

## Transit Oriented Development

**Fact Sheet by Michael O'Brien posted 29 May 2008**

Transit Oriented Developments, or TODs, are generally higher density, mixed use developments, located along major public transport (PT) corridors and generally centred on major transport nodes (bus and train stations, interchanges, etc). TODs are designed to encourage more sustainable transport behaviour through encouraging reduced reliance on motorised private motorised transport, encouraging pedestrian mobility and synergies between complementary mixed land uses.

**•Categorised under:**

- Estate Design, Access and Transport,
- High Density, Medium Density,
- Developer,

## Introduction

In transit oriented developments, the intent is to reduce reliance on private vehicles, while achieving an overall net increase in mobility for residents and visitors within TODs, accessing services, employment and recreational activities. The following key issues are associated with the (increasing) recognition of TODs, challenges, benefits, and their successful delivery as an alternative development form for Australian cities.

At its essence, TOD means development with a functional relationship to transit, allowing it to achieve synergies that enhance the value of both. For example, TOD can make transit systems more efficient and cost effective by increasing off-peak ridership. In addition, studies have shown that proximity to transit can yield a premium for property values. By definition, TOD can only be implemented by collaboration between the parties whose interests converge at transit facilities: the transit agency, local government, private developers, and community stakeholders.

## Key objectives/characteristics

The key objectives/characteristics of successful TODs are that:

- they provide a diverse mix of housing, employment generating activities and mixed uses,
- they promote high-quality community facilities; and
- they provide excellent transport mobility/connectivity, easy pedestrian and cycle access and strong connections between land uses and activities;
- the (high quality) public realm is characterised by vegetation, shading, landscapes and streetscapes (urban design and planning), providing greater levels of visual amenity and responsive landscape; and
- they provide transport convenience and choice for residents and visitors by increasing the accessibility and useability of public transport.

From a sustainable development perspective, transit oriented development represents a potential solution to the (joint) issues of peak oil, global warming, and public health by:

- creating dense, walkable communities, well connected or in walkable proximity (400-800 metres) to major public transport infrastructure,
- encouraging active transport (walking, cycling) and potentially addressing the health issues associated with sedentary (car reliant) lifestyles, and
- reducing the need for people to rely (as heavily) on private car use (and resultant fossil fuel consumption) for commuter and/or convenience trips.

## Case Study “ Albion, Brisbane

Described by the developer, FKP, as *“an iconic, mixed use community comprised of commercial buildings, residential and retail opportunities, bonded together by a network of public spaces, including streets, plazas and public transport.”*

“The Mill”™ is located immediately adjacent to the Albion railway station, 4.8 kms north of Brisbane’s CBD. It has access to public transport, with options of rail or a short (800m) walk west to the planned Northern Busway project, which will follow Lutwyche Road. The project is mixed use including residential apartments, commercial and office and retail building incorporating a full line supermarket, specialty foods, and leisure activities (cafés, restaurants).

The development incorporates original and heritage listed buildings within the site, providing contextual links to the site’s history as a flour mill, and its position of prominence as a landmark site on an elevated central site at Albion.

The commercial/office component is targeting a 5 Star AGBC “GreenStar”™ rating, with integration of public spaces and public transport access. Residential apartments constructed over retail space will provide easy walking access to transport, public spaces, and shopping, recreation & employment.

## Key Issues

## Benefits

From a sustainable development perspective, the range of benefits from TODs comes through their potential to provide more sustainable, accessible, serviced communities, and to provide options for addressing issues such as housing accessibility and affordability, peak oil, global warming, and public health. Specific benefits include:

### •Economic benefit

- a mix of uses – commercial, employment, recreational, and essential services (see also Mixed Use development), easily accessible via public and active transport instead of private vehicle,
- greater development yields able to be achieved as a result of mixed use and urban density,
- local capture of economic return, through providing essential and desirable services in context with higher density residential communities, rather than separate to them.

### •Environmental benefit

- transport and energy efficient communities, through reducing the reliance on private car use (and resultant fossil fuel consumption) for commuter and/or convenience trips,
- improved local air quality through reducing emissions from vehicle use, and
- improved local microclimate through landscaping, streetscaping and quality urban design (see Microclimate);

### •Social/community benefit

- encouraging active transport (walking, cycling) and potentially addressing the health issues associated with sedentary (car reliant) lifestyles,
- providing a greater range of housing options for different household types and sizes (singles, couples, small families, empty nesters) in close proximity to urban services, infrastructure, and employment and recreational opportunities,
- opportunities for affordable housing to be integrated into urban centres (rather than on the urban fringe in lower priced land holdings, with minimal transport, commercial and employment, and essential services) – funded (in part) through the greater development yields able to be achieved,
- improved amenities, public space, safety, vibrancy, and trends in community ownership/belonging over time, and
- household benefits by way of reduced costs of living associated with transport mobility.

