New Urbanism and Urban Development in Contemporary China

By

Bing Ma, B.Eng., M.Arch.

**A thesis submitted to
the Faculty of Graduate Studies and Research
in partial fulfillment of
the requirements for the degree of**

Master of Architecture

**School of Architecture
Carleton University
June 30, 2002**

© 2002, Bing Ma

National Library
of Canada

Acquisitions and
Bibliographic Services

395 Wellington Street
Ottawa ON K1A 0N4
Canada

Bibliothèque nationale
du Canada

Acquisitions et
services bibliographiques

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file Votre référence

Our file Notre référence

The author has granted a non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of this thesis in microform, paper or electronic formats.

The author retains ownership of the copyright in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de cette thèse sous la forme de microfiche/film, de reproduction sur papier ou sur format électronique.

L'auteur conserve la propriété du droit d'auteur qui protège cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

0-612-79746-5

Canada

The undersigned recommend to
the Faculty of Graduate Studies and Research
acceptance of the thesis:

New Urbanism And Urban Development In Contemporary China

submitted by Bing Ma, M.Eng., B.Eng.

in partial fulfillment of the requirements for the degree of

Master of Architecture

Chair

Department

Thesis Supervisor

Carleton University

June 30, 2002

ABSTRACT

During the late 1980s and early 1990s, the collapse of inner city neighbourhoods and the growing problem of *“urban sprawl”* indicated a crisis in American urban planning. This crisis has been an incentive for architects and urban planners in the United States to develop strategies for the improvement of urban settlements, environments and agrarian regions. New Urbanism, known as neo-traditional urban design, offers an alternative to urban sprawl, urban decay and other problems associated with modern urban development. New Urbanism is an urban design movement that incorporates traditional town and city design with the principles of *“smart growth”* and *“smart transportation”* to create liveable, sustainable communities.

In China, confronted with the changing urban development process brought about by economic and social reform, the government has been exploring various new methods and policies in order to make urban planning and administration more effective. In the face of unprecedented modernization and urbanization, China’s architects and planners must consider existing urban conditions and start thinking of the future of urban development – What is the *“city”* in the China of tomorrow?

Based on the theory and practice of New Urbanism, this thesis is an attempt to explore the potential for sustainable communities in China.

ACKNOWLEDGEMENTS

I would like to acknowledge my gratitude to my Thesis Supervisor, Stephen Fai, for his competent and constant guidance through the whole process of my thesis. His comments and encouragement to my work, and his great patience and effect in guiding my thesis have been of great help.

I would like to thank Professor Greg Andonian, for his enthusiastic help and support for my research. I am grateful to John Leaning for taking the time to discuss with me, and for his valuable comments. I take this opportunity to thank Benjamin Gianni, Brad Steele, Rob Gascho, and Gitte Lindgaard, for their valuable guidance during my whole graduate study at Carleton University.

I thank Masud Taj, Diana Cheng, Zhou Jun, Laura Olac, Sheila Beichler, and other classmates for their valuable insights.

Finally, I also take the opportunity to thank my family and all my friends for their help and support.

CONTENTS

<i>Abstract</i>	<i>ii</i>
<i>Acknowledgements</i>	<i>iii</i>
<i>Table of Contents</i>	<i>iv</i>
<i>List of Figures</i>	<i>vi</i>

INTRODUCTION	2
--------------	---

PART I. URBAN SPRAWL AND URBAN DESIGN: THE EMERGENCE OF NEW URBANISM

1.1. Urban Growth and Urban Sprawl	7
1.1.1 The Brief History of Urban Growth	7
1.1.2 Urban Sprawl in North America	10
1.2. Urban Development and Urban Sprawl in China	16
1.2.1 Overview of China's Urbanization	16
1.2.2 Urban Sprawl in Contemporary China	21
1.2.3 Urban Development and Urban Design Today	23
1.3. Urban Design Theory and The Development of New Urbanism	28
1.3.1 Introduction	28
1.3.2 Urban Design in North America	38
1.3.3 Congress for The New Urbanism	43

PART II. URBAN DESIGN AND NEW URBANISM: THE END OF URBAN SPRAWL

2.1. Definition of the New Urbanism	47
2.1.1 What 's The New Urbanism ?	47
2.1.2 Case Studies: New Urbanism's Experience	54
2.2. Methodology of the New Urbanism	61
2.2.1 The Concepts of New Urbanism I: Metropolis, City and Town	61

2.2.2	The Concepts of New Urbanism II: The Neighbourhood, The District and The Corridor	70
2.2.3	The Concepts of New Urbanism III: The Block, The Street and The Building	78
 PART III. NEW URBANISM AND PRACTICE: NEW URBANISM IN CHINA – THE CASE OF SHANGHAI		
3.1.	Introduction	91
3.2.	Design Model I: Urban Fabric and Urban Pattern	95
3.3.	Design Model II: Districts and Neighbourhoods	104
3.4.	Design Model III: Blocks, Streets and Buildings	113
3.5.	Conclusion: Why China Needs a New Urbanism	123
 <i>Notes</i>		129
<i>Bibliography</i>		133
<i>References</i>		135
 <i>Appendix I:</i> Flash Movie: “Urban Sprawl and Urban Design” (CD – ROM)		138
<i>Appendix II:</i> Charter of the New Urbanism (Congress for the New Urbanism)		139
<i>Appendix III:</i> Resources about New Urbanism		142

LIST OF FIGURES

PART I

- 1.1 Residential Subdivision. From [http:// www.plannersweb.com/sprawl](http://www.plannersweb.com/sprawl).
- 1.2 Shopping Centre. From [http:// www.plannersweb.com/sprawl](http://www.plannersweb.com/sprawl).
- 1.3 Offices and Parking. From [http:// www.plannersweb.com/sprawl](http://www.plannersweb.com/sprawl).
- 1.4 Roadway System. From [http:// www.plannersweb.com/sprawl](http://www.plannersweb.com/sprawl).
- 1.5 Map of Shanghai Municipality, 1980. From *The Dragon's Head: Shanghai, China's Emerging Megacity*, by Harold D. Foster, David Chuenyan Lai, and Naisheng Zhou. (Victoria, BC, 1998). p. 232.
- 1.6 Urban Problem I: Sprawl. From <http://www.kn.pacbell.com>.
- 1.7 Urban Problem II: Population and Housing. From <http://www.kn.pacbell.com>.
- 1.8 Urban Problem III: Tradition Conservation and Upgrading. From <http://www.kn.pacbell.com>.
- 1.9 Urban Problem IV: Environmental Pollution – Dust Storm. From <http://www.worldbank.org>.
- 1.10 Ebenezer Howard's Schematic Diagram of A Garden City. From *Urban Design: The Architecture of Towns and Cities*, by Paul D. Spreiregen. (New York, 1965). p. 38.
- 1.11 The Burnham and Bennett Plan for Chicago (1909). From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 45.
- 1.12 The Civic Plaza, Chicago (1908). From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 45.
- 1.13 Radburn, New Jersey, Plan (1929). From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 48.
- 1.14 The Neighbourhood Unit Concept. From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 48.
- 1.15 Une Ville Contemporaine (1922). From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 51.
- 1.16 La Cite' Industrielle Plan (1904-1917). From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 51.

- 1.17 Battery Park City, New York. From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 56.
- 1.18 Mission Bay, San Francisco. From *Urban Design: The American Experience*, by Jon Lang. (New York, 1994). p. 56.
- 1.19 Seaside Plan, Florida. From [http:// www.theseasideinstitute.org](http://www.theseasideinstitute.org).
- 1.20 View of Seaside, Florida. From <http:// www.theseasideinstitute.org>.

PART II

- 2.1 The Conventional Development. From <http://www.cnu.org>.
- 2.2 The New Urbanist Development. From <http://www.cnu.org>.
- 2.3 New Urbanist Project I: 101 San Fernando St. From <http://www.cnu.org>.
- 2.4 New Urbanist Project II: Northwest Landing Housing. From <http://www.cnu.org>.
- 2.5 New Urbanist Project III: Design for Waterfront District.
From <http://www.cnu.org>.
- 2.6 New Urbanist Project IV: Greyfield Reconstruction. From <http://www.cnu.org>.
- 2.7 View of Seaside, Florida I. From <http://www.seasidefl.com>.
- 2.8 View of Seaside, Florida II. From <http://www.seasidefl.com>.
- 2.9 Downtown, Celebration. From <http://celebration.nm1.net>.
- 2.10 Post office, Celebration. From <http://celebration.nm1.net>
- 2.11 Atlantic Centre Plan, New York City. From *The Next American Metropolis: Ecology, Community & The American Dream*, by Peter Calthorpe. (New York, 1993). p. 136.
- 2.12 Playa Vista Plan: Initial Development Area. From <http://www.playavista.com>.
- 2.13 Playa Vista Plan: Open Space and Traffic Connection.
From <http://www.playavista.com>.
- 2.14 Playa Vista Plan: Mixed-Use Development I. From <http://www.playavista.com>.
- 2.15 Playa Vista Plan: Mixed-Use Development II. From <http://www.playavista.com>.

- 2.16. Portland Metro: Urban Growth Boundaries and Open Space. From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 140.
- 2.17. Portland Metro: Land Use and Transportation Elements (highway, rail, and bus avenues). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 150.
- 2.18. Portland Metro: City Centres and Transit-Oriented Developments (TODs). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 141.
- 2.19. Portland Metro: Urban TODs Area Plan – Clackamas (one of six regional centres in the Portland region). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 142.
- 2.20. Portland Metro: Neighbourhood TODs Area Plan – Hillsdale (one of twenty-nine town centres in the Portland region). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 145.
- 2.21. The Neighbourhood: A Quarter Mile from Centre to Edge (Downtown Athens, Georgia). From <http://www.cnu.org>.
- 2.22. The Neighbourhood: Transit Design (Washington Town Centre, New Jersey). From <http://www.cnu.org>.
- 2.23. The Neighbourhood: Mixed-Use Town Centre I (Cathedral City). From <http://www.cnu.org>.
- 2.24. The Neighbourhood: Mixed-Use Town Centre II (Greyfield Mall). From <http://www.cnu.org>.
- 2.25. The Neighbourhood and The District: New Urbanist Project I (Provo, Utah). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 155.
- 2.26. The Neighbourhood and The District: New Urbanist Project II (West Valley City, Utah). From *The Regional City: New Urbanism and The End of Sprawl*, by Peter Calthorpe, William Fulton and Robert Fishman. (Washington, D.C., 2001). p. 157.
- 2.27. The Neighbourhood and The District: New Urbanist Project III (Gresham, Oregon). From <http://www.cnu.org>.
- 2.28. The District and The Corridor: New Urbanist Project I – Land Use Development (Stapleton Airport, Stapleton). From <http://www.cnu.org>.

- 2.29 The District and The Corridor: New Urbanist Project II – Land Use Development (Dry Creek Ranch, Sacramento). From *The Next American Metropolis: Ecology, Community & The American Dream*, by Peter Calthorpe. (New York, 1993). p. 152.
- 2.30 The Block: New Urbanist Project I - Preservation and Redevelopment (Courtesy of Alex MacLean, Landslides). From <http://www.cnu.org>.
- 2.31 The Block: New Urbanist Project II - Infill and Redevelopment (Crawford Square, Pittsburgh, Pennsylvania). From <http://www.cnu.org>.
- 2.32 The Street: Mixed – Use Development I. From <http://www.cnu.org>.
- 2.33 The Street: Mixed – Use Development II. From <http://www.cnu.org>.
- 2.34 The Street: Mixed – Use Development III. From <http://www.cnu.org>.
- 2.35 The Building: New Urbanist Project I - Bethesda Barnes & Noble Plaza. From <http://www.cnu.org>.
- 2.36 The Building: New Urbanist Project II – Vermont Village Plaza, Los Angeles. From *Charter of The New Urbanism*, by Michael Leccese, Kathleen McCormick, Robert Davis and Shelley R. Poticha. (New York, 1999). p. 52.
- 2.37 The Building: New Urbanist Project III – University of Arizona. From *Charter of The New Urbanism*, by Michael Leccese, Kathleen McCormick, Robert Davis and Shelley R. Poticha. (New York, 1999). p.129.
- 2.38 The Building: New Urbanist Project IV – Mizner Park Buildings. From <http://www.cnu.org>.
- 2.39 The Building: New Urbanist Project V – Temple for Seaside. From <http://www.cnu.org>.
- 2.40 The Building: New Urbanist Project V – Windsor Housings. From *Charter of The New Urbanism*, by Michael Leccese, Kathleen McCormick, Robert Davis and Shelley R. Poticha. (New York, 1999). p.131.

PART III

- 3.1 Urban Growth of Shanghai During The Period 1947-1988. From *The Dragon's Head: Shanghai, China's Emerging Megacity*, by Harold D. Foster, David Chuenyan Lai, and Naisheng Zhou. (Victoria, BC, 1998). p. 134.
- 3.2 Urban Growth Boundaries (UGB) in Shanghai. By Author.
- 3.3 The Structure of Transit-Oriented Development (TOD) in Shanghai. By Author.

- 3.4 Urban Fabric and Urban Pattern: "Concept Design" (I). By Author.
- 3.5 Urban Fabric and Urban Pattern: "Concept Design" (II). By Author.
- 3.6 Neighbourhoods and Districts: "Concept Design" (I). By Author.
- 3.7 Neighbourhoods and Districts: "Concept Design" (II). By Author.
- 3.8 Neighbourhoods and Districts: "Concept Design" (III). By Author.
- 3.9 Neighbourhoods and Districts: "Concept Design" (IV). By Author.
- 3.10 Neighbourhoods and Districts: Site Plan of Xinlicheng, Shanghai (Design Collective, Inc.) From <http://www.designarchitecture.com/news>.
- 3.11 Blocks, Streets and Buildings: "Concept Design" (I). By Author.
- 3.12 Blocks, Streets and Buildings: "Concept Design" (II). By Author.
- 3.13 Blocks, Streets and Buildings: "Concept Design" (III). By Author.
- 3.14 Blocks, Streets and Buildings: "Concept Design" (IV). By Author.

INTRODUCTION

INTRODUCTION

For five millennia, we built towns and cities with strong centres and clear edges, beyond which lay farms, forests, lakes, and streams. Only in the last five decades have these clear edges become ragged, as the centrifugal forces of sprawl have flung a strange collection of objects across the landscape. ...

- Robert Davis [1]

After World War II, with economic prosperity and urban development in North America, it became possible for great numbers of people to move away from the cities toward a less crowded lifestyle at the urban fringe. Many were able to realize their dream of owning a home and a bit of lawn in the suburbs where land was plentiful and cheap. At the same time, road building, increased car manufacturing and government incentives and subsidies also helped people to realize their dream. The demand for low density and privacy resulted in the consumption of large tracts of land at the expense of the environment and the social structure of the community at large. Unfocused planning and laissez-faire attitudes between burgeoning municipalities and land developers resulted in the chaotic situation we now refer to as urban sprawl.

In this period, garden cities, new towns, and romantic suburbs were each espoused as exemplary patterns for new development and urban growth. More recently, Planned Unit Developments (PUDs) were created, attempting to provide a mixed-use community that also preserved open space for public recreation and environmentally sensitive areas and wildlife habitat. But requiring large green-field sites to accommodate a variety of housing types and commercial developments meant they were usually situated on the periphery of urbanized areas. As a result, *"long commutes required residents to endure increasing traffic congestion, and the subsequent abandonment of the residential areas during work hours relegated them to bedroom-community status."* [2] In effect, PUDs were also a

type of sprawl.

The New Urbanism Movement in the 1990s offered an alternative to suburban sprawl, urban decay, dis-investment, single-use zoning, and auto-only environments. Central to New Urbanism's proposal is to create a definitive physical map of the metropolis; its boundaries, transit systems, open spaces, connection and centres. New Urbanism views

"the neighbourhood as a coherent unit, where adults and children can walk to nearby shopping, services, schools, parks, recreation centres, and in some cases, to their own jobs and businesses; where civic centres can serve as focal points for community activity; where streets and blocks are connected with pedestrian walkways and bicycle paths; where public transit is readily available to connect with other neighbourhoods and communities throughout the metropolitan region; where automobiles are convenient to use but do not dominate the most visible aspects of the urban landscape with traffic congestion and massive parking lots; and where houses are built closer together, with front and back porches and yards, grouped around tree-shaded squares, small parks, and narrow streets with planting strips. ..." [3]

New Urbanism represents a growing awareness that architects and planners have a responsibility to society. As we explore these issues in the coming pages, New Urbanism is an urban design movement that incorporates traditional town and city design with the principle of smart growth and smart transportation to create liveable, sustainable communities.

In addition, facing changes in urban development and problems of urban sprawl, urban design has not been a simple job suited for one profession, one department or

one group. More and more, the cooperation of a number of government departments, social organizations, professional practitioners, and local citizens is needed to create a liveable, sustainable community. What is necessary, what is good and what works is needed if American cities are going to survive in the future. New Urbanism offers one alternative for urban design and city planning.

With international economic development and urban expansion, the phenomenon of “urban sprawl” has also taken place in many developing countries during the 1980s and the 1990s. Over the last twenty years, through economic and social reform, China has experienced dramatic changes over a wide spectrum.. Although there were many achievements and advances, urban development was threatened by more urban problems, such as urban sprawl, growing inequality, environmental degradation, population migration, housing shortages, loss of agricultural land and urban pollution. Confronted with those threats of urban development brought about by unexpected rapid economic and societal transition, China’s architects and planners today have to consider the direction of urban design and city development for the future. *New Urbanism* and other successful models of urban planning in the West may offer good examples.

My thesis focuses on the theory and practise of the *New Urbanism Movement* as it was developed in the 1990s. Part One, *Urban Sprawl and Urban Design*, overviews briefly the history of urban growth as an international phenomenon, and analyses specifically the situation of urban development and the causes of urban sprawl in the United States and in China. In this part, I also introduce the development of urban design and the reasons for the emergence of *New Urbanism*. After this broad background, Part Two, *Urban Design and New Urbanism*, deals with the philosophy and methodology of the

new urban design movement – New Urbanism in detail, and examines New Urbanist practices. Part Three, *New Urbanism and Practice*, focuses on the practice of New Urbanism in China – the case study of Shanghai, and attempts to explore a solution of sustainable urban development in China. The Conclusion, summarizes the thesis study and discusses areas for further research.

**PART I. URBAN SPRAWL AND URBAN DESIGN:
THE EMERGENCE OF NEW URBANISM**

1.1 URBAN GROWTH AND URBAN SPRAWL

1.1.1 THE BRIEF HISTORY OF URBAN GROWTH

We often think of the city as a “modern” or recent development, but cities have existed for thousands of years and have their roots in the great river valley civilization of Mesopotamia, Egypt, China, and India. The history of urban development can be understood in three distinct phases:

Phase I: River Valley Civilization

The first phase began around 4,000 B.C.. Settlements developed along the rivers Tigris and Euphrates in Mesopotamia (present day Iraq), the Nile in Egypt, the Ganges in India, and the Yellow River in China. These have been called the river valley civilizations.

In the first phase, the physical landscape played an important role. The early cities were located on fertile flood plains next to large rivers where settlements depended on agriculture and domesticated animals. Over time, small and simple settlements grew into larger and more complex centres for a variety of activities, from agriculture to trade to manufacturing. As these civilizations grew in size and trade routes grew in number, these centres became an organized society for merchants, craftspeople, traders, and government officials. This made society more organized and more efficient, while at the same time provided greater collective security for a city's inhabitants. The division between “town” and “country”, “urban” and “rural” had begun. The shift to an organized, specialized urban environment is one of the most significant changes in the history of human development.

