

9. Land Use Digest, Feb. 15, 1982.
10. J. Schneider. Transit and the Polycentric City. Urban Mass Transportation Administration, 1981.
11. Planning, Implementation, and Evaluation of a Timed-Transfer System in Portland, Oregon's, Suburban Westside. Tri-County Metropolitan Transportation District of Oregon, Portland, Jan. 1982.
12. M. Reimer and S. Barret. Transit and Shopping Centers: The Houston Experience. Houston Metropolitan Transit Authority, Houston, TX, Aug. 1981.
13. T. Noguchi. Shaping a Suburban Activity Center Through Transit and Pedestrian Incentives: The Bellevue, Washington, CBD Planning Experience. City of Bellevue Planning Department, Bellevue, WS, Jan. 1982.
14. M.G.P. Stringham. Travel Behavior Associated with Land Uses Adjacent to Rapid Transit Stations. ITE Journal, April 1982, pp. 16-18.

## Changes in the Economic Base of Urban Areas: Implications for Urban Public Transportation

*Richard V. Knight*

Although the economic base may not have been a major concern of urban public transportation planners or policymakers in the past, it will undoubtedly become increasingly important in the future. And as concern for the economic base becomes more commonplace, the way we think about the city, its economy, and the role that urban public transportation could play in its development will change considerably. The challenge for urban public transportation is to re-define its role in the development and redesign of the city and of the region for which the city serves as a center.

With the advent of one-world markets and the emergence of an increasingly international or global economy, a fundamental restructuring is occurring in both the national economy and in the economic base of cities. The nature of these changes suggests that cities will continue to play a very critical role in the nation's development and, furthermore, that the type of development that will be occurring could be located in the central cities if the cities are redesigned and rebuilt to accommodate them. This will be very difficult because activities in growing sectors differ significantly from activities in declining sectors.

Given the type of changes occurring in the environment in which cities are developing and given the nature of structural changes that will be taking place in the economy and spatial forms of cities, it appears that urban public transportation could become a principal tool for their redesign and rebuilding. This is one of the most important lessons that have been learned from the global laboratory of cities (1). Moreover, the timing is right. There is a growing awareness that this is a critical time for cities (2). Many are in transition (3). Some are beginning to think about their future (4), and a few are preparing for the 21st century. Urban public transportation will play a major role in future city development once its value as a tool for re-designing and rebuilding cities is appreciated.

Given this perspective, it would be worthwhile to

consider, at the outset, a fundamental policy shift in regard to urban transportation planning. Urban public transportation, which currently plays a passive role, needs to become an active part of the process in the building of cities. This policy shift is needed so that instead of simply responding to existing or anticipated transit demand--and reacting to problems, usually under crisis conditions--management can begin to create and structure this demand. Urban transportation systems need to become more balanced so that they become more economically feasible and more broadly accepted as socially desirable. All modes of transportation serving intra- and inter-city travel need to be coordinated and integrated into the overall design or plan of the city. This will enhance greatly the city as a place to live, work, and play. Well-designed, well-managed, and efficient urban public transportation systems will enable cities to remain viable even in an increasingly competitive global economy.

It is highly unlikely, however, that urban transportation systems, particularly public systems, can realize their potential unless transportation planning is widely understood as a necessary part of a comprehensive long-range plan for a city and for its region. Among planners, themselves, transportation has always been recognized as a critical component of comprehensive long-range urban planning because it is viewed as the primary mechanism for integrating, organizing, and maintaining society (5). But there is a major obstacle that will have to be overcome--cities in the United States have not been engaged in long-range planning, at least not since the City Beautiful movement around the turn of the century. Even during the decades of unprecedented growth that followed World War II, there was virtually no comprehensive long-range planning.

### ORIGINS OF THE ACCIDENTAL CITY

There are many reasons why comprehensive long-range

city planning fell out of favor. Most importantly, planning was not essential to growth. In addition, there was very little public awareness about the eventual effects of unplanned growth. Planning was viewed by many as characteristic of socialist countries and therefore, as unsuited or even anathema to the free enterprise system. Throughout this period, growth was pervasive. It did not have to be nurtured, it just had to be accommodated. Consequently, planning became reactive and regulatory in nature. The focus was on finding short-term solutions to the most pressing problems rather than on issues with longer-term consequences. The public was concerned with subdivisions, zoning ordinances, public housing, and civil rights. The future was taken for granted.

After World War II, the nation was mesmerized by the phenomenon of the "exploding metropolis"; by the rapid pace of growth in the suburbs; by the building of the Interstate highway system between, around, and through cities; by residential tract developments in the newly created suburbs; and by the construction and expansion of shopping centers, industrial parks, office parks, and airports. Central cities gradually lost all their functions except those related to work. Increasingly, the city became a place where no one lived by choice. There was also considerable slum clearance as land was assembled for highways, office buildings, institutional expansion, parking lots, other urban renewal activities, and public housing projects in the central cities. Not only were residents pushed out of city neighborhoods by dislocations and new immigrants, but also many residents became affluent and were lured to the suburbs by better schools and services or simply followed their jobs.