## Risks

The risks from undertaking TOD projects do not differ significantly from any other higher density development project. Market forces, financing, supply and demand for housing, choosing the right location, delays in approvals, community concerns, expectations, and consultation processes are all likely factors to be considered. However, TOD projects are intended to provide an increased level of urban mobility, and flow on benefits, due to their co-location with public transport infrastructure. Therefore consideration should be given as to how to gain the maximum benefit from synergies between mixed landuses, the improved public realm, and proximity to transport:

- Be clear about goals;
- Promote transit-oriented development as part of a broader investment strategy;

- Rezone land around transit nodes for higher densities and mixed uses;
- Promote transit-oriented development, offer deal-making assistance;
- Target public agency efforts at those transit nodes which offer the greatest potential;
- Consult with representatives from relevant government agencies, and with community members to gain their leadership, insight, and support;
- Consider developers' perspective in program design and implementation;
- Think long-term; and
- Establish a system to monitor progress (see Benchmarks).

(Sourced at <http://www.todadvocate.com/pdxcasestudy.htm>)

## Savings

The savings from TODs come as much from the opportunities presented by transit rich, higher density and mixed use development, as the potential financial returns and or cost savings:

- Increased revenue to mass transit operators (private and public sector);
- Reduced demand for private vehicle trips from new development, and reduced costs in providing vehicle infrastructure (eg parking space and secure parking, traffic infrastructure, etc);
- Reduced travel time (and associated costs) and provision of improved accessibility for residents throughout the community and to key destinations on the public transport network;
- Savings on private vehicle operating costs (fuel, maintenance, insurance)
- Improved community activities and facilities and the benefits from the community accessing local opportunities;
- Improved physical health from people using active transport modes (rather than driving).

## Costs

The most significant financial costs are likely associated with the acquisition and consolidation of landholdings in potential TOD locations. The cost of inner urban land in Australian cities is increasing significantly and the cost of acquiring suitable land sites in key locations for TODs (including sufficiently large holdings to make possible density and ancillary services and benefits) may be becoming increasingly prohibitive.

Similarly, additional significant costs are likely to be generated through providing additional (new) public transport services and infrastructure to create TOD opportunities in locations which have previously been unserved by (sufficient) public transport. Developers are unlikely to be prepared to take on the responsibility of establishing public transport, and transport authorities are often unwilling to augment services and networks until such time as there is demonstrated patronage and demand.

Other factors of TODs which have the potential to generate costs (for developers and government agencies) include:

- addressing tensions between urban place making and transport administration agency/system requirements
- addressing tensions between existing residents averse to increased density and developers or investors seeking the financial return provided by development

- addressing the social cost of redevelopment (housing affordability) by meeting the housing needs of existing residents who may be displaced by redevelopment (urban renewal/TOD projects should ideally incorporate options for affordable housing, as much as a premium residential product)
- determining which comes first (from a funding/viability perspective “ increased patronage (demand ) or increased servicing (supply);
- development approvals processes - complexity, time, uncertainty, costs; and
- the fact that transport infrastructure is not the only driver of property investment/development, so identifying what (other) factors might drive the best returns from redevelopment.

## Barriers

A significant barrier to the development of TODs is community perception/resistance. The TOD Advocate website notes jokingly that “residents hate density in their neighbourhoods as much as they hate traffic congestion on their roads.” There is often the perception (rightly or wrongly) that higher density development brings problems of increased traffic, decreased access, decreased urban amenity, and in the case of affordable and flexible housing options (a desirable outcome for successful TODs), an undesirable mix of new people with little connection to the existing neighbourhood.

Similarly, the redevelopment of neighbourhoods around transport nodes may actually come at the cost of displacing lower socio economic groups and established communities “ renters, single parent families, elderly, etc. One of the key lessons learned from the experience of developing TODs is the importance of consultation “ with affected communities, with relevant government agencies, and with stakeholders from the business and development sectors who are most likely to invest in TOD projects. One of the messages from consultation with business and development stakeholders for recent TOD type projects in Brisbane, Queensland is that if the opportunities are there (density, mobility, mixed land uses), “they (the development industry) will come”™.

