Transit-Oriented Development

Introduction

With the City of Cincinnati laying the groundwork for the introduction of new forms of public transit, the neighborhoods in the vicinity of I-71 namely Avondale and Walnut Hills have been identified as potential stops along rail routes. Investments in transit would mean increased accessibility to these communities and present new opportunities for revitalization. The construction of rail or multi-modal stations offers a chance to create Transit-Oriented Development.

A Transit-Oriented Development is a sustainable, mixed-use community within a half-mile or 2000 foot radius of a public transit station. These communities are characterized by a mixture of land uses including moderate and high density residential, retail and office uses framed by attractive, walkable streets and vibrant public spaces. They promote the tenets of New Urbanism or Smart Growth attesting multiple advantages over typical suburban development patterns including savings from the reduced demand for private automobile use, less traffic congestion and fuel consumption, vibrant community life, improved accessibility to surrounding regions, cleaner air qualities and greater access to urban amenities (Several American TODs: Good Practices for Urban Design in TOD Projects 2008).

History

Although Peter Calthorpe—currently one the nation’s leading architects and planners—was mostly credited with the introducing the formal concept of Transit-Oriented Development in his book The New American Metropolis in 1993, the concept of “development building off of transit” itself has been in existence in larger metropolitan regions around the country since the 1970s when urban rail transit systems were first introduced (Several American TODs: Good Practices for Urban Design in TOD Projects 2008); these regions included San Francisco, Washington D.C. and Atlanta. Following this, there have been waves of successive transit development beginning in the 1980s mostly in the form of light rail systems in cities such as Portland, Denver, Los Angeles, San Diego and St. Louis (Capturing The Value of Transit 2008).

The concept of Transit-Oriented Development or TOD has become more widely known and desired for substantial reasons. The main reason is changing market trends in the demand for housing. In the Center for Transit Oriented Development (CTOD) brochure entitled “5 Years of Progress” it is stated that market research shows that demographic changes and frustration with traffic have created tremendous demand for housing in walkable, mixed-use
neighborhoods near public transportation; at least 25 percent of renters and buyers will be looking for housing near transit by 2030 (5 Years of Progress n.d.)

Nationally demographic trends are shifting in consumer housing preferences, transit options and employer location strategy. The traditional suburban house with the two-car garage owned by married parents is no longer the norm. This demographic, which a century ago represented the majority of households in America, has seen a sharp decline since then and is expected to decrease even further in 2010. There is now a strong demand for smaller, more compact housing in more urbanized areas with services and amenities within walking distance (City of Denver 2006).

In another perspective the global climate change crisis has caused communities worldwide to question their development patterns and seek more sustainable alternatives. In the US, this translates to the redevelopment of patterns of suburban sprawl which not only require new infrastructure and consume valuable open land but are contingent upon the use of the private automobile. This need for new, sustainable community typology has been acknowledged at the federal level and steps are being taken to foster sustainable communities. In June 2009, the U.S. Department of Transportation (DOT), Department of Housing and Urban Development (HUD) and the Environmental Protection Agency agreed to an interagency Partnership on Sustainable Communities to help improve access to affordable housing, more transportation options and lower transportation costs while protecting the environment in communities nationwide. The partnership has established six livability principles which are: to provide more transportation choices; promote equitable, affordable housing; enhance economic competitiveness; support existing communities; coordinate policies and leverage investment; value communities and neighborhoods (U.S. Department of Housing and Urban Development 2009). All six principles point to the use of transit in achieving the triple bottom line of economic, social and environmental sustainability.
Issues & Research

TODs rely on a number of local and regional factors to be successfully planned, designed and implemented. TODs are costly projects for which the sources of funding are not always directly available. They usually require the cooperation of many stakeholders, including community organizations, private investors, the public sector and the general public. Bringing all these parties together at once to agree on a plan of action can prove difficult. Poorly designed TODs can end up not being user-friendly and achieve the opposite of their intended goals. A number of local factors such as real estate market conditions, demographics, safety and the need must be favorable enough to attract new or re-direct existing investment from competing investments. TODs are often thought as economic revitalization tools but may not always succeed at achieving this. Some of the questions arising out of these issues are as follows:

1. What framework or conditions are proven necessary for the successful creation and implementation of TODs?
2. How are they designed to achieve the goals of ridership and maximum public use?
3. Can they be used as catalysts for stimulating economic revitalization?

