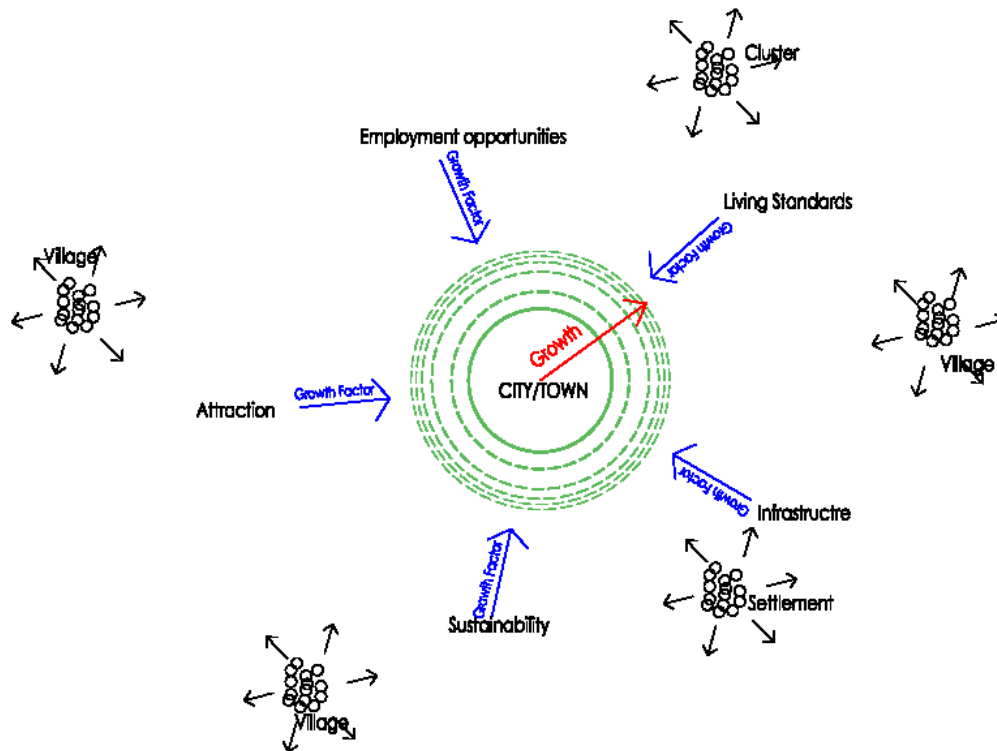


## Urban Sprawl, an issue of growing concern

### INTRODUCTION

When cities grow, the surrounding land and the natural green areas are engulfed to build houses, roads, pathways, to match the needs and desires of the inhabitant population. This spread of urban areas into rural area, farmlands and forests on outer edges of a city is referred as Urban Sprawl.

Urban sprawl has become a universal problem, and is being faced by both developed and developing countries. In developing countries the consequences can potentially be life threatening due to issues of health and hygiene. Developed countries, are definitely in a better shape, but with the expansion of urban land day by day, engulfing the neighboring land, there is a major threat to sustainability and quality of life. The consequences can be devastating in the long run.



### REASONS FOR SPRAWL

Some possible reasons for urban sprawl can be summarized as below.

**1) Population Growth :**

First and the foremost is obviously growing population. The population of the world has been increasing and so is the demand for urban land. All the metropolitan cities have grown in size to accommodate the increasing population. A major question that arises is "Is Urban Sprawl a sustainable option for the growth of a city or are there other options available to us?"

**Case Example: Sydney**

The start of Sydney's growth is generally associated with the arrival of the first fleet. The First Fleet arrived in 1788 with a total of 11 ships carrying approximately 1100 convicts and officials. At the time of the arrival of the First Fleet in 1788, 4000 - 8000 Aboriginal people lived in the Sydney region.

Over the period of years more convict ships came in and eventually there was an influx of migrant population. As the population grew, more and more urban land was needed to house these people.

