Making
Transit Behave
Designing Transit for TOD

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Making Transit Behave

Designing Transit for TOD
What will we cover today

- Transit & place
- Transit building blocks
- What is a station
- Where to put transit

West Hyattsville TOD Master Plan, Hyattsville, MD
Unlocking the key to each stations identity

- TOD in Region
  - Where does the station fit in?
- TOD in Corridor
  - Stations relationship to other stations?
- TOD in Community
  - How will TOD add value? Be a place?
Overview: Transit & Place

• Break transit down to create “place”
  ▸ Designing transit for development
  ▸ What is a station?
  ▸ Stations & place
  ▸ Fitting transit in the street
  ▸ Options for moving the pieces around

• Many ways to slice the transit onion
Creating Additional Value: FasTracks DOT

• First step to creating value:
  ▶ Design transit with development in mind
  ▶ Break the conventional transit mold

• Fine-tune project to help:
  ▶ Leverage communities vision
  ▶ Realize TOD implementation
  ▶ Increase ridership
DOT Checklist:

• Is the station located in an area with development potential?
• Does the design allow for pedestrian connections?
• Is transit well connected into the community?
• Is TOD incorporated into the design?
DOT Process Results

- Budget & schedule can’t change
- Transit design can change
- Identify TOD implications of:
  - alignment / corridor
  - station locations
- Recommend changes to design
- Identify next steps for TOD
- Develop DOT framework to guide future design
Creating Value

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Auto or Development Oriented?

• Both designs:
  ‣ Same land uses
  ‣ Same transit Rail station
    800 Park & Ride
    12 Bus Transfer
  ‣ Same cost

• One encourages TOD at the station

• One separates the station from the community
Conventional Transit Design

- Transit designed around the car
- 3,072 surface parking spaces
- Station opened in 2001
- Design precludes TOD
- 1:1 parking replacement
  - Structured parking
    - $40m +
- Designated a Metropolitan Center
Development-Oriented Transit

- Transit designed with development in mind
  - Corridor selection
  - Station function
  - Pedestrian access
  - Parking location
  - Community partnerships
  - Incorporate TOD
Applying DOT Principles

• DOT Charrette –
  ▸ Early in design
  ▸ How do you design transit to maximize operations and TOD?
  ▸ Get all the stakeholders at the table

• Create a tool that can be applied to each phase of project design

Ali Baba Station
North Corridor
Miami, FL
Orenco Station
Portland, OR

- 190-acre
- 1,834 units
- Mixed-use town center
- TOD Zoning
- 18.2% mode split
Orenco Concept to Built

Concept

Master Plan

As Built

LRT Station
TriMet Orenco Design

- Conventional transit design
- Park & Ride next to the station
- Designed independent of developer

Pedestrian Spine

Park & Ride

LRT Station
Developer Orenco Design

Pedestrian Spine

Park & Ride

LRT Station
Orenco Station

Pedestrian Spine

Development Site

Development Site

Development Site

Park & Ride

LRT Station
Beaverton Creek

- TOD Master Plan
- Trammell Crow
- Mixed-Use
- 554 units
- Mix of density: 53 to 35 DUs acre
- Parked @ 1.8
- Station located for TOD
- P&R relocated
Beaverton Creek

1. Relocate station from arterial to development parcel
2. Relocate parking away from station
3. TOD
Fruitvale Transit Village

- Joint Development of BART parking
- Transit center 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
Fruitvale Transit Village

Community developed TOD

- Community Center
- Affordable housing
- Senior Housing
- Medical Clinic
- Retail
Two ways to view the station

• Engineering Scope
  ▸ Transit facility focus
  ▸ View from the station out to edge of ROW

• DOT Scope
  ▸ Community focus
  ▸ View from the community in
Assembling the pieces

No one right solution for each place

- Bus transfer
- ROW takes
- Platform location
- Kiss & Ride
- Parking
- Joint Development
- Pedestrian access
- Station as place
- Station entry
Bus Transfer