This paper utilizes a case study from Oakland, California along with additional research to examine TODs and attempt what goes into the planning of TOD and factors that help to make them successful.
**Literature Review**

In their 2006 Strategic Plan for TOD report, the City of Denver outlined main goals for the successful development of a TOD. These were:

i. **Location Efficiency** – is the conscious placement of homes, jobs, civic uses, shopping, entertainment, parks and other amenities close to transit stations to promote walking, biking and transit use. Location efficiency makes a region more equitable because it makes it possible for those who do not own cars for whatever reason to get around and participate fully in the economy.

ii. **Rich Mix of Choices** – Good TODs should its residents and visitors a range of housing, transportation and shopping choices. This defining feature of the best and most convenient neighborhoods. A neighborhood built on the principle of choice provides a range of housing options at a range of prices – single-family homes, townhomes, live-work spaces, apartments and condominiums. This allows younger and older people – who likely want smaller multi-family housing – to live alongside families, while providing a mix of incomes. Integrating jobs and workspaces also helps address transportation problems.

iii. **Value Capture** – like the name suggests value capture is about getting most value out of TOD, whether it is the value from increased property value investments located adjacent to transit stations or taxes from increased ridership or lease revenues from joint development projects. This concept will be discussed in further detail later on.

iv. **Place-Making** – TODs should be designed to be attractive and, safe and pedestrian-friendly places enriching its surroundings. This will be discussed in further detail later on.

This list is not by any means exhaustive but represents the basic parameters by which the success of TODs can be measured. By bringing together an attractive, profitable project, that is equitable offering choices to its residents.

**Case Study: Fruitvale Transit Village, Oakland, CA**

The Fruitvale Transit Village project is a TOD developed through a partnership between the City of Oakland, Bay Area Rapid Transit District (BART), and the Unity Council Community Development Corporation. The $100 million dollar project consists of retail/restaurant use, non-profit health care clinic, child care facility, library, executive offices, 68 units of HUD housing, 220 units of mixed-income housing and 2 parking garages for 1,500 cars. The development of this TOD exhibits a successful partnership between local organizations working
together to revitalize a low-income, primarily minority community (Council, District and Oakland n.d.) (Several American TODs: Good Practices for Urban Design in TOD Projects 2008).

Effective Representation + Working Relationships + Funding Tools

The original idea planned for that BART area station was not the Transit Village but a parking structure which community residents fiercely opposed when it was brought forward. They raised concerns about worsening the already bad crime rate, traffic problems and cause disconnection between the station and the business district.

The Unity Council which represented Fruitvale resident’s concerns made it clear that the proposed plan would not work for the community and an agreement was made by BART to partner with them to come up with a more suitable solution which addressed residents concerns. In 1992 the City of Oakland awarded the Unity Council a $185,000 community development block grant for the revitalization of the area around the Fruitvale BART station. Following this in 1993, the Council was awarded a $470,000 Federal Transportation Authority (FTA) planning grant for the Transit Village plans. These grants were used to carry out a series of planning workshops, design charettes, engineering, traffic and feasibility studies.

Throughout the process the parties and stakeholders had a continuous dialogue amongst themselves which was used to voice concerns and visions for the station area which included better integration of businesses into the station development, job creation, improved public safety near to the station, increased availability of retail goods and services in the community, provision of high-quality housing and better local air quality(SITE).