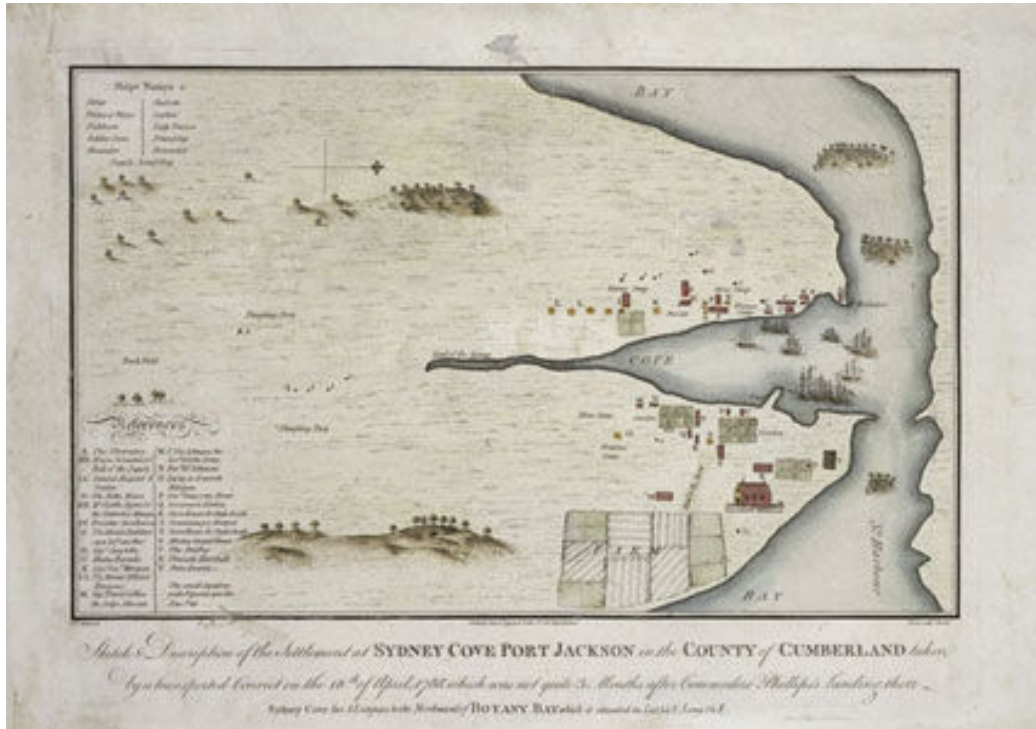
In 1965, the population of Sydney was 2,340,000 out of which 168,000 lived in the city core and 2,172,000 in the suburbs.

By 2001, the population had grown to 3,997,000 out of which 140,000 lived in the city core and 3,857,000 in the suburbs.

Thus, from 1965 to 2001, there was an increase in population by 70.8%. It is worth noting that, the population in the core city decreased by 16.7% and increased in the suburbs by 77.6%.

The increased population was being accommodated in the new emerging suburbs by deforestation and encroachment on agricultural land. The result was the expansion of urban area in spatial terms.

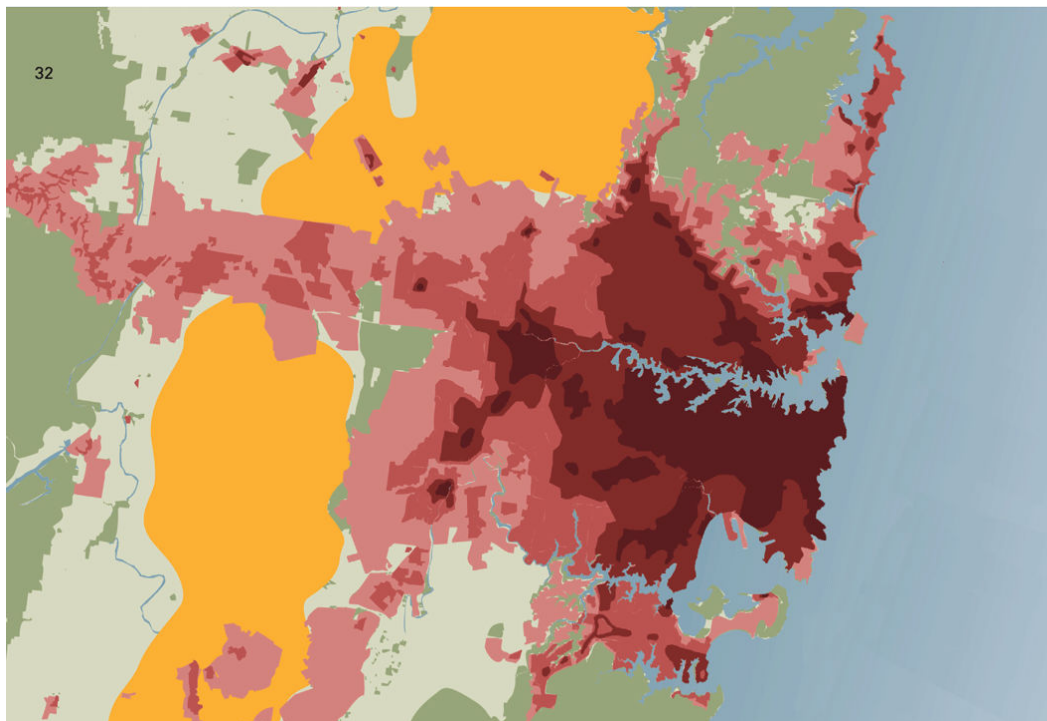
Sydney which started as a small settlement near the Sydney cove has grown to a spatial area of 12,144.6 km<sup>2</sup>



