Uses within 500m Influence Zone of MRTS

as part of

Transit Oriented Development Policy

DRAFT Nov 2010

What is TOD?

TOD Definition:

Transit Oriented Development is any development – be it macro or micro scale – that induces people to prefer the use of public transportation.

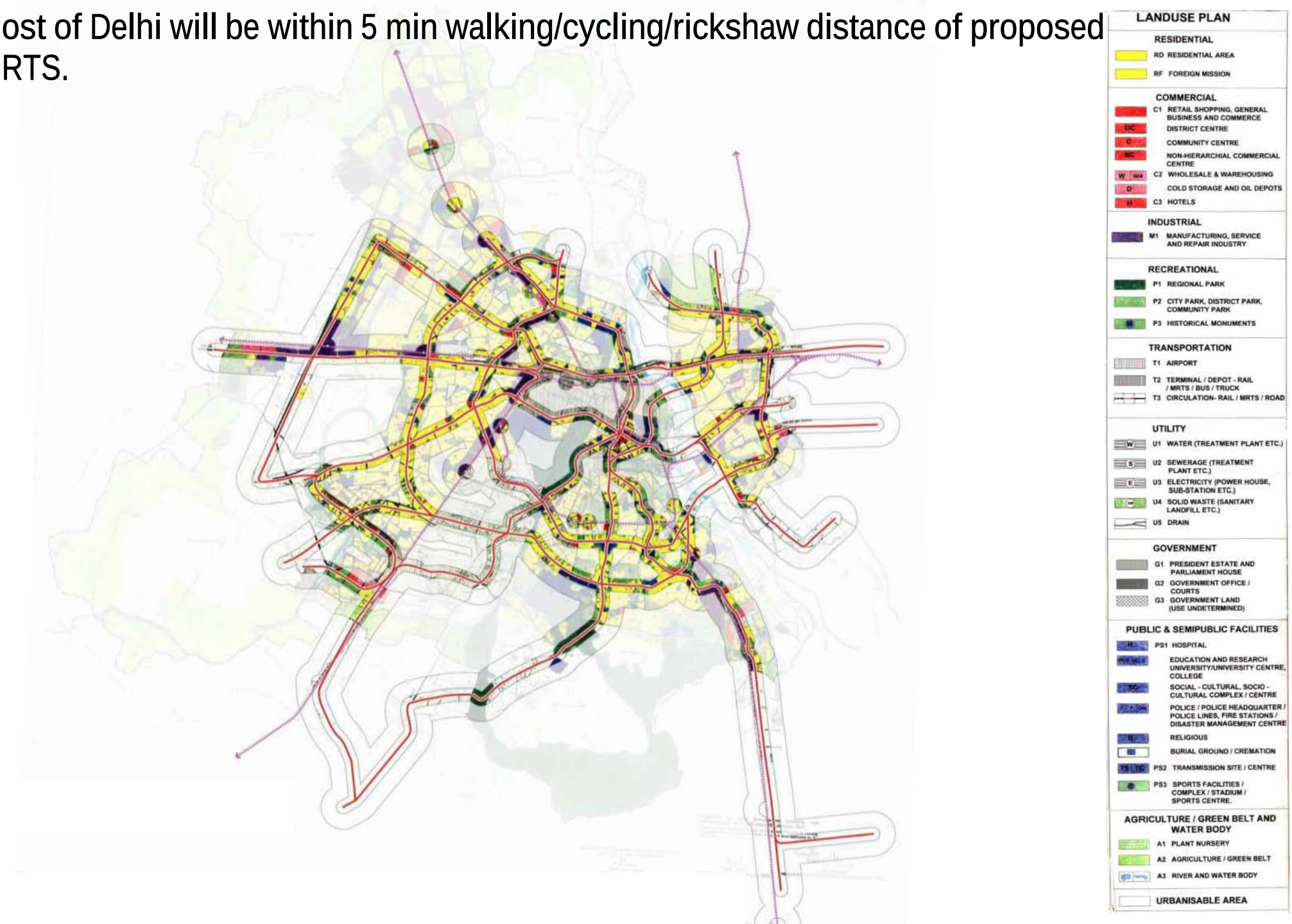
"Transit-Oriented Development (TOD) is compact, mixed use development near new or existing public transportation infrastructure that provides housing, employment, entertainment and civic functions within walking distance of transit.