The era of affluence may, however, be ending. The great American dream, which was such a powerful force, of a car, a television set, a single-family home in the suburbs, children, a second car, college educations, country clubs, and so on may be changing. The production of all the goods required for the dream to be fulfilled fueled the economy, particularly manufacturing activities. Employment and real incomes rose steadily. Naturally, public concern and public investment centered around accommodating new forms of growth spurred on by the automobile, the formation of new households, the financing and expansion of the housing stock, the baby boom, and all the acquisitions that accompanied this newly found affluence. But this dream has been largely realized.

As we begin to awaken to new possibilities for city living, we find the cities unprepared. Middle- and upper-income households cannot return unless the creation of such environments is part of the city's development strategy. Most cities do not even have the capacity to deal with the problems of present residents, let alone the capacity to initiate strategic planning. So many problems were created by rapid, unplanned urban growth; very few of them have been addressed. They will all have to be addressed if cities are to be rebuilt. Only those problems that became recognized as crises nationally, e.g., those that resulted in riots, blackouts, falling bridges, financial collapse, pollution alerts, were tended to and usually only symptoms not causes were dealt with.

Will we learn from our experience, or will we continue to look at the problems created by urban development in a piecemeal fashion? For several decades, suburban expansion and city decline have been viewed as separate issues. Expansion was viewed as a local issue and left to suburban communities. Expansion was not coordinated. Suburbs were in competition with each other and with the central

cities for residents, for plants and other forms of private investment to enlarge their tax duplicates, and for funds needed to improve their infrastructure of schools, hospitals, roads, sewers, etc. As a result, coordination at the regional or metropolitan level was rarely obtained. When it did occur, it usually led to the establishment of new independent authorities to handle specific functions such as water, sewage treatment, airports, bridges, parks, or public transportation (6).

At the other end of the development spectrum were all the social problems associated with declining city neighborhoods. These were left for the federal government to attend to. Cities did not have the resources. Each time a new problem was defined, a new national program or agency was established and cities gradually became wards of the federal government. The administration of the city and its surrounding metropolitan area became so highly fragmented both in terms of geography and in terms of programs that the city gradually lost its identity. In the process, the city also lost its autonomy and became a meaningless concept (7). Expansion of transit systems became more difficult as suburban power bases were established.

The city has, in the main, been disavowed by the suburbs it created. As cities became decentralized, they became city-regions but only in a functional sense--in terms of a labor-market area, a retail-market area, etc. The city-region has not been recognized in a cultural sense, although many chambers of commerce now represent "greater areas" or "metropolitan regions". There was no mechanism for governance and no way to plan or coordinate development. The citizens of the functional city-region had become disenfranchised, and their rights and responsibilities were abrogated when they moved to the suburbs. Once citizens had forfeited their vote in the city, they no longer felt responsible for or even regarded themselves as being part of a city.

The whole future of the city was placed in question primarily because of the way we think about or define them. We do not think in terms of the decentralized city or of the city-region. Cities have always been thought of in terms of the number of people residing within their municipal boundaries. Since population has been declining in most large cities, their economies have been viewed as being in decline and, as a result, confidence in the economy of cities has been undermined. Studies that use other traditional indicators such as the age of the housing stock, age distribution of the population, city-suburban disparities in income, unemployment, etc., tend to reaffirm this popular notion that cities are in decline (8,9). All the studies of decline document the fact that social, fiscal, and environmental stresses have continued to mount and the population has continued to leave the central city in spite of increasing federal expenditures. According to these analyses, it would appear that the situation is becoming increasingly hopeless; that the decline of the cities is inevitable and that the problems they face are insoluble, particularly for those in the frostbelt. From this perspective, cities are seen as "reservations for the poor" and unfit for living (10).

The concept of the declining city has had serious consequences. Cities, their residents, neighborhoods, and infrastructure including urban public transportation have become victims of benign neglect. The cities were indeed vulnerable, the middle-class constituency needed to argue their case had moved to the suburbs. Almost all public services have been allowed to deteriorate. What happened to urban public transportation is a case in point. Surface rail systems were paved over, and

streetcars were replaced by buses. As transit ridership declined, services were curtailed and public transportation came to be viewed as a welfare program. Urban transportation became less and less balanced, the private automobile replaced public transportation.

Throughout the postwar period, while a major public investment was being made in the Interstate highway system, there was almost no new investment and only minimal maintenance in urban public transportation systems. In many places a virtual disinvestment occurred. What happened in New York City, where 61 percent of the residents take public transportation to work and that accounts for 80 percent of rapid transit ridership in the nation (10), is a case in point. According to Robert Caro: "When Robert Moses came to power in New York in 1934, the city's mass transit system was probably the best in the world. When he left power in 1968, it was quite probably the worst" (11). This is indeed a most remarkable statement. The choice had been made in favor of the automobile almost without the public knowing.

