

Regulatory and Incentive Mechanisms to implement Transit Oriented Development (TOD) in South East Queensland

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ABSTRACT

The Queensland Government recently released a statutory planning document *South East Queensland Regional Plan 2005-2026* to manage the rapid growth of its south east region. One of the strategies identified in the document is to establish a number of transit-oriented developments (TODs) to create compact, walkable communities around high capacity public transport nodes.

The objective of the paper is to examine a range of regulatory and incentive mechanisms to implement TODs in South East Queensland. While the present regional planning document focuses mainly on regulatory mechanisms such as the statutory regional plan and local planning schemes, there is also scope for consideration of incentive mechanisms to achieve its goals. The current challenge for many local governments is to integrate the principles of TOD into appropriate regulatory and incentive framework for implementation.

The paper proposes two types of incentives– one aimed at the local community and the other at developers. The range of community incentives could include integration of community facilities, public spaces and promotion of local businesses as part of transit oriented development. There should be a wider consultation/education campaign to highlight the need for TODs to the community. Likewise, a range of incentives could be offered to developers in the form of support for land assembly, streamlined development approval and relaxation of development control requirements. State and local governments have an important role to play in developing these incentives.

For successful implementation of TODs in South East Queensland, there is a need for effective use of both land use planning instruments as well as travel demand management measures. Land use planning instruments should include regulatory provisions in the planning schemes for developing TOD precincts around major public transit nodes. Similarly, travel demand measures should include incentives for communities to make greater use public transport.

INTRODUCTION

As a planning concept, transit oriented development (TOD) is currently being advocated as an effective land use planning strategy to manage metropolitan growth in Australia. Newman (2005) argues that Australian cities are too dependent on cars and this car dependency needs to be reduced through development of new 'transit city' centres and investment in sustainable transport infrastructure. The recent South East Queensland Regional Plan specifically promotes implementing TOD concept to manage the rapid growth of the region.

Transit Oriented Developments (TODs) are higher density mixed use residential and commercial developments set within walking distance of key transit nodes such as rail or bus stations or around activity centres such as major shopping centres/offices. While higher densities are promoted closer to the transit nodes, lower density development is allowed farther away from the transit nodes. TODs aim to encourage increased ridership in public transport, to efficiently integrate land use and transport, and to create integrated liveable communities (Calthorpe and Fulton, 2001; Bernick and Cervero, 1996, Kaufman and Morris, 1995). Cervero suggests that transit oriented development requires the three dimensions of Density, Diversity and Design (3Ds) to make the concept work (Tumlin and Millard-Ball, 2003). In the context of USA, Garde comments of new urbanists projects which are very similar to TOD, pointing out that existing zoning ordinances and subdivision regulations are one of the major barriers to implementing new urbanist projects (Garde, 2004)

The success or otherwise of a planning concept such as TOD depends largely upon the presence of effective implementation mechanisms. As TOD still remains a relatively new planning concept in Australia, it is imperative that we move towards designing an effective implementation framework for TOD. Such a framework should include both the *regulatory* mechanisms as well as *incentive* programs, striving to strike the right balance between the two.

The objectives of the paper are:

- 1) To present a broad overview of literature on transit oriented development (TOD) with particular focus on regulatory and incentive mechanisms
- 2) To provide an overview of regional planning priorities and TOD development in South East Queensland (SEQ)
- 3) To assess the challenges in implementing TODs as proposed in the South East Queensland Regional Plan
- 4) To examine the potential role of incentives to communities and developers to promote TODs in South East Queensland (SEQ)

REGULATORY AND INCENTIVE MECHANISMS IN PRACTICE

Regulations, voluntary instruments, expenditure and financial incentives have been identified as four types of policy instruments to achieve sustainability goals, (Jacobs (1993 in Roseland, 1998). Regulations include instruments such as laws, licenses and permits that have a statutory basis. Voluntary instruments include information, technical assistance and community activities, which do not require financial investments. Expenditure includes direct investments by governments for provision of infrastructure and amenities. The last category involves providing financial incentives to people through mechanisms such as pricing, taxes and charges, subsidies, rebates, grants and loans, rewards, surety bonds. Although these four policy categories are not mutually exclusive and have some overlaps, they provide a useful basis to analyse the mechanisms to promote transit oriented development (TOD).

As reported in the literature, TOD and travel demand management (TDM) can serve as mutually supporting activity. TOD mainly relies on land use planning instruments such as zoning, growth management acts and ordinances and subdivision regulations. Travel demand management (TDM) relies on a second type of instruments to influence travel behaviour of individuals so as to make efficient use of transportation system (Leach in Dittamar and Ohland 2004).

Regulatory mechanisms for TOD development includes statutory land use planning, with mandatory requirements for transit supportive development. Some of the local government regulations include zoning, subdivision ordinances, building codes and development impact fees (Feiok, 2004). San Diego's 1992 TOD ordinance is one of the first regulatory mechanisms to promote compact infill development near transit nodes (trolley stops) and to create 'urban village overlay zones' (Dunphy et. al, 2004). In her paper on "Zoning for Transit oriented Development", Greenberg (2004) identifies two types of practices in TOD zoning, namely, plans and policy approach and regulatory provisions. The first approach includes creating customised zoning for projects integrating transit facilities. An example of this is the use of 'specific plans' in Mountainview, Atlanta and Arlington county. The second approach includes regulatory provisions to achieve key goals of TODs. Green refers to these as the ABC of TOD development (Active walkable streets, Building intensity and scale and Creating transit integration). For example, the goal of creating *active walkable streets* would require appropriate regulatory controls in the shape of controls on land use, building placement and orientation, entrances, street standards. Similarly, the goal of achieving the required *building intensity and scale* would require regulatory measures such as floor area ratios, minimum lot area per unit, height/mass. The goal of *creating transit integration* would require the linking of train corridors and stations as part of the larger TOD project.

