

Transportation Megaprojects, Globalization, and Place-Making in Hong Kong and South China

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This paper draws on an argument presented at the 2005 TRB Annual Meeting by one of its authors claiming that traditional methods of evaluating transportation megaprojects (TMPs) are outdated in the new globalized world. Although planners understand the importance of conventional techniques of forecasting, appraisal, cost funding, and so forth to ensure that a project attains desired levels of operational efficiency, they are less familiar with the impact such projects have on places and communities in the name of enhancing competitiveness. In the context of Hong Kong and South China, this paper examines whether TMP experts are in the process of duplicating past errors of urban transport planners, but on a massively larger scale, by introducing new TMPs in a manner that restructures whole regions to meet the “operations efficiency” of networks above all else and, in so doing, benefits global (corporate) interests more than local, even though their patrons often have local and national governments meeting the lion’s share of financial, social, and environmental costs (as well as risks).

Much recent research concerning the planning and implementation of transportation megaprojects (TMPs) (defined for the purposes of this paper as land-based transport infrastructure projects with a planned construction cost of at least U.S.\$0.5 billion at present-day levels) is concentrated on whether they are delivered on time and within budget (1). Although not questioning the validity of those concerns, this paper argues that the outcome of such projects should be considered on a far broader front, given the significant role TMPs play in accelerating urbanization and globalization. It seeks to substantiate that premise by drawing on the theoretical framework presented by one of the authors at the 84th TRB Annual Meeting in January 2005, which laid out the parameters of this argument, since published in the *Urban Studies Journal* under the title “Globalization, Mega Transport Projects and the Making of Mega Places” (2) and apply it to Hong Kong and South China (defined here as the Pearl River Delta), places that have in the past two decades experienced relentless urbanization and globalization (3).

The study of Hong Kong and South China is especially interesting from a number of perspectives. First, in Hong Kong’s instance, the pressures of urbanization and globalization accompanied the territory’s transformation from a colony of the United Kingdom to a special economic region of China, presenting its politicians and planners

with formidable challenges in a climate of high political uncertainty. Second, in the case of South China, those same forces manifested themselves on a scale and at a speed rarely seen before, and in a context in which the People’s Republic of China embarked on a massive high-risk experiment in “homegrown” capitalism (4). In both instances, TMPs have played a major role in the restructuring and redevelopment of their territories at a breathtaking pace. Third, confronted with those challenges, the government of the time in Hong Kong shrewdly employed TMPs as one of its major vehicles for reducing the uncertainty surrounding its transition period, successfully injecting greater economic confidence and stability. Finally, “piggybacking” this success, in South China strong market forces and a strong “guiding government hand” introduced new economic opportunities and infrastructure development never seen before. Interestingly, during their frantic periods of growth both territories operated as two semiautonomous city region states akin to the kind of governmental units foreseen by Castells as most suited to 21st century globalization (5).

Broader international experiences show successes and failures with TMP delivery and impact associated with a growing need for politicians and planners alike to better understand what it takes for such projects to be judged “successful.” Although Hong Kong’s projects are internationally renowned for being completed on schedule and within budget, few systematic institutional attempts have been made worldwide to find out why that may be so in one place or instance as opposed to another, and by what formulation of internationally accepted criteria the “success” or “failure” of TMPs is judged. For although much has been written about methods and techniques of project forecasting, appraisal, cost-funding, and so forth to help ensure that projects attain levels of operational efficiency aspired to, the growing acceptance of sustainable development visions as the basis for future development suggests that these orthodox methods are inadequate to judge whether or not a TMP has generated sufficient benefits overall. That state of affairs exists despite the welcome growing international use of strategic environmental assessment exercises for transport projects and the newly emerging uses of sustainability appraisal exercises (6). For such approaches do little to address the very complex issues of resolving policy clashes between local and global visions of development; the desirability or otherwise of the territorial restructuring that often accompanies TMP developments; deciding who ultimately pays for such projects; and resolving critical governance questions of who decides what, where, and when. The issue of financial responsibility for such projects becomes especially important when risks are supposedly transferred from the public to the private sector by initiatives, such as build operate and transfer methods, private finance initiatives, and public private partnership schemes, that do not always materialize.

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The case made by Dimitriou in his TRB presentation is that TMPs must also be judged by their ability to adapt to global and local changes, both in the short and long run. Drawing from the work on globalization by Castells (5, 7, 8), Held et al. (9), Held and McGrew (10), Mitchell (11), and others, he argues that the performance of TMPs has to be seen especially in regard to their role in the globalization process and as expressions of “technological determinism” in an effort to effect a particular kind of change. In that regard, the paper also draws extensively from Stephen Graham and Simon Marvin’s work (12) on “networked infrastructures, technological mobilities and the urban condition” and Dicken’s work on the technological stages of globalization (13). It furthermore draws from Beck’s thesis (14) that the world is an increasingly uncertain place and as a result poses many new risks (and opportunities) not seen before requiring, accord-

ing to Dimitriou, uncertainty and risk to be placed in the milieu of future transport infrastructure policy making and planning (2).

HONG KONG AND THE PEARL RIVER DELTA

Why the Pearl River Delta?

The Pearl River Delta encompasses parts of Guangdong Province, Hong Kong, and Macau (see Figure 1). This region’s urban development is polycentric and contains three major economic locations: Guangzhou, Shenzhen, and Hong Kong. These cities are connected by residential and industrial sprawl along major infrastructure axes, molded, adapted, and restructured by TMPs. The region’s population