Urban transportation systems became unbalanced, heavily biased toward automobile, truck, and air travel. The different systems were not coordinated. Urban public transportation systems were neglected, and ridership and revenues declined as commuters switched to cars. It was not until most transit systems were about bankrupt that the Urban Mass Transit Act of 1964 was passed making federal funds available to local transit authorities for investment purposes or operating expenses. Balance has been partly restored and some major new mass transit systems have been built with federal assistance. But the bias persists and the imbalance of past decades has left its mark on the spatial form of the city. This needs to be corrected.

Urban public transportation planning is still basically defensive, reactive, and problem-oriented. This is most unfortunate because access provided by urban public transportation is so critical to the design of the "good city form" (12). Urban public transportation will not be able to realize its potential until urban transportation becomes fully balanced. Once transportation planning balance is established, transportation will be able to regain its role as a key component of comprehensive long-range city planning. Until this happens, cities that have reached a stage of development where major public transportation improvements are needed will be severely handicapped.

Many cities have reached a stage in their development where major improvements in urban public transportation are needed to improve accessibility. But the case for public transportation cannot be effectively made until three things have happened:

1. Until cities initiate strategic planning processes,
2. Until transportation planning becomes fully balanced, and
3. Until planning becomes proactive so that public transportation systems can be used as a tool for redesigning and rebuilding cities.

#### TOWARD THE INTENTIONAL CITY

How can this situation in which so many cities find themselves be turned around? Is it reasonable to expect that cities will begin to initiate strategic or long-range planning processes? Certainly not because the public's confidence in planners has been restored. Certainly not because there has been an ideological shift toward a more planned society. Certainly not because concern for those living in

declining neighborhoods has increased. And certainly not because strong cities are viewed as a high priority of national urban policy (13).

The reasons why a turnaround may be anticipated are very basic. They are primarily of an economic and a survival nature. There are many forces at play, and as we become more cognizant of them and of the consequences of resisting or not responding to these forces, the pressure to shift from a reactive to a proactive type of planning will increase. Some of the more salient forces that underlie the changes occurring in cities and necessitate a shift from a crisis-driven and problem-oriented planning to strategic- and opportunity-oriented planning are reviewed briefly below.

It is important to note at the outset that this type of strategic planning represents a distinct break with traditional urban transportation planning. Instead of taking transportation demand or needs as given (as they have been traditionally), they are treated as variables. Instead of using demand forecasts to determine the type of system that is required, the system is designed to create and structure demand so that the system will be efficient, reliable, convenient, acceptable to an affluent public, and financially feasible. Urban public transportation needs to be considered in terms of how it can be used to stimulate development and to redesign cities. All modes of urban transportation need to be coordinated so that they will function optimally and will provide direction to assist in meeting the goals of an areawide comprehensive urban development plan.

Each city will have to realistically determine what role it desires to play in an increasingly competitive global economy. Each city will have to formulate a strategic plan for mobilizing the resources required to posture itself appropriately. Competition among cities for resources will intensify as the global economy evolves. Cities that are not preparing for these realities are placing their future in jeopardy. Cities will not grow automatically in the future as they have in recent decades. Only well-designed or intentional cities that provide settings supportive of expanding activities will prosper. Accidental or unplanned cities will continue to falter until they become more willful.

The transformation from an accidental city with unplanned growth to an intentional city with planned development involves fundamental shifts in values, philosophy, attitudes, psychology, and behaviors. The task of reorienting a city from reacting to decline toward designing its future is a challenging one. Past practices are difficult to change, but cities have been turned around with strong leadership and strategic planning. Most cities go through crises as they evolve, all cities go through rebuilding cycles as they mature; it is part of city development. The actual rebuilding or restructuring process has been approached in many different ways. Many cities--including Stockholm, Paris, Montreal, Toronto, and, more recently, Vienna, Edmonton, San Francisco, Washington, Atlanta, Buffalo, and Pittsburgh--have used the building of new public transportation systems as a way to spur development and as a means for redesigning and rebuilding their central cities/regions.

Under what conditions do turnarounds occur? What constitutes a real renaissance of a city? What are the attributes of a successful city development program? No one really understands why some cities have greater resiliency than others. There are no simple answers. Every situation is unique. Turnarounds have to be indigenous. It is reasonable to speculate that future turnarounds will occur in cities, or in regional clusters of cities, where op-

opportunities created by new technologies and by the emergence of the global economy are perceived. Turn-arounds will occur where the leadership needed to initiate and implement a strategy for realizing those opportunities is forthcoming.