The Portland Metro Area Plan represents another example of a regulatory mechanism. This plan required all stations to have minimum prescribed densities, mixed use development, pedestrian oriented buildings, prohibitions on auto oriented land uses and reductions in parking provisions. (Dunphy et. al., 2004).

Regulations for travel demand management could include penalties to discourage negative behaviour. For example, the 'Ride Share' ordinance in Montgomery County, Maryland, introduced a penalty system for employers who do not achieve certain levels of transit use by its employees. Similarly, the Commute Trip Reduction Act 1991 in Washington State requires large companies with more than 100 employees to have trip reduction programs with measures such as hiking parking fees and provision of transit subsidies (Plous, 1994 in Roseland, 1998).

Regulatory mechanisms, however, can be inflexible, costly in ensuring compliance and potentially confrontational in nature. They are often criticised for being reactive in nature and for requiring substantial effort and resources for implementation. Financial incentives, on the other hand, are seen as more pro-active and aim to encourage people to change their behaviour. This has led to much interest in the use of "economic instruments" such as financial incentives in recent years (Roseland 1998). Porter (2004) identifies public/private redevelopment, infrastructure and other cost sharing incentives and regulatory incentives as some useful tools for implementing TODs in USA.

For example, in the case of redevelopment projects requiring land assembly, public redevelopment agencies can use the power of eminent domain to acquire the land, bearing initial development costs, to attract private developers. Tax increment funding (TIF) can be used as a tool to support infrastructure and land cost subsidies. Under this arrangement, local governments can use the future potential increases in property tax revenues in the TOD district to invest in infrastructure improvements and issue bonds against future property tax increases (Boarnet and Compin, 1999).

Also, zoning around transit nodes can be used to provide incentive for developing higher density mixed use project as a matter of right or requiring minimum review procedures.

Another form of incentive is the provision of grants to support TOD. For example, the 'Transportation for Livable Communities' program in San Francisco provides small grants to community oriented transportation projects that support walkability, transit use and compact development patterns. They include financial incentives related to housing density and affordability, planning efforts (up to \$ 75,000) and construction activities (\$ 150, 000 to 2 million) (Dock and Swenson, 2004). Other examples of implementation assistance in the form of grants include 'Livable Centres Initiative (LCI)' in Atlanta and 'Livable Communities Demonstration Account (LCDA)' in Minneapolis, St Paul.

There are also examples of implementation assistance in terms of awareness raising and technical assistance.. The Puget Sound Regional Council's transit station communities project in Seattle in partnership with 1000 Friends of Washington seeks to raise the awareness of TOD opportunities in the area to developers and councils. It has produced a TOD guidance document for information dissemination on TODs. It also provides technical assistance to local councils in identifying TOD opportunities in the area (Dock and Swenson, 2004)

This broad overview of the literature provides useful insights into some of the current approaches to implementing TOD. It sets the context for the issues discussed in the following sections of paper. The next section examines how transit oriented development is being promoted in the recently released statutory South East Queensland Regional Plan.

TOD IN THE SOUTH EAST QUEENSLAND CONTEXT

Regional planning priorities and TOD

The Queensland Government released the South East Queensland Regional Plan in June 2005 in response to the rapid rate of population growth in South East Queensland and the need to plan and manage urban development, infrastructure investment and service provision while maintaining environmental assets and the quality of life in the region. Unlike previous regional plans in South East Queensland (SEQ) the regulatory provisions and policies contained in this plan are statutory and binding on state agencies, local government and private developers as a result of amendments to the *Integrated Planning Act 1997*.

The Regional Plan places a strong emphasis on providing a connected and accessible region that supports more compact urban forms of development, self-containment of travel and providing sustainable travel choices. (OUM, 2005a) The plan seeks to limit greenfield development at the urban fringe and reduce the stock of rural-residential land in the region through identifying an urban footprint and setting dwelling targets (for greenfield and infill development) for each local government area.

The shift to a more compact form of development will be achieved through increasing the net residential density of major new urban development and on focusing higher density residential development within and around regional activity centres and public transport nodes and corridors. (OUM, 2005) In particular the plan seeks to encourage transit oriented development (at regional activity centres) and transit oriented communities (at lower order centres and neighbourhoods) by increasing residential densities and promoting mixed use developments in accordance with TOD planning principles.

The plan identifies baseline density targets for TOD within activity centres of between 30-120 dwellings per hectare (net) and between 30-80 dwellings per hectare (net) for transit oriented

communities. (OUM, 2005) Currently most greenfield development in SEQ has densities of around 8-11 dwellings per hectare.

Implementation framework for TOD

The Regional Plan highlights a range of TOD principles for SEQ and identifies a small number of proposals under consideration in 2005. However, unlike the draft Regional Plan (OUM, 2004) the final plan does not identify the potential TOD locations throughout the region to inform detailed planning at the local level. Instead, local government will identify the appropriate locations for TOD when preparing Local Growth Management Strategies (LGMS) to guide the implementation of the regional plan at the local level.