Planning + Design + Programming

Also seen in the project were the different planning issues to be dealt with such as parking requirements, re-zoning and land assembly (of specific individual parcels needed for the development). Existing BART parking policy stated that every parking spot which was removed from the land needed for the project was to be replaced elsewhere. The Unity Council was able to negotiate an agreement with BART to construct a parking structure just west of the station to replace 500 spaces and assisted BART in securing a $7.3 million FTA grant for construction. In addition to this the Council petitioned the City of Oakland to implement a zoning ordinance banning the construction of any additional parking spaces within the area around the Transit Village in hopes of preserving the pedestrian-oriented character of the Transit Village. The Fruitvale Development Corporation (created by the Unity Council for the management of the project) negotiated with BART to swap needed parcels which were originally held under a policy for long-range planning, in exchange for several nearby parcels owned by the City of Oakland and one by the Unity Council (Council, District and Oakland n.d.).
The result of this 8 year journey was the Fruitvale Transit Village located on a 9 acre site (previously a BART parking lot) with the centerpiece of the project being a tree-lined pedestrian plaza connecting the BART station with the 12th Street business district one block away. The plaza would be lined with restaurants and shops and serve as a venue for neighborhood festivals and concerts. The surrounding area would include a mixture of retail development, housing, and social service agencies, all easily accessible by foot from the BART station (Council, District and Oakland n.d.)

The Fruitvale TOD is a good example which gives a snapshot of the factors, players and conditions necessary for the creation of a successful TOD. Significant attention should be paid to the dialogue and flexibility of all the stakeholders to find solutions for the common goal. It also shows that with the right tools and resources successful TODs can be implemented in communities with profiles similar to that of Fruitvale. If the criteria from the City of Denver are applied to Fruitvale Transit Station they can be clearly seen. Not seen in the City of Denver’s goals but nonetheless extremely important is the cooperation amongst stakeholders.

Other City-Wide Policy and Action Recommendations conditions that should be in place when developing a TOD include:

i. Clear definition of roles and responsibilities among the agencies involved along with the identification of development and redevelopment sites (Transit-Oriented Development Strategic Plan 2006)

ii. The adoption of a common vision for the TOD typology that clearly explains the scale, mix, and type of development intended for the TOD. This is not intended to be a binding regulatory tool but simply a vocabulary for defining a common vision (Transit-Oriented Development Strategic Plan 2006).

iii. Engaging in proactive planning and zoning with various tools to guide land use decisions and translate city-wide goals to neighborhoods and districts. These include development framework plans which identify new pedestrian, bike and vehicular routes, open spaces and potential funding sources; station area plans which are comprehensive documents containing recommendations and implementation programs; Form-Based Codes are a creative approach that can be used to regulate the building form and overall urban design as well as use (Transit-Oriented Development Strategic Plan 2006).

iv. Adoption of parking management strategies for TOD that include the use of minimal parking requirement standards, establishment and operation car share programs, provision of secure bicycle parking, establishment of permit parking systems in residential neighborhoods, etc (Transit-Oriented Development Strategic Plan 2006).

v. The creation of tools for funding TODs is essential for the creation of new infrastructure and the improvement of connectivity in existing areas. Tools can include assessment
districts or tax increment financing (TIF) which can be used to capture some of the value created by transit (Transit-Oriented Development Strategic Plan 2006).

vi. The preparation of affordable and mixed-income housing strategies. Development of housing and retail near to transit can cause property values and living costs to rise and may eventually become restrictive to lower income residents. This would be detrimental to the goal of creating mixed-income neighborhoods.

**TOD Design**

TODs are inherently diverse projects as they invite many different users (from the community and via transit) to interact in its common spaces. To achieve be most attractive and appealing its design should acknowledge and therefore reflect this diversity. It should be aesthetically pleasing to users with varying tastes and achieve a balance to satisfy these users.

Urban design—the design of the built environment beyond the scale of the building, typically focusing on blocks, neighborhoods, or districts—can be a key mechanism for achieving this balance. As with any urban design project, a well-executed design can bring together diverse functions and users, whereas good intentions with poor design execution can wind up being no improvement, or possibly even a detriment, to the central city or suburban surroundings (Several American TODs: Good Practices for Urban Design in TOD Projects 2008): Cooper Marcus and Sarkissian; Cooper Marcus and Francis; Jacobs and Appleyard; Lynch; Whyte).