Phase II: The Industrial Revolution

The second phase in the development of the modern city came much later, with the industrial revolution in Europe, around the middle of the 18th century. In this phase, two significant factors contributed to the rapid changes in the sizes and lifestyles of cities. The first factor was the development of large-scale manufacturing and mining industries which came about as a result of technical advances (such as the steam engine) for industrial machinery. These factories and mines required a large labour force, causing migration to the cities from rural areas and sometimes from other countries. The second factor was a rise in commercial activity creating new opportunities in cities. Looking for employment and a better life, people moved from rural areas into cities in greater numbers than ever before. At the same time, the combination of wealth, a large population and a diversity of goods in cities created a market for consumer goods, which slowly evolved into the urban consumer patterns we see today.

Phase III: Global Urban Growth

The third phase began after the Second World War. The largest and fastest growth in the world's urban population has taken place in the decades since 1950. As industrial production increased and economic development became more international, cities began to grow at an ever increasing pace.

Towards the end of the 19th century, many European and North American cities doubled their size within a 20 year period. By the end of the 20th century, many cities in developed countries had stopped growing, but 75% of the population of those countries already lived in urban centres. By contrast, the highest growth rates today are in the so-called developing world, where only 37% of the population is urbanized. However, some

cities in the developing world have tripled in size over the past 45 years. *“In the year 2015, it is estimated that of the ten largest cities in the world only one – Tokyo – will be in the developed world.”* [1]

1.1.2 URBAN SPRAWL IN NORTH AMERICA

Uncontrolled cell growth in the human body today is called cancer. Uncontrolled growth in our cities is called sprawl, the “cancer” that destroys our social fabric.

- James W. Wood [2]

The Definition of Urban Sprawl

Planner Reid Ewing, one of the architects of Florida's state-wide growth management plan, believes that sprawl can be characterized by four factors: [3]

- *Low-density development, usually consisting of single-family homes on large lots;*
- *Strip commercial development;*
- *Scattered development, where commercial, residential, and retail developments are not integrated or close together; and*
- *Leapfrog development where drivers view long stretches of vacant land between developments.*

Although few other definitions have been accepted by urban planners and academic researchers, this definition has received some popular support.

Urban economist John F. McDonald defines the characteristics of urban sprawl as: [4]

- *Low-density development that is dispersed and uses a lot of land;*
- *Geographic separation of essential places such as work, homes, schools, and shopping; and*
- *Almost complete dependence on automobiles for travel.*

The following traits about urban sprawl, outlined by Dr. Anthony Downs of the

Brookings Institute, help us to understand the nature of urban sprawl further. [5]

- *Unlimited outward expansion;*
- *Low-density residential and commercial settlement;*
- *Leapfrog development;*
- *Fragmentation of powers over land use among many small localities;*
- *Dominance of transportation by private automotive vehicles;*
- *No centralized planning or control of land use;*
- *Widespread strip commercial development;*
- *Great fiscal disparities among localities;*
- *Segregation of types of land uses in different zones;*

- *Reliance mainly on the trickle-down or filtering process to provide housing to low-income households.*

Many people think urban sprawl is synonymous with suburbanization - the process of moving out of congested central cities into outlying areas. However, for designers, urban sprawl is more than patterns of suburbanization and decentralization. Rather, urban sprawl is a complex problem involving infrastructure costs, "imbalanced" economic development, land consumption, increased auto dependence and new congestion, and social and environmental impact.

The Causes of Sprawl in North American

Regional Planning. One of the roots of today's pattern of sprawl can be found in the constraint placed on development by regional planning in much of America during the 20th century. Given the fragmented nature of metropolitan governance, implementation of regional plan policies was often difficult. Moreover, many regional plans focused on promoting, rather than controlling, metropolitan expansion.

Highway Building. While the highway system has had a multitude of impacts, many positive, it has also led to dispersal of growth and development. Today, subsidies from the federal and state governments continue to promote highway construction and suburban development.

Housing Policies. In the United States, Federal Housing Policy beginning in the 1930s and continuing through subsequent decades, has helped to foster the movement of the middle class out of the city into an expanding suburban periphery. *"The most significant of these were the Federal Housing Administration and Veterans Administration loan*

programs which, in the years following The Second World War, provided mortgages for over eleven million new homes. These Mortgages, which typically cost less per month than paying rent, were directed at new single-family suburban construction.” [6]

Lifestyle Choices. One important cause of sprawl development is that many people want to get away from the “big city” and enjoy a country lifestyle on their own four, five, or ten acre piece of land. Unfortunately, as more and more people make this choice (while still expecting to receive urban-style municipal services) a sprawling, dispersed pattern of development results -- with all of the public costs this typically entails. Fewer taxpayers are supporting older towns and cities, leaving American inner cities to deteriorate.

Competition for Tax Revenue. Competition among local governments for tax revenues has helped encourage poorly planned development, often a component of sprawl. [7]

The Components of Sprawl

Housing Subdivisions (also called Clusters and Pods). Sometimes called villages, towns and neighbourhoods by their developers, these are typically residential patterns of sprawl development in suburbia.

Shopping Centres (also called shopping malls). Designed for retail and entertainment, the dominant characteristic of these shopping centres is the design for automobile dependence.

Office Parks and Business Parks. Derived from the modernist architectural design of the building standing free in the park, the contemporary office park is usually made of boxes in parking lots and surrounded by highways or other “box” buildings.

Civic Institutions. These are public buildings: the town halls, churches, schools and other places where people gather for communication and cultural events. In traditional neighbourhoods, these buildings often serve as neighbourhood focal points, but in suburbia they take an other form: *“large and infrequent, generally unadorned owing to limited funding, surrounded by parking, and located nowhere in particular.”* [8] All these buildings are designed based on the assumption of massive automotive transportation.

Roadway Systems. Usually, in sprawl development, each piece of suburbia serves only one type of activity, and since daily life involves a variety of activities, the residents of suburbia need to move from one place to other places. In order to connect all these places, more and more roadways are built. However, the traffic load caused by the many disassociated places of suburbia becomes more serious.

Figure 1.1. Residential Subdivision

Figure 1.2. Shopping Centre

Figure 1.3. Offices and Parking

Figure 1.4. Roadway System

The Problem of Sprawl

Loss of "Sense of Place". Sprawl destroys the unique character of urban and rural areas creating miles of undifferentiated new development. Activities which once took place in the centre of cities and towns have been segregated to the periphery of these more densely populated areas. As city centres lose their importance as the heart of communities, civic values are also weakened. Individuals become alienated from their neighbours as downtowns and village centres no longer function as meeting places.

Land Consumption and Threat to Farmland. Sprawl destroys more than one million acres of parks, farms and open space each year. [9] The agricultural landscape that surrounds most of cities and towns in the United States is being converted to development at a still accelerating rate. Farmland is lost as subdivisions and malls with large parking lots are built.

Increased Auto Dependence and Fuel Consumption. Sprawl isolates different land uses causing increased reliance on the automobile. People commute greater distances to work or travel greater distances to shop. The present trend is not sustainable, as highways become clogged with traffic and energy consumption increases.

Cost to Local Government. Urban sprawl is a burden on local government because it forces limited resources to be allocated to the creation of new infrastructure rather than to maintaining existing infrastructure. As sprawl encourages populations to move outside of older established communities, the tax base of these communities is diminished requiring a reduction of services to the remaining population.

Social Impact. Sprawl can have a devastating impact on the poor and racial minorities

who are often concentrated in inner city neighbourhoods. Not only does sprawl lead to the dispersal of job opportunities, but it absorbs large amounts of government spending (on new infrastructure) which might otherwise be used to deal with inner city problems.

Impact on Health. Sprawl increases reliance on cars and driving, it makes air dirtier and less healthy. Research has found that the dispersed pattern of sprawl development increases automobile related injuries to pedestrians.

Environmental Impact. A sprawl pattern of development not only leads to loss of wildlife habitat, but can also increase hazards to public safety. Wetlands and other natural resources are also put at risk by increased land consumption for roads and housing development. Furthermore, reliance on automobile transportation leads to higher consumption of non-renewable resources and increased levels of pollutants causing a spiralling environmental crisis.

1.2 URBAN DEVELOPMENT AND URBAN SPRAWL IN CHINA

1.2.1 OVERVIEW OF CHINA'S URBANIZATION (1949 – 1979)

While modern urbanization – the massive spatial concentration of population in cities and towns – has accompanied industrialization in almost all countries during their early stages of economic development, urbanization in post-1949 China appears to be lagging behind industrialization. It has been said that China's low level of urbanization was a result of Mao's plan to promote greater rural-urban balance and agricultural growth. This "*Chinese Model*" was thus called *Plan-Controlled Urbanization*.

Period I: Urbanization from 1949 to 1957

In 1949, when the Chinese Communist Party (CCP) commenced its governance, the primary agenda on the new government's agenda was to develop a new socialist China. A planned economy of central control was adopted following the Soviet model based on the common ideology of communism. Founded on Marxist economic theory and influenced by the Soviet model, the Chinese government began to make a strategic decision to develop heavy industries, thereby building a national industrial backbone. Nevertheless, the Chinese leadership did not equate industrialization with urbanization, and tried to achieve industrialization without a high level of urbanization. This model of non-urbanization had a profound impact on China's urban development thereafter and sowed the seeds that later blossomed into serious urban problems.

During the *First Five-Year Plan* (FFYP) (1952 – 1957), the central government had categorized all existing cities into four groups with priorities according to the degree of industrial components and the number of industrial projects to be constructed. The new urban construction was apparently led by 150 Soviet-assisted manufacturing projects;

694 large plants were then assigned to the 39 cities in categories I, II, and III. [Table 1.] Because of the emphasis placed upon construction of producer cities and investment in production components, attention was paid to the erection of plants and urban infrastructure and services were ignored. Large-scale industrial development without coordination of urban planning gave rise to chaos, poor performance of investment, and thus waste of scarce resources. Meanwhile, because of the decision to build new socialist industrial sites in the interior region, inadequate resources, scattered among numerous construction sites, gave rise to a serious problem of investment inefficiency. In 1953, the central government in its report to the CCP stated: “... *factories are constructed according to our plans, but cities are not; factories are managed well but cities are not.*” [10]

Table 1. Categorization of Cities, China, 1952

Category I (to be developed as heavy industrial bases)	Category II (to be developed as major industrial cities)	Category III (to be developed as industrial bases)	Category IV (to remain as what they were)
Beijing Baotou Xian Datong Qiqihar Daye Lanzhou Chengdu	Jilin Anshan Fushun Benxi Shenyang Harbin Taiyuan Wuhan Shijiazhuang Handan Zhengzhou Luoyang Kanjiaog Wulumuqi	Tianjin Tangshan Dalian Changchun Jiamusi Shanghai Qingdao Nanjing Hangzhou Jinan Zhongqing Kunming Neijiang Guiyang Guangzhou Xiangtan Xiangfan	All other cities

(Source: *Urban Construction of Contemporary China, Beijing, 1990*)

In urban planning practice, China's pattern of urban planning has originated from industrial site planning of the 1950s. Project-specific development was the main mode of land development in this period. Urban planning at that time was focused on the coordination of these industrial projects. Because of the lack of experience in urban planning and design, Chinese urban planners were trained by Soviet experts. Following the principles of socialist city planning, large-scale suburban development took place under the name of *"new villages"* in Chinese cities. But the Soviet land use and housing construction standards were not suitable to the local situation. *"Buildings in many state construction projects occupied on 20% of the land within the compound and some even took up an astoundingly low 4.6% and caused urban sprawl."* [11] In the city proper, designers preferred to build large squares and grand avenues. In urban planning, a two-tiered system, with a master plan and detailed layout plan was set up. Master plans were generally for coordination between newly built factories and the existing urban condition, while detailed layout plans were for the layout of factories and workers' villages. As urban planning was supposed to support industrial projects that were approved by economic planning, the function of development control in the planning system was minimal.

Period II: Urbanization from 1958 to 1979

During the Second Five-Year Plan (SFYP) (1958 – 1962), urban development in China was characterized by the politically motivated mass industrialization movement at the grassroots levels. The developmental focus shifted from the dependency on the Soviet Union's technologies and assistance to reliance on indigenous effects and desires. *"In 1960, 100,000 plants were under construction nationwide in order to increase the contribution of industrial products to GDP so that the share of manufacturing would*

surpass that of agriculture in the national economy."[12] This movement from 1958 to 1960 was called the Great Leap Forward. It was the beginning of indigenous rural industrialization. Mass industrialization resulted in mass urbanization. Urban population rose to 19.7 percent in 1960, an increase of 5.1 percentage points within four years.

Meanwhile, *"the socialist ideology deemed urban problems such as shortage of housing for low-income residents, social segregation, traffic congestion, and environmental pollution as evils related to the uncontrolled growth of capitalist cities."*[13] Alternatively, socialist cities should adopt a new urban form to avoid these urban problems. Some factories and their workers in metropolises had to be relocated from the central city to the manufacturing-dominated satellite towns. Each of these satellite towns specialized in certain sectors of manufacturing. Eight satellite towns were constructed in Beijing, six in Nanjing, and five in Tainjin. Shanghai planned and built seven satellite towns between 1958-60. However, this planned decentralization was not really accepted by the central city's enterprises and brought about new urban problems between the central city and its satellite towns. In Shanghai, only 11.9 percent of the total number of enterprises operational in seven satellite towns migrated from the central city; and only 28.1 percent of their workers actually settled where they worked. The rest commuted between their workplaces and residence in the central city. In 1960, the National Economic Planning Meeting announced the abandonment of urban planning. In cities, construction of buildings was encouraged on any available vacant site. In 1966, with the Cultural Revolution, urban development virtually came to a standstill. From 1967 to 1972, *"the creation of an industrial base in remote inland provinces to prepare for the envisaged war, drained finances for the development of other cities."*[14] Until 1976, only two cities,

Panzhihua and Tangshan, had prepared urban plans. Meanwhile, because urban youths were sent to the countryside in the “*up to mountains and down to villages*” (shangshan xiexiang) movement, urban population decreased to 12.2 percent in 1965. It further dropped to 11.2 percent in 1970 before reviving to 12.1 percent in 1978.

Figure. 1.5. Map of Shanghai Municipality, 1980

1.2.2 URBAN SPRAWL IN CONTEMPORARY CHINA (after 1980)

In 1980, the economic reforms proceeded from rural areas to urban districts and from manufacturing industries to financial establishments. The great success of agricultural reform has changed the organization of farming from collective communes to a household responsibility since 1978. Agricultural reform preceded reforms to the urban domain. A market dimension was added to economic operations and industrial decision making was to be guided by a market economy rather than dictated by administrative planning. One of the goals for urban reform was to abandon the rural-urban dichotomy and to re-establish cities as the centres of economic organization in the process of urbanization. However, the new urban distribution policy advocated rural urbanization as the method of urbanization under economic reform. This policy stated that urbanization in China must *“control the size of large cities, rationally develop medium cities and vigorously develop small cities.”* [15] The phrase *“vigorously develop small cities”* implied that industrialization would be decentralized to rural towns and urbanization would impact the rural sector. This system of urbanization is called *“cities-leading-counties”* (shidaixian), meaning that cities lead the development of rural urbanization. Because of the lack of infrastructure and local management of urban development, the construction of rural urbanization brought about many problems of urban sprawl, such as the loss of agricultural land, environmental pollution and over-consumption of resources.

Meanwhile, with the change of the urban system from central planning to market orientation, the existing cities were searching for appropriate strategies to embark on economic liberalization. In 1981, Shashi and Changzhou, two medium-size cities, were designated for a pilot study in urban reform. Since 1983, the five large cities of

Chongqing, Wuhan, Shenyang, Dalian, and Nanjing were added to the list for urban reform. Later, in 1984, 14 coastal cities were designated as “open cities” where special zones would be set up (called “*Economic and Technological Development Zones*”) to encourage technologically advanced foreign inward investment. In 1990, the leasing of undeveloped land was legalised and legislation allowing the granting and transferring of land use rights of state-owned land permitted foreign investors to control and develop large plots of land. “*Compared to 1991, the total investment in new development areas doubled in 1992. The total investment doubled again in 1993. The total area of development zones is 15,000 square kilometres, which is equivalent to the total built-up areas of the present 600 designated cities.*” [16] In addition, many cities began to build new international airports, urban ring roads and interregional transportation systems. Thus, mass suburbanization accompanied urbanization in most large, medium and small cities. Urban sprawl has now become the most serious urban problem in contemporary China.

1.2.3 URBAN DEVELOPMENT AND URBAN DESIGN TODAY

Over the last twenty years, with the ongoing economic reform in China, the government has relaxed centralised control on cities. Urban constructions, which centred around state projects in economic plans (from 1949 to 1978), have been replaced by comprehensive development organized by the municipalities. *"Housing and consumption standards in large cities improved sharply. Small towns and cities grew rapidly, and within these smaller places many underemployed villagers found new jobs, ..."*[17] Despite many advances, there are also many problems: inflation, growing social inequality, urban sprawl, loss of agricultural land, pollution and degradation of the environment. Unexpected rapid economic and urban growth have made it more difficult to project urban development and formulate appropriate planning standards. Therefore, today, urban planning in China still faces great challenges.

Urban Development and City Problems

Urban Sprawl

With the process of economic and social reform beginning in 1979, the building of infrastructure for large scale industrial development (housing, airports, highways and railways) has decreased arable land throughout the China and accelerated urban sprawl. According to *China's Environmental Report* between 1987 and 1994, 1.76 million hectares of farmland were lost. In 1994 alone, China lost 714,000 hectares of farmland. Urban sprawl has also brought serious environmental and social problems.

Natural Resources Degradation

- ***Reduction of Cultivated Land.*** Industrialization and urbanization, soil erosion and

desertification are the primary causes for reduction of cultivated land.

- *Shortage of Water Resources.* According to the International Conference on Managing Water Resources for Large Cities and Towns, held in Beijing in March 1996, of 600 surveyed Chinese cities, 400 are suffering from severe water shortages of over 16 million tons per day. Thirty cities are expected to face long-term water shortages.
- *Threat to Biodiversity.* The primary threat to China's biodiversity is human activity. As population pressures increase with urban sprawl, human settlements are expanding into new areas in search of much needed natural resources. Increased industrial and agricultural activities in these ecosystems have led to severe air and water pollution, acid rain, heavy metal and pesticide residues, thereby upsetting the ecological balance.

Industrialization and Urban Pollution

Prior to 1978, the Chinese industrial structure closely followed the model of the former Soviet Union, characterized by a strong emphasis on heavy industry (e.g. iron and steel), the chemical industry, the petrochemical industry, the building material industry, coal-related power industry, and the non-ferrous metal industry. Furthermore, until the 1980s the government invested very little capital in pollution prevention or in municipal infrastructure. In turn, such a dearth in facilities created difficulties for continued industrial development and pollution control. This urban pollution includes air pollution, water pollution, solid wastes and hazardous chemicals, noise pollution, and radiation.

Population, Housing and Land Use

With rapid economic development and the fast paced growth of urban populations,

housing has become one of China's most serious city problems. China had 467 cities in 1990, but the figure has since risen to 666 cities and about 17,000 towns where some 350 million people live. Within the next decade, some 630 million people will be living in urban areas.

A survey in 1990 showed that nearly half of the households in Chinese cities were overcrowded. Today, most cities face problems such as severe housing shortages, backward public facilities, irrational use of urban land, and degradation of environmental quality. In addition, the loss of arable land to urban encroachment and competition for land between cities and agriculture are shaping up to be the most serious of China's challenges.