There is a significant body of experience and knowledge on TODs from around the world. The TOD Advocate website out of the USA provides an analysis of the lessons learned from various TODs around America.

## Benchmarks

While there are no regulated standards for TODs, a number of recognised benchmarks are emerging from the global advancement of TOD thinking. Key objectives include:

- Improving transit patronage;
- Increasing transit supportive land-use and density;
- Improving access to transport systems and facilities for residents and non residents;
- Equitable distribution of costs and benefits;
- Increasing the cost-effectiveness of TOD projects and transit service; and
- Increasing acceptance and recognition of the benefits of TODs in an institutional and political context.

It is a complex process to fully measure the success of TOD projects. However, experience of TODs around the world demonstrates a number of potential indicators can be identified relating to what is (able to be) achieved through TODs, and how well they are achieved:

- % reduction in private car use/ownership;
- % increase in public transport patronage from/to TOD locations;
- % increase in active transport mode share (cycling, walking);
- % decrease in obesity and related health impacts (from increased physical activity through active transport);
- % increase in mix of housing type/occupancy;
- % increase in dwelling units/density;
- % increase in provision of affordable and more flexible housing options (for existing residents who might otherwise be displaced by redevelopment);
- % increase in investment (\$) in TOD projects (compared with other developments);
- % increase in investment (\$) in public transport services and infrastructure;
- residents' perceived satisfaction with TOD outcomes;
- % increase in commercial activity (\$) in TOD locations compared with other non-TOD centres.

## Development phase actions

### Feasibility

The achievement of successful TODs is largely reliant on one factor – “location, location, location. Key considerations which will govern site selection include:

- proximity to high quality, frequent, and reliable local and regional public transport services,
- likely provision of future (transport) infrastructure,
- location of urban amenities, essential and desirable services, employment and economic generators, and
- ability (of developers) to acquire/consolidate sufficient urban land holdings of suitable size, at reasonable cost, for development to be feasible (to funding organisations and project stakeholders).

### Planning

The planning and design stages of TODs differ little from other urban infill higher density development projects, in so far as key steps will include:

#### ●Site investigation & analysis:

- opportunities and constraints analysis,
- topography and visual analysis (viewsheds and amenity),
- roads and connections,
- open and public space, movement corridors for pedestrian and cycle activity),
- transport studies,
- identification of services and infrastructure,

#### ●Urban design:

- legibility and place making,
- landscaping, vegetation and shading (corridors and public space), microclimate, and the public realm,
- shading and streetscapes,

- amenity and built form,
- mobility and accessibility - creation of connections, focus on movement of people, control of impacts of private vehicles, creating communities (breaking down barriers/making connections).

**•Land use & planning:**

- Review of relevant local/state planning requirements (eg Local Growth Management Strategy or similar);
- Planning (including applications for rezoning and ancillary planning approvals) for mixed uses and increased residential density (to encourage vibrancy and activity),
- other town planning considerations,
- residential density/occupancy projections;
- community facilities and social infrastructure construction,
- ped/cycle infrastructure (access and mobility).

**•Consultation**

- community engagement and education,
- opportunities for building social capital,
- collaborative design (enquiry by design).

## Completion

One key to delivering on the promise of TODs (as is often the case with current moves towards more sustainable developments) is in education and marketing – providing appropriate information to project stakeholders, purchasers, and tenants, encouraging use of the benefits provided by mixed use, access to transit, and the range of community benefits.

Making reference to the various indicators identified above will also provide a means for evaluating the success of TOD projects – a process equally useful for the potential developers of TODs as for the development assessment and planning agencies that will also be involved in making these developments happen.

### Links

- [TOD website](#)
- [Queensland Department of Infrastructure and Planning regional plan](#)
- [Wikipedia TOD](#)
- [Victoria Public Transport Institute](#)
- [State of California Transit Oriented Development Database](#)
- [End of Suburbia - Oil Depletion and the Collapse of the American Dream](#)
- [Escape from Suburbia – Beyond the American Dream](#)
- [The \(US\) TOD Advocate website](#)
- [QLD Department of Public Works report on Transit Oriented Developments](#)

### Link to Content

- <http://yourdevelopment.org/factsheet/view/id/31>