A completed LGMS will identify activity centres and neighbourhood locations suitable for TOD within each local government area and also identify incentives and measures, including minimum densities for each TOD location (OUM, 2005a) All LGMS are to be completed by June 2007 and when complete will result in amendments to the relevant local government planning schemes to reflect changes in land use, densities and planning outcomes at the local level. It is anticipated that the identification of TOD locations will be one of the most contentious elements of the LGMS process given the range of local interest groups that may be opposed to increased residential densities.

While the Regional Plan and policies are statutory in nature, the success of TOD in the region will depend very much on the implementation efforts of local government through the LGMS process and incentives to promote TOD to land developers and investors at the local level. Detailed implementation will be facilitated through structure plans at each activity centre and transit oriented community, to identify the specific scale, intensity and land use mix of each TOD.

Following the identification of TOD opportunities through the LGMS process and specific design matters through structure plans there may still be a number of barriers to the development of TOD at particular locations. To assist in delivering TOD outcomes across the region the OUM will also establish a Transit Oriented Development Taskforce or alternative special purpose governance arrangements to assist in delivering TOD outcomes. It is anticipated that the Taskforce membership will include representatives from key state agencies, transport operators, local government and the private sector.

The TOD Taskforce could play a critical role in facilitating development approvals, coordinating infrastructure investment, amalgamating land parcels and aligning regional and local priorities at key TOD locations. While the nature of the proposed taskforce has not yet been established, it may take the form of a development corporation or a cooperative planning agency.

CHALLENGES IN IMPLEMENTING TOD USING CURRENT REGULATORY MECHANISMS

The SEQ Regional Plan seems to focus on regulatory mechanisms such as statutory regional plan and local planning schemes that provide strong policy support for more effective integration of transport and land use (including TOD).

There are, however, a number of political, social and institutional barriers to TOD in SEQ that have the potential to limit the successful implementation of these concepts. The resulting challenges include matters relating to community perceptions, market feasibility, place character issues, transport network planning, land assembly and planning approvals amongst others.

Regulatory mechanisms are an important precursor to effective implementation. However, a suite of other tools (including non-regulatory mechanisms) will be required to address these specific challenges. This section discusses some additional provisions that may be incorporated within the Regional Plan to support TOD implementation.

Community Perceptions

Past experience and anecdotal evidence suggests that in the SEQ context there are some negative perceptions within the community about increased densities and their potential impact on property values, crime rates and other lifestyle issues. In part this is due to the many examples of poorly designed walk up apartments built in the 1960's and 1970's with minimal consideration of the local architectural context, prevailing character or neighbourhood privacy and amenity. These perceptions may also derive partly from the much celebrated 'Great Australian Dream' of the detached house with garden on a quarter acre lot which was dominant in the post war era. Phil Charles (2005) points out that one of the barriers to TOD implementation is the land use policies and NIMBY forces that impede multifamily housing and infill development.

An example of issues relating to increasing density was the failed attempt by the Brisbane City Council in 2002 to up-zone areas surrounding the Holland Park Busway station to reflect the higher levels of accessibility delivered to these areas through the Busway. This move met with considerable community opposition from a vocal action group opposed to increased density in their neighbourhood as reported in the local newspapers.

Market Feasibility

Unlike the more mature property markets in Sydney and Melbourne there may be some uncertainty about the potential market feasibility of TOD projects in SEQ, particularly when not located within established activity centres. Ultimately the success of TOD will be dependant on market acceptance in terms of tenancies, rental returns and capital growth of residential, commercial and office developments at transit nodes. Due to the lack of successful TOD projects in the region at present there is a lack of sales evidence and rates of return on which to build the business case for TOD. Property Council of Australia has identified some of the barriers to TODs as fragmented land ownership, high construction costs, lack of market demand and lack of government leadership (James, 2005).

Place Character Issues

A number of the sites listed in the SEQ Regional Plan as short term TOD proposals (including Milton, Woolloongabba and Albion) contain a substantial number of character houses. These houses with their vernacular 'Queenslander' style of architecture are protected from redevelopment within local government planning schemes. All character areas are included within a demolition control precinct, making it very difficult for redevelopment to occur, particularly at the densities proposed for TOD projects.

This 'Queenslander' housing is essentially low density in nature often on multiple titled blocks, typically two 405m² lots. In some areas these houses are being moved onto one lot with the remaining lot redeveloped, however the resultant densities are still well short of those required to support TOD. The detailed design of new development also has the potential to cause conflict between the existing character of the area and the density, scale and bulk of new development.

Transport Network Planning

Effective integration between transport networks and surrounding land uses is a necessary prerequisite for TOD projects. The SEQ Infrastructure Plan and Program (OUM, 2005b) identifies a number of new public transport corridors in the region and provides significant funding for

implementation over the period until 2026. Some of these corridors are based on existing Queensland Transport corridor investigations, while others are new projects where corridor options and alignments have not yet been determined.

It is imperative that the LGMS process considers the effects of the new infrastructure for effective integration between the planned public transport nodes and surrounding land uses. This will require closer relationships between state and local government agencies than currently exist in a 'whole of government' framework under the leadership of the Office of Urban Management. Such a process should also include the private sector in the form of public/private partnerships and joint venture projects to deliver major projects in an efficient and cost effective manner.

Land Assembly

The ability to assemble sufficiently large parcels of land is likely to figure as a major issue in the case of infill development or brownfield TODs particularly in the inner suburbs of Brisbane. With the exception of large institutional landholders the existing land ownership in established suburbs may be too fragmented to allow assemblage of sufficiently large parcels. While the function of the TOD Taskforce is unknown at this stage it may have a role to play in land assembly for creating viable TOD projects.