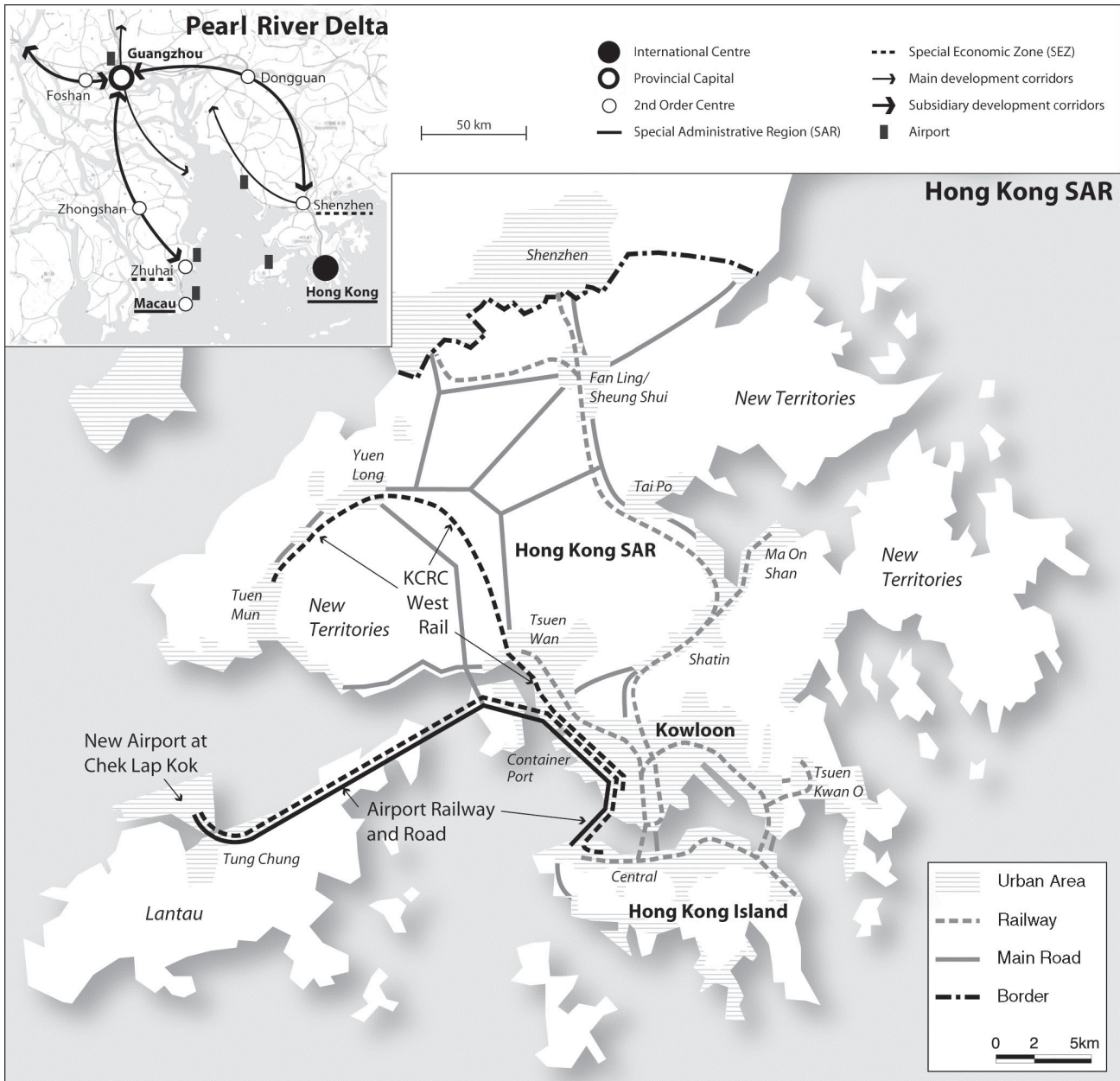


FIGURE 1 Hong Kong and the Pearl River Delta.

is approximately 45 million, of which a high proportion are migrant workers from other parts of China. This vast country is experiencing the largest migration in human history, with an estimated floating population of 145 million, many of whom are trying to move to the Pearl River Delta in search of work (15). The Pearl River Delta has experienced unprecedented population and economic growth during the past two decades. Shenzhen, for example, planned in the early 1980s, has now well surpassed its design population of 2 million. The region contains two of China's special economic zones, Shenzhen and Zhuhai, set up by the communist regime to experiment with capitalism as a pilot for other parts of China.

Why Hong Kong?

Hong Kong was selected to illustrate the critical role that TMPs play in our increasingly urbanized and globalized world because the territory can be regarded as an early test-bed of the way global market forces might shape tomorrow's competitive urban world, particularly in Asia. The city was built entirely on trade. Its only assets were (and remain) its location and the ingenuity of its inhabitants. The city went through three fundamental changes during the past 50 years and has had to reinvent itself several times, an experience confronted by other cities of the postindustrialized world. Hong Kong was isolated from China between 1949 and 1980, and changed itself into a manufacturing location, taking advantage of its abundant cheap labor resulting from the influx of refugees from mainland China. Planning and infrastructure projects during that period focused on port developments and the provision of adequate land for housing and industry. China then opened up its economy in the early 1980s when Hong Kong profited from becoming China's main foreign trade hub, with the result that Hong Kong's manufacturing industry started to expand into the Pearl River Delta at a phenomenal rate, where wages were and are lower, necessitating further expansion of Hong Kong's port and, importantly, the construction of new road and rail connections to China.

Negotiations between the United Kingdom and China resulted in the Sino-British Joint Declaration of 1985, in which Britain agreed to hand Hong Kong back to China in 1997. Although the Tian An Men incident (1989) was a shock for the government and inhabitants of Hong Kong, in that it resulted in an unwelcome loss of confidence in regard to the impending handover, the fast-tracking of the construction of the new airport at Chek Lap Kok and its associated program of infrastructure did much to boost the confidence of the territory and help overcome the many uncertainties associated with the change of sovereignty. Although trade was not too greatly affected, many companies decided to play safe and relocated their headquarters to other cities in the region. The economy, however, later started to pick up again with the focus of this growth more internal than external, relying on the property sector as the main growth engine (see Figure 2), and with banking, finance, and insurance growing in line with trade during the last two decades of the 20th century (see Figure 3).

