

Planning the Digital

By Pamela Blais

FROM KAMLOOPS TO KAPUSKASING, the global information society is reshaping cities and towns. A new urban dynamic, related to this development, is now propelling urban growth, introducing "drivers of change" that are fundamentally different from those that previously shaped the Canadian urban system and the internal organization and form of cities.

These are universal trends, arising from globalization and new technologies based on information and communications. There is no escape: all cities and towns – north and south, from major metropolitan areas to small rural communities – are affected in one way or another by them, either because they are at the centre of them, or because they are not.

Though the same set of "drivers" is reshaping cities and city-systems around the world, their impact on any particular community is always unique, simply because every city and town is unique. The specific outcomes in a given urban area depend on that community's position with respect to the global information society – the role that it plays in this society, and its particular local attributes.

It is critical for planners and others involved in the management of urban areas to understand these global trends – to understand, in other words, the nature of change in their own communities. The global information society brings both a new set of issues and a range of

opportunities for the astute urban professional. In an environment of intense competition between urban areas – for skills, investment, etc. – understanding the nature of the global information society, anticipating its potential pitfalls, and capitalizing early on its opportunities, can give a community a strong competitive advantage.

New drivers of urban change

We can isolate seven key trends or "drivers" related to the global information society, each of which is especially relevant to processes of urban change.

Key Driver #1: Economic restructuring

By now, everyone is well aware that globalization and intensified competition are reshaping urban and national economies around the world. Globalization is itself underpinned by information and communications technology (ICT) – the computers, networks and cables that allow the instantaneous and cheap transfer of data, information, messages, instructions, currencies, investments, and knowledge around the world. We have seen

the rise of many

new ICT-related industries and firms that simply did not exist twenty years ago, involving software, multimedia, and Internet access. At the same time, ICT has displaced certain "intermediary" types of economic activity, such as those performed by travel agents and stockbrokers, all of which can now be circumvented by new applications on the Internet.

Key Driver #2: New ways to organize firms

The Internet, Intranets and Extranets permit production activities to be dispersed locally, regionally or globally. This fact is behind the rise of new organizational options that result in transnational corporations, network firms, strategic alliances and out-sourcing.

Key Driver #3: New ways of doing business

ICT has brought about a host of new ways of doing business, including "e-commerce," on-line services, and "just-in-time" delivery.

Key Driver #4: The changing nature of work

ICT is changing the rate of job creation, as well as the kinds of jobs being created (and lost). This is due to economic restructuring (Key Driver #1) and to automation, in which certain types of job are directly displaced by ICT. On the other hand, an entirely new range of jobs has been created, based largely on the provision of services, and on flexible forms such as part-time, contract and self-employed work.

Key Driver #5: The changing occupational structure

The information society appears to be changing the shape of the

occupational structure. The portly post-war occupational profile, with a robust group of middle-income positions, is being transformed into a shape more like an hour-glass, with fewer middle-income jobs and a greater number of jobs at the high and low ends of the skill and income ladder.

Key Driver #6: New work-space options

ICT has generated a range of new, highly mobile ways in which work can be physically accommodated, including tele-working, tele-commuting, and hotelling.

Key Driver #7: Uneven diffusion of ICT

The new technologies are not universally available in the way that the plain old telephone system was. As a market-driven process, the deployment of ICT favours major urban areas and the corridors that link them, as well as affluent socio-economic groups that can afford the technology and services.

Some urban outcomes

The key drivers outlined above are bringing about a dramatic transformation of the ways in which urban areas grow and change, and the way in which the city system is evolving. Some of the results can be outlined as follows:

Metropolitan dominance

The global information society seems to be associated with a shift of employment and investment toward the largest urban centres.

Smaller towns are being offered some opportunities, but will have to find their specific niche in this new landscape.

