Urban Consolidation

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Introduction

As the world's population grows and as more and more people choose to live in urban environments, city planners face difficult challenges in their efforts to expand infrastructures.
Introduction

Instead of expanding outward, many have sought to take advantage of internal underutilized or derelict space.

This world map appear the increasing population density 2008.
Urban consolidation

Refers to a diverse set of planning policies intended to make better use of existing urban infrastructure by encouraging development within existing urbanised areas ('brownfield sites') rather than on non-urbanised land ('greenfield sites'), thus limiting urban sprawl.
Definition

Urban consolidation is a means by which more people can be brought into existing residential areas where the necessary infrastructure such as public transport, schools and utilities are already in place. For social as well as economic, environmental reasons, it is seen by many as preferable to creating new residential developments on our metropolitan outskirts.
The impact of urban sprawl has led to the gutting of the downtown cores of many American cities. Beginning in the 1990s, cities across the United States began to pass laws limiting urban sprawl, as well providing incentives for developers to build and restore land within the downtown core.
Urban consolidation has been strongly tied to the green movement, which argues that urban sprawl leads to longer commutes and therefore more carbon emissions.
Memphis is a city in the southwest corner of the U.S. state of Tennessee, and the county seat of Shelby county. The city is located on the 4th Chickasaw Bluff, south of the confluence of the Wolf and Mississippi rivers. Memphis has an estimated population of 670,100, making it the largest city in the state of Tennessee, the third largest in the Southeastern United States, and the 19th largest in the United States.
Example of increasing population density in USA
The need of urban consolidation

Revival of the Urban Space

The focus after World War II of the major urban planners such as Robert Moses was on building the most efficient system of roads and highways that would allow commuters to quickly arrive at city centers for work and then return to the outer ring of suburbs at day's end.

This eventually changed as planners again turned to the urban centers and began the process of urban consolidation and reviving the now decrepit urban space.
Level of urban density for the Chicago and the main transportation lines
After train travel became an everyday phenomenon, expansion of cities from their centers emerged as a possibility for municipalities around the world.

Now all cities would have to deal with residents who wanted to commute into the city center from a distance. The advent of the car made this problem more pressing.
Urban Consolidation goals

q Increasing the number of houses or units within existing areas so they can have more efficient use of services.

q Reduce the overall impact on the environment.

q Reduce the total amount of land needed to house the population.
Strategies of Urban Consolidation:

- Market-led consolidation

  - The most common form of urban consolidation.
  - Local governments consolidate already existing residential space as well as nonresidential space into use for high-density residential buildings owned by private individuals.
This has proved to be controversial in many of its real-world applications as it has involved the unsettling of existing residential neighborhoods, often forcing out poorer residents, and has created residential buildings that many consider unattractive.
Transit-orientated development (TOD)

Consolidation of underutilized urban space for new residential developments high-density residential mixed-use buildings walkable precincts around public transport nodes, often referred to as Activity centers.
Urban Consolidation goals

The Consolidation mine and surrounding areas of Bismarck (Dakota, USA) before closure in 1995

The Consolidation mine after demolition
The third approach

Is to require that all new development on the urban fringe of existing metropolitan areas is at higher densities than the current average for those cities.
Jacksonville is the largest city in the U.S. State of Florida and the county seat of Duval county.

Jacksonville's current (Red) and original (Green) city limit boundaries over St. Louis' land area (Blue).

- Green = Jacksonville's city limits (current urban core) before consolidation in 1968
- Red = Jacksonville's current consolidated city-county limits
**Benefits**

q Urban consolidation will **reduce** the **cost** of city infrastructures. As more city residents are concentrated in less space, it should reduce the costs needed to **maintain** the transportation infrastructure, such as roads and bridges.

q **Reduce** the need of use **private cars**, **diminishing CO2 Emission** and other transport related pollution.

q **Mixed uses** improve **personal security** and improve the **chances of gaining employment**.
Urban consolidation also has been urged for environmental reasons as it spares green spaces from further encroachment and reduces carbon emissions.
The demographics of Australia have changed dramatically in the last 25 years because:

q The traditional household of 2 parents and dependent children is now in the minority and accounts for only 25% of all households.
q By early next century almost 50% of income units will consist of single persons or childless couples over 35.
q More than 50% of all households comprise only 1 or 2 people. The average household size has fallen by 20% over the last 30 years and this trend is continuing.
40% of women over 16 were in the workforce in 1986 and in the next 15 years that percentage will increase to 60%.