Floating Population in the Cities: Rural – Urban Labour Migration

Due to the existing “*Hukou*” System, rural-urban labour migration in today's China is becoming one of the most obvious as well as influential social factors and city problems. Research shows that throughout the country approximately 70 million people who left their townships in 1995 for temporary or long-term jobs in country towns or larger urban areas. The number of emigrants who leave their province is also rapidly increasing. Because of the shortage of arable land in rural areas, there is a great amount of surplus rural labour which needs to be transferred to non-agricultural occupations. Therefore, many cities in China are facing the pressure of this “*migration wave*”.

In addition, *Traffic Congestion, Conservation of Heritage, Local Cultural Traditions and Traditional Space, as well as Sustainable Development* are issues that become apparent to urban development in China.

Figure. 1.6. Urban Problem I: Sprawl

Figure. 1.7. Urban Problem II: Population and Housing

Figure. 1.8. Urban Problem III: Tradition Conservation and Upgrading

Figure. 1.9. Urban problem IV: Environmental Pollution – Dust Storm

Urban Planning and Design Today

Confronted with a changing urban development process brought about by economic and social reform, the government of China has been exploring various new methods and policies of urban planning in order to make urban planning and administration more effective. *“In 1980, the Provisional Regulation of Preparing Urban Plan and Provisional standards of Urban Planning were promulgated. They specified that the municipality was responsible for preparing an urban plan. ... In 1984, the Regulation of Urban Planning was promoted by the State Council, which became the guide for urban planning practice. In 1986, the Land Administration Act was enacted. In 1989, the City Planning Act was enacted and was the major milestone in the history of urban planning in China.”* [18]

On the other hand, in the face of unprecedented rapid and radical modernization and urbanization, Chinese architects must consider existing urban conditions in cities: wasteful use of land resources, high-density populations, fast but uneven economic development, constantly shifting fashions and modes of living, multicultural co-existence of communities, chaotic and unplanned settlements, pollution, traffic congestion, as well as political and cultural transitions in society. More and more planners are beginning to learn from the experience of western countries. Some western concepts about urban planning and design, from *The Garden City* model and *The Beautiful City Movement* to *The Modern* and *Post-Modern* Movements, are known to China. Many design terms, such as “new towns”, “green belt”, “growth poles” and “megalopolis”, are widely used in Chinese urban planning. At the same time, geographers, sociologists and economists have joined the teams of urban planners and designers. New techniques, such as remote sensing and geographic information systems have also been introduced to planning strategies. However, the quality of Chinese urban planning still lags behind those of developed countries; it needs more successful experiences and effective methods for its practice. With more contact with the outside, I believe that the experiences of urban design movements in North American will offer valuable examples for China’s architects to learn and use as references in their local practice.

1.3 URBAN DESIGN THEORY AND THE DEVELOPMENT OF NEW URBANISM

1.3.1 INTRODUCTION

Old buildings continue to be demolished when they serve no utilitarian function, new ones are erected; new towns are built, suburbs are developed, and villages changed. The built environment of human settlements (cities, towns and villages) is continually changing. Sometimes these changes occur rapidly. Sometimes the physical patterns seem static, though they rarely are. Changes in the natural and artificial environments of cities, towns and villages comes from human activity. On the surface, most overall patterns of cities, towns and villages are developed in an unselfconscious manner, but their structures and components express highly self-conscious design. All kinds of people, in their various roles, are involved in this dynamic process of changing patterns. *"Politicians, lawyers, developers, sanitation engineers, architects, planners individual business people, each group sees the built environment in terms of its own attitudes, cost, and benefit but also in terms of its perceptions of the nature of the public interest."*[19] Although individual autonomy in making design decisions has been positive in many ways, it also makes this process of the built environment of human settlements more complex.

Urban design has traditionally been a specialization within architecture. Although there has been much intellectual debate surrounding urban design in the past fifty years, the mainstream of the architectural profession is still concerned with the basic job of designing buildings. The prime consideration has been with solving the circulation problem (function in its narrow sense), applying a facade, and solving technical problems (air circulation and optimum structure). Architects and urban designers are

primarily concerned with changing the existing condition and physical world so that they better fit a set of human needs. With current challenges in building cities, towns, villages and suburbs, the patterns of the built settlement or environment have become more complex, and require the guidance of other professionals in addition to architects. Urban design is now a recognized area of professional concern born out of the perception of the patterns. *“Urban design is a complex art for it strives to attain a multitude of ends simultaneously. These ends range from the provision of shelter for activities, to the creation of a sense of place, to the technological soundness of the built environment, to the health of the fiscal and biological environments.”* [20] Therefore, urban design overlaps the endeavours of many fields. It must respond to ecological concerns, to human well being, to the complexities of life, as well as to human behaviour. The way our built environment is constructed must respond to the more elaborate understanding of people and their environment. Urban design is thus also the art of relating one set of professional concerns to other sets. On the other hand, urban design has its roots in the profession of architecture. The major architectural movements of the 20th century never excluded greater concerns of urban design.

1. The Garden City Movement

In 1898, in his influential book *Tomorrow: A Peace Path to Social Reform*, Ebenezer Howard showed how workable and liveable towns could be formed within the capitalist framework. *“He started with discussions of optimum size for towns – a subject frequently debated by theorists – and concluded with a cluster concept: a central city of 58,000 people surrounded by smaller ‘Garden Cities’ of 30,000 people each.”* [21] Permanent green spaces would separate the city from towns, serving as a horizontal

zone of farmland. Railways and roads would link the towns, which would have their own industries, while nearby farms supplied fresh foods. Howard's proposal was accompanied by diagrams showing the attractions of towns and country, when ideally combined. The functional relations between the central city and its surrounding garden cities were also depicted, as well as the overall concept of a garden city and its internal layout. The idea received great acclaim at the time. A garden city was begun in 1902, in Letchworth, about thirty-five miles from London. It was planned by architects Barry Parker and Raymond Unwin. In the same year, a second garden city was established at Welwyn. It was designed by architect Louis de Soissons and was more successful than Letchworth in terms of being more faithful to Howard's original concept. Today it is a centre for the British film industry.

Figure 1.10. Ebenezer Howard's Schematic Diagram of A Garden City

2. The City Beautiful Movement

In 1893, a new hope and a fresh image for cities was proclaimed in the world's fairs.

"The world's fairs were living examples of civic art to match any of the wonders of modern Europe or ancient Rome." [22] The fairs were sometimes designed as a renewal

operation. The land upon which they were built became a new quarter of the city after the fair was over, such as Jackson Park in Chicago, San Francisco's Marina district and Treasure Island. In 1901 the AIA held a national conference on city beautification in Washington D.C. The McMillan Commission was then formed to prepare a plan for the improvement of central Washington. Some of the country's foremost artists constituted the group. They toured Europe for inspiration and returned to propose a grand classical concept of urban design with axes, mall, focal points, and pools – in effect reviving the original L' Enfant plan (1791) for the city. This, together with the example of the world's fair, initiated a country-wide program of civic improvement efforts: *The City Beautiful Movement*.

The City Beautiful Movement was an exercise in current urban design and architecture and sought a more efficient, hygienic city. The goal was to instil civic pride through the grandeur of the built environment. *"The generic city beautiful scheme has the basic elements of its baroque antecedents – axial avenues terminating at focal points, grand plaza, wide streets, and large-scale classical buildings enclosing space, ... plans for cities had to be large scale, bold and classical in layout and in architecture."* [23] The chief propagator of the City Beautiful was Daniel Burnham. Burnham prepared a number of plans for his City Beautiful idea, but his best-known plan was for Chicago itself. *"The plan is a regional one, but attention was lavished on the development of a symmetrical plan around the city hall. The scheme was grand, embodying the beliefs encapsulated in Burnham's renowned epigram, 'Make no small plans, they have no power to seize men's minds.'"* [24] Although many other such city plans exist, few have been implemented.

Figure 1.11. The Burnham and Bennett Plan for Chicago (1909)

Figure 1.12. The Civic Plaza, Chicago (1908)

3. The Modern Movement

The beliefs that people and environment are perfectible and that making the world free of war and hunger were attainable goals worth achieving. Such ends could be attained by reform or revolution.

- Le Corbusier [25]

The Modern Movement is the most important architectural movement in the twentieth century. Usually, the Modernists can be categorized into two broad streams of thought about architecture and city design - the Empiricists and the Rationalists. Although the two represent very different architecture and city design ideologies based on two different intellectual attitudes, they both represent the source of current development of new architecture and city design. The design proposals of the Empiricist branch is based on the learning from observation of the world. The Rationalist's concern in architecture and urban design is with designing idealized future social systems to be housed in an idealized geometrical world.

In proposing future cities and urban precincts the Empiricists looked at *life as lived*, but they were highly selective about the experiences they chose to look at. In urban design, the Empiricists' concern has been with the structure and detailing of open urban spaces,

their built frame, and the sequential experiences they offer as one moves through them. The street and plaza are their primary elements of urban design. The ideal city is, on an aesthetic dimension, the medieval one, the Venice of Europe. This ideal is also reflected in the proposals of the “City livable” advocates. *“Individuality and communality, automobile ownership yet acknowledging the worth of walking, safety for children, efficiency in circulation yet openness in spirit, and the school as a community’s heart.”* [26] All these characteristics can be seen in the design of Radburn, New Jersey.

Figure 1.13. Radburn, New Jersey, Plan (1929)

Figure 1.14. The Neighbourhood Unit Concept

Rationalists saw the Garden City and medieval city as representing a possibly rational past but not an appropriate model for the future. The Rationalists among modern architects were unified by their application of reason to the problems of the day. Their thinking was largely unfettered by the realities of life. This does not mean that their ideas had no precedents, but rather that they wished to break from the past and present. *“Rationalists were (and are) intolerant of pluralism, of historic forms, and even of the historic origins of their own forms.”* [27] Their focus of attention was on the development of possible future social and physical structure for cities and the buildings within them based on their own imaginations. Of all the architects associated with Rationalist ideas, Le Corbusier was probably more concerned about the changing world and urbanism

than any of the others, and his models of the future city have been the most influential.

The schemes also include *La Cite' Industrielle* (Toni Garnier).

Figure 1.15. Une Ville Contemporaine (1922)

Figure 1.16. La Cite' Industrielle Plan (1904-1917)

4. Post-Modern Movements

Post-Modern Movements are, generally, continuations of the Modern Movements in the exploration of architecture and the city. Broadly speaking, Post-Modernism includes theories of Neo-Rationalism and Neo-Empiricism, Cosmological Revival, Classical Revival, as well as Deconstructivism. Most of these Post-Modern Movements, however, represent a continuation of the two major philosophical streams of thought prevalent in urban design: Empiricism and Rationalism.

The Neo-Rationalists, like their forbears, continue to have a major interest in geometry. The basic design principles involve the layering of grids both in plan and in section. Much of this work, such as Mattias Ungers' Karlsruhe library in Europe and Peter Eisenman's Visual Arts Centre at Ohio State University, focuses on 'urban architecture' rather than 'urban design'. In Japan, proposals such as the Nakonshima Point project by Tadao Ando, are a mixture of Neo-Rationalist and Deconstructionist ideas. (Deconstruction itself represents a radically different attitude toward the geometrical order used.)

The Neo-Empiricist stream is comprised of a diverse set of artists who have shown a concern with the details of life in their work, such as Lounain-La-Neuve in Belgium, Battery Park City in New York City and Mission Bay in San Francisco. In these designs, *“architects are looking to the past again to identify patterns of the environment that are pleasing and have some meaning to people.”* [28] The Neo-Empiricists mainly include people such as Christopher Alexander, Charles Moore in the United States, and Ralph Erskine, Herman Hertzberger, Cucien Kroll in Europe.

Figure 1.17. Battery Park City, New York

Figure 1.18. Mission Bay, San Francisco

5. New Urbanism Movement

During the late 1980s and early 1990s, cities faced a crisis caused by dynamics from within and without. A number of city problems originating from the expanding urban area, such as environmental degradation, wasteful consumption of resources, automobile dependency, economic and racial segregation, social alienation, redundancy, and obsolescence made us take sharper notice of our urban structures. At the same time, in developing countries, people were migrating from economically weak rural areas to urban centres. This migration upset the traditional ratio of urban to rural population, aggravated urban problems, and caused urban sprawl. This crisis has been an incentive to both developed and developing countries to seek ways of improving both

urban settlements and agrarian regions.

New Urbanism represents the extension of design efforts based on these modern movements and attempts to explore them with a set of principles at three telescoping scales: the region, the neighbourhood, and the block. In the United States, New Urbanists view the decentralized, auto-oriented suburb as a recipe for disaster and have developed an alternative to the kind of suburban sprawl that advocates low-density development consisting of large, single-use “pod” office parks, housing subdivisions, apartment complexes, shopping centres - all of which are accessed by private automobile. They blame the suburbs for the ever-increasing congestion on arterial roads, a lack of meaningful civic life, and the loss of open public space. New Urbanism, known as neo-traditional urban design, represents a growing awareness that architects have a responsibility to society that goes beyond simply designing buildings. The design work of New Urbanism began to emerge in the United States in the early 1980s with the widely publicized new town of Seaside, Florida. Based on development patterns used prior to World War II, New Urbanism seeks to reintegrate the components of modern life –housing, workplace, shopping and recreation – into compact, pedestrian-friendly, mixed-use neighbourhoods linked by transit and set in a larger regional open space framework. New urbanism is an urban design movement that incorporates traditional town and city design with principle of smart growth and smart transportation to create liveable, sustainable communities. Currently, there are over 500 New Urbanist projects planned or under construction in North America.

Figure 1.19. Seaside Plan, Florida

Figure 1.20. View of Seaside, Florida

1.3.2 URBAN DESIGN IN NORTH AMERICA

The attempt to give form, in terms of both beauty and function, to selected urban areas or to whole cities. Urban design is concerned with location, mass, and design of various urban components and combines elements of urban planning, architecture, and landscape architecture.

- Naphthali Knox AICP, *California Planning Roundtable*, 1990 [29]

Background

The intentional shaping of cities to serve the sacred, defensive, political, and economic goals of societies is as old as the city itself. However, the roots of contemporary urban design in North America are relatively recent and may be traced to the Industrial Revolution. By the early twentieth century several directions in urban design had been established, as were described in previous chapters:

- *The Garden City Movement*, initiated by Ebenezer Howard in the late 1890s, was developed and advocated by Raymond Unwin, Clarence Stein, Henry Wright, Lewis Mumford; it continues to be an influence today in “neo-traditional” community design.
- *The City Beautiful Movement*, was rooted in Renaissance and Baroque urbanism and looked at the city as a network of formal streets and spaces, marked by striking monuments.
- *The Parks Movement*, pioneered by Frederick Law Olmsted, Calvert Vaux, and George Kessler, focused on ways of introducing and integrating natural systems into the city at the metropolitan scale.
- *The Modern Movement*, introduced by Tony Garnier and further developed by Le Corbusier, Walter Gropius, and others in the first half of twentieth century, looked at the city in terms of efficiency and function and tried to provide access to light, air, and space using new techniques of large scale construction and transportation.

In each of these models there was a strong belief that good city form contributed to the health and well-being of people and that cities should be *designed*. Yet, each model hypothesized a different relation between people, urban space and environment.

In the United States urban design as a distinct profession within the environmental design fields did not appear until after World War II when the federal urban renewal and highway programs stimulated rebuilding of major portions of American cities. Early in the process it became clear that special skills were needed to deal with environmental change at this scale – the city could not be treated merely as large scale architecture and the social (or cultural) context needed to be addressed.

In the past 30 years urban design in North America has gone beyond its traditional concerns for formal and functional spatial organization to address the social (or cultural) context and the processes of community change. Today the field is being shaped in new ways by an increasingly pluralist society. Urban design really is the coordination of essential function in a pleasing form that improves the quality of life in an urban area. At the same time, many cities in North America are expanding at their edges at an unprecedented rate, known as “*urban sprawl*”, while central cities are losing residents, jobs, and public support. A renewed focus on creative urban design is needed now more than ever.

The Scope of Urban Design

There are three facets to the work that architects and urban designers practise in the field of urban design and urban planning. First, the Intellectual Domain, concerns the range of considerations and problems that urban designers face; the second, the Operational Domain, that urban designers have in dictating design outcomes; and the third, the Geographical Domain, concerns the perceived size and significance of the area being considered. The first two are the essential matters, the third is merely a

matter of scale. [30]

The Intellectual Domain of Urban Design

Urban design is concerned with the design of building configurations and the spatial and use relationship between buildings and spaces created between them. The focus of attention is on organizing the public realm. It is concerned with the way open spaces are framed by buildings that usually have different histories, forms and styles. Architects inevitably practice urban design when they design building complexes, city planners when they establish design policies, and landscape architects in the specific design of open spaces. They are all shaping the public realm. Thus, the concerns overlap those of city planners, landscape architects, and architects. The range of concerns engaging an urban designer's attention depends on their working environment, professional context and social ideology.

The Operational Domain of Urban Design

All designs are social statements as well as aesthetic ones. In urban design, the decision-making process that initiates a project and brings it to its conclusion is never really controlled by urban designers. When urban designers work for a developer they represent the developer's interests, producing conceptual design diagrams and illustrative site plans. When working for a governmental agency, the urban designer may be required to work on general design policies as well as guidelines that shape the future city. Thus, the usual role of urban designers is as consultants to public agencies or developers, and the degree of project control they have is that given them by their sponsors. The function of the range of variables that the designer wishes to control have to be recognized.

The Geographical Domain of Urban Design

The basic goal of urban design is to ensure a concern for the public interest in the process of building cities and other human settlements. Sometimes, urban design might simply be regarded as architectural design on an urban scale, the architectural design of cities, neighbourhoods, and their sub-areas. The focus of attention has been on the public realm – the public spaces within and between buildings, and the facades of buildings and other surfaces that define those spaces.

The Types of Urban Design Work

I. Urban Design on a Regional Scale:

- Regional Design
- Design for Developing Regions
- Design for Wilderness Areas and Old Preserves

II. Urban Design at the Metropolitan Scale:

- Design for Metropolitan Structure
- Design for Metropolitan form and Pattern
- Design for Open Space System
- Design for Metropolitan Transportation
- Design for Metropolitan View System
- Design for Metropolitan Skyline
- Design for Metropolitan Special Sites (Historic and Natural)

III. Urban Design at the City Scale:

- Plan for Urban Open Space
- Plan for Greenfield System
- Design for Electric Lighting
- Design for Street Structure
- Design for Urban landscape (Sculpture, Art and Cityscape)
- Downtown Design
- Urban Renewal
- Historic and Natural Preservation
- Suburban Development
- New Town Design

1.3.3 CONGRESS FOR THE NEW URBANISM

Congress for The New Urbanism (CNU) is a San Francisco-based non-profit organization that was founded in 1993 by six architects – Peter Calthorpe, Andres Duany, Elizabeth Moule, Elizabeth Plater-Zyberk, Stefanos Polyzoides, and Daniel Solomon. They work with architects, developers, planners, and others involved in the creation of cities and towns, teaching how to implement the principles of the New Urbanism. These principles include coherent regional planning, walkable neighbourhoods, and attractive, accommodating civic spaces, and so forth. Today, CNU has over 2,300 members throughout the United States and around the world. There are now over 500 New Urbanist developments under construction or complete in North America. *“Though the movement has drawn criticism from much of the architectural academy, the ideas behind CNU's Charter have been gradually integrated into the curriculum at the top planning and architecture schools.”* [31]

Since 1993, the *Congress for The New Urbanism* has sponsored annual Congresses. At Congresses, architects, landscape architects, planners, economists, real estate agents and developers, lawyers, government officials, educators, citizen activists, and students discuss issues related to the health and vitality of regions, towns, and neighbourhoods and teach one another how to develop better cities and towns. These topics include:

- The principles of the neighbourhood, district, and corridor;
- The local scale of buildings, blocks, and streets;
- Regional planning;
- Environmental and urban infill;
- Strategies to strengthen the physical, economic, and social aspects of cities;

- Political landscape of the New Urbanist;
- Smart Growth Movement;
- The region, neighbourhood, design, and codes;
- Rebuilding the suburbs.