**Map of Sydney in 1788,**

Sketch & description of the settlement at Sydney Cove Port Jackson in the County of Cumberland taken by a transported convict the 16th of April, 1788, which was not quite 3 months after Commodore Phillip's landing there

Source: State Library of New South Wales



**FIGURE 11  
SYDNEY'S URBAN  
GROWTH HISTORY**

● BEFORE 1917

● 1917-1945

● 1945-1975

● 1975-2005

● 2031\*

\* SCENARIO IF THE RATE OF SPRAWL OF THE PREVIOUS 30 YEARS WERE CONTINUED

Source: City of Cities, Metropolitan Strategy, December 2005

## 2) Rising incomes.

Rising incomes of middle and low income groups have promoted expansion into the outer suburbs. As the incomes increase, people often prefer to live in large houses. Housing affordability in areas close to the city centre is a big issue. With the increased income and choice of lifestyle, the only option available is to buy a

piece of land on the outskirts in the new developing suburbs and build a house to satisfy their lifestyle needs. The increased cost of commuting to work is often disregarded as the desire to own a big house and space for kids often outweighs the cost of transportation. Moreover, the increase in cost of transport to work does not impact on their ability to manage their finances of day to day living.

**3) Single use zoning.**

This situation occurs when the land allotment is such that the commercial, residential and industrial areas are separated from each other. Large areas of land are devoted to a single land use. The reason behind this could be government zoning controls, sub division of private lands in rural areas or unauthorized developments & sub divisions.

**4) Government regulations promoting low density land use.**

The zoning plans sometimes allow for low density developments in the heart of the cities. The government strategies defining land sub divisions allow for large lots which result in low density developments.

**5) Individual preference towards low density developments.**

Due to lack of community open spaces, regulations associated with multi storied developments, increasing noise levels and other factors many individuals often prefer living in low density developments

**6) Affordability and desire for big houses**

People have a desire towards big houses due to several reasons like desire to have more space per person, portraying their financial stability to friends and family, having more space for kids to play within the house, having liberty to do what they want to do at their convenience of time and money (noisy parties, listening to loud music etc.)

**7) Competition for Land**

The competition for land between real estate developers and owners of land in the outskirts (farmers & others) helps to determine the spatial size of cities. A success bid by developers to bid away additional land from agricultural users indicates that the land is worth more in urban use than in agriculture, reflecting a greater economic contribution in its developed state.

**8) Urbanization**

More people from rural areas and small towns are moving into the cities for opportunities of increased income and lifestyle, increasing the demand for housing.

**PROBLEMS/ CONSEQUENCES**

Not many of us realize the less obvious but serious consequences that Urban sprawl can have on the life of the inhabitants. Some of the problems associated with Urban Sprawl are as below

• **Loss of open space, forests, valuable farmlands.**

The pleasant, beautiful green spaces are disappearing and are being replaced by buildings and sterile urban landscape. Large areas of land are being covered by

roads, paving and cement. There are large volumes of water run-off because road and cement do not absorb rain as good as planted areas. There has also been a reduction in effective absorption of rainwater into the aquifers.