The number of elderly people will increase by over 50% in the next 20 years.
According to the table shows the Sydney population trends since 1881

<table>
<thead>
<tr>
<th>Year</th>
<th>Population of Sydney</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>224,900</td>
</tr>
<tr>
<td>1947</td>
<td>1,484,000</td>
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<tr>
<td>1966</td>
<td>2,447,200</td>
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<tr>
<td>1994</td>
<td>3,713,500</td>
</tr>
<tr>
<td>2021</td>
<td>4,480,000</td>
</tr>
</tbody>
</table>

q It is expected that 520,000 new dwellings will be needed by the year 2021 (with a base year of 1991) in the Sydney region alone.
q Of these, 375,000 will be needed for additional population, 90,000 for the increased demands arising from a changing demographic and social structure, and 55,000 for replacing old housing stock.
Sydney population growth 2007-08, by sub-region
(derived from ABS statistics)
Sydney location

Australia
Where are the new dwellings going to go?

In September 1997, the Carr ALP government released its Residential Development Strategy in Sydney, the ultimate aim of urban consolidation is to **reduce** urban development on the fringe areas of the city and **increase** the population on it because:

- As important and sensitive ecological systems border Sydney (Nepean/Hawkesbury River for instance), reducing the impact of urban development on these areas is important.
- In **western Sydney** in particular, **air pollution** is a major concern, and it is hoped that controlling the urban expansion of the city will also help **reduce air pollution**.
A semi-circle 60 km across, the new distance across Sydney would be 58.4 km, a saving of only 1.6 km from one end (fringe) of the city to the other.

The expansion would not be even over the perimeter.

One doubled the number of people on western fringe.
Sydney Consolidation: major facilities, residential by two ways:

1. Urban development: Freeways and major roads, large open spaces, industrialized areas, airports and other such facilities. These encompass an estimated 60% of the city area which does not vary significantly as population density increases.

2. Urban population: Dwelling blocks and other variable features such as access roads and small open spaces. This comprises an estimated 40% of the city area and will decrease as population density increases.
Three general Policies Demands

q Cost: Saving state expenditure on infrastructure, and demand for residential land and Fuller use of existing services and community facilities.

q Energy: Saving energy and limiting car use and travel.

q Residential: Increasing housing choice.
Some of the terms used in the urban consolidation debate include dual occupancy, cluster housing, high rise home units and integrated development. More often, these terms are grouped under the heading “multi unit housing” by:

Reduce the trend towards declining population levels in established areas.
Strategies to increase housing choice by:

- Providing uniform controls for the provision of dual occupancy in the Sydney region.
- Permitting the conversion of a dwelling house into two dwellings.
- Permitting the erection of a second dwelling house on an allotment of land upon which a dwelling house is already situated.
  - Multiple small lot housing.
  - Townhouses and villa homes.
  - Housing for the aged and disabled.
  - Flats and units in high rise buildings.
Result

Figure 1: Separate House and ‘Other Residential’ Building Approvals in Sydney SD, 1983-84 to 2002-03
Arguments For and Against Urban Consolidation in Sydney

Economic Aspects

Support
q Reduce capital expenditure costs on urban infrastructure by making the use of land and existing infrastructure more efficient.
q Decreased travel times resulting in energy savings.
q Reduced space or land consumption.
q Higher urban densities can also result in the more efficient use of public transport for instance.

Non-Support
q Other commentators suggest that savings are more intuitive than actual,
q Others suggest that inner city infrastructure is expensive to maintain and in urgent need of upgrading.
Arguments For and Against Urban Consolidation in Sydney

Environmental Aspects

q Less fossil fuels.
q Emit less greenhouse gases.
q More attractive public transport types to be provided.
q Conserve agricultural and water catchment's areas.

Two environmental reasons exist to support urban consolidation in Sydney:
q Protect the Hawkesbury Nepean River catchment.
q Attempt to reduce air pollution.

Non-support:
q Increasing the urban density in established areas may result in extra pressure on existing environmentally sensitive land, outweighing any benefits of consolidation.
Arguments For and Against Urban Consolidation in Sydney

Social Aspects

Support
q Higher densities will make: facilities and services more accessible, and that greater awareness of civic life and communal responsibility comes about when certain urban densities are reached.

Non-support
q Consolidation is more likely to be socially regressive, and that people may have to pay ‘more for less’ in a higher density environment.
q Criminal increasing because of mixture of different people.
Conclusion

Whilst the costs and benefits of consolidation may be difficult to define, governments have been anxious to avoid the Sydney metropolis from expanding to ever bigger dimensions, and have actively pursued policies of urban consolidation.

Kirwan said “Australians are not going to give up their traditional ways merely because some of their leaders have a yen for what they believe to be a European lifestyle. They are going to look, as people have always looked, at what is happening to the transport system and to the price of space. If that tells them that medium density housing is the right answer, they will go for it. But not otherwise.”