The *Congress for The New Urbanism* “views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge.” [32] CNU advocates the restructuring of public policy and development practices to support the restoration of existing urban centres and towns within coherent metropolitan regions. They stand for the reconfiguration of sprawling suburbs into communities of real neighbourhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy. Rebuilding neighbourhoods, cities, and regions is profoundly interdisciplinary. Therefore, CNU believes that community, economics, environment, and design need to be addressed simultaneously through urban design and planning.

On the other hand, the *Congress for The New Urbanism* is inspiring political leaders eager to solve social, economic, and traffic problems – while making cities, towns and neighbourhoods more beautiful and dignified. Popular “*Smart Growth*” policies promote New Urbanism while reducing subsidies for sprawl. In the United States, the Department of Housing and Urban Development has taken New Urbanism to heart with its HOPE VI program (HOPE VI replaces aging, alienating housing projects with townhouses, single-family homes, and apartments on walkable, comfortable street grids). Meanwhile, the U.S. General Services Administration – the federal government’s landlord and nation’s

largest developer – has also adopted a New Urbanist agenda. [33]

Today, the *Congress for The New Urbanism* works with environmentalists, business people, developers and citizens. These groups are coming together to support the development strategy called New Urbanism, and the policies of Smart Growth.

**PART II. URBAN DESIGN AND NEW URBANISM:
THE END OF URBAN SPRAWL**

2.1 DEFINITION OF THE NEW URBANISM

2.1.1 WHAT IS THE NEW URBANISM

New Urbanism is an urban design movement that began in North America in the late 1980s and early 1990s, however, the ideas encompassed by New Urbanism have existed long before the movement's formal acknowledgement.

In the 1940s, a proto-new urbanism began as a critique of “*Euclidean*” suburban planning as it was being practiced in the United States. Euclidean, or “*blob*” planning, was itself a reaction against early 20th century industrialism that pitted factories against nearby housing. In 1961, Jane Jacobs further sowed the seeds of New Urbanism in her book *The Life and Death of Great American Cities*. Jacobs advocated mixed land uses that would keep all parts of the city well connected, useful and vibrant. [1]

In the 1970s, Neo-traditional Planning (NTP) emerged out of dissatisfaction with Planned Unit developments (PUDs). PUDs were originally designed as methods for creating comprehensive developments that cluster high-density residential uses with retail, shopping and employment. PUDs became a popular mechanism for providing more flexibility for developers and planners at that time. But PUDs did not consider the community as an “*integrated urban design problem*”, it failed to create the sense of “*place*”, or community, that many planners believed was important to urban design and community development. NTP promised to fill this void. NTP represented an attempt within the planning profession to adopt a concept of cities that was more tolerant of diversity, and encourage flexibility to meet non-traditional planning standards, such as narrow streets, public centres, and mixed land uses. Many NTP concepts therefore provide the foundation for New Urbanism. [2]

Based on the development patterns used prior to World War II, New Urbanism seeks to reintegrate the components of modern life – housing, workplace, shopping and recreation – into compact, pedestrian-friendly, mixed-use neighbourhoods linked by transit and set in a larger regional open space framework. Central to New Urbanist thought is the belief that the community and, the neighbourhood, are vital components of urban ecology in which human, natural, and built environments interact. New Urbanism is an urban design movement that incorporates traditional town and city design with the principle of smart growth and smart transportation to create liveable, sustainable communities.

Today the New Urbanism trend goes by other names, such as Neo-traditional Design, Transit-Oriented Development, Location Efficient Development, and Traditional Neighbourhood Development; along with other TDM strategies, such as Transit Improvements, Traffic Calming, Pedestrian Improvements, Car sharing, Parking Management, and Commute Trip Reduction programs. Borrowing from urban design concepts throughout history, the New Urbanism doesn't merely replicate old communities. For example, new houses within neighbourhoods must provide modern living spaces and amenities that consumers demand; stores and businesses must have adequate parking and modern floor plans along with proper designs, large offices, light industrial and even "*big box*" retail buildings incorporated into a pedestrian friendly, new urbanist neighbourhood. Principles that define New Urbanism can not only be applied successfully to new sites such as Seaside and Celebration, Florida but also to infill and redevelopment sites within existing urbanized areas such as Downtown Los Angeles, California and Atlantic Centre Brooklyn, New York.

Figure 2.1. The Conventional Development

Figure 2.2. The New Urbanist Development

The Key Principles of New Urbanism

For this investigation, the principles of New Urbanism can be applied increasingly to projects at the full range of scales from a single building to an entire master-planned development. [3]

- All development would be in the form of compact, pedestrian friendly neighbourhoods and/or districts. Such places would have clearly defined centres and edges. The centre would include a public space and public buildings. A transit stop would be located at this centre.
- Cities and towns would be shaped by physically defined and universally accessible public spaces and community institutions. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
- Neighbourhoods and districts should be compact (typically no more than one-quarter mile from centre to edge) and detailed to encourage pedestrian activity without excluding automobiles altogether.
- Streets should be laid out as an interconnected network (usually in a grid or modified grid pattern), forming coherent blocks where building entrances front the

street rather than parking lots. Public transit should connect neighbourhoods to each other, and to the surrounding region.

- The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.
- A wide spectrum of housing options should enable people of a broad range of incomes, ages, and family types to live within a single neighbourhood/district. Large developments featuring a single use or serving a single market segment should be avoided.
- Civic buildings, such as government offices, churches and libraries, should be sited in prominent locations. Open spaces, such as parks, playgrounds, squares, and greenbelts should be provided in convenient locations throughout a neighbourhood.
- Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of an urban society.

Figure 2.3. New Urbanist Project I:
101 San Fernando St.

Figure 2.4. New Urbanist Project II:
Northwest Landing Housing

Figure 2.5. New Urbanist Project III:
Design for Waterfront District

Figure 2.6. New Urbanist Project IV:
Greyfield Reconstruction

The Benefits of New Urbanism [4]

- ***Benefits to Residents***

New Urbanism provides a better place to live, work, and play. It has higher and more stable property values. Because of less traffic congestion and less driving, it reduces transportation cost. It provides more autonomy to children and old people, and more community cohesion and interaction.

- ***Benefits to Businesses***

N.U. increases economies of agglomeration, sales due to more pedestrian traffic,

and economies of scale in marketing due to close proximity and cooperation with other local businesses. It promotes small local business incubation.

- *Benefits to Developers*

N.U. has more income potential from higher density and mixed-use projects, higher property values, and selling prices. It reduces the cost of facility investments. Great acceptance by consumers from a wider product range resulting in wider market share makes it good for selling and re-selling.

- *Benefits to Municipalities*

N.U. is the base of stable and appreciating tax. It has less spent per capita on infrastructure and utilities than typical suburban development; less crime, and less spent on policing. It is less susceptible to sprawl when urban core area is desirable, and allows for an improved, easy to install transit systems.

- *Benefits to Environments*

N.U. preserves green space and wildlife habitat and reduces air, water, and other environmental pollution. It also reduces resource consumption and “heat island” effect.

The Limitations of New Urbanism

Despite such benefits, the New Urbanism has yet to be broadly embraced as a development model. The reasons include:

- Its physical design standards and implementation practices are not fully compatible with the regulatory framework in most regions of the U.S. and Canada.
- The real estate industry is highly segmented by land use category (such as single-family housing, multi-family housing, retail, office and warehouse). Each

category has its own practices, markets, trade associations, and financing sources. The highly integrated development strategy advocated by the New Urbanists requires a more holistic approach to community building than the real-estate industry is currently structured to deliver.

- There is sometimes local resistance to higher density, infill development.

Application to redeveloping existing land is limited.

2.1.2 CASE STUDIES: NEW URBANISM'S EXPERIENCE

Seaside, Florida, 1981

Seaside, Florida, the first New Urbanist town, began development in 1981 on 80 acres of Panhandle coastline. *Seaside* appeared on the cover of *Atlantic Monthly* in 1988, and it has since become internationally famous for its architecture, streets and public spaces. Time magazine hailed *Seaside* as one of the ten great design achievements of the 1980s. Seaside was developed by Robert and Daryl Davis based on concepts by Miami architects Andres Duany and Elizabeth Plater-Zyberk. Their inspiration originated from an image by urban designer Leon Krier, "... a sensibly laid out town or city would, in fact, have all of the necessities and pleasures of daily existence within walking distance of one's residence. You might have to use mechanical transportation to go to the opera, but you should not need to use a car to get a quart of milk, nor should you have to be a chauffeur for your children ...". Vincent Sully, a Yale professor and one of America's leading architecture critics, also calls Duany and Plater-Zyberk's work "*the most important contemporary movement in architecture.*" [5]

Seaside proved that developments that function like traditional towns could be built in the post-modern era. Lots began selling for \$15,000 in the early 1980s, slightly over a decade later, the last lots sold for close to \$200,000. There are now more than 300 cottages in Seaside. The streets are designed to accommodate cars and parking but make walking more convenient and pleasant than driving. From inception, downtown Seaside has been an important part of the plan. Seaside residents are able to walk to a central square which contains a variety of public and commercial buildings. The quaint streets of Seaside received additional visibility in 1999 as the location for the movie "*The Truman Show*".

Since Seaside gained recognition, other neo-traditional towns have been designed and built – including Haile Village Center in Gainesville, Florida; Harbor Town in Memphis, Tennessee; Kentlands in Gaithersburg, Maryland; and Orenco Station in Hillsboro, Oregon. Designers are also using the principles of New Urbanism to revitalize cities and towns. The Seaside idea might be a model for changing the patterns of urban and suburban sprawl. The US Department of Housing and Urban Development (HUD) adopted the principles of New Urbanism in its multibillion dollar program to rebuild public housing projects nationwide. New Urbanist projects built in historic cities and towns includes Crawford Square in Pittsburgh, Pleasant View Gardens in Baltimore, Park DuValle in Louisville, and the Downtown of Port Royal, South Carolina.

Figure 2.7. View of Seaside, Florida I

Figure 2.8. View of Seaside, Florida II

Celebration, Orlando, Florida, 1996

Celebration, Florida is a 4,900-acre master plan development built just a few miles from Walt Disney World by the Disney Corporation. It first opened in 1996. As the corporation describes it, *“Celebration takes the best of what made small towns great in our past and adds a vision of the future. All the conveniences and technology of modern life will be hidden in timeless architecture. There will also be a sense of community. Hence the lakeside town centre, complete with town hall, post office, library, deli, restaurants,*

bookstore-cafe, grocery store, dry cleaner, and movie theatre. It is meant to be a sociable place, with people living above the shops and streets designed for pedestrians."

[6] Celebration currently has 700+ residences with a population of 2,000+, and will eventually provide for 20,000 people. It includes a downtown, health centre, school, post office, town hall, golf course, single family homes, townhouses, and apartments. Half of the land will remain open space. The town has restrictive covenants that limit what property owners can and cannot do, including strict building design standards.

A survey of Celebration residents shows that 43 percent said they drive *"significantly"* less, while the rest said they use their cars *"somewhat"* less. Ninety percent felt that the physical characteristics of New Urbanist planning contribute to and improve the quality of their lives, and 98 percent said that the feeling of community in Celebration has met their expectations. *"The entire focus of our lives has changed,"* says homeowner Ray Chiaramonte. *"Instead of doing everything some place other than close to home, we now eat, do errands, celebrate special occasions and just hang out near our own home. The changes are most dramatic for our children, who now have a freedom they never had in our old neighbour."* [7] Another respondent reported that his two-and-a-half-year-old car only had 13,000 miles on it.

Figure 2.9. Downtown, Celebration

Figure 2.10. Post Office, Celebration

Atlantic Centre, Brooklyn, New York, 1986

In the late 1980s, “the rising cost of Manhattan real estate forced many New York City businesses to relocate their less critical ‘back-office’ facilities to outlying suburban areas. Hoping to stem the loss of jobs and tax revenue, then mayor ED Koch launched a program of financial and development incentives aimed at retaining back-office activities within the city limits.” [8]

One of the results of the program was the master plan for downtown Brooklyn’s new Atlantic Centre. Atlantic Centre was one of the first mixed-use transit-oriented development projects planned to revitalize an inner city neighbourhood. The 26-acre urban renewal site was designed by architects Peter Calthorpe and Skidmore Owings and Merrill and includes 2.7 million square feet (s.f.) of office space – half in two large towers directly over the terminal. A sky-lit retail concourse with restaurants, shops and a 10-screen cinema is located near the centre of the complex. A 641-unit neighbourhood to the east accommodates low- to medium-income renters along with several street-level retail businesses. In this project 12 subway lines and 14 bus routes converge at the location, providing unparalleled transit access. Featuring passive solar energy, gardens, parks, and affordable home ownership, this innovative project was the first new development in New York to be designed with recycling. But Atlantic Centre was halted by an environmental group concerned with road congestion skimming from the project, and was eventually sold to Forest City/Ratner.

Figure 2.11. Atlantic Centre Plan, New York City

Playa Vista, Los Angeles, California, 1989

Playa Vista is a 1,000 acre new town designed to use under-utilized land in the heart of the urbanized Westside of Los Angeles. The project includes 11,750 residential units; five million s.f. of office space; 720,000 s.f. of retail space; 2,400 hotel rooms; and a forty-acre marina. All construction will be phased over the next fifteen years.

The Playa Vista master plan defines a balanced community of low- to mid-rise buildings with a strong emphasis on the provision of a generous public realm. *"Like many of the most admired old Southern California towns and cities, Playa Vista uses a defined hierarchy of street and open-space types to shape its neighbourhoods."* [9] Each neighbourhood is designed to provide an array of such uses within a comfortable walking distance. Over half of Playa Vista's site has been devoted to open space, including major parks, playing fields, neighbourhood squares, cycling trails and pedestrian promenades. A restored bluff, wetland preserve and riparian corridor serve as greenbelts for the community. Major components of the project include The Campus (an entertainment, new media and technology complex), as well as parks and recreational spaces, all set next to the Ballona Wetlands. Playa Vista's community also

provides and encourages alternatives to the private auto both within and outside the community. Streets are designed for the comfort and safety of both pedestrians and cars. In addition, the plan includes a low-emission internal shuttle service that will be linked to regional transportation systems.

Figure 2.12. Playa Vista Plan: Initial Development Area

Figure 2.13. Playa Vista Plan: Open Space and Traffic Connection

Playa Vista offers a viable alternative to urban sprawl by providing a greater intensity and range of new uses organized around pedestrian-oriented streets, public parks, and

open spaces. It was selected by former President Bill Clinton as one of five P.A.T.H. (Partnership for Advancing Technology in Housing) communities in the United States, highlighting its commitment to sustainable development under the leadership of the U.S. Department of Energy's Building America program. In addition, Playa Vista has received the Ahwahnee Award for recognition as a model *"smart growth"* project for its environmental sensitivity and cutting edge energy efficiency.

Figure 2.14. Playa Vista Plan: Mixed-Use Development I

Figure 2.15. Playa Vista Plan: Mixed-Use Development II

However, the new urbanists still have plenty to prove. They must design and build viable retail centres to compete with conventional suburban development (CSD) nationwide. They must capture a broad portion of the residential market and find ways to offer homes at reasonable prices. New urbanists also must prove, over time, that their ideas are superior for both revitalizing old towns and cities and building new communities. If they can accomplish those goals, New Urbanism is really poised to become the dominant real estate and planning trend of the new century.

2.2 METHODOLOGY OF THE NEW URBANISM

2.2.1 THE CONCEPTS OF NEW URBANISM I: METROPOLIS, CITY AND TOWN

Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centres that are cities, towns, and villages, each with its own identifiable centre and edges. ...

Where appropriate, new development contiguous to urban boundaries should be organized as neighbourhoods and districts, and be integrated with the existing urban pattern. ...

The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.

- Charter of The New Urbanism [10]

To understand how New Urbanism works in a regional context, the strategies for regional metropolitan planning must be understood. First, the metropolitan region is a fundamental social and economic unit of the contemporary world. It should be treated as a whole – socially, economically and ecologically. Seen as a whole, it should, like a neighbourhood, be “*designed*” according to similar urban principles. It should be structured by public space, its circulation system should support the pedestrian, it should be both diverse and hierarchical and should have discernible edges. Second, the metropolitan region should clearly define its own sense of identity. Understanding the quality of regional characteristics, expressing these in the design of communities, integrating them within our towns and cities, and respecting its balance are critical to making the city sustainable and spiritually nourishing.

Regional Plan Strategies

The Regional Land Use and Transportation Connection

Highways make urban sprawl possible and urban sprawl constantly requires more highways. To counter the negative spatial effects of sprawl, New Urbanism focuses new development, redevelopment, and services within walkable, transit-served neighbourhoods that are connected to larger concentrations of workplaces. Mixed-use development (clustered services, adequate transit, walkable streets, and accessible local destinations) serve not only low-income people, but also working middle-class households in search of more convenient and affordable lifestyles. Metropolitan coordination and framework plans are necessary to integrate local mixed land use with regional transportation investments.

Urban Growth Boundaries and Urban Greenlines

Environmental concerns for habitat, wetlands, open space, and farmlands, as well as the need for recreational space, should be addressed in a regional framework. Preserving open space in a coherent manner can reinforce a development tendency toward more compact communities as well as the re-use and revitalization of many declining districts. Urban Growth Boundaries (UGBs) offer a way to better resolve the gridlock between conservation and development.

Regional Structuring

The key planning goal of New Urbanism is to concentrate compatible residential and work populations within clusters of walkable neighbourhoods to form towns, cities and regions. In this urban pattern, the relatively dense and commercial centres should be located around a major public transit interchange or at intersections of major traffic routes. Transit and pedestrian systems should maximize access. Neighbourhood edges should meld seamlessly, except where natural barriers, large green spaces,

freeways, or other boundaries provide a prominent edge. It is important to design with the features of land to define urban boundaries and establish a sense of identity.

Redefinition of the Regional Contexts

Our ubiquitous single-use zoning should be replaced with standards for mixed-use, walkable and transit served neighbourhoods. Our urban design policies should promote an architecture oriented toward an interactive public domain with a human dimension rather than the isolated private domain with automobile based structures.

Employment Trends and Jobs/Housing Balance

Cities should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. The mixed-use neighbourhood should accommodate different kinds of workplaces to provide adequate opportunities for businesses and foresee employment growth. Affordable housing should be distributed throughout the region to match job opportunities and business markets.

Urban Growth Boundaries (UGBs)

Urban Growth Boundaries (UGBs) are an essential tool for meeting the growth management challenges of the future. A UGB is more than just a line separating cities from adjacent country sides. As one urban analyst has noted, a long term boundary is a *“pro-active growth management tool that seeks to contain, control, direct or phase growth in order to promote more compact, contiguous urban development.”* [11] UGBs are a way to bring certainty to the issue of which lands will be developed and conserved, and can lead to programs that encourage appropriate development inside the boundary and enhance long term ecological, agricultural and other uses of natural lands outside the boundary. UGBs work best as part of comprehensive growth management strategies

of New Urbanism, and they have several advantages including:

- Affirming the community's identity;
- Using public facilities more efficiently;
- Encouraging the development of more affordable housing;
- Supporting more accessible public transit;
- Protecting farmlands and other resource lands;
- Enabling quick open space retreats from urban centres.