Dematerialization

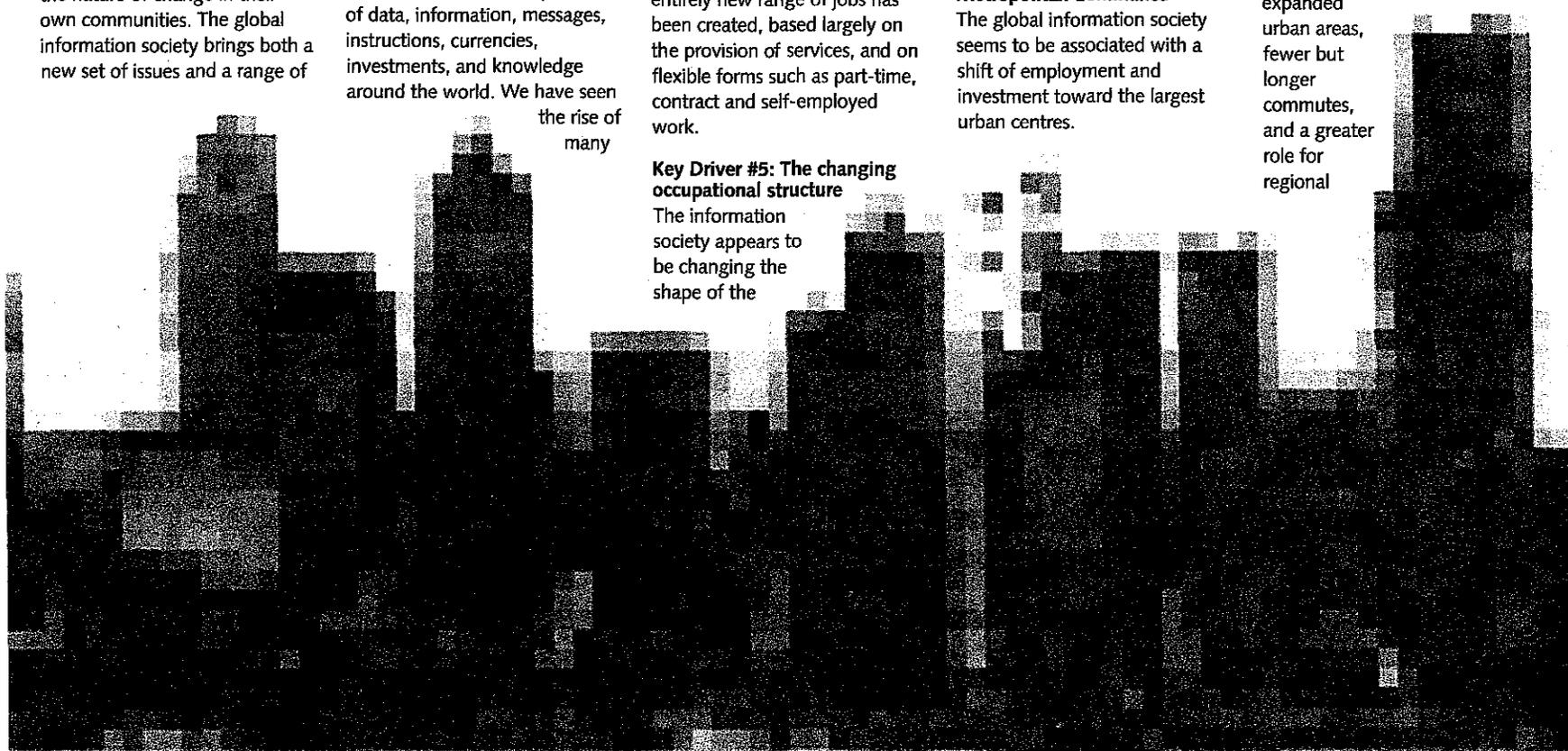
A number of key drivers combine to bring about the "dematerialization" of urban areas – that is, a significant shift in the relationship between economic output and the demand for non-residential floor space. As a direct result of automation, on-line shopping, tele-working, and a number of other factors, the levels of output required to create demand for new office space are now much higher than they have ever been in the past.