- **Loss of small towns**

As per the Australian Bureau of Statistics, urban centres are defined as population clusters of 1000 or more people, with a density of 200 or more persons per square kilometer. A small town located just beyond the edge of a big city is lumped into the big city's urban population if the distance between the two is less than 3Km. As such several towns have disappeared from the Census list. These settlements have however, not really disappeared but have been swallowed by the advance of urban sprawl and lost their unique identity.

- **Overcrowding of services and infrastructure.**

The unplanned developments can often led to burdening of road capacities, power lines etc. The town that was planned for a small group of people is often forced to cater to the sprawled communities resulting in overcrowding of services and infrastructure leading to traffic congestions, intermittent water supply, pressure on sewerage system etc. In developing countries the consequences can be much serious like development of slums & squatters, sub standard living conditions, lack of hygiene and sanitation. As the public infrastructure costs increases for suburbs, it becomes difficult to justify the costs of big investments for low density population. This often results in problem to attract government funding for amenities as such the residents are often deprived of the essential services.

- **Greater dependence on private vehicles, cars.**

The Residents of sprawling neighborhoods rely largely on private vehicles. As such, they tend to emit more pollution per person and suffer from more fatalities. Every new suburb is based on the estimate that households will use cars two or three times as much as older suburbs. The greater dependence on car also leads to loss of exercise. Recent studies have concluded that the people in sprawls are more at a risk of obesity as walking and bicycling are no longer viable options.

- **Increased personal transportation costs**

The residents of sprawls spend higher proportion of their income on transportation than the residents living close to the city centre.

- **Increased urban pollution**

The increased use of motor vehicles releases chemicals and particulates like hydrocarbons, carbon monoxide, nitrogen oxides leading to air pollution and smog. Construction site erosion, fuel spills, oil leaks, paint spills, lawn chemicals, pet wastes contribute to water pollution. This also leads to soil contamination

- **Environmental degradation –**

The suburbs on new urban lands add to deterioration of the environment through depletion of resources (air, water and soil). Excessive use of motor vehicles and long distances traveled by private transport release enormous amount of pollution in the atmosphere; clearing of the forest cover and farmlands creates a threat to water quantity and quality. There are impacts on vegetation and habitation. Several species of animals and plants are becoming extinct impacting on the precious environmental resources

- **Social Fragmentation**

It has been observed that people living in sprawls or outskirts spend a lot of time commuting longer distances to get to their jobs, schools, shopping facilities. There is hardly any time or opportunity to meet their neighbors. Very often, people do not even know their neighbors. There is no community feeling. Dating back in the history & from the experience of our grandparents, we come across stories wherein if one did not happen to see their neighbor for a day or two, they would be concerned about health and safety as a part of social bonding and responsibility.

- **Increased crime**

As the social interaction reduces, the surveillance over the neighboring properties reduces. This results in an increase in crime rate. The criminals find themselves at a lesser chance of being caught as the extruders can very often be mistaken as a part of the resident's family. We often hear news of robbery/ murder next door couple of days after the incident when the police or investigating agencies knock on our door for information.

## **REMEDIES AND POLICY INITIATIVES**

Some of the policy interventions that can help control Urban sprawls and degradation of the environment to enhance the quality of life of the inhabitants are

- **Zoning and Land use controls promoting multi-use**

The zoning and land use controls must be set so as to reduce the barriers between different types of uses. The residential areas, commercial areas, parks & play grounds should be easily accessible and create opportunities for public interaction. New development can be restricted to specific areas, and additional density incentives can be offered for abandoned or under-used sites. A good example of this is the ABC site Gore Hill, Sydney which was formally used as a TV broadcasting Studio. The site has now been rezoned and is being developed as a Technology Park to house high-tech offices, showrooms, production & warehouse spaces.. The availability of a technology park, close to CBD and easy accessibility from residential and other technology parks is an effective zoning strategy. Considering the nature of work activity performed on the site remediation works are essential to remove the hazardous material, however such an effort and investment is worth the spend in the long run.