As Hong Kong's manufacturing, however, further declined, with more and more companies moving to China, lands formerly occupied by industry, wharfs or storage facilities, were redeveloped into mass residential developments. Populations, sometimes of up to 50,000 persons, in such new developments required a completely new and different transport infrastructure than that which served the original industrial land uses. Increased communications between Hong Kong and the Pearl River Delta for both goods and people also necessitated better connections between the city and its hinterland, but the historic

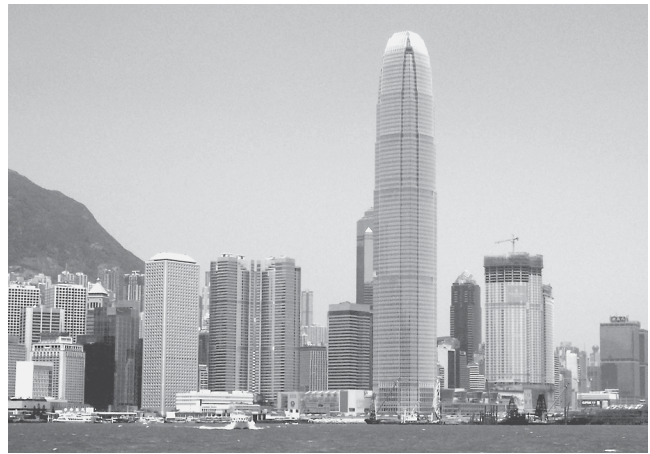


FIGURE 2 Hong Kong central business district: booming property market.

separation between the territory and mainland China had yet to be overcome. That led private firms (with Chinese government blessing) to initiate and fund new TMPs that sought to cement these new links, the latest example of which is a 29-km bridge and tunnel between Hong Kong, Zhuhai, and Macau, proposed by Hopwell Holdings Ltd. The same company operates one of the earliest of such private sector-led TMPs in the region, namely, a 180-km highway network in the Pearl River Delta, and is actively pursuing further expansions to its infrastructure investment portfolio.

In citing the Hong Kong and South China experiences here, the authors are well aware of the uniqueness of Hong Kong and the other newly emerging industrialized cities of southern China that must be kept in mind when transferring lessons to other locations. All land in Hong Kong, for example, belongs to government and is leased to developers for a certain period of time. When "buying" land in the territory, investors merely buy development rights. On the basis of this, government can generate income because even redevelopment is subject to a "development premium" if the new land use of a particular site is forecast to generate higher revenues for developers. That enables government to directly profit from infrastructure developments that trigger (re)development. Land in Hong Kong, furthermore, is scarce because of limitations owing to Hong Kong's hilly terrain.

Hong Kong TMP Case Studies

For the purposes of this paper, the focus is on two Hong Kong TMPs recently completed, namely, the Kowloon-Canton Railway Corporation (KCRC) West Rail Link and the new airport at Chek Lap Kok and its associated infrastructure (see Figure 1).

West Rail was planned and constructed to fill a large gap in Hong Kong's railway network: the connection between Kowloon and the western New Territories Yuen Long and Tuen Mun. These two new satellite towns built decades earlier have expanded ever since, housing now a combined population of about 1 million. Because they were originally planned as self-contained settlements, only a minority of the resident populations managed to find employment within their own settlement boundaries, with the result that in reality the towns function as dormitory towns. Commuting increased further with the decline of industries in the New Territories, and the subsequent focus on tertiary sector employment centered on Hong Kong's central

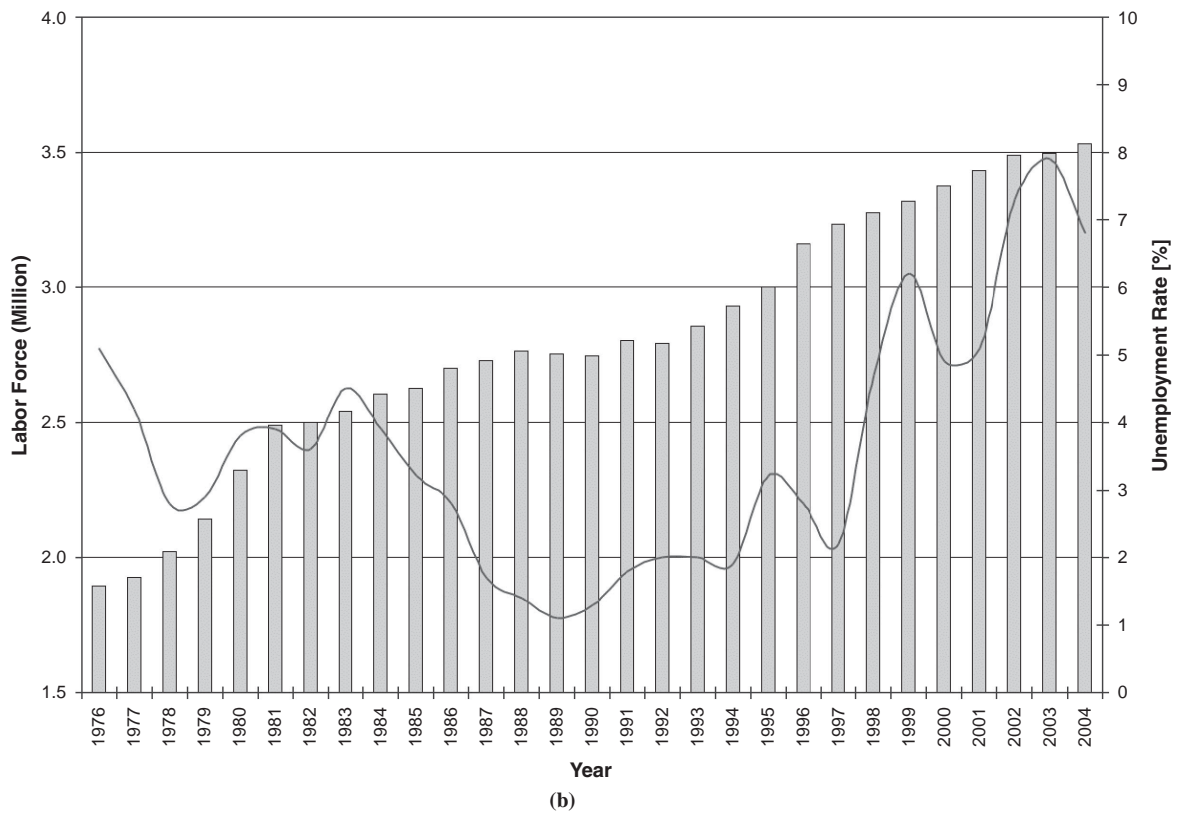
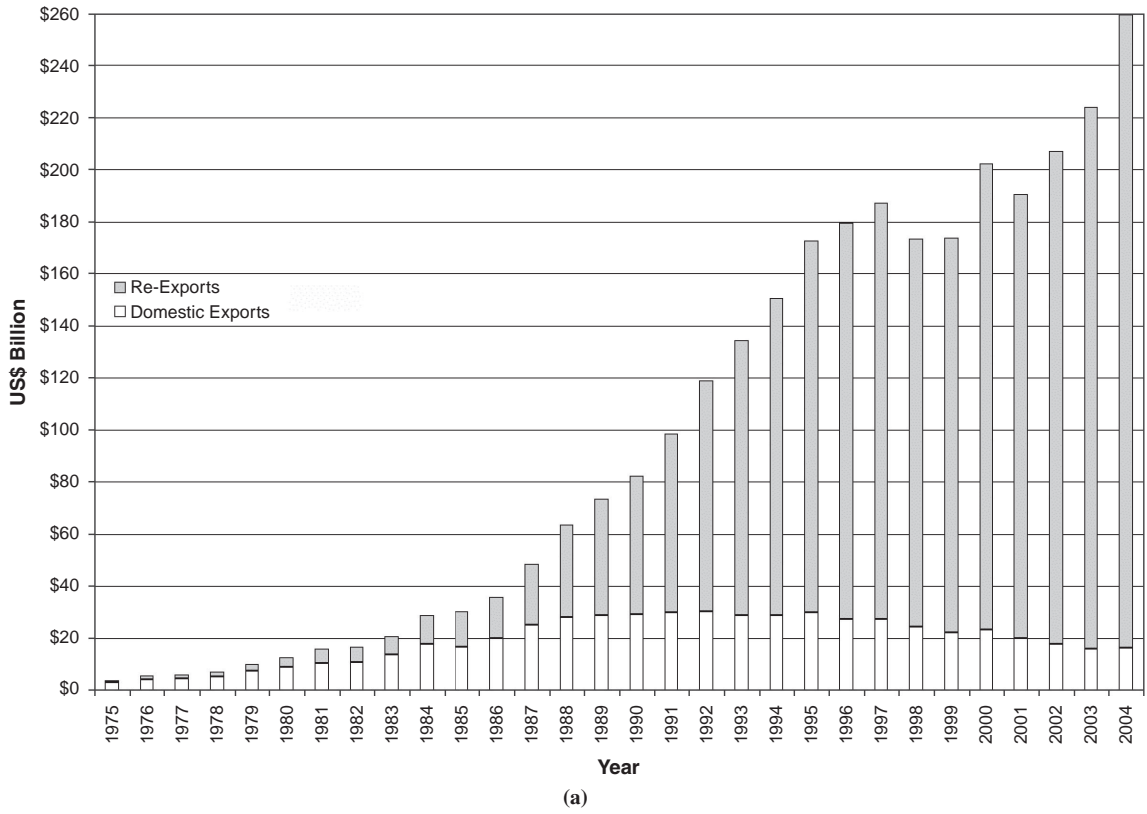