The pedestrian-oriented design features of TODs encourages residents and workers to drive their cars less and ride public transit more.

Transit Oriented Development can be a significant source of non-farebox revenue for the participating transit agency.

Definition Source: APTA
http://www.apta.com/research/info/briefings/briefing_8.cfm

Most of Delhi will be within 5 min walking/cycling/rickshaw distance of proposed MRTS.



TOD Components:

(Source: Dr. Robert Cervero, U C Berkeley)

The 3 ‘D’s of T.O.D.

- (High) **Density**
- **Diversity** (Mixed Use, Mixed Income)
- **Design** (Safe, Comfortable, active 24x7)

Starting with:

What is *NOT* TOD….

Current Trends: within 5-min walk of Metro Stations

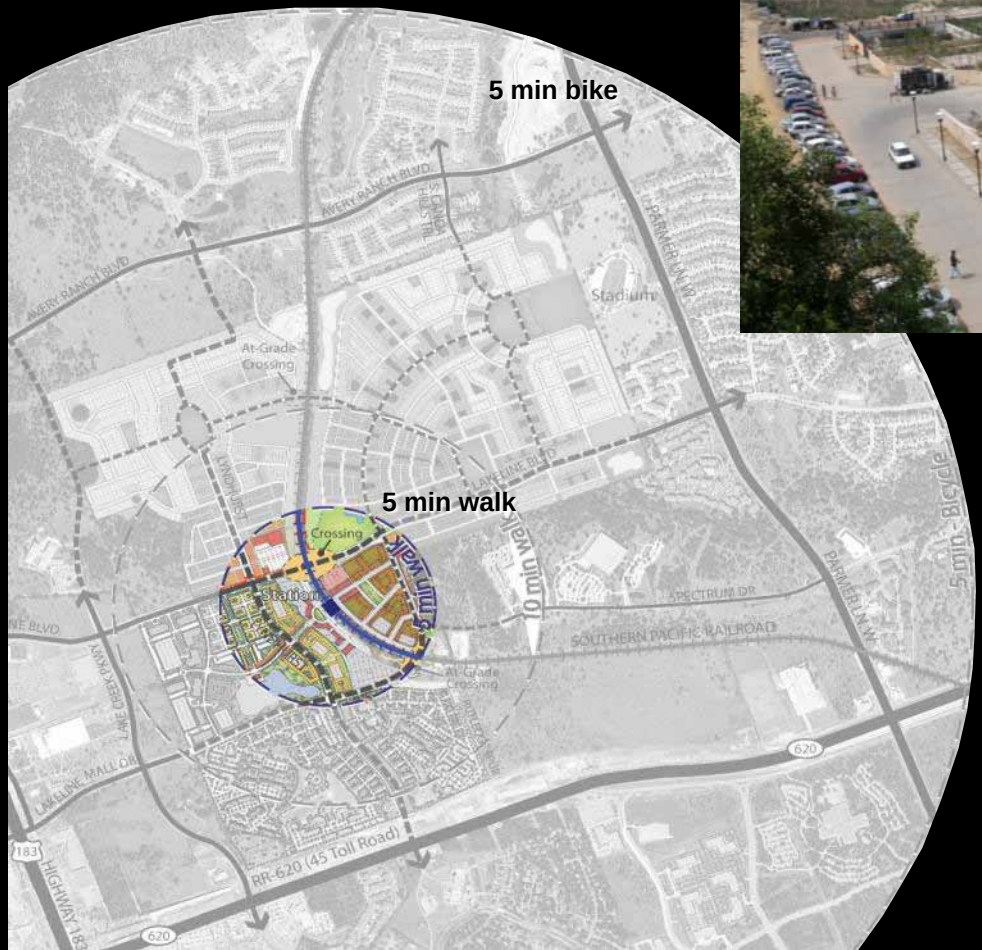
NOT TOD

No Walkable Design.

No Street Frontage.

No Diversity.

Not enough Density.



