

Pedestrian and Bicycle Facilities in Transit Oriented Development

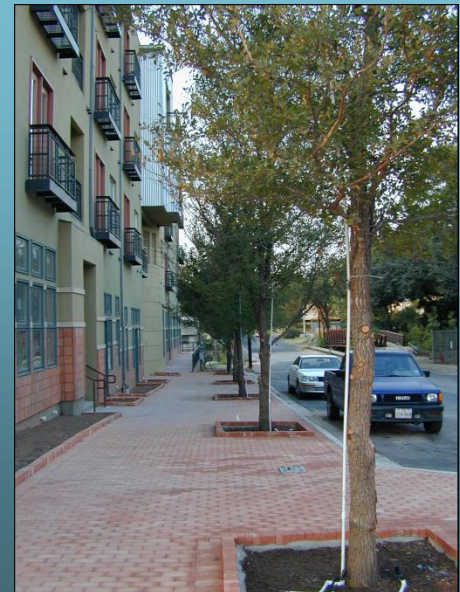
Lessons Learned from Higher Density
Residential Development in Austin, Texas



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What is TOD?

- Transit Oriented Development involves residential and commercial centers with highest densities near a transit facility and tapered densities within $\frac{1}{4}$ to $\frac{1}{2}$ mile
- Pedestrian and bicycle facilities usually included, and encourage walking, cycling, and transit use



TOD Requirements & Facilitators

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- Increasing importance
- Regional population and economic growth
 - Leads to housing demand
 - Appropriate zoning and land use policies
 - Community support
 - Long-term regional planning process
 - Public sector involvement or public-private partnerships
 - Developer tax/permitting/financing incentives and density bonuses

Desired Transit System Characteristics

Most important for TOD

- Permanence
- Reliability
- Convenience
- Availability
- Positive image
- Flexibility
- Low emissions

What is Bus Rapid Transit (BRT)?

- Fast, convenient priority bus service designed with similar features to rapid rail transit
- Features (definition):
 - High frequency/capacity, all day service
 - Stations
 - Bus lane dedication or exclusive right-of-way
 - Off-vehicle fare collection
 - Intelligent Transportation Systems (ITS) - such as signal preemption, passenger info, vehicle location
 - Distinctive, easy-to-board vehicles (may be Diesel, CNG, or electric)

Research questions

- In what ways can bus transit (express or BRT) provide service equal to that of light rail (LRT)?
- How can bus transit interact with other factors to make TOD happen?
- How well do bus-served TODs work (how many residents use transit)?
- What level of bicycle and pedestrian infrastructure is provided with this type of land development?

Questions

- To what degree does the shuttle service qualify as BRT?
- To what degree does the development on the shuttle routes qualify as TOD?
- What factors contributed to this development?
- Is the Austin experience transferable?

Austin's Transit System Features

- UT Shuttle an express bus service
- Vehicles distinctly marked (different color from main line buses)



- Fast boarding due to student ID “payment” of fare
- Frequent and evening service (incl. E-Bus)

TOD Features

- Higher residential densities (three-story apartment complexes)
- All apartment complexes served by UT Shuttle bus routes - and a high level of transit use (to UT campus)
- However, a high level of parking and limited bike and pedestrian facilities
- Mixed use zoning but not land use on Riverside Avenue



Apartment complex in Pleasant Valley NPA

Factor Summary – Transit

Transit service	Availability	Yes - frequent all-day service
	Reliability	Frequent all-day service but no separation from other traffic (running ways)
	Convenience	Frequent all-day service, fast boarding, but no ITS
	Positive Image	Frequent all-day service, somewhat distinctive vehicles, no ITS, no stations
	Permanence	No stations or running ways, but history of shuttle-apartment coordination
	Flexibility	Yes - demand-based route changes
	Low Emissions	No - standard diesel vehicles

Factor Summary – City/Land Use

City/region characteristics	Population growth	Yes - throughout 1990s
	Economic growth	Yes - throughout 1990s
Land use policy	Coordinated regional land use-transportation planning	No - no formal TOD policy until end of 1990s
	Appropriate local zoning	Yes - multifamily zoning present (and mixed use zoned but no LU nearby)

Factor Summary – Other Factors

Other TOD-aiding factors	Public sector involvement*	None
	Developer incentives	None
	Public-private partnerships	None
	Community support/opposition	None (other than large student population in already-MF-zoned area)
	Developer momentum	Yes
	Stable renter population	Yes (students) - in addition to regional population and economic growth
	Type of development (TOD?)	Not strictly TOD, but has high density and convenient transit characteristics of TOD

* (Public sector involvement in *land assembly/redevelopment/policy*)

Special Factors in Austin

- Few or no developer incentives
- No government involvement
- No mixed uses and few ped/bike facilities
- High level of transit use (for campus trips)
- Strong demand for affordable student housing

Lessons for future bus-related land development in the US

- Have appropriate demographic groups (renters, students, etc.)
- Find additional factors necessary to ensure provision of an environment conducive to walking and cycling
 - Mix land uses and involve community/local government/agencies?
- Housing demand and desirable economic conditions *must* be present

Thank you for your attention!

Questions and comments welcome!

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Personal interviews

- University of Texas: Bob Harkins, Colleen Stoll (UT Shuttle services)
- Capital Metro: Roberto Gonzalez, Dottie Lancaster, Lucy Galbraith
- University Commons: Mike Gesch
- University of North Texas: Joe Richmond (formerly Capital Metro)
- City of Austin: Greg Guernsey, Melissa Schardt, Sonia Lopez, George Adams
- Capstone Development Corp: Rob Howland

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