FIGURE 3 Hong Kong trade and population growth: (a) Hong Kong exports and (b) Hong Kong labor force and unemployment [source: O. Trueb, 2005, based on data from the City University of Hong Kong, APEC Study Centre (a, 1975–2001; b, 1976–2000), and Hong Kong Census and Statistics Department (a, 2003–2004; b, 2001–2004)].

business district (CBD). Before the West Rail link, the only transport connection between Yuen Long and Tuen Mun was by bus or by ferry. Planning the new link started in 1994, and the 30-km rail line opened in December 2003 as scheduled. Project construction costs were US\$7.4 billion, US\$800 million below budget. The project was initiated, planned, and built by the KCRC, a local railway company that is 100% owned by the government of Hong Kong.

The new airport at Chek Lap Kok is a truly gigantic infrastructure project. The Airport Core Programme (ACP) included the airport itself, road and rail links to the urban areas, a new town (Tung Chung) with a design capacity of 200,000 inhabitants, port and cargo and maintenance facilities, and about 30,000 m² of retail floor space. Planning started in 1985, and the airport opened in June 1998. Total combined construction costs for the ACP were US\$19.9 billion (16). That sum excludes the construction of residential buildings in Tung Chung New Town. Two-thirds of the ACP costs were met by the Hong Kong government, in the form of direct funding of public works programs and through equity injection in both the Mass Transit Railway Corporation and the Airport Authority. The remaining one-third came from private-sector participation. Most of the airport is, incidentally, built on reclaimed land and at one stage engaged 75% of the world's dredging fleet moving 400,000 m² of fill material per day (17).

MEGAPROJECTS, MEGARISKS, AND UNCERTAINTY

Prerequisites of Effective Planning of TMPs

Although risk and uncertainty are long-time established parameters of the project management aspects of TMPs, they are less well addressed in the planning and evaluation of these projects. That may be noted in the ACP projects, despite the "calculated gamble" taken by the colonial administration of the time that the construction of these projects would inject a certain "certainty" in an otherwise potentially risky transition period.

Notwithstanding the impressive engineering feats of the ACP and its extensive planning framework [the territorial development strategy (TDS)], there is considerable evidence of a consistent trend in Hong Kong of government failing to adopt a holistic approach to TMP planning and for government to have little regard for its use beyond immediate project needs (18). The KCRC's West Rail project is a good example of that. Here, no provisions were made to allow either for a connection with mainland China's heavy rail network or for making available additional tracks to allow express trains to bypass local trains. Even before West Rail's opening, government started to consider a further rail line to link Hong Kong with China, because West Rail cannot be used for such a connection. The project leapfrogged other strategic and land use planning priorities in the New Territories, while the rail alignment and station location were fixed just 2 years before the start of the strategic planning study for the North West New Territories. New development areas were designated during the construction period of the railway with the result that some stations now lie within walking distance of low-density areas, with new urban development planned around it, creating a doughnut-shaped development pattern with a low-density center and a high-density fringe. The urban sections of the Airport Express Railway and KCRC's West Rail were, furthermore, planned and built 7 years apart on a purposely created reclamation area but share neither tracks nor stations. West Kowloon Reclamation could have accommodated (but did not do so) a main Hong Kong railway station served by both new

railways with extensions to the existing Mass Transit Railway underground railway and future long-distance high-speed trains to China.

