Principles of TOD: Just the Basics

GB Arrington
arrington@pbworld.com
“Tenth-ranked Ducks hand Trojans worst loss since ’97”

ESPN

Oregon 47
USC 20
1. Transit-Oriented Development
2. Pedestrian-Oriented Development
3. Development-Oriented Transit
Creating Value with transit
TOD or TAD?

Transit-Oriented Development or Transit Adjacent Development

• Majority of development at US transit stations are not TODs
• TOD is still illegal in at most of US transit stops
• Not enough to be next to transit, must be shaped by transit
Shaped by Transit

- Greater density
- Less parking
- Better public realm
- Mix of uses
- Very walkable
- Tame the car

San Diego, Portland, San Francisco, Washington, DC, Denver
Transit-Oriented Development
Orenco Station

Fundamentals for TOD
a great neighborhood

- Safe streets
- Strong center
- Local services
- Parks & open space
- Housing choices
- Good jobs

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Scale matters
More than a Parcel, More than a Project

- Create a walkable district
  - Area w/in a 5 minute walk
  - Approximately 125 acres
  - Walkable complete community
- Most “TODs” don’t meet this standard
  - Requires broader strategy, cooperation
  - Understanding the bar needs to be higher

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TOD: District not a Project

Orenco Station

The Round

This

Not This
Market for TOD
Understanding your market

- *Emerging Trends in Real Estate ‘08:*
  - TOD a top investment prospect
  - Holds value well
- Majority of TOD residents are childless
  - Empty-nesters & young urban professionals
- TOD households tend to be higher income
  - Reflects newer construction
Decline in Families with Children

- 50% of households in 1950
- 33% of households in 2000
- 12% of households in 2010 - 2030

- 30% current US housing demand
  - Dense, walkable, mixed-use communities
- Today less than 2% of housing

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Residents Near Transit Want

From Transit Community Resident Surveys:

- Well designed communities
- Easy access to a center
- High quality residence
- Quality transit service
- Pedestrian Friendly
- Good price value

“The ability to walk to a pint of milk”
TOD Principles
Six Principles for TOD

1. Medium to higher density
2. Mix of uses
3. Compact pedestrian-oriented
4. Active defined centre
5. Limited, managed parking
6. Public leadership

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Principles for TOD

1. Medium to higher density
   - Greater than community average
   - Distance to transit matters
   - To support transit on average:
     - 6 to 7 du/ac for frequent bus
     - 9 to 25 du/ac for rapid transit
   - Retail & office closet to transit
   - Minimum density effective tool

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Rosslyn Ballston Corridor

- Development since 1980
  - 25m square feet office
  - 14,400 residential units
- Station areas
  - 25% county housing
  - 37% county jobs
- Transit Access
  - Arlington: 73% walk, 13% by car
  - Fairfax: 15% walk, 58% by car

Land use can change transportation behavior

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‘An Oasis of Stability Amid a Downturn’

The New York Times  October 7, 2009

“(The Rosslyn-Ballston Corridor) has remained resilient during the worst recession in decades, and should continue to do so”
2. Mix of uses

- Vertical or Horizontal
- Most difficult TOD element
- Great TOD benefits
  - More walking
  - More ridership
  - Reduced auto-use
- Prohibit auto-oriented uses closest to transit
Pearl District Portland

Former rail yard & warehouses

- Public & private development agreement
  - Housing
  - Infrastructure
  - Parks
- Development since 1997 $750m+
- 2700+ units built
- 131 units per acre minimum density

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3. **Compact pedestrian-oriented**

- Block sizes for 5-minute walk
  - Max of 400 ft block face
- Orient buildings to sidewalks
- Calm streets
- Active street edges with wider sidewalks
Core Center Edge

- **Core:**
  Up to 800 ft
greatest intensity

- **Center:**
  800 to 1600 ft
intermediate intensity

- **Edge:**
  1/4 m to 1/2 m
greater than
community average of intensity

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## Distance & Mode Share

**2005 WMATA Development-Related Ridership Survey**

<table>
<thead>
<tr>
<th>Distance from station</th>
<th>Metrorail Mode Share</th>
<th>Auto Mode Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Office</td>
<td>Residential</td>
</tr>
<tr>
<td>At station</td>
<td>35%</td>
<td>54%</td>
</tr>
<tr>
<td>¼ mile</td>
<td>23%</td>
<td>43%</td>
</tr>
<tr>
<td>½ mile</td>
<td>10%</td>
<td>31%</td>
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</tbody>
</table>