The SEQ Regional Plan proposes the use of detailed structure plans and masterplans to undertake planning over a number of individual sites, however the implementation of these plans may become increasingly problematic as the interests of individual landowners vary.

Planning Approvals

For TOD to be implemented successfully at the local level there needs to be a process of planning approval that reflects the core objectives of TOD. The current approval framework and multiple levels of assessment could create a significant barrier to the implementation of TOD as many local planning frameworks are based on the concept of zoning rather than development coding.

The LGMS process is expected to provide the framework for TOD and result in amendments to local government planning schemes to reflect the desired outcomes in priority TOD locations. However, many of the key principles of TOD (including the relationship of the built form to the street, integration of public realm and appropriate mix of uses) will require a more sophisticated planning approach. One of the key challenges will be to translate the design outcomes of the relevant structure plans into the regulatory approval framework at TOD locations.

Capacity Building of Local Councils

The Regional Plan relies on the development of 'local growth management strategies' to assist local councils in the implementation of regional plan initiatives at the local level in consultation with communities. This process would involve complex tasks for local councils. It puts the onus on local councils to identify locations for TOD, decide upon the form of TOD for each location, and then to accommodate additional housing and employment. This would require extensive community consultation, negotiation and persuasion to convince the various interest groups who may be expected to resist raising of densities and intensification of development, especially in their own backyard. On the other hand, councils will also have to liaise with developers and investors who may have strong views about the form of TOD at particular locations, which could also be shaped largely by their personal vested interests.

This would place the councils in the unenviable position of having many-fold increase in the current levels of stress they are currently exposed to. In view of the findings of the National survey (PIA, 2004) that reported high levels of stress among planners, this is not an issue to be taken lightly.

Also, councils currently have few in-house experts in the area of community consultation, for example. Most major work is outsourced to private consultants. The National survey also reported a severe scarcity of qualified planners across Australia, which affects the availability of both private consultants as well as council planners. It is essential, therefore, that some thought be given to resourcing local councils by increasing their staff numbers and expertise.

Structure Plans and Masterplans

The Regional Plan requires the preparation of structure plans for major development (covering more than 100 hectares) and detailed masterplans for all smaller developments. It also requires local councils to prepare and manage structure plans in partnership with principal landowners/ developers/ stakeholders, which need to be approved by Regional Planning Minister.

The resulting tasks may vary significantly in terms of ease of completion depending on the type of land ownership and size of land holdings at the location, with areas having larger landholdings easier to manage. The size of the local council would also be a significant variable, with smaller local councils finding it more difficult to find the resources to manage the process.

In each case, the extent to which landowners/ developers are to be allowed to bear influence on decision-making needs to be specified. It is important that the scope of responsibilities and task allocations are clarified to an extent where all major actors have clearly defined roles to play and the process remains transparent to ensure accountability at all stages.

State infrastructure agreements

The Regional Plan also promotes the concept of drawing up infrastructure agreements between the State Government and developers/landowners. It is envisaged that while State Government is to invest in infrastructure to lead/guide development, landowners/developers who stand to benefit from it will be required to reciprocate by contributing to infrastructure (OUM, 2005a). In order to determine the amount of contribution required from each landowner/ developer, the basis for calculating the extent of benefits resulting from the introduction of infrastructure needs to be defined. It may prove difficult to achieve consensus on the extent of benefit attributable to specific infrastructural investments.

The issue could be further complicated by the presence of any landholder opposed to the extension of the infrastructure into the area because of the changes to lifestyle it would entail. Such situations, needing extensive community consultation, may be better handled at the local government than the State level. It may therefore be useful to clearly define the role the local councils may be required to play in the process.

POTENTIAL INCENTIVES FOR COMMUNITIES AND DEVELOPERS

This section of the paper discusses the incentives that should be incorporated into the Regional Plan to facilitate the effective implementation of TOD in SEQ. It proposes the consideration of two sets of incentives by State and local governments, one aimed at the local community and another aimed at developers.

Convincing the community of potential benefits that TOD can deliver to them will be a major challenge to planners. There needs to be a deliberate and sustained effort through community engagement and community education to generate acceptance and support for TOD development in SEQ. Likewise, developers need to be assured of market viability of TOD related projects to be confident in committing resources to it. They need to be encouraged to invest through a range of incentives that aim at reducing uncertainty, time delays and associated costs. Table 1 lists some

potential incentives that could be offered to community and developers to promote TODs and facilitate their implementation.

Table 1: Potential Incentives for TOD development in SEQ

Incentives for Community/ home owners	Incentive for developers/builders
<ul style="list-style-type: none"> • Integration of community facilities • Inclusion of Public Spaces • Promotion of local business and local skills • Rate relief • Community education/engagement 	<ul style="list-style-type: none"> • Streamlined development approval system • Facilitating land assembly for developers • Support for demonstration project • Discounted infrastructure charges • Technical support • Development application rebate

Community Incentives

One of the main challenges for local and state governments is to convince the community of the benefits of TOD. The first step should be to share the vision of improved life-style that TOD promises to deliver. The next step would be to market the right image of TOD projects. To ensure community support for TOD, a range of community incentives, which add value to the community, needs to be provided. Some of the specific benefits that are inherent in TOD would need to be promoted, such as, increased access to public transport, enhanced walkability, rise in property values, greater social interaction and access to public amenities such as parks and community facilities. The integration of community facilities, inclusion of public realm, promotion of local businesses and rate relief measures also need to be integrated into TOD design and publicised.