Treatment of Uncertainty and Risk

The above catalog of missed opportunities, it is conjectured, may be attributed to an attitude in which projects were conceived and implemented by professionals confident of their expertise, being firm believers of "technological determinism," in which uncertainty and risk are seen to be capable of being dissipated by a combination of knowledge and power (19). In retrospect, however, that attitude merely postponed risk taking and latent conflicts, which suggests a critical need to more systematically study "strategic choice" in TMP planning and further develop methodologies for decision makers to cope with uncertainty and adjust planning aspirations (and techniques) to accommodate the existence of uncertainty rather than seek to bypass or hide it (20).

Although risk and uncertainty have been central to concerns about planning that relies on forecasting and scenario development, including medicine and health, agriculture and ecology, security and defense, the financial sector, and insurance (21), such areas have for a long time employed dynamic models to bridge the gap between present knowledge and the future information required to fulfill a project's objectives. In the case of the financial world, for example, reports are regularly prepared by security houses to analyze and monitor economic and political risk as an integral part of appraising climates for investment. To return to the Hong Kong example, we need only look at Hong Kong's Metropolitan Development Strategy of 1991 and TDS of 1993 to realize that level of sophistication was absent from Hong Kong's urban and transportation planning experience (18). In the former case, there was a political rejection by government of considering any scenario that considered economic growth rates that were less than 4%. The scenarios developed for TDS were similarly only for steady, high and extra-high growth and formed the baseline for all forecasts subsequently used to determine traffic volumes and land use requirements for detailed plans. Economic decline or other unexpected outcomes were thus never on the radar screen of the Hong Kong government, resulting in the critical inability to later react to the fallout of the Asian financial crisis and the severe acute respiratory syndrome outbreak. Even the most recent development strategy for Hong Kong, *Hong Kong 2030 Planning Vision and Strategy*, does not take economic decline into account (22). Sharp reductions in property prices (not an unknown feature of the territory's history) were not foreseen during the planning stage of West Rail, and yet financing this project relied heavily on property development above the stations and increased passenger numbers from development along the line.

The origins of that approach to coping with uncertainty are, it is speculated, historical and cultural. Hong Kong has a system in place for strategic planning that is based on British planning tradition in which plans are usually demand based, and future development is estimated from an analysis of past trends. Even the latest plan for London excludes any scenario outside positive economic growth and is largely based on trend analysis and principles of predict-and-provide (23). Returning to Hong Kong, although it is clear that TMPs are accommodated in its strategic planning exercises, it should be appreciated that the airport project preceded the territory's strategic plans for the urban areas, despite its obvious significant impacts on West Kowloon. In retrospect, this demonstrates that while transport and land use are assessed simultaneously, the Hong Kong government is in fact willing

to promote TMPs not foreseen in its original plan(s). This is again illustrated by the fact that a site earmarked for a container port on Lantau Island has been allocated for Disney Hong Kong. The infrastructure requirements of this leisure megaproject are vastly different from the requirements of the original container port proposal; the territory's strategic plan has yet to be revised to incorporate those changes.

Looking to the Future

As the 21st century begins more attention has been given to uncertainty and risk taking on a number of fronts owing to increased globalization, a process itself fueled by TMP developments (2). Extrapolating from that, Swyngedouw's premise (24), presented by Dimitriou in his TRB presentation, that "TMPs are increasingly becoming the frame for the creation of new global and regional meganodes and megaplaces, rather than the means by which places choose to link one location with another" (2), this paper investigates whether there is evidence in Hong Kong and South China to suggest that TMPs have become an end in themselves, "justifying and creating places of global investment rather than being built to serve the needs of local and regional places," resulting in a collision of local and global visions (2). Before embarking on that, however, an account is provided immediately below of what globalization is and how it affects city and regional development, and the role of TMPs in all of this.

GLOBALIZATION

Types and Impacts of Globalization

Globalization is the new economic, political, and cultural order we live in. It is not only the backcloth to many TMPs worldwide but in many cases their *raison d'être*. This is a world in which consumer tastes and cultures are homogenized and standardized by global products created by global corporations with no allegiance to place or community (25) and in which it is claimed that nation states are deemed to no longer represent meaningful economic units (26). The accompanying irony, however, is that it is these very stateless interests that are often reliant on national governments to guarantee the finance or even subsidize (sometimes by default) the construction and operation of many TMPs for them to make selected places more conducive to capturing globalized benefits and generating globalized traffic (2).

According to Held et al. (9), three broad schools of thought exist concerning globalization. There are the hyperglobalizers, who view contemporary globalization as a totally new era in which everyone is increasingly subject to the forces of the global marketplace (25, 26). There are the sceptics, who see globalization essentially as a myth that conceals the reality of an international economy segmented into three regional blocs in which national governments remain very powerful (27, 28). Finally, there are the transformationalists, who regard globalization as historically unprecedented by virtue of the profound change globalization has brought about to countries throughout the world as they try to adapt to a more interconnected but highly uncertain world (29, 30). Advocates of many new TMPs belong mostly to the first or last of these schools of thought, citing the benefits of enhanced interconnectivity the megaprojects bring to trade and territory as the principal reason for their construction.

Hong Kong's successive administrations—both colonial and post-colonial—fall both in the first and the third of the categories above. The city has proved that it possesses the ability and energy to effectively react to trends brought about by market forces no matter,

almost, how harsh. That may in part account for why much of Hong Kong's planning practice is ultimately short term and tactical. The territory's transformation from trade to manufacturing, then back to trade and finance, in only 50 years is witness to this.

To understand the future of the TMPs, once built, one needs to better understand the drivers and impacts of globalization. Held et al. (9) distinguish between four types of such impacts:

- Decisional impacts, which refer to the degree to which the relative costs and benefits of the policy choices confronting governments, corporations, and households are influenced by global forces and conditions;
- Institutional impacts, in which globalization is associated with what Schattschneider calls an "institutional bias," in which the agenda and choices that governments, households, and corporations confront are set by global conditions (31);
- Distributive impacts, which refers to the ways in which globalization shapes the configuration of social forces in societies and across them; and
- Structural impacts, in which globalization may condition previously local patterns of domestic social, economic, and political organization and behavior.