The Strategic Plan for TOD in Denver applies 6 main principles for successful TOD design:

i. Design Guidelines – These would include “rules” for establishing expectations about the quality and character of the built environment.

ii. Land Use Mix and Placement – A land use pattern should be established for the station area that will make each use successful while contributing to the overall synergism that defines good TOD. For example, special attention will be given to putting retail uses in locations where they have appropriate visibility and access, which may not be directly adjacent to the transit station.

iii. Circulation and Connectivity – Although cars must be taken into account, station area plans must plan for balanced mode choices so that people can walk or bike around the area just as easily as they can drive or ride on a bus.

iv. Station Access and Station Planning – Planning for the transit station itself must be considered in light of the various methods people will use to access the station including, walking, biking, driving and parking, kiss & ride, and bus. Station design and
access must also respond to local neighborhood conditions so that all of these activities work together seamlessly.

v. Public Realm – All station areas need good public spaces so that people feel comfortable and welcome. While these public spaces may include parks and plazas, streets and sidewalks are also critical components of the public realm and must be given careful treatment as part of any station area planning process.

vi. Parking – Parking ratios for all of the land uses within the station area must be considered to ensure that they are as low as is appropriate given the level of transit service and walkability. This will help to lower development costs and decrease local traffic but parking for the transit station should also be evaluated in a holistic manner to ensure that its placement and total number of spaces make a positive contribution to the station area, rather than creating a large barrier or obstacle between the station and the local neighborhood/district.

The Journal of Transportation and Land Use outlines factors of good urban design for TODs

Designing at human scale – This has been identified by the American Institute of Architects (AIA) as one the key factors to making great places. The design of spaces should be usable and interesting for users moving through them at moderate pace. Features which can achieve this include street furnishings, architectural details, the use of color, plantings etc (Several American TODs: Good Practices for Urban Design in TOD Projects 2008).

Provision of public spaces which accommodate of uses and users – In the case of Fruitvale, the public space was designed to not only accommodate pedestrian connections but to host a variety of events and present a gathering space where users can gather. They should also exhibit flexibility not only in being able to host day and night time activities but over time as well (Several American TODs: Good Practices for Urban Design in TOD Projects 2008)

Time – Good TODs are ones that are used in the short and long terms and never lose appeal or attractiveness. This is also in part to good maintenance which if not present would mean the deterioration of facilities and subsequent loss of appeal. Effective public spaces can adapt to changes in the people that use them, places that change around them and activities taking place within them (Several American TODs: Good Practices for Urban Design in TOD Projects 2008)

Public Involvement – it is essential to have inputs from residents, users and stakeholders in designing TODs. Fruitvale Transit Village is a good example involving residents’ opinions at community workshops and charettes at every step of the process. This exchange fosters a common vision for the TOD that everyone can be happy with (Several American TODs: Good Practices for Urban Design in TOD Projects 2008).
Safety – This is a very important issue in TOD design and can be the determining factor in the success or failure of a project. If users do not feel comfortable or secure in a space or on a street they will not use it. The concepts of Crime Prevention Through Environmental Design or CPTED should be applied to the development. Sight lines should be considered to maximize visibility; avoid the creation of entrapment areas that funnel pedestrians into an area without alternate means of entry/exit; ensure adequate lighting is provided; territorial reinforcement between public realms and private areas through the use of landscaping, pavings, fencing, etc; The programming of the space also provides “eyes on the street” which serves as an informal policing of sorts (JTLU 2008).

Good pedestrian connections – ensure that pedestrian and bike connections between places are clear minimizing deterrents such as parking lots, highways or major arterials cutting which sever them. Another way to create a comfortable access is to buffer these deterrents through tools such as landscaping, speed tables/humps, the use of on-street parking, bike lanes, etc (JTLU 2008).