UGBs have been used extensively in many European countries and are required by law in Oregon and Washington state. The best place to look for evidence of how UGBs have worked is in Portland Oregon – a major American metropolitan region with a UGB in place since the 1970s. Portland's UGB is a state-mandated limit to growth around the metropolitan region and was established in 1972. The strategies of the UGB are central to the thesis of New Urbanism – that a regional system of open space and transit complemented with pedestrian-friendly development patterns can help revitalize an urban centre at the same time it helps to order suburban growth and contain sprawl. On the whole, the UGB has been a huge success. It has helped to protect huge swaths of forest and farm land at the region's edge. It has helped increase the amount of housing planned inside the UGB – from 129,000 homes to 300,000 homes. It also has helped revitalize Portland's downtown.

Figure 2.16. Portland Metro: Urban Growth Boundaries and Open Space

Figure 2.17. Portland Metro: Land Use and Transportation Elements (*highway, rail, and bus avenues*)

Transit-Oriented Developments (TODs)

Transit-Oriented Developments (TODs) are a New Urbanist strategy for urban development in regional planning. They offer an alternative to traditional development patterns by providing housing, services, and employment opportunities for a diverse population in a configuration that facilitates pedestrian and transit access. The TOD concept is: *“moderate and high-density housing, along with complementary public uses, jobs, retail and services, concentrated in mixed-use developments at strategic points along the regional transit system.”*[12] Generally, the TOD is made up of a core commercial area, with civic and transit uses integrated, and a flexible program of housing, jobs, surrounding by public spaces. The fundamental structure of the TOD is the integration of a commercial centre, civic uses, and a potential transit stop. A walkable environment is also the key aspect of the concept. In order to develop alternatives to drive-alone auto use, comfortable and walkable environments are created at the origin and destination of each trip.

A typical TOD is a mixed-use community within an average 2,000-foot walking distance of a transit stop and core commercial area. It mixes residential, retail, office, open space, and public uses in a walkable environment, making it convenient for residents and employees to travel by transit, bicycle, foot, or car. The average 2,000-foot radius is intended to represent a *“comfortable walking distance”* (about 10 minutes) for a majority of people. In addition, the TOD should be located on or near existing or planned segments of a trunk transit line or feeder bus network. Adequate auto accessibility is also important.

TODs seek to bring many destinations within walking distance, such as local retail, civic

services, parks, and commercial centres, allowing trips to be combined. Surrounding the TODs is the area (a Secondary Area) for low-density uses, the large-lot single-family residences, schools, larger businesses, and major parks. TODs can be developed throughout a metropolitan region on undeveloped sites in urbanized areas, sites with the potential for infill and redevelopment, and in new growth areas.

The principles of Transit-Oriented Developments would: [13]

- *Organize growth on a regional level to be compact and transit-supportive;*
- *Place commercial, housing, jobs, parks, and civic uses within walking distance of transit stop;*
- *Create pedestrian-friendly street networks which directly connect local destinations;*
- *Provide a mix of housing types, densities, and costs;*
- *Preserve sensitive habitat, riparian zones, and high quality open space;*
- *Make public spaces the focus of building orientation and neighbourhood activity;*
- *Encourage infill and redevelopment along transit corridors within existing neighbourhoods.*

The Land Use, Transportation, Air Quality Connection (LUTRAQ) in Portland, Oregon, is a national demonstration project sponsored by 1,000 Friends of Oregon, a nationally renowned environmental group that help create Oregon's state-legislated regional plans and UGBs. In this project, TOD patterns were used to show that land use can effectively reduce auto dependence, increase mobility, minimize air quality impacts, and create more affordable communities.

The LUTRAQ land use plan reallocates a projected population growth of 160,000 in Washington County from typical sprawl into a mixed-use pattern that supports the

planned light rail and bus network extension. The plan simply rearranges the land uses which were predicted to develop in the next twenty years, while the overall density and proportion of different housing types were not altered. Four new types of development were planned: Mixed-Use Centres to urbanize existing downtown areas through redevelopment and infill; Urban TODs at station areas along the planned light rail lines; Neighbourhood TODs within a short feeder bus ride of the light rail; and Secondary Areas within a mile of each centre.

Figure 2.18. Portland Metro: City Centres and Transit-Oriented Developments (TODs)

Figure 2.19. Portland Metro: Urban TODs Area plan – Clackamas (*one of six regional centres in the Portland region*)

Figure 2.20. Portland Metro: Neighbourhood TODs Area plan – Hillsdale (*one of twenty-nine town centres in the Portland region*)

2.2.2 THE CONCEPTS OF NEW URBANISM II: THE NEIGHBORHOOD, THE DISTRICT AND THE CORRIDOR

The neighbourhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution. ...

Neighbourhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighbourhood design when possible. Corridors are regional connectors of neighbourhood and districts; they range from boulevards and rail lines to rivers and parkways.

- Charter of The New Urbanism [14]

The Neighbourhood

Neighbourhoods, districts and corridors are urban elements. Neighbourhoods mass together to form towns and cities. *"Though the nomenclature varies, there is general agreement regarding the composition of the neighbourhood. The neighbourhood unit of the 1929 New York Regional Plan, the Quarter described by Leon Krier, the traditional neighbourhood development (TND), and transit-oriented development (TOD) all share similar attributes."* [15] They all propose a model of urbanism that is limited in area and structured around a defined centre. While the population density may vary, depending on its contexts, each model offers a balanced mix of dwellings, workplaces, shops, civic buildings and parks. The following are the key principles of New Urbanism's neighbourhood design:

- *The neighbourhood has a discernible centre and an edge.*

The centre is usually a public space – a square, a green, or an important street intersection. It is near the centre of the urban area unless compelled by some geographic circumstance to be elsewhere. The centre is the location for the neighbourhood's public buildings, such as libraries, post offices, meeting halls and churches. Commercial buildings such as shops and workplaces are also

associated with the centre, especially in a village. The edge of a neighbourhood varies in character. In villages, the edge borders the lowest density of housing and is usually defined by land reserved for cultivation such as farms and orchards or conservation in a natural state such as woodland, wetland or desert. In towns and cities, the neighbourhood edge is often defined by boulevards or parkways, which may be lined by higher-density buildings.

- *The ideal size of a neighbourhood is a quarter mile from centre to edge.*

It is generally recognized that the convenient walking distance ranges up to one-quarter mile, or roughly a five- to ten-minute walk. It is therefore important that for a neighbourhood to be walkable, most homes should be within one-quarter mile of public parks, schools, civic buildings, retail, office, and various forms of cultural places and events. The one-quarter mile design yardstick also enhances the viability of transit.

- *The neighbourhood has a balanced mix of activities.*

Size limitation reduces trip distances to the point where walking, bicycling, and bus trips are much more feasible. This adds to neighbourhood and urban vibrancy by increasing the number of places people can meet – such as pubs, or civic events, grocery stores, fitness centres, etc.

- *Connected streets provide equally for pedestrian comfort and auto movement.*

Connected streets in contrast to “*cul de sac*” make walking, bicycling, and using the bus more feasible by reducing trip distances and increasing the number of safe and pleasant routes for such travellers. At the same time, neighbourhood streets should encourage transit links. When a neighbourhood contains safe,

pleasant, and convenient bus stops, a larger number of trips are made by bus, which reduces excessive neighbourhood trips to and from the neighbourhood by car. In addition, connected streets also should provide motorists and emergency service vehicles with more “real time” route choices.

- *The neighbourhood has a mix of all types of housing.*

Mixed housing types provide the neighbourhood with a mixed income environment, since the mixed types provide a range of housing affordability. Affordable housing types include backyard cottages, apartments above shops, and rowhouses. Mixed housing types enable low income workers to live within walking distance of their jobs, reduce traffic problems, and promote community exchanges.

- *The neighbourhood gives priority to the creation of public space and to the appropriate location of civic buildings.*

Public space such as parks, squares, and small playgrounds and civic uses such as schools, municipal buildings, and concert hall are more frequently used when residents have easy, non-vehicular access to them. When centrally located, they become the focal point of the neighbourhood, and maximize the number of residences that are within walking distance.

Figure 2.21. The Neighbourhood: A Quarter Mile from Centre to Edge (*Downtown Athens, Georgia*)

Figure 2.22. The Neighbourhood: Transit Design (*Washington Town Centre, New Jersey*)

Figure 2.23. The Neighbourhood: Mixed-Use Town Centre I (*Cathedral City*)

Figure 2.24. The Neighbourhood: Mixed-Use Town Centre II (*Greyfield Mall*)

The District

Generally, the district is an urbanized area with special functions, such as a theatre district, industrial district, commercial area, or college campus. Although districts preclude the full range of activities for a complete neighbourhood, they need not be the single-activity zones of suburbia; complementary activities such as cafes, restaurants, and boutiques, can support the district's primary identity.

The structure of the district parallels that of the neighbourhood and similarly, for a good fit within the greater region, relies on its relationship to transit. Clear boundaries and dimensions facilitate the formation of special taxing or management organizations. *"Like the neighbourhood, the district features public spaces – plazas, sidewalks, important intersections – that reinforce a sense of community among uses, encourage pedestrians, and ensure security."* [16]

The Corridor

The corridor is the connector or separator of neighbourhoods and districts. Corridors are composed of natural and man-made components ranging from wildlife trails to rail lines. *"The corridor is not the haphazardly residual 'open space' buffering the enclaves of suburbia, but a deliberate civic element characterized by its continuity."* [17] It is defined

by its adjacent districts and neighbourhoods and provides entry to them.

The corridor's type is determined by its technological intensity and nearby densities. It mainly includes:

- *Transportation Corridors*

Highways and heavy-rail corridors which remain tangential to towns and cities and enter only the industrial districts.

Light rail and bus corridors that are incorporated into the street systems at the edges of neighbourhoods, or pass into neighbourhood centres on small conventional streets.

Transportation corridors which may be laid out within continuous parkways, providing long-distance walking and bicycle trails and a continuous natural habitat.

- *Green Corridors or Greenways*

Natural system corridors which are formed by streams, drainage ditches engineered for irrigation, or other natural drainage systems.

Open space corridors that include recreational and public open space, such as parks, playing fields, schoolyards, and golf courses.

Figure 2.25. The Neighbourhood and The District: New Urbanist Project I (Provo, Utah)

Figure 2.26. The Neighbourhood and The District: New Urbanist Project II (*West Valley City, Utah*)

Figure 2.27. The Neighbourhood and The District: New Urbanist Project III (*Gresham, Oregon*)

Figure 2.28. The District and The Corridor: New Urbanist Project I – Land Use Development
(Stapleton Airport, Stapleton)

Figure 2.29. The District and The Corridor: New Urbanist Project II – Land Use Development
(Dry Creek Ranch, Sacramento)

2.2.3 THE CONCEPTS OF NEW URBANISM III: THE BLOCK, THE STREET AND THE BUILDING

A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use. ...

Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbours to know each other and protect their communities. ...

Architecture and landscape design should grow from local climate, topography, history, and building practice.

- Charter of The New Urbanism [18]

The Block

Blocks are one of the fundamental elements of urban fabric. They not only unfold the fabric of the city but also represent a mutual relationship between people and vehicles in urban space. Block design strategies of New Urbanism therefore focus on the following aspects:

- *Size*

Block design should consider human scale and public activity. They should be small, so pedestrian can get across and around them quickly. In their historical dimension, they vary between a minimum of 200 (61 metres) and a maximum of 800 feet (244 metres). Ideally, the city that is composed by 300- to 400-foot-square (91- to 122-metre) blocks makes them feel walkable and comfortable. These dimensions also allow the city to easily plan the building fabric at all densities. Generally, blocks are to be square, rectangular or irregular in their shape according to the conditions of local climate, topography, and history.

- *Configuration*

Independent of shape, city blocks are to be allotted so that all of their sides can

define public space. A variety of widths and depths of individual lots determine the range of building types and densities that will eventually establish the intended city fabric. At its perimeter, each block is to be divided into parkway, sidewalk, and setback. Within each block, lobbies and public gardens of all kinds and sizes are to be understood as an extension of the public space of the city.

- *Streetwall*

The predominant visual character of all built fabric depends on several attributes of building envelopes: the height, mandated setbacks and projections define the enclosure of the street. Their maximum width along with their height define a building's mass. Setback lines and the percentage build-to at their edges establish the fundamental rhythm between open space and built form on each block. Threshold elements at the setback line, such as arcades, porches, balconies, doors and windows, are the means by which buildings interface with and determine the life of the street.

Figure 2.30. The Block: New Urbanist Project I - Preservation and Redevelopment (*Courtesy of Alex MacLean, Landslides*)

Figure 2.31. The Block: New Urbanist Project II - Infill and Redevelopment (*Crawford Square, Pittsburgh, Pennsylvania*)

The Street

Traffic is one of the controversial elements in community development. The New Urbanism is not anti-car. It is concerned rather with “civilizing” our transportation systems. In new urbanist communities, transportation planning focuses on reducing dependence on the automobile, increasing public transit use, and developing a more flexible road system. We need fewer highways isolating and surrounding our communities, and more small roads to provide an interconnected pattern of streets and sidewalk within our communities.

- ***Pattern***

The street layout of a community in large part dictates the effectiveness of its transportation system. Connectedness and continuity of movement within the connected street network will encourage the mixing of uses in the communities.

The successful network can be highly regular and rectilinear, such as the grid found in many neo-traditional new towns, or it can be informal and highly irregular, as in many European city cores. The connected network benefits traffic by providing a direct route between where people live and their daily destination. It also offers a vast number of different routes for traffic and minimizes the traffic load on any one street.

- ***System***

Local traffic comprises 70 percent of all vehicular traffic. With the connected street network, local traffic uses small local street systems and never enters the major arterial system. By contrast, the conventional suburban pattern of cul-de-sacs feeding into a main arterial compels all drivers into the arterial system. This

focusing of all traffic onto arterial highways produces intersection congestion even in low-density developments. On the other hand, the highly connected system allows the arterial streets to more efficiently accommodate trips most important to the region, such as longer-distance drives to work and trips for speciality shopping and medical care.

- *Use*

In a street network, the large number of highly connected streets ensures the shortest possible travel distance for any given trip. This short travel distance also reflects the ability to reach most destinations from all directions, thereby eliminating the need to make a circuitous trip on arterial highways. At the same time, the highly connected grid is an ideal environment for walking, biking, and public transit because it provides direct connections between where people live and where they need to go. Walking and biking are pleasant because of the wide variety of street environments on different routes and low levels of traffic on the streets.

- *Safety*

Narrower streets force cars and trucks to travel slowly through the neighbourhood, which significantly contributes to neighbourhood safety, low noise, low traffic volumes and, therefore neighbourhood liveability. In addition, modest curb radius at the intersection will reduce the speed of the car through the intersection and increase the safety of the pedestrian crossing.

- *Parking*

On-street parking (streetside parking) is encouraged on all streets, except

arterials. It helps to replace areas devoted to large off-street surface parking lots and places the parking near the desired street-side building entries. On-street parking also tends to slow the flow of through traffic and helps to develop street activity, as well as provide functional spaces.

- *Vista*

Street should be designed so they terminate at important buildings and places in the communities. Terminated vistas, such as important landmarks and civic buildings, help to make the community spatially memorable and make walking routes interesting and pleasant. In addition, such vistas also make trips more memorable by helping to orient a person as to their location in the community.

Figure 2.32. The Street: Mixed – Use Development I

Figure 2.33. The Street: Mixed – Use Development II

Figure 2.34. The Street: Mixed – Use Development III

The Building

Buildings are the smallest increment of growth and the most basic elements of urban design in the city. Their proper configuration and placement relative to each other determine the character of each community. In contrast to the typical project today, the New Urbanist architecture focuses on the following aspects:

- ***Language***

First, many regional and local traditions grew from centuries of design in particular in settings, social cultures, geographies and climates. A New Urbanist architecture does not result from a single or universal style. It is a set of principles expressed in the language of the distinct region and culture. One of its most urgent priorities is to discover and revitalize the regional language of

vernacular design through new projects. Second, the architecture of New Urbanism depends on historical precedent as guide and inspiration. In each setting for new projects, designers must discover and respect the patterns of buildings, open spaces, landscape, and infrastructure. These typological precedents are the historical patterns society has employed to resolve formal challenges in recurring programs and sites. They are the living proof of an architectural language. Third, the architecture of the New Urbanism accommodates itself with the forces of nature. Understanding and preserving natural systems is essential to ecological health, as is respect for the land and its geology, hydrology, biota, and the cyclical processes that nourish and cleanse the environment.

- *Form*

There are two kinds of buildings: fabric and monumental. Fabric buildings are to conform to all street and block-related rules and are consistent in their form with other buildings of their kind. Their design often invites the designer's light intervention on a known type. Monumental buildings are to be free of all formal constraints and free to express the unique conditions of each program, site and institution. They provide the inflections, the points of reference in the city and the countryside. However, the relationship of both buildings to the public realm is to be reciprocal. Frontality should allow two scales of architectural expression: one that emphasizes the public character of streets; and another that reflects the semi-public nature of open spaces interior to the block.

- *Technique*

Density - The conventional way in which we address land use conflicts is to put distance between conflicting activities, and minimize the number of dwelling units per acre. By contrast, the more compact, higher density “new urbanist” development reduces trip length; and makes bicycling, transit, and walking more viable. Generally, minimum densities necessary for a viable bus system are approximately eight dwelling units per acre. Newman and Kenworthy indicate that only when densities exceed 7,000 to 8,000 persons per square mile (2.59 square kilometres) do mixed land uses and shorter travel distances become predominant enough to significantly reduce auto dependence. A recent study has confirmed that the shift from car trips to transit and walking does not occur until certain job and housing densities are achieved. For work trips, the thresholds are 50 to 75 employees per gross acre (0.4 hectare), or 12 dwellings per net acre. For shopping trips, it is 75 employees per gross acre and 20 dwellings per acre.

Height - Low-rise multi-story buildings two to five stories in height are an important component of the compact, walkable city. The building profile forms the desired street wall and the additional stories allow the establishment of the number of residents needed for a viable urban neighbourhood.

Build-On Line - Buildings pulled up to the street sidewalk provide for more human interaction. The intent of a build-to line is to pull the building facade up to the street to abut the streetside sidewalk. By doing so, building facades along a block face will be aligned to form a street wall that frames the public realm, while

retaining sufficient width for people to walk, and sufficient space to provide a formal landscape created by the shade of street trees. The street wall shapes the public realm to provide a sense of comfort and security for the public space. Overly large setbacks are inconvenient and unpleasant for pedestrians.

Facade - All building should be designed to provide interest for pedestrians. Long expanses of blank walls tend to be boring and unattractive for the pedestrian and make the public realm impersonal. In addition, windows attract pedestrians, and act as a security system for the business.

Vertical Use - The form of “ground-floor retail, offices and residential above” enhances vibrancy and provides more affordable housing choices. It reduces the need for trips by car, since employees of the retail establishment can live above or near the shop. It is important that such “vertical mixing” of uses not place residential on the first floor, since it is disruptive for the residence when users of the office or retail must walk through the residential zone. It is also important that such mixed use include retail on the first floor so that more energy and interest is at the street level - thereby benefiting pedestrians.

Entrance - A successful commercial establishment is designed to provide convenience for customers by minimizing walking distances from public sidewalks to nearby buildings. When a building is located at an intersection, the most convenient entrance is usually abutting the public sidewalks at the corner of the intersection. Often, the most convenient sidewalk is formally aligned diagonally and aligned straight to minimize walking distance. Rear or side

entrances, or entrances oriented toward a parking lot, make travel highly inconvenient for pedestrians and transit users.