Promoting a Shared Vision for a Sustainable Life-Style

The government and its regional plan should promote the concept of TOD in SEQ in a systematic way. First and foremost, community perceptions and concerns need to be acknowledged and tackled seriously. Failure to do so could result in another long debate such as the one over the urban consolidation policy (see Troy, 1996 for criticism of the policy). TOD is a fairly new concept to which relevant professionals may be exposed but certainly not the larger community. Yet TOD has the potential to significantly change the lifestyle for the whole community. While there may be no denying of the merits of TOD in promoting a sustainable lifestyle, the decision to adopt any change in lifestyle needs ultimately to be made by the community and not a few professionals.

State and local governments need to organise a wider consultation/education campaign to sell the merits of TOD to the community. The TOD concept represents a significant change of lifestyle. In order to allay concerns about change in general – compounded by prevalent negative perceptions about life in higher density settings – planners must share with the community their vision of TOD in terms of the type of physical/ built environment being pursued.

An awareness campaign comprising of community visioning exercises with supporting media coverage could culminate with exposure to demonstration projects to convince the community as well as potential developers about the merits and feasibility of TOD. It is difficult for people used to experiencing densities of around 8 to 15 dwellings per hectare, to visualise the transformation of the place effected by increasing densities to 40 to 80 d/ha. Two-dimensional drawings and graphics often fail to convey the true impact of the type of development they represent. Three dimensional

computer-generated graphics and virtual reality simulation of the transformation at suggested levels of densities is, therefore, suggested using images of TODs of different densities from overseas.

While a shared vision of TOD ideals can effectively address problems of perceptions related to high density development, the visioning process should also allow local communities to participate in vision setting through a place based planning approach. This would ensure the achievement of individual TOD designs that are better adapted to local situations, creating places that the community can own and relate to. It is imperative that a wide range of types of TOD and their density targets are considered at the outset. It is quite likely that to gain community support for TODs, densities may have to be lowered from what is currently proposed in the regional plan. Likewise, TOD sites need to be carefully selected based on the analysis of the stakeholders as well as physical characteristics of the site (Bajracharya and Khan 2005).

Marketing the Right Image

In addition to the overall concept of integrating transport and land use at the regional scale, the inherent strengths of TOD design principles have popularised the concept among planners, urban design professionals and architects. There are a number of TOD design principles that seek to ensure an integrated development of the urban environment. Each of these principles needs to be promoted in the design and execution of the projects and the resulting strengths of the design need to be publicised for the community.

Provision of incentives to the community

Integration of community facilities as part of TOD development: For the TOD concept to succeed, the provision of a full range of community facilities should form an integral part of development of transit oriented communities. These would include facilities such as childcare facilities, neighbourhood centres, small retail shops, depending on the demography of the community. These community facilities could be a major incentive and drawcard for prospective residents and should be publicised as such.

Inclusion of Public Realm: Central to the design principles of high-density development as envisaged in TOD is the creation of the public realm. This may be realised by the provision of effectively integrated public open spaces and community areas, which can be a social hub for the area. With people living in higher density housing in TOD, there is increasing need for residents to have good access to public open spaces, as there will be less open space available within the high density developments. It is important, therefore, that the image of high density living offered by TOD is marketed only in conjunction with that of the public realm.

Promotion of local businesses and local skills: The TOD concept not only seeks to reduce car dependence by encouraging commuting by means of public transport, but it also seeks to eliminate commuting where possible by creating local employment opportunities. To promote the generation of local economic development to create local employment, the promotion of local businesses and local skills needs to be undertaken. Local employment could be promoted by locating shops, cafes, offices and markets around transit stations, adding vitality to the area. The location and design of these activities need to be carefully considered to capitalise on proximity to the transit node, the community space and also access and visibility from the outside.

Rate Relief: One of the negative impacts of TOD development could be a rise in land prices in the area that can adversely affect the asset rich income poor elderly long term residents of the area. There may be a case for local councils to consider rate relief to these demographic groups to minimise the impact of TOD development. Failure to address such concerns can potentially add to community resentment to TOD implementation.

Incentives to Developers

Regulatory mechanisms such as the Regional Plan and planning schemes may not be sufficient in themselves to encourage developers to invest in TOD. Considering the limited community awareness and support for the concept, TOD related projects would represent a development risk. Unless there is a clear market demand for TOD, it will not be possible to get developers to support the implementation of TODs in SEQ.

There needs to be a range of incentives offered to developers in the form of technical assistance, development control relaxation and financial incentives to make TOD projects an attractive investment.

Technical Assistance

Facilitating Land assembly for developers: In realising TODs, the assemblage of sufficiently large parcels of land is likely to figure as a major issue in cases of infill development or brownfield TODs particularly in the inner suburbs of Brisbane. The State government can facilitate land assembly by getting directly involved in land consolidation or through mechanisms of public-private partnerships. This would require setting up a trust fund to purchase the land around potential TOD sites. The concepts and techniques of land pooling or land banking may be adopted to facilitate the consolidation of small land holdings under different ownership into larger tracts of land suitable for TOD development. Special provisions may have to be made to enable the assemblage of land parcels for creating a viable and appropriate scale for TOD development. The process of land consolidation needs to be carried out while gauging the community support for the development. State government's direct involvement in land consolidation or through joint venture arrangements can be used as leverage to include a range of community facilities and community public spaces as part of the development. The concept of Tax Increment Financing (TIF) as reported by Boarnet and Compin (1999) may be usefully employed here to finance the operation of land pooling. Likewise, Portland Regional Transit Authority' approach of buying a number of key sites for resale to transit supportive development is relevant here (Dittmar and Ohland, 2004).