Each provides highly important and relevant perspectives from which to appraise, evaluate, and monitor the impacts of TMPs on Hong Kong, South China, and further afield.

Castells argues that productivity is the cornerstone of globalization, with competitiveness as an attribute of economic collectiveness (8). For TMPs these assertions beg the question of how permanent, and therefore, how sustainable is such an approach for long-term investment in major transport infrastructure, and whether the continuous pursuit of competitive practices using the armory of major projects will inevitably make some redundant and change the dynamics of winner and loser projects, territories, governments, and communities (2). The experience of Liverpool with its now redundant infrastructure that once served the British Empire so well may hold some relevant lessons for Hong Kong as Shanghai and its region slowly take over some of Hong Kong's gateway function(s) to China. The underlying questions this poses (not only for Hong Kong but also other places such as Detroit) is, are the unquestionable efforts at the servicing of globalization compatible with goals of sustainability? And if not (as is likely), what will the outcome be for places once made important by past phases of globalization but no longer so in newer phases?

Globalization, American Business Model, and Chinese Bamboo Network

Notwithstanding the complexity of cultural interactions between societies during the past several thousand years, Held et al. (9) claim "there is no historical equivalent to the current global reach and volume of cultural traffic through contemporary telecommunication, broadcasting and transport infrastructure." The notion of globalization, though, as the precursor to a single world society or community is rejected by these authors, because they claim "global interconnectedness is not (and cannot) be experienced by all people or communities to the same extent or even in the same way." They in fact see the growing interconnectedness potentially providing the source of intense conflicts and shared fears, rather than cooperation. Whatever is one's position on that, what is clear is that appraisers and eval-

uators of new TMPs need to investigate the cultural changes that can accompany the completion of such projects, especially in cases in which physical barriers are crossed. The experiences of Hong Kong and South China appear to vindicate that position.

John Kay, the eminent Oxford economist, has made it very clear that he believes the center of this new “homogenized” globalized world order is the United States, which unashamedly promotes the American business model (ABM) internationally. Kay (32), like Friedman (33) and Palast (34), claims that ABM and globalization reflects above all “the principles of market fundamentalism and the doctrine of the minimal state, whose economic role should extend little beyond the definition of property rights and the enforcement of contracts.” Interestingly, however, some aspects of the globalization experience in China and elsewhere in Asia varies from this. For it provides widespread evidence of “strategic” state involvement and a growing “partnership” (even dependency) by the public sector with a select influential international network of Chinese family businesses, referred to by John Nesbitt as the “bamboo network” (35). This network has proved hugely successful in exploiting opportunities in the Asia Pacific Region and overseas, in the process creating a new hybrid global business model combining ABM principles of business practice with Chinese family values. The Li family (Cheung Kong Holdings) in Hong Kong, for example, controls an estimated 20% of Hong Kong’s market capitalization with a portfolio that includes retail chains, power companies, telecommunications, property developments, and container ports. A great many TMPs in Asia not only involve such interests but are indeed initiated by them.

Trade as Driving Force of Globalization

Because trade is the driving force of globalization, and trade liberalization is seen to ensure growing intensity of trade-related activities (9), TMPs are an integral and crucial part of the globalized world. Whether in the form of port, airport, or strategic road or rail developments, by connecting domestic to international markets, new and improved TMPs unleash new competitive forces. Hong Kong’s and South China’s recent transformations are witness to such developments. The areas have a rich history of colonial interests vying for trading advantage that ultimately led to the British occupation of Hong Kong for 160 years, with the sole goal to open up China for trade. In that regard, the region is not a newcomer to forces of globalization and is well tested in its ability to constantly readapt to changing forces over different epochs, the most recent of which has seen an intensification owing to the reawakening of China as a global trading power and to major technological advances.

GLOBALIZATION AND MEGAPROJECTS

Technological Change and Globalization

It is almost a cliché to write about our shrinking world. Technological advances have enabled markets and trade to function as they do today, most notably with the proliferation of commercial air traffic and large oceangoing vessels transporting goods and raw materials to all corners of the earth. Containerization has contributed much to the expansion of globalization by simplifying transshipments and increasing the security of the movement of goods. The dramatic advances in information technology and the ability to transfer large sums of money from one part of the globe to another, literally in seconds, have

greatly helped fuel much of the recent spate of construction of TMPs to service major transport nodes on the world’s global transport system. An examination of the experiences of Hong Kong provides vivid examples of the way this process works. As a port city, built on (and for) international trade, the territory has always been on the lookout to utilize new technology in the interest of improving its trade and commerce. So much so that the quest for the latest technology is now deeply ingrained in its population’s psyche. One of its most recent initiatives is the construction of a 1-km-long system of covered travelers and escalators built by government to connect residential areas with the CBD. This has not only successfully facilitated nonmotorized movement in the city but also stimulated the redevelopment of its surrounding area.

Infrastructure Landscapes

Reflecting Castells’s presentation of *The Rise of the Network Society* (8), Graham and Marvin (12) see world cities and major urban regions such as Hong Kong and South China as “strategic nodes of global circulation and production, and primary centers of transnational exchange and distribution of products (and commodities) whose territories are superimposed over time by interconnecting infrastructural landscapes (of electricity, water, and electronic and automobile networks).” They view

- Cities as a sociotechnical process, acting as “mediators” through which nature is transformed into city (36);
- Urban infrastructure networks as “congealed social interests,” sustaining what might be called the “sociotechnical geometries of power” (37) and “congealing social interests” in time and space (33);
- Infrastructure networks as embedded geopolitics, representing capital that is literally “sunk” and embedded in cities, translating into long-term accumulations of finance, technology, know-how, and organizational and geopolitical power (38); and
- Infrastructure networks and cultures of urban modernity and mobility as reflecting the aspirations and visions of planners, reformers, modernizers, and social activists in defining the ideal city (39).

Each of these infrastructure landscapes offers intriguing and challenging perspectives with which to appraise and evaluate future TMPs.