Figure 2.35. The Building: New Urbanist Project I - Bethesda Barnes & Noble Plaza

Figure 2.36. The Building: New Urbanist Project II - Vermont Village Plaza, Los Angeles

Figure 2.37. The Building: New Urbanist Project III - University of Arizona

Figure 2.38. The Building: New Urbanist Project IV – Mizner Park Buildings

Figure 2.39. The Building: New Urbanist Project V – Temple for Seaside

Figure 2.40. The Building: New Urbanist Project VI – Windsor Housings

**PART III. NEW URBANISM AND PRACTICE:
NEW URBANISM IN CHINA - THE CASE OF SHANGHAI**

3.1 INTRODUCTION

Shanghai is the largest city, greatest industrial centre, and major commercial and trading port in China. The municipality of Shanghai is today spread over 6,340 sq.kms and is one of four local government territories of China under the direct jurisdiction of the central government (Beijing, Tianjin and Chongqing being the other three). Because of its important economic, financial, commercial, scientific and technological position in China, Shanghai was under the tight, national control prior to the 1990s. There was a lack of stimulus from the “special” policies that allowed greater local governance in other cities in southern China. As a result, through 40 years of industrialisation and urbanization, Shanghai built up a strong economic base which relied mainly on domestic markets.

The pace of urban development has sped up since 1990, when the central government announced the development of Pudong New Area in Shanghai. Massive redevelopment is taking place in old urban areas. New infrastructure projects are quickly transforming the city’s structure, urban landscape and environment. However, it also faces the challenges associated with rapid urban development. The case of Shanghai provides a wider snapshot of new urban development processes in China.

Early Chinese who fished and hunted for their livelihood appear to have lived in the vicinity of modern Shanghai as long as 4,000 to 5,000 years ago. From an isolated fishing village on the fringe of Yangtze river delta at near mean sea level, Shanghai formally emerged as a town in 1149 when its natural advantages as a port were recognised. By 1292 it was made a county town and with the treaty of Nanjing in 1842, the city was opened to unrestricted foreign trade through western

commercial activity. The first master plan in 1920 recognised an amorphous “*foreigners area*”, around the historic walled city and along the west banks of Huangpu river, developed mainly for shopping, commerce and banking.

During the Japanese occupation (1937–1945), the city suffered war damage. From 1946 to 1949, Municipal City Planning Commission produced three consecutive master plans. As a result of political upheaval and the establishment of the People’s Republic of China in 1949, these proposals were never implemented.

In 1951, the Urban Construction Committee of Shanghai was established. In 1953, a new master plan was formulated with Russian assistance through which the urban area was expanded from 140 sq. kms to 600 sq. kms. According to this plan, Shanghai was to become a metropolitan city with only one centre; a goal to be achieved through the reconstruction of older districts. However, this proposal conflicted with China’s economic development objectives and with urban reality in Shanghai and was revised in 1959. In the new plan, five satellite towns were established: Minhang, Wujing, Jiading, Anting and Songjian. The main goal of the satellite town policy was to further develop the industrial sector and turn Shanghai into an industrial metropolis. In 1961, construction of satellite towns stopped due to a national economic adjustment. During the following 10 years, there were no further major construction projects within the urban area. In 1972, with the improvement of relations between China and the Western World, advanced petrochemical technology was imported. The project’s first implementation phase was complete in 1978 and created another industrial satellite town – Jingshanwei. At the same time, the central government decided to establish the Shanghai Baoshan Iron and

Steel Complex in Baoshan County. This Complex occupies a large area and is connected with Wusong, forming another new satellite town – Baoshan.

By 1982 there were 6,023,000 residents living in 10 urban districts and there were also 153,000 residents in nearby suburbs, in five industrial zones and 113,000 employees in local factories. A further 425,000 residents lived in seven satellite towns. From a population of about 12.00 million (municipality) in 1982, Shanghai municipality grew incrementally and today holds approximately 15.00 million people living in 13 urban districts, 10 counties, and new development areas (like Pudong and Hongqiao). However, this rapid development had no long term plan and many problems have emerged. These include the over-concentration of population and industry in the central city, the slow development of satellite towns, environmental pollution, a weak infrastructure, and transportation problems between the urban core and its suburban districts. As a result of these problems, the city of Shanghai has formulated a new master plan and is exploring future urban development. Effective control of urban sprawl, rational distribution of city functions, mixed-use development, human-scale design, and quality of urban space should be goals of future urban development to create liveable, sustainable communities in Shanghai.

Figure. 3.1. Urban Growth of Shanghai During the Period 1947-1988

3.2 DESIGN MODEL I: URBAN FABRIC AND URBAN PATTERN

- **Urban Growth Boundaries (UGB) in Shanghai**
- **The Structure of Transit-Oriented Development (TOD) in Shanghai**

Urban Growth Boundaries (UGB) in Shanghai

The New Urbanism is concerned with both the pieces and the whole. It applies principles of urban design to the urban fabric of the regional city in two ways. One is the establishment of Urban Growth Boundaries for the city, another is the structure of the city's Transit-Oriented Development (TOD). The definition of UGB is not a simple, static boundary, as some think. The placement and configuration of a UGB is a complex, site-specific task. They should be the result of a detailed set of environmental, economic, and demographic analyses.

Firstly, UGB should be established at the edge of metropolitan regions to protect significant natural resources and provide a separation between existing towns and cities. Secondly, it is important that the boundary be large enough to absorb a reasonable amount of growth for a significant period of time. In other words, lands within the UGB should be planned for long-term urbanization. One of its purposes is to prevent investments from being squandered on land speculation in inappropriate areas. Thirdly, a boundary must integrate the needs of transit. This transit criterion means that there should not be gaps in the urban fabric, and that all areas within the UGB be transit accessible as demonstrated earlier in the example of Portland, Oregon, which has gone beyond the traditional programs for urban growth.

Three interactive components must be balanced in this process of determining regional city's boundaries: habitat protection and farmland preservation, the growth demands of

the city, and the cost of new infrastructure and service. *"The first has come to be called a greenline and sets an edge based on environmental and agrarian factors, ... the second is an urban growth boundary and sets a limit based on the land capacity need to house a growing population, ... the third is the urban service boundary, a delineation of the logical extension of infrastructure or the land areas most efficiently served."*[1] All three components should be combined into the creation of one regional city boundary that includes the essence of greenlines, service boundaries, and growth boundaries.

In Shanghai, the city has grown in roughly three configurations – a high density central city, a medium density expanded city or transitional area, and a low density rural hinterland. The traditional urban plan focuses on the structural plan for urban districts and land-use plan for infrastructure. For example, in the master plan (1984) the central city was to be divided into 11 zones, each with a relatively independent commercial district; the core Puxi area (traditional commercial centre) was subdivided into southern and northern parts; satellite towns were to be located 30 to 40 kilometres away from the central city; expressways were to be constructed from the central city to the satellite towns; and the Pudong area was opened to international contact and a special zone was to be set up in this new development area. However, the problems of urban sprawl in Shanghai still threaten the city development. The most important step that needs to be undertaken by the city of Shanghai is to create a set of Urban Growth Boundaries.

The components of Shanghai's UGB would include:

- *Greenlines:*

Greenbelts and Rural reserves. The greenbelts are located between existing central city and satellite towns within the UGB and beyond it. They consist of

forested parks, wetlands, major creeks, botanical gardens and other natural habitats. These resources should be conserved as open space amenities and incorporated into the design of new neighbourhoods. Public access should be permitted while important natural features and sensitive habitats are preserved. Rural reserves mainly consist of farmlands and vegetable fields. They are to shape neighbourhood diversity and provide a scenic resource from urban spaces.

- *Growth boundaries:*

From central city to satellite towns, the boundaries of land-use for serving the growing population must be adjusted periodically to provide enough land for at least twenty years of growth (depending on the area densities and growth rates). The establishment of growth boundaries should encourage the development of the satellite towns and reduce the land-use stress in the central city.

- *Service boundaries:*

Depending on the structure of growth boundaries, service boundaries focus on creating a high-frequency, high-speed bus and rail transit system connecting the urban centres. Area densities, locations and character of transportation facilities in the central city and satellite towns determine the land-use and the boundaries of urban transit service.

Figure. 3.2. Urban Growth Boundaries (UGB) in Shanghai

The Structure of Transit-Oriented Development (TOD) in Shanghai

TOD is an urban pattern of mixed-use community “*clustering jobs, services, and housing in areas served by transit to give people several convenient alternatives to the car: walking, biking, carpooling, buses, and rail.*” [2] Generally, their uses and configuration in a metropolitan region must relate to existing surrounding

neighbourhoods and conditions of new growth areas. In the case of Shanghai, the structure of TOD would include:

- *Urban TOD*

The urban TOD would be developed with high commercial intensities, job clusters, and moderate to high residential densities. They should be located directly on the trunk link transit network: at light rail, heavy rail or express bus. They are mainly developed in existing commercial and cultural centres in the central city and other sub-city centres in satellite towns, such as Puxi's Nanjing Road, Huaihai Road, Xujiahui, and Pudong's Lujiazui. Depending on the area condition and market demand, urban TODs ought to be sited approximately 0.5 to 1 mile (0.8 to 1.6 kilometres) apart.

- *Neighbourhood TOD*

The neighbourhood TODs should be located on a local or feeder bus line within 10 minutes transit travel time (no more than 3 miles) from a trunk line transit stop. They should be developed in moderate density residential, service, retail, civic and recreational uses, such as district centres, regional or sub-regional centres, and commune centres (county level). Through proper planning and design, neighbourhood TODs can meet local needs for public facilities and respect the character and quality of existing neighbourhoods (such as traditional space and local culture).

- *TOD Core Commercial Areas*

Each TOD must have a mixed-use core commercial area located adjacent to the transit stop, and the core area should provide convenience retail and local services. Some larger core areas may combine major supermarkets,

entertainment uses, and employment – intensive office and light industrial uses.

- *TOD Residential Areas*

TOD residential areas include housing that is within a convenient walking distance from residential areas to transit stops. These should be sited in traditional urban areas in the central city and new growth areas in the suburbs and satellite towns.

- *TOD Public Areas*

Each TOD must contain open space areas available to the public and facilities which serve the needs of the surrounding community. Parks, plazas, greens, public buildings (such as libraries, police and fire stations, post offices and governmental services) may be used to fulfil this requirement.

Although the TOD is not universally applicable, it can be a formula for environmentally responsive and affordable communities. Communities are environmentally responsible when they use land efficiently, preserve open space, and reduce urban pollution. They are affordable for diverse households when a variety of housing types are encouraged in convenient locations; and they are also affordable to the society when infrastructure is efficient, and public amenities are well-used. The TOD structure has been successful in Portland, Salt Lake and Seattle, and, I believe it will be successful in Shanghai because it offers a good model to solve the problems of urban development (land use, function distribution, and traffic organization) in high-density urban areas.

Figure. 3.4. Urban Fabric and Urban Pattern: "Concept Design" (1)

Figure. 3.5. Urban Fabric and Urban Pattern: "Concept Design" (II)

3.3 DESIGN MODEL II: DISTRICTS AND NEIGHBORHOODS

- **Mixed-Use Development**
- **Connectivity**
- **Healthy Environment**

The fundamental organisational elements of New Urbanism include the neighbourhood, the district and the corridor. Neighbourhoods are urbanized areas with a balanced mix of human activity; districts are areas dominated by a single activity; corridors are connectors and separators of neighbourhoods and districts. Generally, cities and towns are made up of multiple neighbourhoods and districts, organized by corridors of transportation or open space. In Shanghai, according to the master plan (1984), the central city was divided into 11 districts, the suburbs and satellite towns also were divided into several suburban industrial districts and distant suburban housing districts. Although each district (sometimes with a relatively independent commercial or cultural centre) has a specially functional urban area, the neighbourhood patterns were still based on work-unit (*danwei*) model. Because the work-unit compounds normally took a standardized form, this planning style created functionally and visually homogenous neighbourhoods and landscapes in the urban districts of Shanghai. However, with the economic reform and social development of today, these patterns have been un-suitable for the needs of urban development and peoples' lives. The new neighbourhoods should be compact, pedestrian-friendly, and diverse in use and population.

Mixed-Use Development

The pattern of mixed-use development in the neighbourhoods is a balanced mix of activities – dwelling, shopping, working, schooling, worshipping and recreation. “The

fundamental idea is to view the neighbourhood as a coherent unit, where adults and children can walk to nearby shopping, services, schools, parks, recreation centres, and in some cases, to their own jobs and businesses; where civic centres can serve as focal points for community activity; ... and where houses are built closer together, ... grouped around tree-shaded squares, small parks, and narrow streets with planting strips.” [3]

Therefore, each neighbourhood of mixed-use development must include a distinct centre of integrated retail, office, and high density residential uses; a wide mix of housing types, public spaces, and corner stores; ideally within the distinct edges of greenbelts.

First, this neighbourhood pattern needs a discernible centre and a distinct edge. The centre is always a public space, a green, and sometimes an important or memorable street intersection. A transit stop would be located at this centre. The centre is the locus of the neighbourhood's public buildings; ideally a post office, a meeting hall, a day-care centre and other cultural institutions would be located there. In the aggregation of multiple neighbourhoods which occur in the central city, retail buildings and workplaces may be at the edge of the neighbourhood, where they can combine with others and intensify commercial activity. According to different urban conditions in Shanghai, neighbourhood edges may vary in character: they can be natural, such as a forest and a creek in the suburbs and satellite towns, or man-made, such as rail lines and high traffic thoroughfares in high-density urban areas.

Second, a mix of housing densities, ownership patterns, price, and building types is desirable in this neighbourhood pattern. These usually take the form of townhouses (low rise – below three storeys) and apartments (multi-storeyed – between four to eight storeys and high rise – nine storeys and above) and offer a variety of affordable housing

choices, such that younger and older people, singles and families, the poor and the wealthy may find places to live within the same area.

Connectivity

The other fundamental ideas about the neighbourhood pattern are based on size and street connection. The ideal size of a neighbourhood is a quarter-mile from centre to edge. Within this radius (five-minute walk), residents can walk to the centre from anywhere in the neighbourhood to take care of many daily needs or to use public transit. The location of the transit system within this walking distance increases the likelihood that people will use it.

Neighbourhood streets make legible connections that are easy to walk as well as drive, and the streets of varying types are detailed to provide equitably for pedestrian comfort and for automobile movement. The design of wide sidewalks and landscaped streets also increase pedestrian activity, whereby people are more apt to want to walk or bicycle. Moreover, these neighbourhood streets are laid out to create blocks for building sites and to shorten pedestrian routes. The interconnected network of streets and small blocks also provides multiple driving routes that diffuse traffic and keep local traffic away from long-range transportation corridors.

Healthy Environment

Parks and open space resources are the places that support and celebrate neighbourhood life. Natural features provide visual relief and establish a unique character for a neighbourhood. Open space features, such as creeks, rivers, knolls and woodlands, should be incorporated as park amenities. As part of a network of green and

open spaces, the function of the neighbourhood park system should include: the “green” formed by surrounding streets, with buildings oriented around it; the tot or mini-park; the playground with play equipment and courts; the playfield and athletic grounds; the community park shared by a group of neighbourhoods with a pavilion, amphitheatre, or gazebo; the community gardens with the civic memorial, the water fountain and other garden furnishings; and the greenway or open space corridor on the edge of neighbourhoods. Meanwhile, these small and frequent parks should be dispersed throughout the whole neighbourhood area and its districts to provide auto-free destinations for pedestrian within a transit system.

Public spaces such as formal squares, informal parks, and small playgrounds will provide places for gathering and recreation in the neighbourhoods. Sites that honour individuals or events should be reserved for public buildings and spaces. Such sites can help support the civic spirit of the community and provide places where people can gather for education, social and cultural activities.

Figure. 3.6. Neighborhoods and Districts: "Concept Design" (I)

Figure. 3.7. Neighborhoods and Districts: "Concept Design" (II)

Figure. 3.8. Neighborhoods and Districts: "Concept Design" (III)

Figure. 3.9. Neighborhoods and Districts: "Concept Design" (IV)

Figure. 3.10. Neighbourhoods and Districts: Site Plan of Xinlicheng, Shanghai (*Design Collective, Inc.*)

3.4 DESIGN MODEL III: BLOCKS, STREETS AND BUILDINGS

- **Human Scale**
- **Safe Environment**
- **Natural Design**
- **Traditional Heritage**

Blocks, streets and buildings are regarded as the real spaces that the New Urbanism seeks as a fresh paradigm to order the public realm and to recreate urban space.

Buildings, streets and blocks are interdependent. Each one contains to some degree the ingredients of all the others. *“Any decision to design streets in a particular manner seals the formal fate of blocks and buildings. Blocks of a specific character determine correspondent streets and buildings. Buildings of particular qualities dominate the blocks that contain them and the streets that surround them.”* [4] Therefore, the design of blocks, streets and buildings is a professional practice that stresses the integration of all design elements and disciplines in the design process.

The block, street and building are also the fundamental design elements of the city. A city is a human artefact which is a collection of places and spaces. What we hold in common is not only that which we share with the living, but that which we share with those before us and those after us. The city is therefore based on permanency. These accessible and truly shared places can be guaranteed at the most elemental scale through the following urbanist principles in the design model.

Human Scale

Blocks are the field on which unfolds both the building fabric and the public realm of the city. Generally, city blocks are square, rectangular or irregular in their shape. They

are to be defined in design so that all of their sides can define public space. The ideal size of city blocks in Shanghai are to be about 400 feet (122 metres) square, which will make the city feel more walkable and convenient. Moreover, each block is to be divided into parkway, sidewalk and setback. Within each block, lobbies, major ground floor interior spaces and public gardens of all kinds and sizes are to be understood as an extension of the public space of the city.

The street network should create a safer, more comfortable pedestrian and vehicular environment. Firstly, street widths, design speeds, and number of travel lanes should be minimized. Local streets should be designed for travel speeds of 15 to 20 miles (24 to 32 kilometres) per hour within the blocks. Each lane should be 8 to 10 feet (2.5 to 3 metres) wide. The minimum street dimensions should also provide space for landscaping, bicycle access and on-street parking. Because most local streets already exist in Shanghai, street widths should be evaluated to determine if improvements could be made to narrow pavement width, yet maintain safety.

Secondly, sidewalks are required on all streets and must provide an unobstructed path. Sidewalk width should be determined based on location, context and role within the area. For example, in order to create pleasant shopping environments, larger sidewalk dimensions are desirable in core commercial areas where pedestrian activity will be greatest and where outdoor seating is encouraged. Shade trees are required along all streets. Street trees should be spaced no further than 30 feet (9 metres) apart in planter strips or tree wells located between the curb and sidewalk. Adequate sight distances must be maintained in order to ensure safety. In addition, tree species and planting techniques should be selected to create a unified image for the street, while

providing an effective canopy, and create a cooler micro-climate.

Thirdly, a street system should balance the needs and viability of the pedestrian, as well as the car. Intersections should be designed to facilitate both pedestrian and vehicular movement. Minimum curb radius at the intersection will slow car movement and reduce the pedestrian crossing distance, allowing easy crossing. Moreover, pedestrian routes and bikeways should be located along or be visible from all streets. They must provide clear, comfortable, and direct access to the core commercial areas, transit stops, employment centres, open spaces, schools, and other community facilities. Furthermore, crosswalks for pedestrians and bicyclists should be provided at all arterial intersections.

Buildings are the most basic elements of urban design in the city. Building design at a human scale is determined by: building height, setback, facade and relationship each other. Firstly, building setbacks from public streets should be minimized. Minimal setbacks will bring buildings close to the street and pedestrians. Secondly, building facades should be varied and articulated to provide visual interest to pedestrians and to provide a consistent and understandable edge for the street. Arcades, porches, bays and balconies are encouraged in most urban areas to provide a more urban character and street landscape. Therefore, besides the building itself (form and function), building setbacks, facades, entries and street ratios all are considerable elements in this design model.