Leadership is essential because there are no clearcut directions to follow; a great deal of judgment is required. Projections of past trends do not provide sufficient guidance especially when the objective is to form trends rather than to be determined by them. The city is a culture, more a work of art than a phenomenon that can be scientifically explained and predicted. What is required is a broad and long-range vision of a city's potential. Robert Holland, president of the Committee for Economic Development, which recently completed a study of private-public partnerships, describes it as "a coordinated vision of achievable goals, knit together, so that all segments of the community can see what they have to gain from such a future, come to endorse it and be willing to support the sometimes hard public and private actions it might take to get there" (14).

Each city has to create its own vision and initiate its own development program. The vision will depend on how leadership of the city thinks about itself, about the future, and about the roles that the city could play in that future. Given the powerful and well-established forces that have resulted in the dismantling of the compact (pre-automobile) city and given the changing nature of development in advanced industrial societies, whatever vision is formed will have to be compelling. The logic employed will have to be convincing. The vision will have to be based on insights that can come only from a highly disciplined analysis and a realistic appraisal of all the forces and factors that underlie the city's strengths and of the development processes at play.

Very few cities have the type of intelligence capacity that is needed; a major investment would be required to develop such a knowledge base. Many places have moved in this direction by commissioning a GOALS study, a YEAR 2000 study, or some kind of TOMORROW study. But few have initiated the type of ongoing, professionally staffed strategic planning process that is required. If sound visions are to be formulated and good decisions are to be made, they have to be preceded by a major investment in developing an intelligence capacity. A great deal of basic research will be needed. Published data and conventional analyses are not very helpful. New concepts and new data are needed. Cities can learn from the experience of major industrial corporations and other large complex organizations that operate in highly competitive and turbulent environments. One rule of thumb is that strategic planning does not usually begin until three years after a major crisis.

Urban public transportation has a vested interest in seeing that cities begin to plan strategically. In fact, leadership could be provided by regional transportation authorities because they are most knowledgeable about the benefits from well-designed transportation systems. Transportation is key because it remains the basic mechanism for integrating and maintaining the diverse activities that comprise the city. Public transportation can be used for improving access both through actual movement and through more-intensive or higher-density development. Even though public transportation plays a minor role in terms of the total movement of people in most places (15), its role is critical for two reasons and both concern access.

First, urban public transportation is critical to those types of activities that benefit from agglom-

eration and together comprise what is generally called the CBD. These activities all require a high degree of interface and benefit from being in close proximity to each other primarily because proximity reduces the costs of information flows. Public transportation facilitates the concentration of these activities by improving the accessibility of the CBD. These office-type activities, usually referred to as "quaternary" or "advanced" services (16, 17) are expanding, even in cities where population is declining. In fact, new office buildings continue to break ground, even in industrial cities.

Second, urban public transportation has the potential of being a very effective design tool for reshaping cities particularly those that are in transition. Many cities, particularly those industrial cities where the downtowns and suburbs are expanding while the older working-class neighborhoods decline, need to rebuild whole areas that have become obsolete as factories and residents have left. Neighborhood redevelopment strategies are needed so that the residents of declining neighborhoods can gain access to jobs downtown and so that workers downtown can gain access to residences nearby. New physical and institutional linkages have to be created in order to reintegrate the declining areas into the expanding sectors. Social and physical isolation of disadvantaged populations in declining neighborhoods is dysfunctional (18). Public transportation systems can help to revitalize neighborhoods and bring their residents back into the mainstream. The essential point to be made here is that access can be improved by increasing density, thus reducing the distances between origins and destinations.

Well-designed, well-planned, and well-managed public transportation systems could serve as an organizing principle for city development and design. Efficient movement of people into, around, and out of the city (as well as between cities) and attractive living environments are primary concerns of those engaged in the expanding sectors and thus should be part of a city's development strategy. This means, of course, that urban public transportation will have to be closely linked to the long-run development strategy of the city and its region of influence. Given the nature of economic development that lies ahead, urban public transportation could be as critical to redevelopment of the city during the next few decades as the private automobile was to the development of the suburbs during the postwar period.

#### RETURN TO THE CITY

Development has been appropriately defined as a learning process that leads to the creation of additional options that increase the well-being of individuals (19). Many cities have reached a stage in their evolution when outward growth is no longer feasible or desirable. New options need to be created for in-town living in order for the city to become a world-class city.

The great American dream of a single-family home in the suburbs, and all that implies, is not necessarily the dream of those who grew up in the suburbs and are now forming new households. It is certainly not the choice of those who had the choice but never opted to move to the suburbs. (The size of this latter group is not known but is larger than generally thought.) Moreover, the forces that supported that dream, prosperity, affluence, low interest rates, rising property values, low-cost energy, large families, etc., and led to low-density development and the decentralization of cities are waning.

In many cities, the suburban option is now being complemented by in-town options for cosmopolitan living. Most of these options have been in what were originally middle-class neighborhoods that have been "gentrified" or in high-income, high-rise apartment buildings. Georgetown, Greenwich Village, Society Hill, Telegraph Hill, Beacon Hill, and the French Quarter are, however, special cases. Working-class neighborhoods built for low-income immigrants were built to different standards and cannot be revitalized as easily, if at all. Some of these areas such as the South Bronx need to be totally redesigned and rebuilt to meet the needs of the market.

