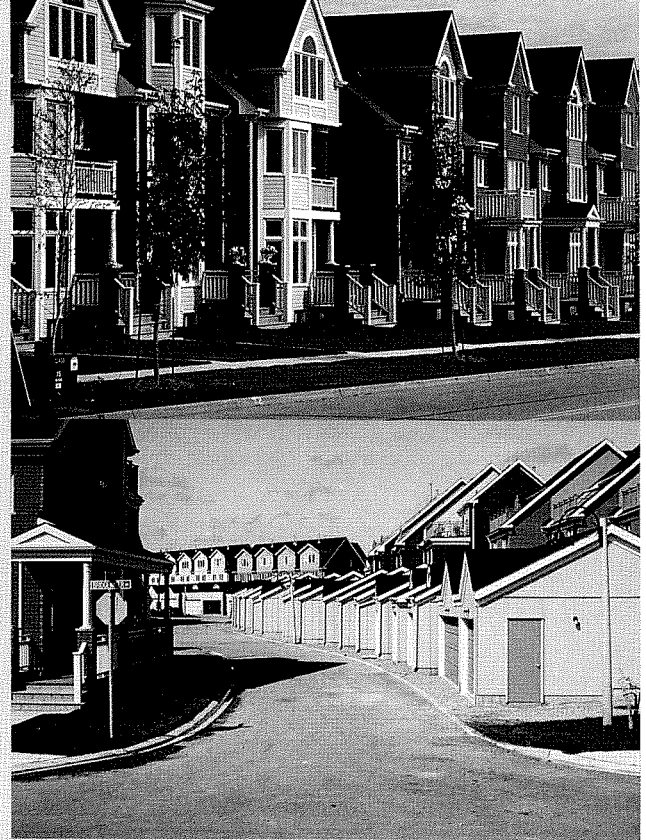
### Re-engineering the Right-of-Way

From an engineering perspective the right-of-way contains a number of essential systems: road pavement for the conveyance and parking of vehicles, curbs, sidewalks and landscaped areas, sanitary sewer systems and storm drains, water distribution and fire hydrants, linear utilities (electric, gas, telephone and cable television), related aboveground utility installations such as electrical transformers and switchgear, and streetlights and street trees.

With respect to all of these systems, *Making Choices* reviews current practices and presents alternative technical configurations within the rights-of-way corresponding to each of the types in the proposed street hierarchy. We were able to tighten the minimum right-of-way from 66 feet to 40 feet by squeezing the distances between the various utilities, or by pushing utilities under the sidewalk or road pavement, or by requiring shared utility trenches.

The central feature of the right-of-way is the road pavement. It must be considered in terms of its use, its width and the general layout of the street and adjacent building edges. By far the most common pavement width used for local roads in Ontario has been 28 feet, which is generally understood to comprise two 10-foot driving lanes and one eight-foot parking lane. This standard emerged because it satisfactorily accommodates moving and parked vehicles over a wide range of traffic volumes and conditions with comfortable margins of safety.

Ontario's transportation ministry endorsed this standard and, until recently, set it as the minimum pavement width necessary for a local road to be eligible for maintenance subsidy. After the ministry released these alternative guidelines, it revised that policy so that a minimum pavement width is no longer required. Instead, "innovative