Safe Environment

Urban safety is perhaps the most fundamental problem all cities face. No one wants to live, work, or shop in a city unless it is safe. Design, once considered only a minor factor

in security concerns in China, is now known to be an essential component of urban safety. However, design alone is powerless; community safety and security requires a partnership among designers, community leaders, residents and society police. The following design principles will help support a secure urban environment in this design model:

- *Human Presence*

Public spaces where we either see or sense others around us make us feel secure. Knowing that we are not alone and that we are being seen by others helps us behave properly and feel safe. The dimensions and scale of public spaces should encourage comfortable interactions among people. Mixed-use buildings with windows can help promote this sense of presence.

- *Order*

Well-maintained buildings, coherent landscapes, open vistas and signs that show a way in or out and help us find our way through the city will make public spaces well-managed and safe.

- *Human Protection*

Mechanical devices such as cameras and gates should be invisible, where possible, police presence should be personal, on foot or bicycle, so police officers can interact with others.

- *Legibility*

The clarity with which each space connects to the rest of the city helps us understand the form of the city, keeps us from feeling lost, and assures us that we are in control of our relationship with the city spaces and the people in them.

- *Visibility and Openness*

Open views that enable us to see other people and to be seen by others – provides a natural supervision. Lighting should ensure nighttime visibility.

Natural Design

Natural design suggests that all projects should respect natural systems and emphasize ecological design and the use of natural materials and energy. All building types should be designed with natural concepts so that people live and work close to natural environments, have access to natural light and air, and become less reliant on energy-hungry climate control systems. On the other hand, buildings exist in both time and place. They are near-permanent fixtures in the urban landscape. They should be designed with appropriate materials and with a technical quality to allow their continuing renovation and reuse well beyond the expiration of their life hence reducing construction waste through demolition and pollution by land-fill disposal.

Traditional Heritage

Architecture is usually bound within the culture of each region of a country. The best blocks, streets, and buildings in Chinese cities are often the historic ones. These heritage areas should be preserved, adapted, and studied for design principles, patterns and typologies. When designing blocks, streets, and buildings, we should view local precedents and traditions as a point of departure. Conventional design vocabulary and syntax can be incrementally transformed to express technical innovations and programmatic changes. These changes succeed when they are fresh but not too radical or disorienting and when they are allowed to evolve slowly rather than suddenly. For example, Lilong building in Shanghai as a low-rise, ground-related housing pattern, has been in existence for over 140 years. Specific form and character, such as hierarchical

space organization, separation of public and private zones, high degree of safety control and strong neighbour relationships, make the Lilong neighbourhoods a humane and pleasant place to live. It therefore has become an important cultural and architectural heritage of Shanghai. Such local architectural tradition also should be the source of historical continuity and urban development in the city.

Figure. 3.11. Blocks, Streets and Buildings: "Concept Design" (1)

Figure. 3.12. Blocks, Streets and Buildings: "Concept Design" (II)

Figure. 3.13. Blocks, Streets and Buildings: "Concept Design" (III)

Figure. 3.14. Blocks, Streets and Buildings: "Concept Design" (IV)

3.5 CONCLUSION: WHY CHINA NEEDS A NEW URBANISM

Although New Urbanism began as an urban planning and design movement in the United States in the 1980s, its application is not limited to the West. The problem of urban sprawl is not unique to the United States; it is also consuming the rest of the world. In England, centuries-old villages are being encroached upon by shopping malls, fast-food outlets and industrial parks. In southern France, long stretches of industrial parks – similar to the ones in California's Silicon Valley – line numerous roads along the Riviera. In Egypt, suburban Cairo has bumped up against the Pyramids. [5] In China, Shanghai's boundaries were increased tenfold since 1958 to cover 6,000 sq km in 1999. China expects its urban areas to double in size by 2010. Therefore, a New Urbanism, as an alternative to urban sprawl, has become a critical strategy in urban planning and design today.

- ***Urban Growth Boundaries***

In China, with the rapid economic development and fast growth of the urban population with equal speed since 1978, residential and industrial development in urban areas has increased. For example, during the period 1979 to 1993, the Chinese government invested US\$ 4.4 billion dollars in housing construction and has completed 2,025 billion sq. m of new living accommodation in many large cities, including Beijing, Shanghai, Guangzhou and Tianjing. At the same time, new tax regulation force local governments to seek their own revenues forcing them to develop more farmland to improve their tax base. The reform policy of decentralization has given more decision power on land use to local governments, which makes it easier to convert farmland into urban uses at the

local level. As a result, new residential districts, new industrial districts and new economic development zones have sprung up like mushrooms. This uncontrolled growth not only destroys urban agricultural systems and natural ecosystems but also significantly increases the cost of infrastructure in the urban zones.

Therefore, the UGB is an important way to efficiently control urban sprawl and solve the problems of urban development in contemporary China.

By implementing the UGBs and other correlated policies, new development and population growth is encouraged through increased density and redevelopment rather than wider sprawl. This pattern also reduces the use of land and saves taxpayer dollars by confining the extension of public utilities and services.

Importantly, UGBs are not permanent. The policies of UGBs allow cities to adjust and expand their boundaries as needs change. Most UGBs however have been in place for 20 to 25 years with future development directed inside its boundaries.

- ***Transit-Oriented Development***

Recent studies have shown that people very much enjoy living and shopping in the neighbourhoods which support transportation alternatives. [6] Transit-Oriented Development (TOD) is a development which seeks to make the best use of available transit opportunities. This is done by integrating different projects elements – residential, commercial, office – and by carefully relating these components of the development to transit facilities. These developments can reduce the number of car trips, conserve resources and reduce congestion in the cities.

In China, although private ownership of cars is still low, the problems of traffic

jams and congestion, the deterioration of the transportation environment, and the rate of road accidents in the cities are equal to or worse than that of many developed countries. Moreover, China has a rapidly growing car fleet. For example, the vehicle population of Beijing grew about threefold during the period 1991 to 2000, from 540,000 to 1,570,000, an increase of approximately 30% each year. The new Chinese middle class is keen to adopt a car culture as Americans did before them. But is this possible with China's population density? Chinese cities face a fundamental physical reality – urban densities are measured at 250 to 300 persons per hectare compared to 10 p.pa. in American cities. The reality is that Chinese cities cannot accommodate the automobile. Moreover, in Chinese urban development guidelines it is not allowable to have more than 8 to 15 percent of the land occupied by roads. Therefore, the Chinese government is encouraging cities to develop more public transportation, such as light rail, subway and city bus, to relieve urban traffic congestion and other transport problems thereby reducing the use of land resources. The pattern of TOD in urban planning and design offers a possible solution for the problems of urban traffic in Chinese urban development.

- ***Mixed-Use Development***

Mixed-Use Development (MUD) is one of the important design tools to accomplish attractive, comfortable, and liveable communities in urban planning and design. It is a neighbourhood pattern that integrates appropriately-scaled commercial uses and offices with residential areas, schools and recreation spaces. This neighbourhood pattern is scaled to the pedestrian, offering sufficient variety within a five to fifteen minute walk to sustain lively streets and gathering

places. In neighbourhoods, the layout of pathways, streets, and transportation corridors minimizes conflict between walking, biking, and driving, and provides effective and affordable transit access to other neighbourhoods and regional centres.

In China, with economic reform and ensuing city growth, many urban districts have been built since 1980. Because of the lack of mixed-use developments in urban planning and design, most new urban areas are split into single-use zones, such as separate residential districts, industrial districts, commercial zones, office zones and so on. This has brought about new problems in new urban development. However, the design of mixed-use developments can help Chinese cities to improve urban fabric and create more liveable urban spaces.

In addition, Human-Scaled Designs, Healthy and Safe Environments, Natural Design and Traditional Heritage in urban planning and design also are the goals of urban development in contemporary China.

China is a vast country with 31 provinces, autonomous regions, and municipalities directly under the control of the central state (excluding Taiwan). Great variation exists in terms of local economy, natural setting, and local culture and this makes it difficult to project urban development as a whole and formulate appropriate planning standards. The study of urban sprawl in the case of Shanghai demonstrates the seriousness of China's urban development problems.

Like other new theories and technologies from Western countries, New Urbanism can help urban designers in China to solve specific urban problems, but it is not a cure-all.

This is especially true for problems of population, high density development, and floating population in the cities. Therefore, the practice of New Urbanism in China must work within existing cultural, geographic and economic conditions if it is to be beneficial.

- **System**

The practice of urban design needs a rational urban planning system. In China, past urban planning systems have many characteristics that are not suitable to the changing context of urban planning and design after the recent economic reforms. These include: *“the reliance on economic planning measures, the assumption of self-discipline of state work units, the neglect of the real decision making process, the top-down process of plan-making, inadequate public participation, the lack of mediation role of urban planning and the administrative-dominant style.”* [7] These principles led to the enactment of the 1989 City Planning Act which is a milestone in the history of urban planning and design in China. The City Planning Act sets up a comprehensive urban planning system. Along with master plans and detailed plans, other plans such as urban system plan, strategic outline and urban district plan are added to the planning system. Unfortunately, there are not any detailed standards for development control planning and urban design.

- **Policy**

With the increasing conflicts between the conventional planning policy and the context of a transitional economy, policy makers and urban planners in China have begun to examine the planning policies from Western developed countries, hoping that new Chinese planning policies can be effective for urban

development and urban planning in the condition of a socialist market economy.

- **Education**

The change in urban planning and design in meeting the challenges of economic reform alone is not adequate to deal with the complexity of urban problems in China. It needs well-trained urban planners to carry out planning and administrative implementation. There is an urgent need to improve urban planning education in terms of both the quality and quantity of trained urban planners. Urban planning education should move away from the past emphasis on urban engineering, architectural technology, and site plan to a more multi-disciplinary approach in order to deal with the new urban planning environment.

Moreover, public participation, a process of plan-making, land use control, and plan implementation all need to be further studied in China.

Although the city, as an expression of human civilization, has been in existence for more than 5,000 years, an understanding of the production of this entity is still lacking. Today, the rapid transformation of cities into metropolitan urban regions, as part of a larger process of economic growth and social change, goes far beyond issues of 'good' city design and planning. Urban design needs to be understood as a critical, historical, and culturally *value laden* enterprise if it is to contribute to the quality of human life in the 'global village'.

NOTES

INTRODUCTION

1. Leccese, Michael, Kathleen McCormick, Robert Davis and Shelley R. Poticha. *Charter of the New Urbanism*. (New York: McGraw-Hill, 1999). p. 181.
2. Hall, Kenneth B. and Gerald A. Porterfield. *Community By Design: New Urbanism for Suburbs and Small Communities*. (New York: McGraw-Hill, 1999). p. xix-xx.
3. Leccese, *et al.* p. 91.

PART I

1. United Nations Cyberschoolbus, *Cities of Today, Cities of Tomorrow*. <http://www.un.org/cyberschoolbus/habitat/> (cited 12 Oct. 2001).
2. Wood, James W. *Neotraditional Urbanism and Town Planning: Random Musings of A Convert*. <http://www.ci.belmont.nc.us/jwood.htm> (cited 13 Nov. 2001).
3. The Mackinac Centre for public Policy, *Defining "Urban Sprawl"*. <http://www.mackinac.org> (cited 02 Nov. 2001).
4. The Mackinac Centre for public Policy, *Defining "Urban Sprawl"*. <http://www.mackinac.org> (cited 02 Nov. 2001).
5. Stateaction Issues, *Ten Traits of Urban Sprawl*. <http://www.stateaction.org> (cited 02 Nov. 2001).
6. Duany, Andres, Elizabeth Plater-Zyberk and Jeff Speck. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*. (New York: North Point Press, 2001). p. 7-8.
7. Urban Sprawl. <http://www.plannersweb.com/sprawl> (cited 22 Jan. 2002).
8. Duany, *et al.* p. 6.
9. Sierra Club, *Sprawl Factsheet*. <http://www.sierraclub.org/sprawl> (cited 03 Jan. 2002)
10. *Editorial Board of Urban Construction in Contemporary China*. (Beijing: China Architecture Industry Press, 1990). p. 40.
11. Ma, Laurence J.C. and Edward W. Hanten. *Urban Development In Modern China*. (Boulder, Colo.: Westview, 1981). p. 194.

12. Zhu, Jieming. *The Transition Of China's Urban Development*. (Westport, Conn.: Praeger, 1999). p. 19.
13. Zhu, p. 20.
14. Naughton, B. *The Third Front: Defence Industrialization in the Chinese Interior, The China Quarterly*. (Oxford: Oxford University Press, 1988). p. 351 – 386.
15. Wu, Liangyong. *Urban Development Planning Formation in the Context of Practicality and Locality, Urban Planning*. (Beijing: Urban Planning Press, 1982). p. 23.
16. Song, C.H. *Real Estate Development and Urban Planning Control (in Chinese), City Planning Review*. (Beijing: Urban Planning Press, 1995). p. 3 – 6.
17. Kwok, R. Yin-Wang, William L. Parish and Anthony Gar-On Yeh. *Chinese Urban Reform – What Model Now ?* (New York: M. E. Sharpe, Inc. 1990). p. 3.
18. Yeh, A.G.O., & Wu, F. *The Transformation of the Urban Planning System in China from A Centrally-Planned to Transitional Economy, Progress in Planning*. (London: Elsevier Science Ltd. 1999). p. 167 – 252.
19. Lang, Jon. *Urban Design: The American Experience*. (New York: Van Nostrand Reinhold, 1994). p. 2.
20. Lang, p. 9.
21. Spreiregen, Paul D. *Urban Design: The Architecture of Towns and Cities*. (New York: McGraw-Hill, 1965). p. 36.
22. Spreiregen, p. 38.
23. Lang, p. 45.
24. Lang, p. 45.
25. Lang, p. 46.
26. Lang, p. 49.
27. Lang, p. 50.
28. Lang, p. 55.
29. The California Planning Roundtable.
<http://www.cproundtable.org/cprwww/docs/publications.html> (cited 29 Oct. 2001).
30. Lang, p. 70.
31. Congress For The New Urbanism, *CNU History*.
<http://www.cnu.org> (cited 12 Nov. 2001).

32. Congress of The New Urbanism, *Charter of The New Urbanism*. <http://www.cnu.org> (cited 12 Nov. 2001).
33. Congress For The New Urbanism. <http://www.cnu.org> (cited 12 Nov. 2001).

PART II

1. Hammes, Jessica. *What exactly is The New Urbanism*. <http://www.flagpole.com/issues/03.25.98/newurbanism.html> (cited 13 Nov. 2001).
2. Staley, Samuel R. *The New Urbanism: An Overview*. <http://www.urbanfutures.org> (cited 24 Sept. 2001).
3. Congress For The New Urbanism. <http://www.cun.org> (cited 12 Nov. 2001).
4. New Urbanism. <http://www.newurbanism.org> (cited 24 Sept. 2001).
5. Walljasper, Jay. *The Second Coming of the Great American Town*. <http://www.newsociety.org> (cited 22 Jan. 2002).
6. Online TDM Encyclopaedia – New Urbanism. <http://www.vtpi.org/tdm> (cited 24 Sept. 2001).
7. Robert Steuteville. *The New Urbanism: An Alternative to Modern, Automobile-Oriented Planning and Development*. <http://www.newurbannews.com> (cited 24 Sept. 2001)
8. Katz, Peter and Jr. Scully Vincent. *The New Urbanism: Toward an Architecture of Community*. (New York: McGraw-Hill, 1993). p.165.
9. Katz, *et al.* p. 180.
10. Congress For The New Urbanism. <http://www.cun.org> (cited 12 Nov. 2001).
11. Urban Growth Boundaries. <http://www.greenbelt.org> (cited 22 Jan. 2002).
12. Calthorpe, Peter, William Fulton and Robert Fishman. *The Regional City: New Urbanism and the End of Sprawl*. (Washington, D.C.: Island Press, 2001). p. 41.
13. Calthorpe, Peter. *The Next American Metropolis: Ecology, Community & the American Dream*. (New York: Princeton Architectural Press, 1993). p. 43.
14. Congress For The New Urbanism. <http://www.cun.org> (cited 12 Nov. 2001).
15. Leccese, *et al.* p. 79.
16. Leccese, *et al.* p. 82.

17. Leccese, *et al.* p. 82.
18. Congress For The New Urbanism. <http://www.cun.org> (cited 12 Nov. 2001).

PART III

1. Calthorpe, *et al.* p. 64.
2. Calthorpe, *et al.* p. 110.
3. Leccese, *et al.* p. 91.
4. Katz, *et al.* p. xxi.
5. Lockwood, Charles. *Urban Sprawl (Part II: Creating Sprawl)*.
<http://www.enn.com/features> (cited 11 April 2002).
6. Transit Orientation. <http://www.scaplanning.com> (cited 12 April 2002)
7. Yeh, *et al.* p. 243 – 247.

BIBLIOGRAPHY

- Bullard, Robert D., Glenn S. Johnson and Angel O. Torres. *Sprawl City – Race, Politics, and Planning in Atlanta*. Washington, D.C.: Island Press, 2000.
- Calthorpe, Peter. *The Next American Metropolis: Ecology, Community & the American Dream*. New York: Princeton Architectural Press, 1993.
- Calthorpe, Peter, William Fulton and Robert Fishman. *The Regional City: New Urbanism and the End of Sprawl*. Washington, D.C.: Island Press, 2001.
- Davis, Deborah S., Richard Kraus, Barry Naughton, and Elizabeth J. Perry. *Urban Spaces In Contemporary China*. Washington, D.C.: Woodrow Wilson Centre Press, 1995.
- Dixon, John Morris. FAIA. *Urban Spaces*. New York: Visual Reference Publications, Inc. 1999.
- Duany, Andres, Elizabeth Plater-Zyberk and Jeff Speck. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream*. New York: North Point Press, 2001.
- Eisner, Simon, Arthur Gallon, and Stanley Eisner. *Urban Pattern (Sixth Edition)*. New York: Van Nostrand Reinhold, 1993.
- Eliyu Guldin, Gregory. *Urbanizing China*. New York: Greenwood Press, 1992.
- Foster, Harold D. and David Chuenyan Lai, and Naisheng Zhou. *The Dragon's Head: Shanghai, China's Emerging megacity*. Victoria, BC: Western Geographical Press, 1998.
- Frantz, Douglas and Catherine Collins. *Celebration, U.S.A.* New York: Henry Holt and Company, 1999.
- French, Jere Stuart. *Urban Space*. Dubuque, Iowa: Kendall/Hunt Publishing Company, 1978.
- Hall, Kenneth B. and Gerald A. Porterfield. *Community By Design: New Urbanism for Suburbs and Small Communities*. New York: McGraw-Hill, 1999.
- Katz, Peter and Jr. Scully Vincent. *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill, 1993.
- Kirkby, R.J.R. *Urbanization in China: Town and Country in A developing Economy 1949 – 2000 AD*. New York: Columbia University Press, 1985.
- Kwok, R. Yin-Wang, William L. Parish and Anthony Gar-On Yeh. *Chinese Urban Reform – What Model Now ?*. New York: M. E. Sharpe, Inc. 1990.

- Lang, Jon. *Urban Design: The American Experience*. New York: Van Nostrand Reinhold, 1994.
- Leccese, Michael, Kathleen McCormick, Robert Davis and Shelley R. Poticha. *Charter of the New Urbanism*. New York: McGraw-Hill, 1999.
- Loukaitou-Sideris, Anastasia and Tridib Banerjee. *Urban Design Downtown*. Berkeley and Los Angeles: University of California Press, 1998.
- Ma, Laurence J.C. and Edward W. Hanten. *Urban Development In Modern China*. Boulder, Colo.: Westview, 1981.
- Moe, Richard and Carter Wilkie. *Changing Places: Rebuilding Community in the Age of Sprawl*. New York: Henry Holt and Company, 1999.
- Ross, Andrew. *The Celebration Chronicles*. New York: The Ballantine Publishing Group, 1999.
- Spreiregen, Paul D. *Urban Design: The Architecture of Towns and Cities*. New York: McGraw-Hill, 1965.
- Yeung, Yue-man and Xu-wei Hu. *China's Coastal Cities: Catalysts for Modernization*. Honolulu: University of Hawaii Press, 1992.
- Yusuf, Shahid and Weiping Wu. *The Dynamics of Urban Growth in Three Chinese Cities*. Oxford: Oxford University Press, 1997.
- Zhu, Jieming. *The Transition Of China's Urban Development*. Westport, Conn.: Praeger, 1999.