There are many signs that support the view that the new dream is centered on rebuilding cities as vital and exciting places to live. Public response to recently completed redevelopment projects such as Quincy Market in Boston, The Galleria in Philadelphia, and Harbor Place in Baltimore has made them highly successful business ventures. Changes in values, lifestyles, employment, occupations, housing, and economic trends all point to a return to the city.

The suburbs will not be replaced, but the options available to urban residents will be broadened to include cosmopolitan, amenity-rich, and aesthetically-pleasing settings for city living. A full range of residential, recreational, social, cultural, and leisure activities is required along with workplaces if the city is to become a viable and exciting place in which to live. Similarly, the automobile will not be replaced, but the options available for improving access and mobility must be broadened to include public transportation. Improved access to resources located in the city will improve the effectiveness of all modes of travel, particularly for the pedestrian.

The city's main attraction is the access it can provide to all types of resources. And, as access is improved, the time and dollar cost of using the resources is reduced. As costs of using resources declines, they are used more, which, in turn, increases their value and enables them to more fully realize their development potential.

It was not very long ago that there was a discussion about this country becoming a nation without cities, that the city was an obsolete social form. So powerful were the forces that led to the dismantling of the city, that their outward growth was expected to continue until the whole country became one sprawling "megalopolis" or "ecumenopolis" (20, 21). But those fears can be put to rest. We are beginning to reexamine cities primarily because they are booming as places of work (22), but also because they are, once again, becoming attractive for other activities related to leisure, cultural, and residential functions.

Cities do need to be redefined because their economic base is changing as their roles change. Whole sections of many cities may need to be redesigned and rebuilt. The building of Central Park is an excellent example of how the enhancement of an area acted as a catalyst for city development (23). The automobile may have changed the shape and the form of the city. It has not made it obsolete. The city persists and we need to improve our understanding of why cities develop and how change can be best accommodated.

The process of city building is ongoing and difficult. Periods of prosperity and rapid growth are often followed by periods of consolidation. The restructuring of a city's economy, the upgrading and realignment of institutions toward the growing sectors, and the continued development of the social, cultural, and physical infrastructure require considerable resolve and commitment from local leader-

ship. The resiliency of cities hinges on how citizens think about and value their city, i.e., on a motivated and informed citizenry. Citizens who have benefited from and value the city also need leadership that will help them to see beyond the apparently unsolvable problems that have resulted from growth in earlier periods.

#### CONTEXTUAL CONSIDERATIONS

We need to take a new look at cities because we are entering a new era. Two great revolutions that propelled and shaped the development of this country and its cities over the last century are now essentially behind us. Both the Industrial Revolution and the urbanization process are in an advanced stage. The nature of the forces underlying development are changing. As agriculture, mining, manufacturing, and, more recently, service-type industries have been industrialized, the place and the nature of work have changed. This in turn has revolutionized settlement patterns into the nation.

The nation is industrialized and urbanized. These processes will continue, not at a revolutionary pace, but more in an evolutionary and incremental manner. Industry will continue to advance as technologies and urbanized areas will continue to develop cities. As our understanding of science and technology has advanced, the nature of work has changed. Work that was based primarily on manual effort, on muscle, on horsepower, and on processes that were primarily mechanical in nature is steadily being transformed into work based on mental effort, industrial know-how, and processes that are primarily informational in nature. As the nature of work has changed and as time and space have been conquered, life in fairly self-sufficient but isolated rural settings has given way to life in urban settings that are becoming increasingly integrated into the international order of things. People followed economic opportunity as it moved from fields to factories. The cities provided increased opportunity and choice, increased freedom and mobility, and increased privacy. But the industrial workforce engaged in production activities is declining and net-migration from rural areas has been reversed (24, 25).

The rather popular notion that we are becoming a post-industrial society needs to be carefully reexamined because the paradigm of a post-industrial society can be very misleading. For example, what role could industrial cities play if society was indeed post industrial? Shall we write them off or shall we reconsider the way we think about socio-technical change? The role of industrial corporations certainly is not decreasing. To the contrary, their role continues to increase as they advance their understanding and control over technology and develop their markets on a worldwide basis. As technology is advanced, the knowledge or information content of goods and services produced increases as the value added by unskilled labor declines. Consequently, knowledge-type activities, based primarily in cities, are expanding while the more traditional unskilled production-line activities are declining. As a result, the functions performed and the way in which wealth is created in cities are changing.

The role of the cities is changing in very basic ways. Expansion of an unskilled workforce engaged in routine production activities can no longer serve as the engine that propels the growth of urban areas. When industry required muscle, the city's principal function was to house and assimilate immigrant workers into an industrial workforce. This is

why industrial cities grew so rapidly around the turn of the century. But work has become knowledge-intensive (both in blue-collar occupations where the employment of skilled craftsmen continues to grow and in white-collar occupations that are growing such as technical, professional, and managerial categories). And, the principal function performed in advanced industrial cities now is the management and advancement of technology.