- **Decentralization and multi nodal cities**

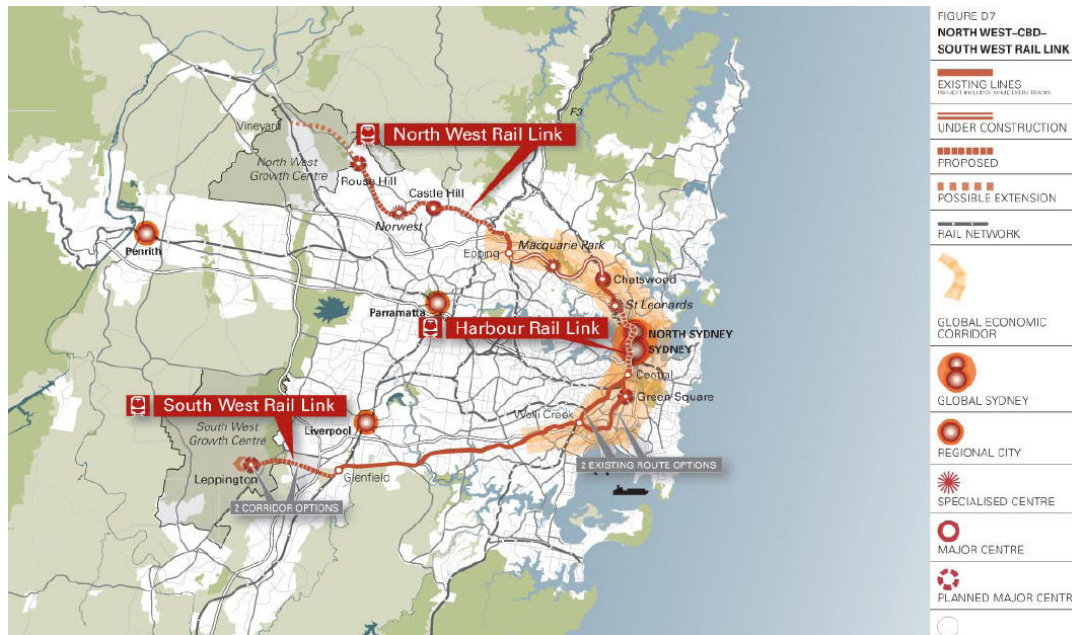
Policy of Decentralization has been used from somewhere in 1950's or 60's, but with little success. Governments have tried to create decentralized hubs with proposals of shifting the commercial and office spaces to these locations. There were however, no significant attempts and investment on other essential supporting facilities like services, transport, housing, schools etc. Sub centres and satellite cities thus could not perform to the level of expectation from them. A recent initiative of the New South Wales Government "Sydney Metropolitan Strategy" appears to be a good step to control urban sprawl and enhance the quality of life of the inhabitants in the Sydney Region.

### ***Sydney Metropolitan Strategy***

Sydney Metropolitan Strategy as a Plan for Sydney's Future supports continuing economic growth while balancing social and environmental impacts. It is based on anticipated population, economic and demographic trends. The Plan has been developed with five aims - Enhance Liveability, Strengthen Economic Competitiveness, Ensure Fairness, Protect the Environment, Improve Governance. The plan is a broad framework to facilitate and manage growth and development over the next 25 years.