The State government is currently considering a number of alternate governance arrangements for transit-oriented development. Among the models being considered are: 1) Development Corporation which would plan, buy, sell and joint venture and is at arms length from the government, 2) an agency responsible for assembly and development; 3) a Task Force responsible for collaboration, facilitation and coordination of activities for TOD development 4) government's focus on regulatory changes and dependence on market mechanism to achieve the goal (Larcombe, 2005). It is yet to be seen which of the four models (or a combination there of) will be taken up by the State government at this stage.

Technical Information Support: The OUM and local councils can provide technical support in terms of provision of data on land and community in preparation of masterplans for activity centres and transit oriented communities. The OUM is currently in the process of preparing guidelines for TOD implementation, which can be a useful resource for local councils and communities.

One of the challenges the local councils will confront is the shortage of urban design specialists in the planning team. Staff expertise in TOD will need to be improved with further training in planning and design of TODs. This may prove to be a rather big challenge in face of the current shortage of qualified planners across Australia (PIA, 2004).

Generating and Sharing Information about TOD

Support for Demonstration Project: State Government could provide incentives in terms of technical advice and financial support to develop a demonstration project on TOD located in an area with high visibility and accessibility. This can be an effective tool to convince the community and developers to embark on TOD projects. This will also have an educational value to showcase the benefits of sustainable TOD development. Demonstration projects can be jointly marketed by local councils, developers and relevant professional institutes (Planning Institute of Australia, Urban Development Institute of Australia)

Information Sharing: Technical information gained from demonstration projects as well as information collected on leading best practice literature on TOD would be useful for further research into TOD implementation as well as for increasing awareness among the community and developers. The OUM could involve organisations such as South East Queensland Regional Organisation of Councils (SEQROC) and universities to disseminate the information and act as a repository of information for sharing between different councils in the region.

Development Control and Regulation

Streamlined Development Approval: One of the concerns for developers is the long turn-around time for development application approval for mixed use high density development. They often require various forms of assessment of impacts on the surroundings and neighbouring properties. Facilitating a streamlined development approval with minimum delays and timely feedback on development proposal will help the developers in minimising the cost associated with delays in development approval. With large-scale development activity at concentrated locations, it may be possible for local councils to deal with similar aspects of the individual development applications collectively and promote special zones to promote fast-tracking of the applications.

The planning system in Boulder, Colorado allows for fast tracking of approval for certain projects as 'of right'. The city fast tracks planning approval time from 3-4 years to 4-6 months for areas designated mixed use zoning districts if there is minimum 50 percent residential uses (Dittmar and Ohland, 2004)

Relaxation of Development Control: It may be possible for councils to allow an incentive to developers by relaxing height restrictions and reducing the requirement for providing car parking. These may be justified where the development is located near shops and close to public transport, as envisaged in TOD. Such changes to development control would essentially be in line with sustainability goals of promoting required densities to support public transport. The recent publication of the draft public transport network plan (Translink, 2005) can be seen as an important step in the right direction.

However, any relaxation of development control requirements needs to be seen in the context of how it will affect the surrounding areas, and should be considered at the outset of implementation rather than based on ad hoc decisions taken in reaction to individual requests.

Financial Incentives

Discounted Infrastructure charges: As part of the Regional Plan, the State government plans to provide major infrastructure to lead development in greenfield areas through the SEQ Infrastructure Plan and Program (OUM, 2005). It plans to enter into State Infrastructure agreements with beneficiary developers and landowners to contribute to infrastructure costs. In areas of high priority and where there is a strong case for community benefit, it may be possible for State government to subsidise infrastructure charges to promote TOD development. The areas may include major regional activity centres identified in the Regional Plan.

For local transit communities, similar arrangements may be worked out between local councils and developers through possible State Government subsidies.

Development Application fee rebate: Porter (2004) points out that the Ohlone/Chynoweth Commons affordable housing project in San Jose, California was made possible by exempting most fees associated with plan review, building permits and infrastructure development. There is scope for investigating such ideas to promote TOD development in SEQ. For projects with strong focus on transit use, incentives can include full or partial fee rebate on development application fees.

Financial Assistance: The OUM can look into various models for financial assistance to support TOD development. Financial assistance can be for activities such as funding land acquisition, organising initial community consultation and integrating affordable housing and community facilities as part of the TOD project. Financial assistance by public sector at the earlier stage of TOD development can provide the necessary impetus for private sector investment. The State Government can start up a trust fund in collaboration with major banks and equity funds to generate initial funding for the projects.

There are some relevant examples on different approaches to financial assistance for TOD development. San Francisco Bay Area has established Smart Growth Fund to invest in mixed use development and to finance land acquisition (Parzan and Sigal, 2004). Bay Area Metropolitan Transportation Commission's Housing Incentive program (HIP) provides financial assistance to local governments that locate higher density housing within one third of a mile of transit node (about \$ 2000 per bed room for compact housing). Likewise, as discussed earlier, small community projects promoting walkability, public transport and higher density housing can apply for grants from 'Transportation for Living Communities' program in San Francisco.

Employer Incentives

In Austin, Texas, the city has established what it calls "Desired development zones" (DDZ) which are often located close to mass transit as part of Smart growth initiative. The city has a "Primary Employer Incentives" program to attract large employers to locate in DDZ and in meeting its smart growth goals. These types of employers are sought to generate economic growth and to encourage other related businesses to follow them. Some of the incentives include fee waivers, expedited processing of development application, streetscape improvements, new water and sewerage lines, transportation improvements (Austin City Connection, 2005).