Integration of transit facilities into the urban pattern – A TOD may not be considered successful if the actual transit facility is inaccessible or unwelcoming. If the facility is removed from the geographic center of the development then a clear connection should be indicated. A transit facility is a transition point between various modes, as people park cars and bikes and walk before heading on to mass transit. People also transfer between routes or types of transit. Compared to traditional transit planning, TOD creates an even more diverse set of demands and expectations on transit facilities. These challenges also bring opportunities, however. Transit naturally brings people together, a key goal of urban designers seeking to promote street life. Transit can also serve as the impetus for economic or community development in a place, as investments in transit offer a chance to pursue other, complementary goals (JTLU 2008)

**TOD as Economic Revitalization Tools**

One of the less talked about benefits of TODs is their ability to connect lower-income families to jobs locally and regionally. The construction of a TOD with its mixture of uses means the introduction of new employers to a community and the opening up of easier accessible transportation to jobs further away especially for families or persons who cannot afford to own cars (Grady and LeRoy 2006).

**Benefits**
The Fruitvale Transit Village has generated over 290 jobs with a significant proportion of those being provided by the Unity Council. These jobs include teaching, administration, janitorial, senior level executive and case workers. The largest employer at the Village, however, is La Clinica de la Raza, which employs medical assistants and other health professionals. Job seekers may also find work at local retail and restaurant establishments (Grady and LeRoy 2006). Local
jobs also became available include when the connections to the nearby Internation Boulevard were established. The Boulevard retail space suffered from a vacancy rate of over 50 percent before the implementation of the Transit Village; since then that rate has dropped down to less than one percent. The Unity Center also operates a career development center a half-mile from the Village which helps workers qualify for local employment opportunities.

Regional transit options allow an average of 6,500 daily passengers access to jobs in other regions including San Francisco, Fremont, Berkeley and downtown Oakland. Transit options at the station include the subway and buses but there are plans to develop a bus rapid transit system. The Fruitvale station is also host to the second largest bike station in the country (Grady and LeRoy 2006).

Challenges

Neighborhood retailers have lamented that retail aspect of the project has not been performing as expected. They claim that business activity levels from commuters coming off the at the Fruitvale station are very low. Businesses are also being affected by the location of the parking garage adjacent to the site. The result of this is that park-and-ride users of the BART station have no impetus to use the pedestrian plaza in the TOD.

Another challenge is presented by the agglomeration of non-profit uses within the office component of Fruitvale. The danger here lies in the fact that these businesses do not earn profits but just enough to cover operating costs and so sometimes cannot afford to pay rents which may be higher than what budgets allow. Two tenants were forced to pull out of the development just before its opening in 2004. Non-profits also do not generate the desired levels of pedestrian traffic necessary to sustain TODs (Grady and LeRoy 2006).

This example shows that TODs can be bring economic activity to an area and create cheap access to economic centers for low-income users however there is no guarantee that businesses will have longevity.
Conclusion

Market trends have shown that TODs have become popular planning projects across the nation. Their development warrants a multi-faceted approach and can be complex but is achievable if pursued by progressive, proactive stakeholders. The designs of TODs are significant aspects of successful implementation relying heavily upon attractive and functional designs that appeal to a broad spectrum of users. Success of a TOD can also be measured by the equity of the housing and retail that are available within them. If all income levels are accommodated then that would deemed a success.

TODs can also be tools for development but require the adequate density and a high quality of design to sustain them. If the identified local real estate markets are not favorable developers and investors may not be interested in the project.

One concern that arose in the study was the subject of adequate provision of affordable housing in TODs. How much should be allocated and how are they financed?

It should be said that Transit Oriented Development are honorable attempts at creating communities in a more socially, economically and environmentally responsible patterns of development. However, just as with any other project or development they require the careful planning, review and work so as not to lose sight of these goals. It does raise the question of whether a specifically tailored TODs could be successfully implemented in a community like walnut Hills and have real value capture and longevity? This is a subject for a further study.
Works Cited

"5 Years of Progress." Center for Transit Oriented Development.