- 35% of office trips right at the station entrance
- Office mode share drops about 1% every 100 ft
- ½ mile residential share 200% higher than office
4. Active defined centre

- 18 hours of activity
- Quality public realm /sense of place
- Employment closest to transit
- Compact & dense
Bloomington Central

- Bloomington, Mn
- 43 acre – adaptive reuse
- 1,100 residential units
  90 units per acre
- 350 room hotel
- 2m sq ft office
- 1.6 acre park

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5. Limited, managed parking

- Always a challenging issue
- Consider: size, location, design & management
- No minimum ratios, maximums
- Disconnect parking from buildings, manage by district

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TODs create less traffic

- TOD residents are:
  - Twice as likely not to own a car as US Households
  - 5 times more likely to commute by transit than others in region
- Self-selection:
  - Responsible for up to 40% of TOD ridership bonus
TODs behave Differently

Daily car trips for 50 dwellings

<table>
<thead>
<tr>
<th>Type</th>
<th>Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF</td>
<td>500</td>
</tr>
<tr>
<td>MF</td>
<td>333</td>
</tr>
<tr>
<td>TOD MF</td>
<td>177</td>
</tr>
</tbody>
</table>

10 Trips

6.67 Trips

3.55 Trips

(pb placemaking group)
6. Public leadership

- Generally critical for success
- Align “political will” & TOD objectives
- TOD plans + capital budget aligned
- Focus on implementation
- Nurture progressive developers
Arlington Heights IL.

- Revitalized Downtown
- New Metra Station
- Performing Arts Ctr
- Structured Parking
- Main street retail
- High Density Condo’s
  – Retail below
Development Oriented Transit

MetroCities TOD
Dubai UAE

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Stations
Defining Value

- Station helps define the most important place
- Civic architecture & place making
- Catalyst for community objectives
- A place to come back to

Portland, San Francisco, Strasbourg
Beyond Auto-oriented transit
Auto-Oriented Transit

Development-Oriented Transit
PB’s placemaking group
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New Carrollton TOD Master Plan

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Transit Local Agencies TOD

make it happen

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Making transit behave

- Design great transit & great places
  - Keep vision in mind, not the automobile
  - Break the mold
  - Look outside the ROW
- Balance “place” and speed
  - Create a great destination
  - Going nowhere fast has little value

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The DOT Process

- **3 to 5-day design charrette:**
  - Address transit design, community fit and TOD
- **The participants:**
  - Transit agency, design team, local land use & public works
- **Ground rules:**
  - Transit design can change
  - Budget & schedule can’t change
Addressing process & culture

• Schedule & financial pressures
  – Part of every project
• Engineers want to decide
  – They run the project
• Planners want to contemplate
  – Late to the game
• Accelerate design & improve decisions
DOT Process Results:

- Identify TOD implications of
  - alignment
  - corridor
  - station locations
- Recommend changes to design
  - Document logic
- Identify next steps for TOD
- Develop DOT framework to guide future design

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Thinking about stations
What is a Station?

Minimum building blocks of a station:

- 12’+ Platform
- Shelter
- Bench
- Lighting
- Information
- Trash can
Two ways to view station design

- **Engineering Scope**
  - Transit facility focus
  - View from the station out to edge of ROW
- **DOT Scope**
  - Community focus
  - View from the community in
Station Location Considerations

- Proximity to uses that generate ridership
- Direct accessibility
- Safety and security
- Visibility to users
- System connections
Place Making at Stations

Places to come back to, not just to leave from,

- Four different strategies:
  - Station as a place
  - Station invisible to complement place
  - TOD defines place
  - TOD serves as place
Designed for Development
Fruitvale Transit Village

- Joint Development of BART parking
- Transit center on one side, development other
- Revitalized low-income community
- Calmed major arterial
Fruitvale Transit Village

- Full service transit
  - Rail Station
  - Bus transfer
  - Park & ride
  - Kiss & ride

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Fruitvale Transit Village
Community developed TOD
- Community Center
- Affordable housing
- Senior Housing
- Medical Clinic
- Retail

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Baltimore DOT Principles

1. Shape the Future
   - Design Red Line facilities to shape and reinforce the community and its identity.

2. Locate Your Identity
   - Locate each station in an identifiable civic and community space.

3. Transit Stations as Landmarks
   - Design memorable transit stations that can serve as focal points and provide a sense of civic identity.