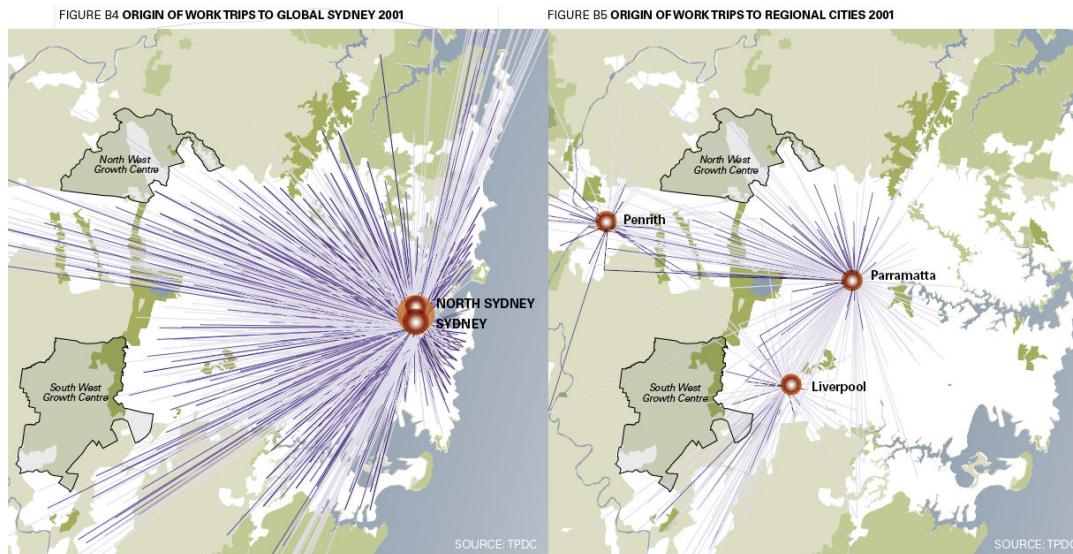
In the Parliament of NSW, in a question without notice to the Minister for Urban Affairs and Planning about the plans of the Government to curb urban sprawl and put an end to piecemeal planning of urban development, the honourable NSW Minister for Infrastructure, Planning and Natural Resources, Craig Knowles speaking about the Metropolitan strategy stated "the new strategy will take control of residential growth and end decades of uncontrolled urban sprawl. The plan, will prepare Sydney, Newcastle, the Central Coast and the Illawarra for the twenty-first century and for more than 600,000 homes required to accommodate a growing population and achieve their dream of owning their own home in an area close to services, transport and employment. The strategy is based on tailor-made plans for each local government area, rather than the historic and previous Government's one-size-fits-all approach, taking into account local conditions and pressures, and to encourage affordability. Firstly, it will fight urban sprawl on the fringe of Sydney by accommodating new population growth closer to the central business district and breathe new life into inner and middle ring suburbs, which have had declining populations over the past three decades. Second, people will be located closer to public transport in order to increase patronage and reduce dependency on cars. Strategy will increase the range of housing types available to better meet the changing needs of a diverse population Third the strategy will increase the range of housing types available to better meet the changing needs of a diverse population. Finally, the Government will lift the standard of urban design to ensure that new dwellings are in keeping with the character of the suburb"

Regional, specialized and major centres have been identified as a part of the Economic development and areas for employment generation. This is supported by housing and infrastructure facilities. There has been a huge investment in the transport sector.



Source: City of Cities, Metropolitan Strategy, December 2005

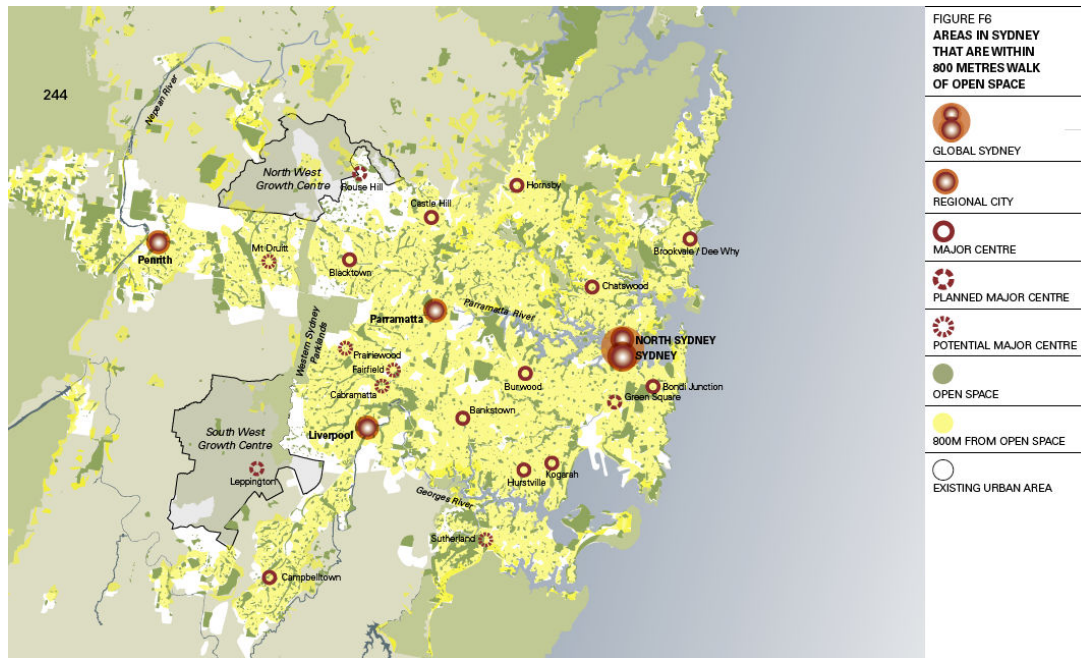
The current scenario of origin of work trips is described in the figure below. However it is anticipated that with the development of the regional cities the structure will change and more trips from adjoining areas will be focused on regional cities reducing the need to travel large distances for work.