Advanced technology, i.e., the automated factory, the miniaturization of products, computers and instantaneous worldwide communications, air transportation, and the creation of one-world markets, is leading to the restructuring and rationalization of production on a global basis. Production of the world car and the international management of credit are just two examples of a whole series of products and services that have matured to the point where technology, design, and production are managed on a worldwide basis.

Growing knowledge activities become increasingly concentrated both organizationally and geographically while the more routine production activities become "de-skilled" and either decentralized to less-developed, lower-cost economies or automated in highly capital-intensive facilities most efficiently in "green-field" locations. There is also a growing tendency on behalf of major industrial firms to "source out," to have components that require the input of low-skilled workers produced under subcontracts.

The net result of these developments in advanced industrial nations such as the United States is the expansion of economic opportunities associated with the advancement and management of industrial know-how and a contraction of traditional production activities. The expansion of knowledge-related activities in office settings and the reduction of routinized production activities in factory settings are causing a fundamental structural change in the economy of cities, particularly in cities that boomed during the initial phases of the industrial revolution. (Note: Competition from firms outside the United States is becoming increasingly intense because these organizations are not constrained by antitrust legislation. For example, a "super firm" such as Mitsubishi and all its interlocking corporate relationships represents a formidable economic power not enjoyed by North American manufacturers. A merger of General Motors, TRW, United Technologies, Cincinnati Milacron, Chase Manhattan Bank, and Prudential Insurance would about compare with the economic muscle of "Japan Motors".)

The developmental processes underlying industrial transition are not well understood because the new forms that industrial work is taking do not conform to our traditional concepts of industrial activity, industrial production, industrial corporations, and industrial workers. We still think in terms of Adam Smith's pin factory and look for a Charlie Chaplin type of worker on the production line. The wrench and the factory with tall smokestacks are powerful symbols. New concepts and new symbols are needed for knowledge-intensive industrial activity. Industrial corporations vary greatly in form and management philosophy, but, generally speaking, they are becoming increasingly specialized in the advancement and management of technology. Similarly, industrial cities, where their headquarters are based, are becoming capitals of technology.

Industrial work in advanced industrial cities, unlike the work done in the factory towns and manufacturing centers that preceded them, is not necessarily done on the production line or even done in-house. Much of it is done in corporate offices and in technical and research centers or contracted

out. Advanced industrial services are produced by specialized professional, technical, and business firms retained by corporations. Most of the legal, accounting, public relations, advertising, insurance, financial, travel, engineering, and research firms depend on industrial corporations for work. Also, as noted above, more and more production jobs are being "sourced out". One should not conclude that industrial cities are declining because employment in production activities, or the number of workers employed directly by major industrial corporations is declining. One has to take into account the linkages between all the various types of organizations that are contributing to the value of goods and services sold by major industrial corporations.

The United States remains an industrial nation albeit an advanced industrial nation and will probably remain so for the indefinite future. The concept of the post-industrial society is most inappropriate and leads to some unwarranted conclusions concerning trends in industrial cities. It tends to undermine confidence in their future. These cities will remain vital as long as the industrial corporations that comprise their institutional base remain competitive internationally. The form of these cities will change as industrial production becomes more knowledge-intensive and cities are rebuilt to accommodate these growing activities.

Other paradigms such as the information or service society can also be misleading because wealth creation continues to take place within the industrialized sector. However, all industries are becoming increasingly organized and structured as more knowledge is gained and as technology is advanced, applied, and managed more effectively. The technology, nonetheless, is governed primarily by industrial organizations. Goods and services sold by these organizations are eventually purchased by consumers. It would seem more appropriate to think of this society as self-service society rather than a service society. Although business and professional services are proliferating, consumer services are becoming mass produced and institutionalized, packaged, and franchised. There is less and less personal contact between the producer and consumer of services.

The paradigm of an advanced industrial society provides a useful perspective for considering the changes occurring in industrial cities. The question of perspective is critical because the outlook for cities, particularly for the older manufacturing centers, can look very bleak when viewed from the perspective of a post-industrial society. The post-industrial paradigm focuses attention on traditional functions such as unskilled production activities and overemphasizes activities that are declining in all cities in advanced industrial nations. From this perspective, the problems associated with decline appear unsolvable and lead many to the conclusion that old industrial cities will eventually become enclaves of a "permanent underclass". The advanced industrial paradigm provides a more balanced view by broadening the perspective so that attention can also be focused on opportunities associated with expansion. Knowledge-intensive, control, and command activities need to be brought into the analysis (26).

Persistence of the old industrial paradigm has a particularly adverse effect on recent immigrants and on working class residents who form a majority in the older cities. They are taught, trained, and counseled in institutions that are still aligned to traditional industrial activities. They are prepared for economic opportunity in manufacturing production activities that are steadily eroding.