1. Adjacent to Platform
2. Through development
3. On street
4. Bus mall
Bus Transfer – Implications

- Avoid having buses be a barrier to linking station to development
Locating Parking

1. Adjacent to platform
2. Dispersed in small lots
3. Right angle to platform
4. Away from platform
Locating Parking - Implications

- Avoid letting parking dominate the station
- Consider breaking auto dominated design mold
Kiss & Ride

1. On street
2. Off-street
Kiss & Ride - Implications

• Avoid having automobiles interrupt pedestrian flow
  ▸ From station to community
  ▸ From Station to TOD development
Station as Place

1. Corner plaza
2. Center plaza
3. Station streetscape
Station as Place - Implication

- Integrate buildings into stations to frame place
- Active plazas as part of the station
- Incorporate TOD into stations
Pedestrian Access

1. Calmed Intersections
2. Pedestrian Bridge
3. Pedestrian Network
Pedestrian Access - Implication

1. Station area (1/4 mile) as a walkable zone
2. Intersections of major streets calmed
3. Extend stations benefits into community
Station Entry

1. Under station
2. Over station
3. End station
4. Mid-Block
Station Entry - Implications

- Opportunity to create a front door to the station
- Bring station to the ground
- Integrate station into development
Platform Location

1. Platform Along Street
2. Platform In Street
3. Platform Spans Street
4. Platform Mid-block
Platform Location – Implications

- Stations create value
- Stations define the most important, most intense places
- Stations as a development catalyst
Joint Development

1. Freestanding JD project
2. JD anchoring Community Center
3. JD anchoring Metropolitan Center
Joint Development - Implications

• Create a place, not a project
• Station as a destination
• JD as a catalyst for realizing TOD plan
Right-of-Way Takes

- Full ROW Take
- Partial ROW Take
Right-of-Way - Implications

- Control the most important sites
- Acquisition for demonstration projects
- Downstream revenue opportunities
- Remove problem uses
Assembling the pieces

No one right solution for each place

- Best solution will:
  - Solve for transit + development
- Uses the coming of transit to enhance the corridor
- Realizes the community's vision
Baltimore Design Principles

1. Shape the Future
   - Design Blue Line facilities to shape and enhance the communities and as walkways to move people.

2. Locate Your Identity
   - Locate each station in an identifiable area and friendly place. Stations should deliver the most important stories in each neighborhood.

3. Transit Stations as Landmarks
   - Design memorable transit stations that can serve as local landmarks and promote a sense of civic identity.

4. Connect Communities with Transit
   - Adjacent transit districts along the line should be linked to grow complementary communities, facilitating non-motorized travel.

5. Be a Good Neighbor
   - Site and design stations to be good neighbors as well as providing safe and efficient service.

6. Compliment Community Objectives
   - Help define the context and economic viability of each community with quality development, providing a mix of uses close to transit.

7. Connect Places with Walking
   - Provide basic, safe, and convenient sidewalks and paths between Red Line stations and the destinations of transit stops, with buildings facing towards these connections.

8. Pass the Test of Time
   - Maintain the permanence of transit facilities to avoid future maintenance.

9. Attract New Riders
   - Invest in quality stations and stations design that will attract new riders and benefit those who ride out of necessity.

10. Create Partnerships
    - Secure partnerships that will maintain the success of the Red Line and the community it serves, to ensure the public investment results in societal improvements.
What is a Station?

Minimum building blocks of a station:

- 12’+ Platform
- Shelter
- Bench
- Lighting
- Information
- Trash can
Station Location Considerations

- Proximity to uses that generate ridership
- Direct accessibility
- Safety and security
- Visibility to users
- System connections
Relating the station to its surrounding?

Three ways to think of a station:

• **Focal point** of a place
• **Incorporated** into a place
• **Secondary** to a place

Stations can help define the most important places.