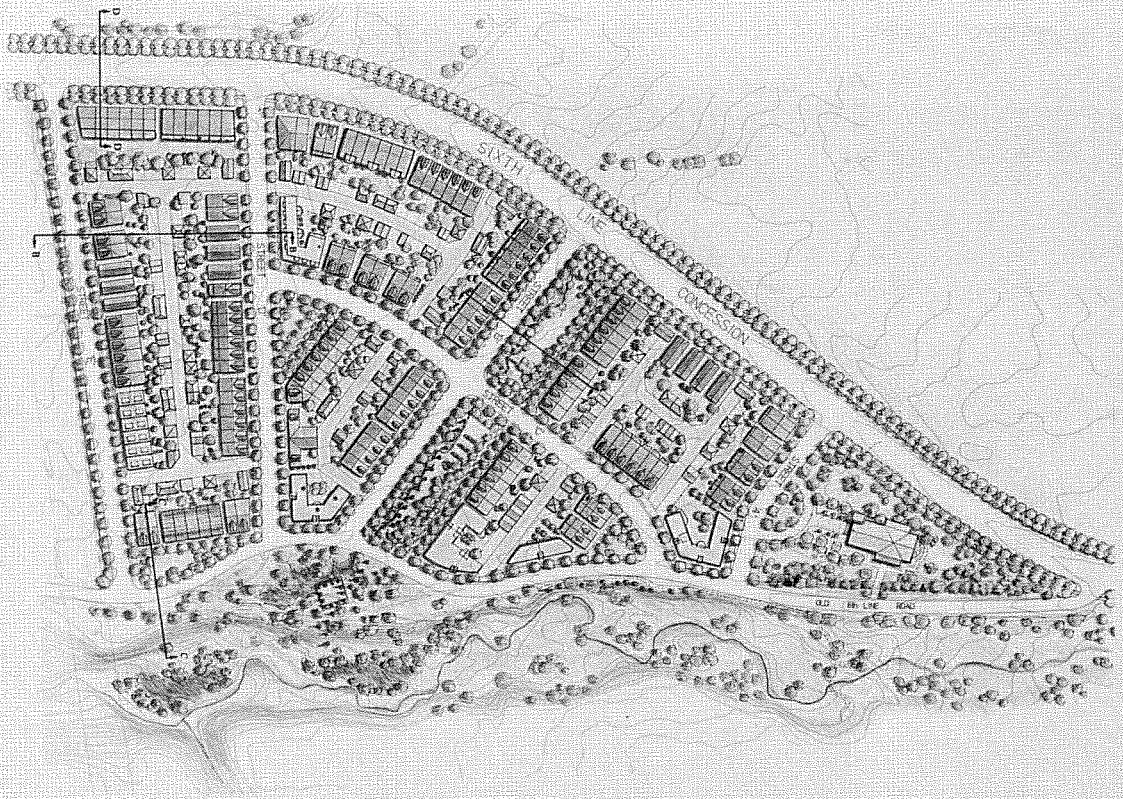


planning designs [that] contribute towards developments which are workable, liveable, environmentally sustainable and cost efficient" will be considered. Municipalities are given greater choice with respect to pavement width, and can make this determination based on place-specific factors, such as the anticipated traffic volume, the provision of on-street parking, whether a street is one way or two way, emergency vehicle access and design philosophy.

For example, from a capacity standpoint, a relatively low-volume local street with occasional parking on one side could consist of two nine-foot driving lanes and one eight-foot parking lane, for a total pavement width of 26 feet. Narrower pavements would likely result in a reduction of the "level of service" for traffic. But after considering the amount of traffic and the extent of parking expected, this may be an acceptable trade-off for other design benefits. Working examples of such streets can be found in many older neighborhoods across the province.

The objective of the standard approach to road design has been to ensure that the pavement is wide and that obstructions such as trees, light poles and sidewalks are set back far from the curbs. The assumption has been that wide building separations and long driver sight lines create





Examples of new projects that incorporate Ontario's alternative development guidelines. Left: Morrison Common. Right: Montgomery Village.

a safe driving environment. Driving speeds have conventionally been controlled by regulation (posted speed limits).

*Making Choices* is based on a different set of assumptions about driving behavior. The basic idea is to slow traffic, particularly on local streets, by design rather than by regulation. Drivers are made more aware of their driving environment through a number of techniques, including narrowing the street (or appearing to narrow it) and bringing buildings and the aboveground elements of the right-of-way closer to the street. This tightening increases “side friction” or concern about what is happening adjacent to the driving lane, causing drivers to slow down and be ready to stop.

The potential of this approach, known as traffic calming, can be observed in the older urban areas, where such design features have existed for many years. A recent publication, *Traffic Engineering for Neotraditional Neighborhood Design*,<sup>2</sup> reported that some professionals believe that safety can be addressed by designing streets on which it is uncomfortable to drive quickly, thereby encouraging drivers to drive more slowly.

### Making a Choice

Alternative development standards are gaining increasing acceptance among developers, commu-

nities and policymakers in Ontario. In 1995, the province adopted a new policy statement under the Planning Act that directs municipalities to use cost-efficient residential development standards to reduce the cost of housing.

Recently, several municipalities in Ontario, including the regional Municipalities of Ottawa-Carleton and York and the City of Guelph, have undertaken reviews of their development standards and have approved several innovative development projects. Examples include the Cornell community in the Town of Markham northeast of Toronto and Montgomery Village in Orangeville, a town northwest of Toronto.

The Canada Mortgage and Housing Corporation has undertaken research on the comparative advantages of compact development based on alternative development standards. The Ontario Home Builders Association is also promoting the concept by adding a category to its annual “sales and marketing” awards program to recognize projects incorporating the principles of alternative development standards.

### Notes

1. *Making Choices* was prepared for Ontario's Ministry of Housing and its Ministry of Municipal Affairs by a team of engineering and urban design consultants — Berridge Lewinberg Greenberg Dark Gabor, Ltd., Marshall Macklin Monaghan Ltd., and REIC Ltd. — with input from a broad range of groups with an interest in development standards for streets. The guideline was published in 1995.
2. Institute of Transportation Engineers, *Traffic Engineering for Neotraditional Neighborhood Design* (Washington, D.C.: Institute of Transportation Engineers).