There is a scope for examining a range of incentives that can be given to large employers in South East Queensland to promote transit oriented development and to increase patronage of public transport. Employers of large organisations including State and local governments and private businesses could be encouraged to achieve higher levels of public transport use through range of incentive mechanisms such as discounted tickets and provision of bike parking, lockers and shower facilities. Queensland Government's recent TravelSmart workplaces program is highly relevant here. It promotes the use of sustainable modes of transport for journeys to work by assisting organisations to develop and implement workplace travel plans (Queensland Transport, 2005). In one of the councils where it has been trailed, the staff who want to catch public transport for getting to work can receive rail tickets and those who carpool are given incentive of special car parks. Clearly, there is a strong need to link incentives for promoting TOD to programs such as TravelSmart in South East Queensland.

CONCLUSION AND RECOMMENDATIONS

Effective implementation of transit oriented development principles in the SEQ Regional Plan will require both regulatory and incentive mechanisms. The Regional Plan is a statutory instrument which requires state and local governments to amend their policies, plans and codes to reflect its strategic objectives of integrating land use and transport. Regulatory provisions have been included in the plan to allocate land for various key land use categories, regulate material change of land uses and prohibit particular subdivisions in certain areas such as regional landscape and rural production areas. Local growth management strategies appear to be the main tool for achieving the strategic intent of the regional plan at the local level and to ensure that local governments amend their planning schemes to reflect this. Likewise, local governments are required to prepare structure plans for all major new development areas of significant size. As an integral part of the structure plans of new development areas, State infrastructure agreements between State Government and developers/landowners are to be completed.

These statutory and regulatory mechanisms appear to be sufficiently integrated and, together, represent a potent driving force to mobilise the implementation of TOD in SEQ. However, it is anticipated that as the implementation of the Regional Plan gets underway, there will be stresses and bottlenecks created within the existing planning system. One of the key issues with the current implementation of the regional plan is that local councils will be under tremendous pressure from both State Government as well as local communities in the preparation of LGMS. Many of the smaller councils will face financial and technical resource limitations, preventing them from effectively implementing LGMS. The current planning framework of zoning and multiple levels of assessment could shape up to be a major constraint in implementing TOD projects. The resulting challenge for local councils will be to integrate many of the principles of TOD into an appropriate regulatory and incentive framework for implementation.

For successful implementation of TODs in SEQ, there needs to be effective use of both land use planning instruments (LUP) as well as travel demand management (TDM) measures. Land use planning instruments (LUP) would include the establishment of TOD precincts by the councils in their planning schemes, in consultation with the key stakeholders. These TOD precincts could be special zoning districts, each with its own desired environmental outcomes (DEOs) and development codes with provisions of incentives for higher density mixed use development, integration of community facilities and for enhancing walkability. Green's idea of ABC of TOD is relevant here and can be achieved through appropriate regulatory controls/guidelines in terms of allowable land uses, gross floor area ratios, building placement and orientation and street standards. These controls and standards could be packaged together to allow streamlined development approval for planning and development applications in the designated TOD precincts.

Travel demand measures (TDM) could include incentives for both employers and employees to promote the use of public transport. Queensland Government's TravelSmart program can be more actively implemented around TOD sites. Likewise, relaxation of requirements of parking space provisions for developments around transit nodes can be implemented as an incentive for developers. Queensland Transport can play an active role in developing regulations and incentives for changing the travel behaviour of people.

To effectively promote TOD projects, there should be a clear consideration of incentives at two levels – one for the local community and another for the developers. To effectively aim at gaining support from the community, incentives comprising of community benefits need to be carefully packaged. The package may include provisions of community facilities, walkable active streets and attractive neighbourhoods. Likewise, developers need to be offered an incentive package focusing

on their needs, such as support with respect to of land assembly and infrastructure provision, and a simplified and integrated development approval system. Although the American model of Redevelopment Agencies with power of eminent domain to acquire land will be controversial in Queensland context, this idea of compulsory purchase may need to be explored in some of the inner suburban TOD locations that face major issues of land fragmentation. Likewise, the role of the proposed TOD task force in packaging land for the private sector has some potential to address these concerns.

State and local governments can have specific roles to play in promoting TOD development. State government can play an important role in the provision of technical and financial support for items such as the provision of community facilities, infrastructure development and land assembly. Local government, meanwhile, can provide incentives in terms of supportive zoning and subdivision regulations, streamlined development approval, rate relief and development application fee rebate. Local government could also play an active role in raising awareness about TOD concept and getting the community engaged in developing locally responsive TOD.

For making TOD successful, there has to be a whole of government approach with strong leadership by the Office of Urban Management and Queensland Transport. Some of the other departments which could contribute to TOD development are Department of Housing for integration of diverse and affordable housing, Queensland Treasury for funding key TOD initiatives and Environment Protection Agency for ensuring environmental standards.

The establishment of statutory regional plan with focus on TOD development is an important first step to manage the growth of South East Queensland (SEQ). As the paper has shown there is a potential for considering additional incentive mechanisms to promote TOD development in the region. Only with the support of local councils, development industry and larger community, there may be some certainty that the significant goals of regional plan will be achieved.