Dallas

Portland The Round
Focal Point of a Place

Station helps to create / anchor an important place

Portland Pioneer Square
Incorporated into a Place

Station fits into / compliments the place

Portland State University

Portland Morrison St
Secondary to a Place

Station secondary to the place / basic functionality

Portland Park Blocks

Portland 11th Avenue
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
Central Station Sydney

Station as place

- Dramatic architecture defines the space:
  - Quiet plaza
  - Bus transfer
- Bus to rail transfer
Pioneer Square, Portland

The invisible station

- One of the top 10 best American public places
- Two LRT stops designed as part of the square
  - Station budget turned over to Friends of Pioneer Sq
- Transit part of the sense, smell, sight, feel of the square
The Round Beaverton, Or

T O D defines place

- Plaza surrounds station
  - Scaled to Sienna
- Ground floor restaurants help activate plaza
- 240 condos above
- 375k office
- Athletic club
Hollywood Highland, CA

TOD serves a place:

- Hollywood & Vine
- Academy Awards home
- $560m project sold for a $200m loss
  - Failure unrelated to TOD
- Public financing of parking and theatre
Relating transit location to its surroundings

Two ways to think of a guideway:

- **Where** in the street
  - Center or edge
- **How** it mixes with traffic
  - Exclusive or mixed

Great transit can compliment and help make a great place.

- **Toronto Young Street**
- **Portland Pioneer Square**
Where do you put the station?

- Within the context of many urban places two basic choices:
  - Station curb side
  - Station middle of street
- Different implications for pedestrians & traffic

Tacoma Union Station
Portland 11th Avenue
Stations: Curb Slide

• Plus:
  ▸ Activates sidewalk
  ▸ Takes less room

• Minus
  ▸ Conflict with adjacent land uses

• Urban design:
  ▸ Best fit with development
Stations: Curb Side

Portland Pioneer Square
Stations: Transit Mall

Strasbourg, France
Stations: Center of Street

• Plus:
  ‣ Minimizes interference w/ local access

• Minus:
  ‣ How do riders get there?
  ‣ Takes more room

• Urban design:
  ‣ Lack of synergy
  ‣ Can anchor street

Portland King St
Barcelona
Paris
Stations: Center of the Street
Stations: Center of Street
Exclusive ROW: Side

- **Plus:**
  - No delay

- **Minus:**
  - Displaces cars
  - Conflict with turns

- **Urban design:**
  - Opportunity for design treatments

(Tacoma, Houston)
Exclusive ROW: Side

Sacramento
Exclusive ROW: Side Two-Way
Exclusive ROW: Transit Mall

- **Plus:**
  - Great for riders, transit helps create place

- **Minus:**
  - Displaces traffic, can retail & local access work

- **Urban design:**
  - Opportunity for a great place
Exclusive ROW: Transit Mall

Portland 1st Ave
Exclusive ROW: Middle

- **Plus:**
  - Minimizes conflicts
  - Faster operation
- **Minus:**
  - Worse station locations
- **Urban design:**
  - Add amenity to the street

Barcelona

San Francisco King St
Non-Exclusive: Mixed Traffic

- **Plus:**
  - Works in tight spaces
  - Does not displace traffic
  - Conflicts with traffic, slower operation
  - Good fit in street
  - May lack great details
Non-Exclusive Mixed Traffic

Frankfurt
Conclusions

• Transit shares many goals with great places
  ▶ Active good places, walkable, mix of uses

• Brings:
  ▶ Money for improvements
  ▶ People for activity
  ▶ Unique address
Capturing Transit Value

- Can transit be part of the experience
  - The Grove in LA - out draws Disneyland
  - Saks & Tiffany at TriMet's #1 transit stop
- Greatest value within 600 ft of a station
  - More stations, more value
  - Arrive somewhere
Making transit behave

• Design great transit & great places
  ‣ Keep vision in mind, not the automobile
  ‣ Break the mold
  ‣ Look outside the ROW

• Place is more important than speed
  ‣ Create a great destination
  ‣ Going nowhere fast has no value