ASSESSING TOD IN MONTGOMERY COUNTY: TOWARDS MORE GROWTH AND LESS CONGESTION

JACOB MASON
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PROBLEM: Sprawl

• Congestion
• Pollution
• Social Isolation
• Noise
• Lack of Mobility
• Cost of Infrastructure
• Injury/death
• etc
SOLUTION: Transit-Oriented Development

- Reduced Pollution
- Increased Social Connections
- Noise
- Lack of Mobility
- Reduced Cost of Infrastructure
BUT,
Density is not always oriented to transit!
Download: https://go.itdp.org/display/live/TOD+Standard

• Latest version released in 2014

• Developed by experts in the field of Urban Planning and Transportation:
  
  • B.R. Balachandran, *Alchemy Urban Systems Private Limited*
  • Robert Cevero, *University of California, Berkeley*
  • Betty Deakin, *University of California, Berkeley*
  • Michael King, *Nelson \ Nygaard Consulting*
  • Shomik Mehndiratta, *World Bank*
  • Luc Nadal, *Institute for Transportation and Development Policy*
  • Peter Park, *University of Colorado, Denver*
  • Hiroaki Suzuki, *World Bank*
8 Principles

1. **WALK** Develop neighborhoods that promote walking
2. **CYCLE** Prioritize non-motorized transport networks
3. **CONNECT** Create dense networks of streets and paths
4. **TRANSIT** Locate development near high-quality public transport
5. **MIX** Plan for mixed use
6. **DENSIFY** Optimize density and transit capacity
7. **COMPACT** Create regions with short commutes
8. **SHIFT** Increase mobility by regulating parking and road use
Scoring

Walk
Principle 1
15 points

A. The pedestrian realm is safe and complete.
  1.1 Walkways: Percentage of block frontage with safe, wheelchair-accessible walkways. (3 points)
  1.2 Crosswalks: Percentage of intersections with safe, wheelchair-accessible crosswalks in all directions. (3 points)

B. The pedestrian realm is active and vibrant.
  1.3 Visually Active Frontage: Percentage of walkway segments with visual connection to interior building activity. (6 points)
  1.4 Physically Permeable Frontage: Average number of shops and pedestrian building entrances per 100 meters of block frontage. (2 points)

C. The pedestrian realm is temperate and comfortable.
  1.5 Shade & Shelter: Percentage of walkway segments that incorporate adequate shade or shelter element. (1 point)

Cycle
Principle 2
5 points

A. The cycling network is safe and complete.
  2.1 Cycle Network: Percentage of total street segments with safe cycling conditions. (5 points)

B. Cycle parking and storage is ample and secure.
  2.2 Cycle Parking at Transit Stations: Secure multi-space cycle parking facilities are provided at all high-capacity transit stations. (1 point)
  2.3 Cycle Parking at Buildings: Percentage of buildings that provide secure cycle parking. (1 point)
  2.4 Cycle Access in Buildings: Buildings allow interior access for cycles and cycle storage within tenant-controlled spaces. (1 point)

Connect
Principle 3
15 points

A. Walking and cycling routes are short, direct and varied
  3.1 Small Blocks: Length of the longest block (long side). (10 points)

Transit
Principle 4
TOD Requirement

A. High quality transit is accessible by foot.
  4.1 Walk Distance to Transit: Walk distance (meters) to the nearest transit station.
  3.2 Prioritized Connectivity: Ratio of pedestrian and cycle intersections to motor vehicle intersections. (5 points)
### Scoring

#### Mix
**Principle 5**
15 points

- **A. Trip lengths are reduced by providing diverse and complementary uses.**
  - 5.1 Complementary Uses: Residential and non-residential uses combined within same or adjacent blocks. (10 points)
  - 5.2 Accessibility to Food: Percentage of buildings that are within 500 meters radius of an existing, or planned, source of fresh food. (1 point)

- **B. Lower income groups have short commutes.**
  - 5.3 Affordable Housing: Percentage of residential units provided as affordable housing. (4 points)

#### Densify
**Principle 6**
15 points

- **A. Residential and job densities support high quality transit and local services.**
  - 6.1 Land Use Density: Average density in comparison to local conditions. (15 points)

#### Compact
**Principle 7**
15 points

- **A. The development is in an existing urban area.**
  - 7.1 Urban Site: Number of sides of the development adjoining existing built-up sites. (10 points)

- **B. Travelling through the city is convenient.**
  - 7.2 Transit Options: Numbers of stations on different transit lines that are accessible within walking distance. (5 points)

#### Shift
**Principle 8**
20 points

- **A. The land occupied by motor vehicles is minimized.**
  - 8.1 Off-Street Parking: Total off-street area dedicated to parking as a percentage of total land area. (10 points)

- **8.2 Driveway Density: Average number of driveways per 100 meters of block frontage. (2 points)**

- **8.3 Roadway Area: Total road area used for motor vehicle travel and on-street parking as percentage of total land area. (8 points)**
Rankings
Rockville Town Square (Unofficial Analysis)
Rockville Town Square
Rockville Town Square

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B. The pedestrian realm is active and vibrant.
- 1.3 Visually Active Frontage: Percentage of walkway segments with visual connection to interior building activity. (6 points)
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Rockville Town Square

Cycle

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Best Practice

**Cycle**

**Principle 2**
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- 2.4 Cycle Access in Buildings: Buildings allow interior access for cycles and cycle storage within tenant-controlled spaces. (1 point)
Rockville Town Square

Some extra pedestrian connectivity

Long blocks
Best Practice

LOTS OF EXTRA PEDESTRIAN CONNECTIVITY

SMALL BLOCKS
Rockville Town Square
Rockville Town Square

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- 5.2 Accessibility to Food: Percentage of buildings that are within 500 meters radius of an existing, or planned, source of fresh food. (1 point)

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Rockville Town Square

LOW-DESNITY, TYPICAL OF AREA

Densify
Principle 6
15 points

A. Residential and job densities support high quality transit and local services.

- 6.1 Land Use Density: Average density in comparison to local conditions. (15 points)
Rockville Town Square

Compact Principle 7
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   • 7.1 Urban Site: Number of sides of the development adjoining existing built-up sites. (10 points)

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Rockville Town Square

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C. The pedestrian realm is temporary and comfortable.
- 1.5 Shade & Shelter: Percentage of walkway segments that incorporate adequate shade or shelter element. (1 point)
THANK YOU!

jacob.mason@itdp.org