Although the development of Hong Kong and South China can be explained in relation to each one of the above, Hong Kong’s transformation is placed squarely in the third category. For all infrastructure projects in Hong Kong are seen as “facilitators” of any or all of the following: trade, tourism, and commuting. In that regard, road projects are promoted as an investment and not as an expense. The latest road project, the Central and Wanchai Bypass, for example, was promoted as a “profitable enterprise” despite being toll-free, because it is expected to save road users thousands of travel hours, and the government valued the resulting sum as a net income. There was, however, no monetary value assigned to the ecological, urban design, and pollution cost dimensions of the project.

Changing Ideological Premises

Transport infrastructure and services in the past have long been seen as agents that bind cities, regions, and nations together, provided in the form of “public local goods” (40, 41). Infrastructure development

globally now, however, is increasingly being “opened up” to the private sector. According to Graham and Marvin, “this has made the infrastructure sector now one of the most lucrative targets of global flows of finance, capital, technology and expertise” (12). It represents an ideologically driven push that has been strongly supported by the World Trade Organization, Group of Eight, European Commission, and other regional economic blocs, actively assisted by the World Bank and International Monetary Fund (42).

Interestingly, Hong Kong was one of the world’s leaders in attracting private-sector finance in the development of its transport infrastructure and services, and as such these global developments have moved more in line with its own experiences rather than the converse; although to date it has not had cause to draw on the assistance of those international bodies. This is mainly the result of three factors. First, the high-density populations that the infrastructure typically serves in Hong Kong have led to unusually high fare box returns. Second, property development revenues associated with station and associated rail real estate development have generated incomes that have in the past earned KCRC in excess of 50% of its revenue. Third, the government’s ownership of almost all land in the territory permits it to charge a development premium on all redevelopment projects from which government raises seed funding for new infrastructure projects.

Hong Kong has, however, experienced a different kind of ideological shift. During its colonial era, the territory had weak links to mainland China, even as recently as the 1980s. During the last two decades of the 20th century, however, as a result of China’s entry into the global economy, its own economy has become the driving force behind new infrastructure demands to connect Hong Kong with its natural hinterland of southern China. This process has been accelerated since the handover in 1997, with the Hong Kong government explicitly seeking to better link its territory with the Pearl River Delta for both nationalistic and economic reasons, and although it is evident that there is considerable potential for infrastructure projects to be built and operated by the private sector in this area, one should be wary of drawing too many lessons from this experience because they may merely reflect a long-term pent-up demand for the territory to bind itself to China for historic and political, as well as economic reasons.

Technological Determinism and Globalization

As earlier emphasized, technological change has had much to do with the recent rising pace of globalization. Dicken, however, warns that technological determinism as a basis for infrastructure planning should not be adopted too readily (13). He argues that “it is all too easy to believe that technology ‘causes’ a specific set of known changes, making particular structures and arrangements ‘inevitable’ or that the path of technological change is a linear and sequential one” whereas that is not inevitably so. Notwithstanding that, many new TMPs continue to be built with an air of technological determinism; and although this may be appropriate for certain straightforward projects, the outcome of more complex ones is likely to be far less predictable. The problem is, in a highly competitive environment such as the one we live in today, once a particular technology or “advanced” type of transportation infrastructure is introduced in one place, then its adoption by others is too often seen as “essential” to ensure competitive survival.

The belief that one must always be “ahead of the game” has for a long time been (and remains) one of the major driving forces of Hong Kong infrastructure developments. It has recently been accompanied by cities in South China being seemingly locked into some sort of

“arms race” with regard to providing new state-of-the-art transport infrastructure, especially air- and seaports. This mind-set lends itself to precious little objective reflection as to the full impact of such unbridled competition between cities on any visions of sustainable development. With the result that there are now five international airports in the Pearl River Delta within a 100-km radius: Guangzhou, Hong Kong, Macau, Shenzhen, and Zhuhai. They will not all be able to operate at full capacity because of overlapping flight paths, and Zhuhai Airport is already running well below capacity. At the Air Cargo Forum in 2002 held in Hong Kong, the relevant airport authorities announced an alliance called “A5” to better coordinate their airport developments and to jointly exploit new opportunities. Although welcome, this initiative is more an afterthought rather than a proactive policy-making measure and should have been in place at the early planning stages of each organization.

MEGAPROJECTS AND MEGAPLACES

Globalization Dangers of Marginalizing People and Places

Echoing the views of Richard Meier expressed in his seminal book *A Communications Theory of Urban Growth* (43), Graham and Marvin see cities and urban regions as possessing “new, highly polarised urban landscapes where ‘premium’ infrastructure networks selectively connect together the most favoured users and places, both within and between cities” (12). By implication, these networks and network nodes (often developed as TMPs) can bypass less favored intervening places and create a new class of what Castells calls “redundant users” (8), thereby, undermining the notion of infrastructure networks as binding and connecting territorially cohesive urban spaces.

Although this feature cannot be observed on any significant scale in Hong Kong because of its small size, compact urban structure, and excellent public transport coverage, the situation north of the special administrative zone is very different. Here, in the Pearl River Delta, the circumstances cited by Castells are “in the making,” with communities in the vicinity of new highways or railways often not receiving any major benefits from such infrastructure. However, because the Pearl River Delta has seen very little transport infrastructure investment in the past, the new interest shown in its “decaying networks” (36) has led transport infrastructure not merely to be regarded as a means with which to connect people and places, but also as a symbol of development, progress, and identity; with TMPs offering especially towns and communities important icons of development of which they are proud.

Investment Neglect and Fears of Infrastructure Collapse

Much of the current spate of TMP development in many countries throughout the world is a response to growing fears of what Graham and Marvin describe as “infrastructural collapse” arising from past decades of neglected investment (12). Such concerns have been heightened by a number of events, including major electricity blackouts in Europe and the United States and failures of national rail networks as in the United Kingdom. Criticism has been leveled at much of the response to such problems, these being described by Perry as primarily “reactive . . . rather than sustained, systematic and pro-

active” with a warning that where TMPs are implemented as “answers” to decaying infrastructure, such projects are bound to experience the same fate a few decades down the line if maintenance does not receive proper attention (44).