Redevelopment of the industrial city and a return to the city make sense when considered in the context of an advanced industrial society. As noted above, what city residents need most is access to the new types of economic opportunities that are being created in office or other urban settings. The return of the middle class will help in two ways. First, they can provide the leadership required to realign some powerful institutions particularly in the field of education, vocational training, and counseling. Second, a reversal of the middle-class flight and the creation of living environments so that middle- and high-income families can return to live in the city will also result in the creation of service jobs. When middle-class residents return to the city, the service functions they require will also return, thus providing a wide range of employment opportunities for lower-income city residents. Improved public transportation is a necessary catalyst. Currently, most of the service jobs in the metropolitan region are located in the suburbs close to the more affluent households and are thus filled primarily by second and third wage earners of suburban households. The city cannot function optimally as the primary employment center for a region if the rest of the city remains as some urbanologists have called it, an "urban reservation" (27).

The real challenge that cities face is to reverse the historic growth process by which cities have grown outward. Cities must be rebuilt as socially, economically, and culturally viable, diverse, and exciting places to live. This is indeed a major undertaking. But it is through the process of rebuilding and restructuring cities that a sense of place and pride in cities is created. This process of city building that spanned centuries in older civilizations in Europe and Asia needs to happen in a matter of decades in the United States. Although industrialization has reached an advanced stage here and the population has become urbanized, the process of city building is still in its early phase. The easy part is behind us. The pressures created by urbanization and high rates of population growth are no longer at play. Cities will have to develop strategies to sustain their development in this new environment.

Certainly city development is needed, the wealth creation process hinges on it and our social problems cannot be alleviated without the creation of new wealth. Perhaps we should begin to in terms of "an imploding metropolis" and about rebuilding cities. To date, the dialogue has focused more on the problems such as "gentrification". Very little attention has been given to the social gains that can accrue from redefining, redesigning, and redeveloping the city. If the right conditions are created through comprehensive areawide long range planning, implosion could occur in a very constructive manner and cities could be redesigned and rebuilt to serve all constituencies in their metropolitan regions. In fact, the better the process of city development is understood, the better the chance that cities will be able to create conditions that will assure their viability.

#### NOTES ON DESIGNING THE FUTURE

The challenge that major urbanized regions face is no longer one of absorbing new investment and people and with the special social problems associated with assimilating unskilled immigrants from rural areas and abroad. The new challenge is one of sustaining development in an increasingly competitive global economy. The forces that led to the rapid growth of urban areas over the last several decades are no longer present, and, consequently, the acci-

dental cities that were formed in the process are endangered. They can no longer take their future for granted. Cities will have to create their futures and in so doing become intentional or willful cities. This is truly a crisis, but one that is imbued with opportunity especially for those places that can view these developments in a historic perspective and can see beyond the problems created by the structural changes that are occurring.

City design will increase in importance as demographic, economic, and social forces that fueled urbanization in the past subside. Competition among cities for the expanding knowledge-intensive activities will intensify and become global in nature. Natural factors such as location, natural resources, and even climate, which provided cities with comparative advantages in the past, will no longer be sufficient to sustain their development. The comparative advantages of cities of the future will be based on man-made attributes such as human and cultural resources, social support systems, and amenities that improve the quality of work and lifestyle. To develop these competitive attractions cities will have to become more intentional in nature.

The city is becoming more important as a consumption good; it is a form of non-pecuniary income that adds a qualitative dimension to money income. Organizations, families, and individuals are becoming sophisticated consumers of cities and the quality-of-life considerations are playing an increasing role in their decisions on where to locate. A successful city must be able to conserve its human resources, retain and develop its own talent, as well as compete effectively on a worldwide basis for whatever talent is not available locally.

Development strategies for cities will have to be highly realistic in terms of both an area's economic base and its political and social environment. Change is a very uneven process, the benefits and the costs usually impact different segments of the population. If a consensus is to be developed in an area that will support the idea of accommodating change, then all segments will have to be assured access to the opportunities that will be created in the process. Many institutions will have to be upgraded and their policies realigned if their constituencies are to be able to take advantage of the new opportunities that will be created.

The initiative to formulate a development strategy, which may eventually require major investments such as new public transportation systems in order to upgrade institutions and areas of the city, will have to originate locally. The planning framework will have to be broadened to encompass both problems and opportunities. The time frame will have to be expanded to deal with long-term issues. The city will have to be redefined to include all the communities in the outlying areas that benefit from organizations based in the city. And, the private sector will have to play a leading role because it controls the resources that have to be mobilized in order to rebuild the city.

The traditional role that government has played in redistributing wealth now has to be more closely aligned to the process of wealth creation that occurs primarily in the private sector. As local and state governments work closely with the private sector, more attention will be paid to how wealth is created, i.e., to the area's economic base, and how local resources can be used to nurture the development process.