REFERENCES

(Website)

<http://www.isd.net/>

<http://www2.rudi.net/>

<http://www.palgrave-journals.com/>

<http://bradley.edu/>

<http://www.newurbannews.com/>

<http://www.newurbanism.org/>

<http://www.preservenet.com/>

<http://www.consciouschoice.com/>

<http://www.pbs.org/newshour/newurbanism/>

<http://www.publicpurpose.com/>

<http://www-rcf.usc.edu/>

<http://www.mnapa.com/>

<http://www.uqa.edu/>

<http://www.alexmarshall.org/>

<http://www.lcaarchitects.com/>

<http://www.demographia.com/>

<http://www.sonic.net/>

<http://www.conway.com/>

<http://www.islandpress.org/>

<http://www.architecturemag.com/>

<http://www.urbanism.com/>

<http://www.senteco.com/>

<http://www.ar.utexas.edu/>

<http://www.fehrandpeers.com/>
<http://www.newvillage.net/>
<http://www.smartgrowth.org/>
<http://www.mlui.org/>
<http://www.fehrandpeers.com/>
[http://dir.yahoo.com/Social Science/Urban Studie/](http://dir.yahoo.com/Social_Science/Urban_Studies/)
<http://www.un.org/>
<http://www.sierraclub.org/>
<http://www.plannersweb.com/>
<http://magma.nationalgeographic.com/>
<http://www.planning.org/>
<http://geography.miningco.com/>
<http://www.stateaction.org/>
<http://www.itc.nl/>
<http://www.urban-sprawl.net/>
<http://directory.google.com/>
<http://www.living-room.org/>
<http://www.unchs.org/>
<http://ww2.mcgill.ca/>
<http://mrsid.geoville.com/>
<http://chinahousing.mit.edu/english/>
<http://www.unchina.org/>
<http://www.iiasa.ac.at/>
<http://svr1-pek.unep.net/>
<http://www.digitas.harvard.edu/>

<http://www.wisc.edu/>

<http://www.ecostudies.org/>

<http://www.unescap.org/>

<http://www.theatlantic.com/>

<http://www.kn.pacbell.com/>

<http://www.indiana.edu/>

APPENDIX I: Flash Movie: "Urban Sprawl and Urban Design" (CD-ROM)

ARCHITECTURE 77.599, SCHOOL OF ARCHITECTURE, CARLETON UNIVERSITY, OTTAWA, CANADA, 2002

NEW URBANISM AND URBAN DEVELOPMENT IN CONTEMPORARY CHINA *By Bing Ma*

start ■■■

APPENDIX II: *Charter of the New Urbanism (Congress for the New Urbanism)*

The Congress for the New Urbanism views disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge.

We stand for the restoration of existing urban centres and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighbourhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy.

We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework.

We advocate the restructuring of public policy and development practices to support the following principles: neighbourhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice.

We represent a broad-based citizenry, composed of public and private sector leaders, community activists, and multidisciplinary professionals. We are committed to reestablishing the relationship between the art of building and the making of community, through citizen-based participatory planning and design.

We dedicate ourselves to reclaiming our homes, blocks, streets, parks, neighbourhoods, districts, towns, cities, regions, and environment.

We assert the following principles to guide public policy, development practice, urban planning, and design:

METROPOLIS, CITY AND TOWN

1. Metropolitan regions are finite places with geographic boundaries derived from topography, watersheds, coastlines, farmlands, regional parks, and river basins. The metropolis is made of multiple centres that are cities, towns, and villages, each with its own identifiable centre and edges.
2. The metropolitan region is a fundamental economic unit of the contemporary world. Governmental cooperation, public policy, physical planning, and economic strategies must reflect this new reality.
3. The metropolis has a necessary and fragile relationship to its agrarian hinterland and natural landscapes. The relationship is environmental, economic, and cultural. Farmland and nature are as important to the metropolis as the garden is to the house.
4. Development patterns should not blur or eradicate the edges of the metropolis. Infill development within existing urban areas conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas. Metropolitan regions should develop strategies to encourage such infill development over peripheral expansion.
5. Where appropriate, new development contiguous to urban boundaries should be organized as neighbourhoods and districts, and be integrated with the existing urban pattern. Noncontiguous development should be organized as towns and villages with their own urban edges, and planned for a jobs/housing balance, not as bedroom suburbs.
6. The development and redevelopment of towns and cities should respect historical patterns, precedents, and boundaries.
7. Cities and towns should bring into proximity a broad spectrum of public and private uses to support a regional economy that benefits people of all incomes. Affordable housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.

8. The physical organization of the region should be supported by a framework of transportation alternatives. Transit, pedestrian, and bicycle systems should maximize access and mobility throughout the region while reducing dependence upon the automobile.
9. Revenues and resources can be shared more cooperatively among the municipalities and centres within regions to avoid destructive competition for tax base and to promote rational coordination of transportation, recreation, public services, housing, and community institutions.

THE NEIGHBORHOOD, DISTRICT AND CORRIDOR

1. The neighbourhood, the district, and the corridor are the essential elements of development and redevelopment in the metropolis. They form identifiable areas that encourage citizens to take responsibility for their maintenance and evolution.
2. Neighbourhoods should be compact, pedestrian-friendly, and mixed-use. Districts generally emphasize a special single use, and should follow the principles of neighbourhood design when possible. Corridors are regional connectors of neighbourhoods and districts; they range from boulevards and rail lines to rivers and parkways.
3. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive, especially the elderly and the young. Interconnected networks of streets should be designed to encourage walking, reduce the number and length of automobile trips, and conserve energy.
4. Within neighbourhoods, a broad range of housing types and price levels can bring people of diverse ages, races, and incomes into daily interaction, strengthening the personal and civic bonds essential to an authentic community.
5. Transit corridors, when properly planned and coordinated, can help organize metropolitan structure and revitalize urban centres. In contrast, highway corridors should not displace investment from existing centres.
6. Appropriate building densities and land uses should be within walking distance of transit stops, permitting public transit to become a viable alternative to the automobile.
7. Concentrations of civic, institutional, and commercial activity should be embedded in neighbourhoods and districts, not isolated in remote, single-use complexes. Schools should be sized and located to enable children to walk or bicycle to them.
8. The economic health and harmonious evolution of neighbourhoods, districts, and corridors can be improved through graphic urban design codes that serve as predictable guides for change.
9. A range of parks, from tot-lots and village greens to ballfields and community gardens, should be distributed within neighbourhoods. Conservation areas and open lands should be used to define and connect different neighbourhoods and districts.

THE BLOCK, STREET AND BUILDING

1. A primary task of all urban architecture and landscape design is the physical definition of streets and public spaces as places of shared use.
2. Individual architectural projects should be seamlessly linked to their surroundings. This issue transcends style.
3. The revitalization of urban places depends on safety and security. The design of streets and buildings should reinforce safe environments, but not at the expense of accessibility and openness.
4. In the contemporary metropolis, development must adequately accommodate automobiles. It should do so in ways that respect the pedestrian and the form of public space.

5. Streets and squares should be safe, comfortable, and interesting to the pedestrian. Properly configured, they encourage walking and enable neighbours to know each other and protect their communities.
6. Architecture and landscape design should grow from local climate, topography, history, and building practice.
7. Civic buildings and public gathering places require important sites to reinforce community identity and the culture of democracy. They deserve distinctive form, because their role is different from that of other buildings and places that constitute the fabric of the city.
8. All buildings should provide their inhabitants with a clear sense of location, weather and time. Natural methods of heating and cooling can be more resource-efficient than mechanical systems.
9. Preservation and renewal of historic buildings, districts, and landscapes affirm the continuity and evolution of urban society.

APPENDIX III: Resources About New Urbanism

PROJECTS

Belmont, NC
Celebration, FL, from *Absolutely Florida*
Celebration, FL, from Jerry Lisman
Celebration, FL, from Kevin Kelly and Heather Tansey
Celebration, FL, from *USA Today*
Colfax Village, MS
Curitiba, Brazil, from Kevin Kelly and Heather Tansey
Curitiba, Brazil, from *Metropolis Magazine*
Eagle Ranch, CO
Frijoles Village, NM
Habersham, SC
I'On Village, SC
Kinnelon Commons, NJ
Laguna West, CA
Northwest Landing, WA, from *Northwest Landing Official Home Page*
Northwest Landing, WA, from *Seattle Post-Intelligencer*
Northwest Landing, WA, from *The Seattle Times*
Prospect New Town, CO
Rosemary Beach, FL
Seaside, FL
Seaside, FL, from Kevin Kelly and Heather Tansey
Seaside, FL, from *The Tampa Tribune*
Southern Village, NC
Tannin, AL

PEOPLE

Peter Calthorpe
Correa Valle Valle
Robert Davis
Dover, Kohl & Partners
Andres Duany & Elizabeth Plater-Zyberk
Gabor & Popper
Allan B. Jacobs
Jane Jacobs
Peter Katz
Doug Kelbaugh
James Howard Kunstler
Jaime Lerner
John Massengale
Elizabeth Moule/Stefanos Polyzoides
Jonathan Rose & Companies
James Rouse
Daniel Solomon

ARTICLES

URBAN LANDSCAPES - Starting From Scratch, *The San Francisco Chronicle*, 4/22/99
Dense Thinkers, *REASON*, 1/99
Our Urbanism, *Architecture*, 12/98
Whose Urbanism?, *Architecture*, 11/98
Legends of the Sprawl, *Policy Review*, 9/98-10/98
CNU VI, *Minnesota APA Newsletter*, 6/98
Celebration: Disney's Experiment in New Urbanism, *e-Architect*, 5/98
New Urbanism, *The Advocate*, 5/17/98
The New Urbanism: Reviving Cities, Spirits?, *Harvard University Gazette*, 4/30/98

Beyond Norman Rockwell, *The Denver Post*, 4/26/98
Welcome Rx for inner city, *The Denver Post*, 4/26/98
Village vantage, *Detroit Free Press*, 4/26/98
Small-town USA, *The Seattle Times*, 4/4/98
What Exactly Is The New Urbanism?, *Flagpole Magazine*, 3/25/98
Athens' New Look, *Flagpole Magazine*, 3/4/98
Return to the Village - An Ecology of Community, *Eco-Logical Design Group*, 1997
The New Urbanism, *Preservation in Print*, 11/97
The Better Way: Dan Leeming on the New Urbanism, *Profiles: The York University Magazine for Alumni and Friends*, 11/97
Lake Norman project taps 'New Urbanism', *The Business Journal of Charlotte*, 9/22/97
That Small Town Feeling: Architecture & Community In Florida, *FORUM: The Magazine of the Florida Humanities Council*, Summer 1997
A New Urbanist Lexicon: Part 7, *Minnesota APA Newsletter*, 6/97
Twelve Gates to the City, *Sierra Magazine*, May/June 1997
Down with the burbs! Back to the city!, *Forbes*, 5/5/97
New Urbanism: Cause For Celebration?, *Impact Press*, April/May 1997
Kunstler calls for "New Urbanism", *Teachers Clearinghouse for Science and Society Education*, Spring 1997
Pulte plays with 'new urbanism', *South Florida Business Journal*, 3/17/97
Will towns go back to the future?, *The Detroit News*, 3/2/97
LETTER TO THE EDITOR - re New Neo Urban Suburban Traditionalism, *Minnesota APA Newsletter*, 3/97
A New Urbanist Lexicon: Part 5, *Minnesota APA Newsletter*, 2/97
Undoing urban sprawl, *The Business Journal*, 2/17/97
The New Urbanism and the Communitarian Trap, *Harvard Design Magazine*, Winter/Spring 1997
Fatal Flaw in New Urbanism, *Architecture Australia*, 1996
'Types' Replace 'Uses', *APA*, 1996
A New Urbanist Lexicon: Part 4, *Minnesota APA Newsletter*, 12/96
Alternative Development Standards, *Taking Action*, 11/96
A New Urbanist Lexicon: Part 3, *Minnesota APA Newsletter*, 11/96
A New Urbanist Lexicon: Part 2, *Minnesota APA Newsletter*, 10/96
Neotraditional movement converting some builders, *Northern Colorado Business Report*, 10/96
A New Urbanist Lexicon: Part 1, *Minnesota APA Newsletter*, 9/96
The New Urbanism Challenges Conventional Planning, *Land Lines*, 9/96
Putting Some 'City' Back In the Suburbs, *Washington Post*, 9/1/96
The Principles and Practices of New Urbanism, *Minnesota APA Newsletter*, 7/96-8/96
Suburb in Disguise, *Metropolis*, 7/96
American Neo-Traditionalism and Suburban Design, *Urban Design Quarterly*, 7/96
Neighbourhoods Reborn, *Planning and Zoning News*, 7/96
Inward Bound, *Sonoma Independent*, 7/11/96
Neighbourhoods Reborn, *Consumer Reports*, 5/96
Sunrise Creek gains approval, *Telluride Daily Planet*, 5/29/96
Urban Planners Find "The Ideal Way" In Neighbourhoods Like Dilworth, *Dilworth Quarterly*, Spring 1996
De utopie van het dorpsplein, *NRC Handelsblad*, 4/6/96
When Old Is New Again, *Austin Chronicle*, 3/22/96
ULI Texas conference, 3/6/96
The Thirteen Points of Traditional Neighbourhood Development, *FFF Newsletter*, 1/96
Designers figure out how to sell density, *Seattle Daily Journal of Commerce*, 1995
The City of Tomorrow: An Interview with Peter Calthorpe, *Insight & Outlook*, 1995
How To Mess Up a Town, *Planning Commissioners Journal*, Winter 1995
FROM CLASSROOM TO STREET, *Metropolis*, 12/95
Testing the New Urbanism, *Don Johnson*, Fall 1995
'New urbanism' housing vision gets city boost, *The Capital Times*, 11/7/95
New Urbanism projects revive the past, *The Detroit News*, 10/28/95
"Geography of Nowhere" Author Decries America's Impoverished Built Environment, *Cascadia Planet*, 10/20/95
Financial Giants Take Stand Against Sprawl, Endorse Sustainable Communities, *Cascadia Planet*, 10/17/95
Portland: The 'New Urbanism' Wins Converts in the 'Burbs, *Cascadia Planet*, 9/24/95
Building Better Town to Live In, *Worth*, 6/95
15 Ways to Fix the Suburbs, *Newsweek*, 5/15/95
Paved Paradise, *Newsweek*, 5/15/95
Eurosprawl, *Metropolis*, 1/95-2/95
Suburbia and the new urbanism, *Palo Alto Weekly*, 8/17/94

[Peter Calthorpe: The way cities oughta be, Palo Alto Weekly, 7/6/94](#)
[Redesigning Palo Alto, Palo Alto Weekly, 7/6/94](#)
[Reshaping The Urban Design Process, IN CONTEXT, Spring 1993](#)
[Cities Of Exuberance, IN CONTEXT, Spring 1993](#)
[A Good Place to Live, The Atlantic Monthly, 3/88](#)
[NEOTRADITIONAL URBANISM AND TOWN PLANNING: Random Musings of a Convert, James W. Wood](#)
[Traditional Urban Design and the Municipal Zoning Ordinance, Demetri Baches](#)
[Preservation, Mixed Use and Urban Vitality, Jonathan Cohen](#)
[Neotraditional Design: Resisting the Decentralizing Forces of New Spatial Technologies, Kenneth J. Dueker](#)
[New Urbanism, Kevin Kelly and Heather Tansey](#)
[A Critique of Neotraditionalism, The Electronic Drummer](#)
[NeoClassic Trends in Residential Design and Neighbourhood Planning, United Design Associates](#)
[New Urbanism, The Greater Baton Rouge Business Report](#)
[Transportation - Efficient Land Use, Peter Watt](#)
[City should consider New Urbanism, Rob Steuteville](#)
[Why You Drive Where You Live, Textword](#)
[New Urbanism: Neighbourhoods of the Future, HomeTips](#)

BOOKS

[Calthorpe, Peter. The Next American Metropolis: Ecology, Community & the American Dream. New York: Princeton Architectural Press, 1993](#)
[Garreau, Joel. Edge City: Life on the New Frontier. New York: Doubleday, 1991](#)
[Jacobs, Allan B. Great Streets. Cambridge, Mass.: MIT Press, 1993](#)
[Jacobs, Jane. The Death and Life of Great American Cities. London: Jonathan Cape, 1962](#)
[Katz, Peter and Jr. Scully Vincent. The New Urbanism: Toward an Architecture of Community. New York: McGraw-Hill, 1993](#)
[Kunstler, James Howard. Home From Nowhere. New York: Simon & Schuster, 1996](#)
[Kunstler, James Howard. The Geography of Nowhere. New York: Simon & Schuster, 1993](#)
[Langdon, Philip. A Better Place to Live: Reshaping the American Suburb. Amherst: University of Massachusetts Press, 1994](#)
[Sucher, David and Kevin Kane. City Comforts: How to Build an Urban Village. Seattle: City Comforts, Inc., 1994](#)

ORGANIZATIONS

[1000 Friends of Florida](#)
[1000 Friends of Oregon](#)
[1000 Friends of Washington](#)
[Centre of Excellence for Sustainable Development](#)
[The Centre for Livable Communities](#)
[Congress for the New Urbanism](#)
[The Local Government Commission](#)
[National Town Builders Association](#)
[National Trust for Historic Preservation's National Main Street Centre](#)
[Project for Public Spaces, Inc.](#)
[The Seaside Institute](#)
[Smart Growth Network](#)
[Sustainable Communities Network](#)
[The Sustainable Urban Neighbourhood Initiative](#)
[Transportation Action Network](#)
[Urban Land Institute](#)
[World Idea Networks](#)

OTHER RESOURCES

[New Urban News \(newsletter on all things New Urban\)](#)
[Analysis of New Urbanism Sites on the Web, Daniel Brown \(thesis on New Urbanism Internet resources\)](#)
[New Urbanism, Jim Curran \(personal interest page\)](#)
[New Urbanism Resource Index \(long list of categorized links\)](#)
[Paul's Picks: New Urbanism \(long list of links\)](#)
[New Urbanism Quotations, \(Internet Resources for Architecture and Urban Design in the Caribbean\)](#)

Congress on New Urbanism Bibliography, Dhiru A. Thadani, AIA
Additional Readings for the New Urbanist, (*Internet Resources for Architecture and Urban Design in the Caribbean*)
A Smart Growth Bibliography: New Urbanism/Mixed Use
SPRAWL (*online journal on urban design and technology*)
The Dark Side of the American Dream: Costs and Consequences of Sprawl, *Sierra Club*
Envisioning the Possibilities: Photorealistic Illustration for Urban Designers (*before/after photos of New Urbanist designs*)
The Ahwahnee Principles (*founding principles of the New Urbanism*)
Urban Husbandry and New Urbanism: Two Alternatives to Sprawl, Aaron Priven (*undergraduate thesis*)
Undergraduate thesis on edge cities, *Stephen Foskett*
New Urbanism links, *Ajay Garde (list of links)*
New Urbanist Homes (*seller of New Urbanist home plans*)