REFERENCES

- Austin City Connection 2005, "Desired Development Zones Incentives", City of Austin, http://www.ci.austin.tx.us/news/sg_incentives.htm, accessed September 13, 2005
- Bajracharya, Bhishna and Shahed Khan 2005 "Towards a Framework for Evaluating Potential Sites for Transit Supportive Development in South East Queensland" Proceedings of the Conference on *Emerging Futures: Smart Transport and Quality Design in Transit Oriented Development* organised by The Centre for Transport Strategy, The University of Queensland and Transport Roundtable Australasia, September 2005, Brisbane
- Bernick, Michael and Robert Cervero 1996 *Transit Villages in the 21st Century* New York: McGraw-Hill Companies
- Boarnet, Marlon and Nicholas Compin 1999, "Transit oriented Development in San Diego County: The Incremental Implementation of a Planning Idea", *APA Journal* Winter 1999, 88-95
- Calthorpe, Peter and William Fulton 2001 *The Regional City: Planning for the End of Sprawl* Washington, D.C. : Island Press
- Charles, Phil 2005 "Making Transit-Oriented Development Strategy & Policy Work" Proceedings of the Conference on *Emerging Futures: Smart Transport and Quality Design in Transit Oriented*

Infrastructure 09

Development organised by The Centre for Transport Strategy, The University of Queensland and Transport Roundtable Australasia, September 2005, Brisbane

Dittmar, Hank and Gloria Ohland 2004, *The New Transit Town: Best Practices in Transit Oriented Development*, Island Press, Washington D. C.

Dock and Swenson, 2004 "Planning the Transit District" in *Developing around Transit: Strategies and Solutions that Work*, Dunphy, Robert, Robert Cervero, Frederick Dock, Maureen McAvey, Douglas Porter and Carol Swenson (eds.) Washington D. C.: Urban Land Institute

Dunphy, Robert, Robert Cervero, Frederick Dock, Maureen McAvey, Douglas Porter and Carol Swenson, 2004 *Developing around Transit: Strategies and Solutions that Work*, Washington D. C.: Urban Land Institute

Feiock, Richard 2004, "Politics, Institutions and Local Land-Use Regulations", *Urban Studies*, vol 41, No 2, 363-375, February 2004

Garde, Ajay 2004, "New urbanism as Sustainable Growth? A Supply Side Story and Its Implications for Public Policy", *Journal of Planning Education and Research*, 24:154-170.

Gilbert, Dale and Simon Ginn (2001) *Transit Oriented Sustainable Developments* Built Environment Research Unit, Queensland Department of Public Works, Brisbane

Greenberg, Ellen, 2004 "Zoning for Transit Oriented Development" in Dittmar, Hank and Gloria Ohland 2004, *The New Transit Town: Best Practices in Transit Oriented Development*, Island Press: Washington D. C.

James, Bruce 2005 "Institutional Requirement for Transit Oriented Developments" Proceedings of the Conference on *Emerging Futures: Smart Transport and Quality Design in Transit Oriented Development* organised by The Centre for Transport Strategy, The University of Queensland and Transport Roundtable Australasia, September 2005, Brisbane

Kaufman, C. and Morris W. 1995 "Transit Supportive Urban Design" in *Transit Supportive Development - Benefits and Possibilities*, Occasional Paper Series 2, Paper 1, Report prepared for National Capital Planning Authority for better Cities program, Canberra: AGPS

Larcombe, John 2005 "Institutional Options for Transit Oriented Development", Proceedings of the Conference on *Emerging Futures: Smart Transport and Quality Design in Transit Oriented Development* organised by The Centre for Transport Strategy, The University of Queensland and Transport Roundtable Australasia, September 2005, Brisbane

Newman, Peter 2005, "Urban Design and Transport" in *In Search of Sustainability* edited by Jenny Goldie, Bob Douglas and Bryan Furnass (eds.), Australia, CSIRO Publishing

Office of Urban Management 2004, *Draft South East Queensland Regional Plan*, Department of Local Government, Planning, Sports and Recreation, Queensland Government

Office of Urban Management (OUM) 2005a *South East Queensland Regional Plan 2005-2026*, Brisbane: Department of Local Government, Planning, Sports and Recreation, Queensland Government

Office of Urban Management (OUM) 2005b *South East Queensland Infrastructure Plan and Program 2005-2026* Brisbane: Department of Local Government, Planning, Sports and Recreation, Queensland Government

Infrastructure 09

Parzen , Julia and Abby Jo Sigal 2004 “Financing Transit Oriented Development” in Dittmar, Hank and Gloria Ohland (eds.), *The New Transit Town: Best Practices in Transit Oriented Development*, Island Press: Washington D. C.

Planning Institute of Australia (PIA) 2004 *Findings and Recommendations of the National Enquiry into Planning Education and Employment*, August 2004.

Porter, Douglas “Suburban Challenges” in *Developing around Transit: Strategies and Solutions that Work*, Dunphy, Robert, Robert Cervero, Frederick Dock, Maureen McAvey, Douglas Porter and Carol Swenson (eds) Washington D. C.: Urban Land Institute

Roseland, Mark 1998, *Towards Sustainable Communities: Resources for Citizens and Their Governments*, British Columbia: New Society Publishers

Translink 2005, *Draft Translink Network Plan*, Queensland Government, Queensland Transport.

Troy, Patrick 1996 *Perils of Urban Consolidation: A discussion of Australian Housing and Urban Development Policies*, Leichhardt, N.S.W : Federation Press, 1996

Tumlin, Jeffery and Adam Millard-Ball 2003 “How to Make Transit-Oriented development Work” in *Planning* May 2003

Queensland Transport 2005 Travel Smart Workplace Program, <http://www.transport.qld.gov.au/travelsmart>, accessed October 8, 2005