Source: City of Cities, Metropolitan Strategy, December 2005

The open space strategy identifies area to ensure that the future development is in locations with access to open spaces and recreational activities.





Source: City of Cities, Metropolitan Strategy, December 2005

As a part of the smart growth initiative the plan also identifies two growth centres for future development. Detailed strategies for these areas are now being developed to ensure a planned development.

- **Infrastructure development policies and initiatives**

Pressure for urban sprawl coming from developers can be reduced by making land speculation at the urban fringe less or not at all profitable. This can be done by incorporation of taxes and tolls.

Melbourne has recently announced a dramatic increase in the amount of urban land available for housing and industrial development in the identified growth areas. However the controversial part of the plan is a tax of \$8000 for each housing lot on a new residential land. The success of tax imposition strategy is yet to be tested, however in my opinion the tax will discourage the short term expansion into the identified new area and the focus will more on densification of the existing low density areas. In the long run the tax collected for the new residential land will pay for roads and public transport facilities.

The tax strategy can generally be an effective tool, however in an attempt to levy taxes on lands the government needs to be carefully consider that the taxes are not imposed as a blind fold approach on all lands. The taxes are to be imposed only on lands being converted to other uses like residential development and commercial/ industrial sub divisions. Uniformly applied taxes to all lands in a zone are likely to force the farmers out of business.

- **Environmental Impact Assessments**

Preparation of Environmental Impact statements under the Environmental Planning and Assessment (EPA) Act has been practiced in the NSW. These reports are prepared by qualified planners and architects for any new proposals or modifications to an existing development and indicate the compliance with local laws and legislations and also help to access the impacts generated by the development and exploration of possible measures to mitigate the impacts.

- **Legislations and policies**

State and Regional plans and policies serve as an effective tool. They set effective guidelines and development intent for the area. These policies have been widely used in Australia and some of that impact on Sydney region have been revised to achieve a co-ordinate development and match the intent of the Sydney Metropolitan Strategy. Some of the effective policy interventions are State and Regional Environmental Planning Policies.

***State Environmental Planning Policies (SEPP's)***

Example: SEPP for Bushland Protection in Urban Areas, SEPP for Littoral Rainforests, SEPP for Urban Consolidation and Redevelopment of Urban Land, SEPP for Koala Habitat Protection, SEPP for Metropolitan Residential Development, SEPP for Coastal Protection, SEPP for Sydney Region Growth Centres

***Sydney Regional Environmental Plan's (SREP's)***

Example: SREP for Chatswood Town Centre, SREP for Multi-Unit Housing on Surplus Government Sites, SREP for Penrith Lakes Scheme, SREP for Public Transport Corridors, SREP for Rouse Hill Development Area, SREP for Warringah Urban Release Areas, SREP for Homebush Bay Area, , SREP for City West, Parramatta, SREP for Rhodes Peninsula, SREP for St Marys, Regional Parklands, SREP for Sydney Harbour Catchment

- **Other Policies, Controls and Strategic Guidelines**

Other policies on national and state level can be of assistance in achieving the desired outcomes. For example the Local Environmental Plans and Development Control plans set detailed guidelines for development of areas, the National Bicycle strategy and incorporation of bicycle tracks in town planning can be an effective strategy in reducing reliance on automobiles.

## **CONCLUSION**

Urban Sprawl does not appear to be a sustainable option for communities. Strategies to ensure that cities are both liveable and sustainable need to be incorporated in the Government Policies. Australian government has shown great initiatives to tackle the problems associated with unwanted Sprawl. Only time will tell us the story of success and failure of these initiatives. However the success in achieving a quality development by the use of SEPPS and SREPS has been a success in many areas. The initiatives taken in the Sydney Metropolitan Strategy seem if the implementation is effective and timely.

## **BIBLIOGRAPHY**

Please refer to the uploaded document on ISOCARP Case Studies Platform