New urban geography of jobs

Nations, city-regions and urban districts are becoming more specialized in the kinds of economic activities they perform and the kinds of employment they offer. From a broad perspective, we see a decentralization of routine activities such as data-processing, and at the same time an increasing concentration of non-routine, innovation-based activities (e.g., multimedia industries, high-order customized services, etc.).

New "live-work" relationships

On one hand, tele-work allows greater separation between the conventional workplace and the home, a separation that results in expanded urban areas, fewer but longer commutes, and a greater role for regional



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planning. On the other hand, tele-work brings work into the neighbourhood, and thus creates a need for supportive residential environments (such as a flexible built form and regulation), a high-quality public realm, and tele-connectivity (i.e., high-speed connections to the global ICT network).

Suburbia

Suburban environments may face special challenges. Some of the standardized activities now established there, such as those related to "big box" stores and routine data-processing, may be vulnerable to further technological innovation, relocation or automation. Furthermore, a significant decrease in the demand for the conventional suburban lifestyle may soon take place, not only as the tele-work phenomenon offers workers more opportunities to live even farther afield, but also as the middle-income sector, once the backbone of demand for suburban housing, gradually disappears from an increasingly polarized occupational structure.

Sprawl and centralization

Contrary to popular opinion, which forecasts only more sprawl, the framework above suggests that the global information society is resulting in both increased sprawl and centralization – sprawl related to tele-work and the decentralization of routine functions, and centralization produced by economic restructuring that involves more knowledge- and innovation-intensive industries, such as multimedia or high-order services. The result may be urban areas that retain a dense core, but that are comprised largely of low-density areas and smaller centres of growth on the peripheries.

How should planners respond?

It is clear that the global information society is reshaping many important aspects of cities (from transportation patterns to socio-economic patterns and long range planning), as well as favouring the well-being of certain kinds of cities over others, and of certain kinds of urban districts over others (e.g., downtown areas vs. suburban business parks, old vs. new

neighbourhoods). How should planners respond?

Be aware of the new drivers of urban change and their potential implications

The key drivers and outcomes outlined above can provide a useful framework for analyzing change in a given community. There is little that planners – or anyone else for that matter – can do to alter the drivers of change; they are powerful global forces. But we can ensure that our communities are ready to deal with the changes in the most positive way possible, so as to take advantage of new opportunities and mitigate potentially negative impacts.

Understand your community's overall position in the global information society

As mentioned earlier, the impacts of the global information society upon any given community will be unique, by virtue of the specific attributes and characteristics of that community and its position in relation to this emerging reality. In general, small communities not linked to larger urban areas will face issues quite different from those confronting larger cities and the communities in their hinterlands. For example, the range of activities that the global information society is likely to offer to smaller, more remote areas is relatively limited. Securing an adequate level of ICT infrastructure may itself be a challenge for such places.

There are some crucial aspects to examine. First of all, one must determine which activities drive the economy of the community, and how they are positioned with respect to the drivers outlined above. What is important here is not so much the kinds of industry that make up the local economy, but the specific kinds of activity, and especially whether they are by nature routine or intermediary (and therefore subject to automation, relocation or disintermediation). For example, the fact that the clothing industry is important to a local economy does not tell us much about prospects vis-à-vis the global information society. Instead, it is important to know whether the industry's activities are focused on routine, low-value garment production or on information-intensive design. The former may be vulnerable, while the latter

may not.

There are also certain assets that are essential to attracting new activities and investment in the global information society. These include the quality of the local skill-base, the quality of life that the community has to offer, and, of course, tele-connectivity.