The importance of transport infrastructure in our fast globalizing world is epitomized by the fast rising scale of its funding and the increasing attention given to new TMPs. Past calls for a broader-based approach to transport planning (45) have been renewed by Graham and Marvin, who make the case for a “more robust, crosscutting, international, critical, dynamic and transdisciplinary approach to understanding the changing relations between contemporary cities, infrastructure networks and technological mobilities” (12). They argue for a broader conceptualization of relations between infrastructure services and the development of cities, seen by the authors to be closer to approaches advocated by the pioneers of U.S. urban land use and transport planning Bob Mitchell and Chester Rapkin (46) and Richard Meier (43).

Contrary to common impressions, a closer examination of the planning of Hong Kong’s TMPs will reveal a poorly planned system that does not fulfill its objectives; with many TMPs introduced as an “answer” to past deficiencies rather than current needs. An example is the Central/Wanchai Bypass, as an answer to problems with the urban section of Route 3 (see Figure 1). Here, traffic from the Central Harbour Tunnel creates massive jams during the peak hour on Hong Kong Island that have led to the proposal of a new road to alleviate this congestion situation, outside any previous plans. Yet, among the main reasons for the high levels of traffic in Central Harbour Tunnel are the poor connections between urban Kowloon and the urban sections of Route 3 (i.e., the highway linking Central to the new airport), and the higher tunnel tolls in Western Harbour Crossing, thereby discouraging road users from traveling that way. No thoughts were, or are, given to improving access to Western Harbour Tunnel, rerouting traffic, or reducing traffic with the assistance of transport demand measures such as electronic road pricing or congestion charging.

Demise of Formal Planning Process

Graham and Marvin have also argued that current urban planning, unfortunately, has retreated from the notion of comprehensiveness and no longer tries to shape cities as a whole (12). Fillion claims that this has resulted in planners today accepting that cities are mere “collages of fragmented spaces with multiple identities and aspirations” (47). New planning processes that appear to “confirm” the city “as a series of unconnected fragments rather than as a practical and theoretical synthesis of planning thought and action” (48) and that accommodate entrepreneurial initiatives of making spaces competitive (49) appear to further reduce the comprehensiveness of planning, transforming the role of planners into mere “facilitators of global economic integration” (50). Sandercock claims that these developments have often been accompanied by circumstances in which many governments have put aside established planning procedures in order to speed up infrastructure development and set up special-purpose governance agencies to become “more actively involved in customising networked infrastructure to the precise needs of targeted users and spaces” (50). This observation is especially evident in the case of TMP developments, which because of their often unique character are assigned specialist implementation and operating agencies.

Hong Kong’s ACP is a good example of that. Not only was the program fast-tracked, but it also assumed a strategic role in reshaping the territory far beyond what was previously envisioned, necessitating

revising earlier strategic plans and directing all ACP development with “its back to China,” in a location that appeared to be farthest away from other major developments in the Pearl River Delta. Finally, because the airport-related transport infrastructure was too expensive to serve the airport alone, a new town, Tung Chung, was built adjacent to Chek Lap Kok Airport. That development is soon to be accompanied by others now planned or in progress on Lantau Island, including Disney Hong Kong; a major road between Tung Chung and Mui Wo; and another road to, and an expansion of, Discovery Bay—despite the fact that the island was originally to be part of Hong Kong’s “green lung.”

CONCLUSIONS

The analysis above constitutes an attempt to examine a set of theoretical premises expounded by one of the authors concerning the need to evaluate and appraise TMPs in far broader terms using the experiences of Hong Kong and South China as a basis to illustrate points made. This was done with a view to establishing, among other things, whether the driving forces of globalization do indeed lead to the construction of TMPs that benefit global (corporate) interests more than local and whether the lion’s share of TMP costs and risks fall on the public rather than private sector, as well as to provide some insight into how TMPs can restructure the territories and places they traverse.

Although there is no doubt that for several centuries Hong Kong’s history, and to a lesser extent that of South China, has been molded much more extensively than other areas of the world by international trade and globalization forces, and in that regard some of the observations cited here are more potent and unique than they would otherwise be, there are a number of generic conclusions (and lessons) that can be made, and they are as follows:

- It is irrefutable that TMPs have over the years provided the frame for the creation and development of Hong Kong and South China, indeed their identities, with hybrid characteristics emerging that reflect a special mix, if not in some cases collision, of values.
- The juxtaposition of longstanding traditions (and policies) of competitiveness and emerging visions of sustainability is becoming increasingly uncomfortable and unworkable. That raises the critical question, how sustainable is an approach to TMP development based on the continuous pursuit of competitive rather than collaborative practices, which over time inevitably creates “winner and loser” projects, territories, governments, and communities?
- Although elsewhere the finance and planning of global infrastructure developments in general, and TMPs in particular, are increasingly molded on ABM principles, in Hong Kong and South China a hybrid version of this practice is emerging that incorporates Chinese values of international family networking, now extending beyond Asia.
- The emerging reliance on more global spatial approaches to TMP development, as part of strategic transnational and regional development agreements (reflective of the Trans-European Networks—Transport experience in Europe), has yet to materialize in Asia, with the thrust for such projects instead coming from the regional entrepreneurial imperative of making specific spaces competitive as opposed to collaborative.
- The phenomenon of government planners being made to feel increasingly impotent, if not irrelevant, except in their role of “facilitating” global economic integration and supporting TMP developments that offer opportunities for such projects to play a

strategic role in providing new focal points for global development, is increasingly prevalent in Hong Kong and appears set to become “the accepted” future role of planners in the territory and a model for planning practice in South China.

- The tendency toward a declining transparency of the TMP planning process, as information about its decision making more and more falls outside the public domain, is an increasingly common problem in the region. It is associated with both increased private-sector involvement in the funding of such projects and the practice of short circuiting established planning processes to “fast-track” them and make them more acceptable to government and project shareholders alike.

- Finally, although the fact that Hong Kong and South China have become an acknowledged strategically important location for the development of new TMPs as global transport nodes and globally networked places is not in question, what is in question is what it takes for TMPs to be judged “successful” in local as well as global terms.

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