The first step that a community must take--making the decision to undertake a strategic planning process--is the most critical and the most difficult of the entire process. Public transportation planning

can be used as a powerful tool for motivating and organizing the process. Transportation developments, in turn, become the catalysts for other developments and provide the linkages that bond diverse urban elements together.

The more diversified and the more fragmented a city-region is, the harder it will be to form a strategic planning coalition that can be both constructive and representative of all the various segments of the community. Once a representative group is formed, the comprehensive evaluation and design process required to formulate a viable development strategy for a city and its region can begin.

Until a strategic planning process is under way, the community cannot take charge of its own destiny. If this planning process is not initiated, if the city's powers are not used to establish their place in the global economy, their powers will wane and their future is in jeopardy. Cities that are able to formulate development strategies and position themselves in the world-order economy will prosper.

Transportation planners can take the lead in advocating intentional cities. One of the most important lessons gained from the global laboratory of cities is that when public transportation systems are designed as an integral part of an overall development strategy, both the systems and the cities work well. The future of our cities and the future of urban public transportation are closely linked. It is hoped that those most knowledgeable about the benefits of well-designed urban public transportation systems will take the lead in advocating intentional cities.

#### REFERENCES

1. W. Owen. *The Accessible City*. Brookings Institution, Washington, DC, 1972.
2. K.L. Bradbury, A. Downs, and K.A. Small. *Urban Decline and the Future of American Cities*. Brookings Institution, Washington, DC, 1982.
3. T.M. Stanback, Jr., and T.J. Noyelle. *Cities in Transition: Changing Job Structures*. Allanheld, Osmun, 1982.
4. H. Ozbekhan. *The Future of Paris: A Systems Study in Strategic Urban Planning*. Philosophical Transactions of the Royal Society, London, 1977.
5. M. Pikarsky and D. Christensen. *Urban Transportation Policy Management*. Lexington Books, D.C. Heath and Co., Lexington, MA, 1976, p. 30.
6. R. Wood. *1400 Governments*. Harvard Univ. Press, Cambridge, MA 1961.
7. M.W. Weber. *The Post-City Age*. *In* The Con- science of the City, Dedalus, Vol. 97, Fall 1968, p. 9.
8. R. Nathan and C. Adams. *Understanding Central City Hardship*. *Political Science Quarterly*, Vol. 91, No. 1, Spring 1976.
10. W. Owen. *Transportation for Cities: The Role of Federal Policy*. Brookings Institution, Washington, DC, 1976.
11. R.H. Caro. *The Power Broker: Robert Moses and the Fall of New York*. Vintage, New York, 1974, p. 933.
12. K. Lynch. *A Theory of Good City Form*. Massachusetts Institute of Technology Press, Cambridge, 1981.
13. S.R. Pierce, Jr. Cover letter accompanying the President's National Urban Policy Report. U.S. Department of Housing and Urban Development, 1982.
14. R.C. Holland. *The New Era in Public-Private Partnership*. Committee for Economic Development, Washington, DC, June 9, 1982.
15. *Facts and Figures*. American Motor Vehicle Manufacturing Assoc., Detroit, 1981.
16. R.V. Knight. *The Cleveland Economy in Transition: Cleveland, An International Center of Advanced Services? The Role of Corporate Headquarters*. Regional Development Program, Cleveland State Univ., Cleveland, OH, 1977.
17. J. Gottman. *Urban Centrality and Interweaving of Quaternary Activities*. *In* Human Identity and the Urban Environment (G. Bell and J. Tyrwhitt, eds.), Penguin Books, New York, 1972.
18. M. Ash. *Retribution and Resurgence*. *Town and Planning*, Vol. 50, July/Aug. 1981, pp. 87-88.
19. E.S. Dunn, Jr. *Economic and Social Development: A Process of Social Learning*. Johns Hopkins Univ. Press, Baltimore, MD, 1971.
20. J. Gottman. *Megalopolis: The Urbanization of the Northeast Seaboard of the United States*. Kraus, 1961.
21. C. Doxiadis. *Ecumenopolis: The Inevitable City of the Future*. Norton, New York, 1976.
22. T.M. Stanback, Jr., and R.V. Knight. *Suburbanization and the City*. Allenheld, Osmun, 1976.
23. F.L. Olmsted. *Public Parks and the Enlargement of Towns*. Presented at the American Social Science Assoc., Lowell Institute, Feb. 25, 1970 (reprinted by Arno, 1970).
24. P.M. Hauser. *The Census of 1980*. *Scientific American*, Vol. 245, No. 5, 1981, pp. 55-61.
25. W.P. Butz. *Demographic Challenges in America's Future*. Rand, 1982.
26. R.V. Knight. *The Region's Economy: Transition to What?* Cleveland State Univ., Cleveland, OH, 1981.
27. N.E. Long. *The Unwalled City: Reconstituting the Urban Community*. Basic Books, New York, 1972.