Capitalize on the opportunities and mitigate the pitfalls

The discussion above outlined a number of potential concerns for local communities, concerns that planners must not only recognize but also monitor and address through effective strategies. For example, the changing occupational structure is a central issue for the larger cities, where typically there are high concentrations of industries that have polarized occupational structures (e.g., business and financial services). This situation can be mitigated at the local level by ensuring that communities continue to be socially and economically mixed, and that housing opportunities for the lowest income groups are provided.

At the same time, the global information society offers a number of important opportunities that the astute planner can embrace to bring about positive urban change. The high degree of mobility of certain types of work can create new investment and employment in communities that have suffered from deindustrialization or missed out on recent job growth. This is particularly true for those communities that have the assets mentioned above: appropriate skills, good quality of life, and tele-connectivity. The challenge is to find a niche for your community within the logic of the global information society, by building on your community's existing strengths. The global information society also offers opportunities to reinvigorate neighbourhoods by accommodating work at home, or to reduce travel demand by promoting alternative work arrangements. The only limits here are the individual community's creativity and resolve.

How will the global information society affect different places within my community?

The framework outlined above suggests that there will be different impacts on different places within communities – downtown areas, suburban employment areas, older neighbourhoods, newer neighbourhoods, retail shopping malls, etc. The implications are too numerous to outline here, but each of the different types of district that make up a community also need to be examined in terms of how the global information society is likely to affect it. Older neighbourhoods, for example, may be more flexible and able to accommodate tele-work, but may be slow to acquire the necessary infrastructure upgrades that support tele-connectivity.

What new planning tools are needed to deal with this change?

Finally, we need planning tools to analyze and manage changes associated with the global information society. Appropriate and relevant data must be available, so that the key drivers can be tracked and monitored at the community level. And we need to re-examine our conventional, regulatory planning tools in light of the new challenges and opportunities. Regional planning, for example, becomes even more important as urban regions expand. In areas that are already urbanized, streamlined planning frameworks will be needed to counter the decentralization associated with the global information society.

Moreover, we need to build flexible urban places that respond to new ways of working and living. Among other things, this means creating flexible planning frameworks which allow employment-based and residential uses to be more closely integrated at the local level. This geographical redistribution of work in turn requires us to reconsider how plans currently distribute employment opportunities throughout an urban area, and to reassess the role of conventional workplaces such as business or industrial parks, specifically regarding how much land they are assigned and how they are regulated.

Related reading

Graham, Stephen, and Simon Marvin. *Telecommunications and the City: Electronic Spaces, Urban Places*. London: Routledge, 1996.
 US Office of Technology Assessment. *The Technological Reshaping of Metropolitan America*. September, 1995.

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Summary

This article summarizes a keynote address that was delivered to the 1999 CIP Conference. It looks at how the global information society is reshaping urban systems, cities, towns and communities, and what planners could be doing to anticipate and respond to these radical transformations in work, living, business and urban environments. Seven "key drivers" of change are presented, thus providing a framework to help planners analyze change in their own communities. Some urban outcomes associated with these trends are described. Finally, suggestions are put forward regarding the ways in which planners should respond to the changes, in order to take advantage of the many opportunities presented by the global information society, and to mitigate potential problems.

Résumé

Cet article résume un discours-programme prononcé au Congrès de l'ICU en juin 1999. Il jette un regard sur la manière dont la société d'information globale modifie les systèmes urbains, les métropoles, les villes et les communautés et propose une réflexion sur ce que pourraient faire les urbanistes pour prévoir et répondre à des changements radicaux dans le milieu du travail et des affaires, dans les modes de vie et l'environnement urbain. Les sept principaux «facteurs de changement dans la société d'information globale» qui y sont décrits servent de base de travail permettant aux urbanistes d'analyser l'évolution de leur propre communauté. L'auteur énumère ensuite les effets les plus marquants de ces tendances sur le milieu urbain. Enfin, il avance quelques suggestions sur les stratégies que devraient adopter les urbanistes face à ces changements afin de mettre à profit les nombreuses possibilités offertes par la société d'information globale et d'amoindrir les pièges éventuels.