4. Connect Communities with Transit
   - Adjacent transit districts along the line should be linked to create complementary streetscapes.

5. Be a Good Neighbor
   - Site and design stations to be good neighbors to the surrounding area and minimize impact.

6. Compliment Community Objectives
   - Help realize the civic and economic goals of communities with quality development.

7. Connect Places with Walking
   - Provide safe and efficient access to parks and open spaces.

8. Pass the Test of Time
   - Make the permanence of transit facilities evident from their appearance.

9. Attract New Riders
   - Invest in quality station and customer design that will attract new riders and facilitate access.

10. Create Partnerships
    - Secure partnerships that will sustain the success of the Red Line and the communities it serves or return for further public investment.
Making the station to community
SubiCentro, Perth, Western Australia
Making the connection:
Downtown, Station, City Hall

Henderson Civic Centre, Waitakere, NZ
Henderson, NZ
Downtown separated by tracks
Station + pedestrian bridge + Civic Center
Connecting the community
Case Study: Transforming Tysons Corner
America’s Largest New TOD

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“... a plan is in the works for a major transformation of Tysons Corner ... into a high-density, pedestrian-friendly, transit-oriented mini-city.”
Tysons Corner

- The original “edge city”
- Sprawl on steroids
  - Office equivalent of #12 US downtown
  - Massive congestion
- 4 Metro stations: 2013
- Assignment: transform Tysons into walkable mixed-use downtown

*From suburban apocalypse to an active vital place?*
If the old doesn't go,
the new won't come
Bold Transformation

- New plan & tools
- New land use plan
- New standards for streets
- New design guidelines
- New implementing authority
- New financial tools
- TOD demonstration projects
1. Intensity Around Transit

95% of growth within a 3 minute walk of transit
2. Redesign transportation

Balancing walking, biking, transit & cars
3. Emphasis on environment

A network of green across Tysons

160 acres of new parks & open space

A network of green across Tysons
4. Residential Across Tysons

Virtually all of Tysons would encourage residential
Recommended Plan

160% more development, 11% more congestion
Lower Carbon Footprint

Preliminary assessment:
- 175% increase in development
- Greenhouse Gas emissions 16% less per capita
- 2.5 billion lb reduction annually
- Results from
  - Compact development
  - Fewer auto trips
  - Greater transit use
Paying for Tysons

- More density + more amenity
  - Transit / open space / civic uses / affordability / walkable streets
- Developer contributions + public finance
  - Exactions / tax increment
Dulles Phase I
Special Improvement District

- Encompasses Tysons Corner and Wiehle Avenue
  - More than 6,600 businesses
  - $200 million in taxes
  - $100 million in property taxes
- Contribution to the Metrorail
  - Capped at $400 million

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Keys to private funding

- Must be enough private value
- Motivation not transit
- Developers need transit to support impacts of growth
- Need enough development rights to cover the exactions
Tysons Transformed

- Better, not just bigger
- A top 10 US downtown
- A place people want to live
- Defined by green stewardship
- The civic heart of N. Virginia
- Built around transit & walking
“This is going to be the model of how we transform King of Prussia, Perimeter Center, Costa Mesa down in Orange County, California. But you’re going first.”

National Public Radio, 12.10.08
“The plan has been widely applauded as a forward-thinking blueprint to convert this ‘edge city’… into the epitome of ‘Smart Growth’.”

- New York Times 12.17.08
“Never in the history of this county has such a dramatic transformation taken place. Nor has there ever been greater urgency.”

Op-Ed The Washington Post 9.23.08
The implications of this redevelopment project stretch far beyond Fairfax County, as suburbs and exurbs across the country look for ways to repair the damage from five decades of outward, rather than upward, expansion.

Time Magazine  June 11, 2009