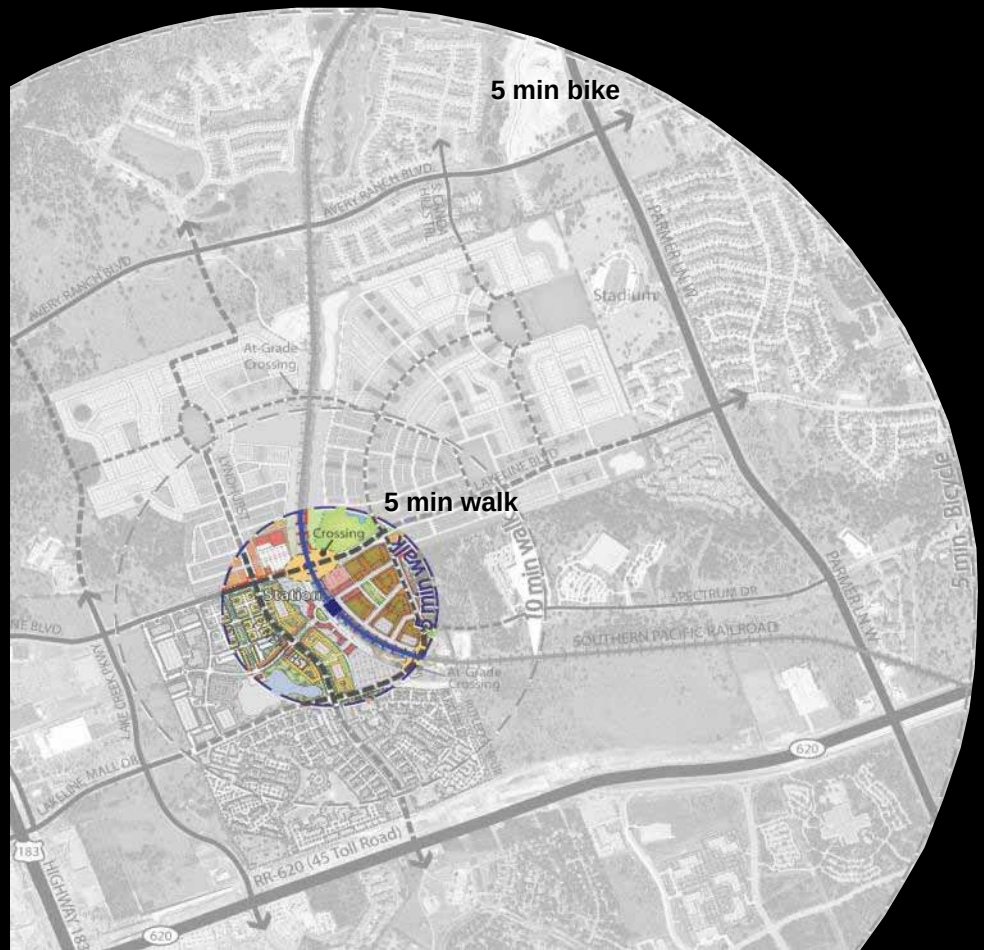
Principle A) Density & Diversity & Design:

- Minimized Walking & Biking Distance / Environment from MRTS & Amenities.

Within 5 min walk of Station (500 M)…

- High Density Housing, Retail and Employment uses

Recommended:



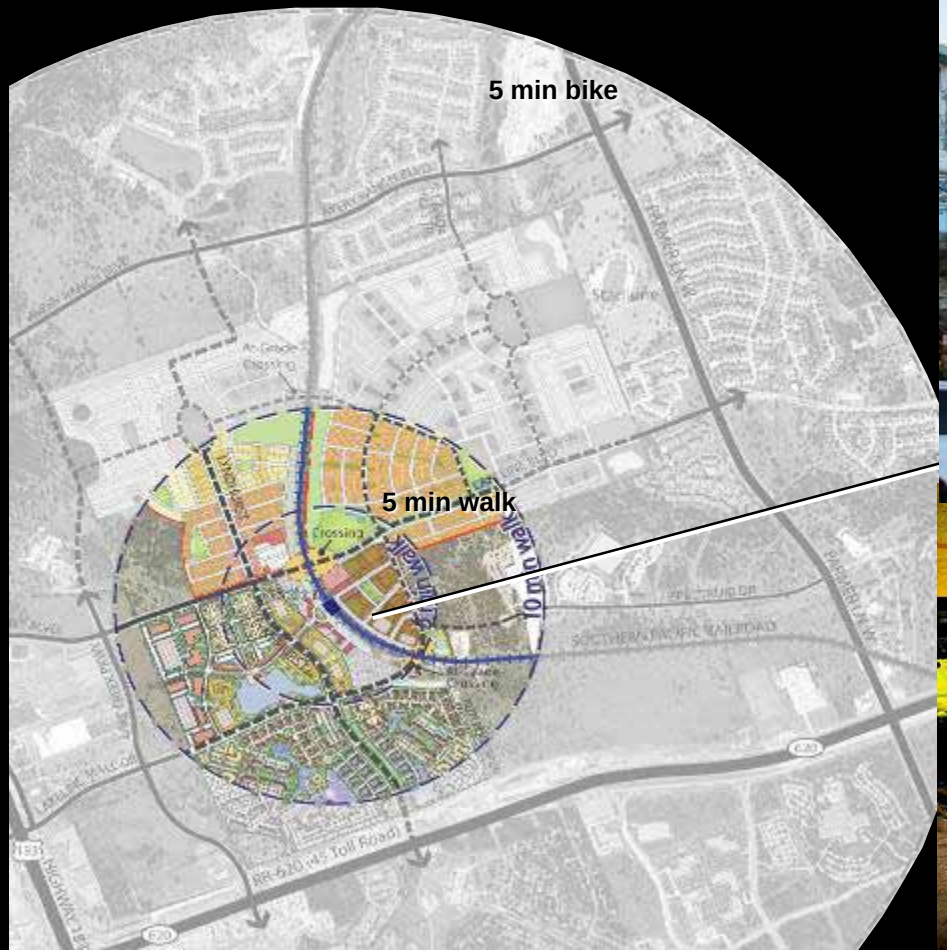
Principle A) Density & Diversity & Design:

- Minimized Walking & Biking Distance / Environment from MRTS & Amenities.

Within 10 min walk of Station (1000 M)…

- High Density Housing, informal retail, commercial, public spaces.
- FAR bonuses provided for affordable housing, public spaces and parks, & infrastructure.

Recommended:



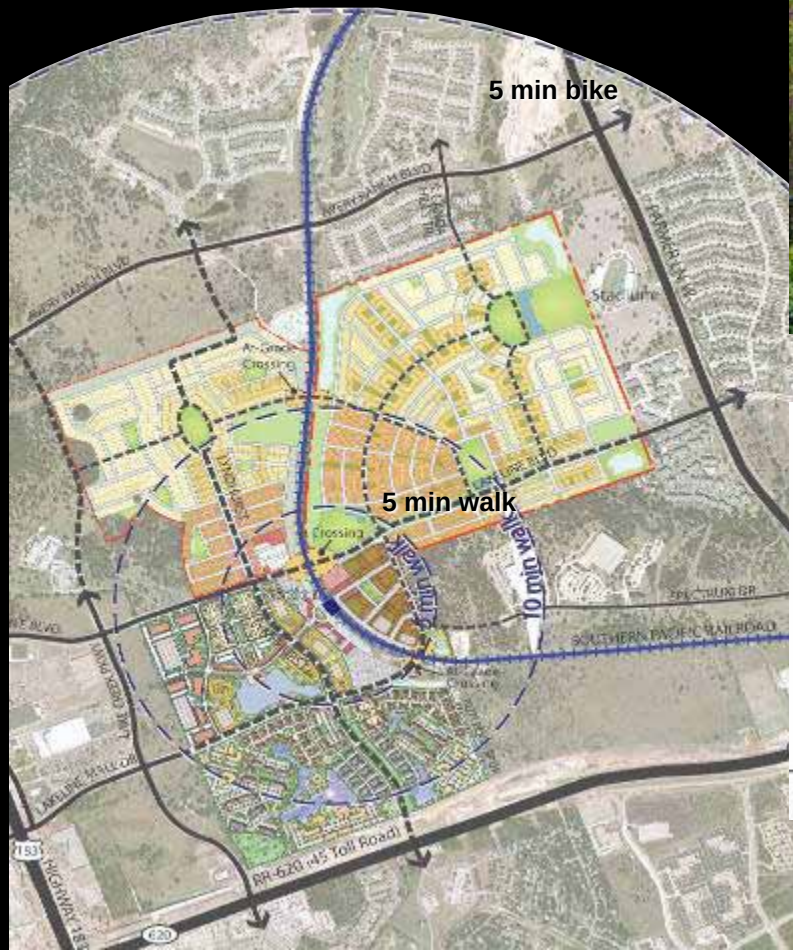
Principle A) Density & Diversity & Design:

- Minimized Walking & Biking Distance / Environment from MRTS & Amenities.

Within 5 min Cycle or Rickshaw-ride from Station:

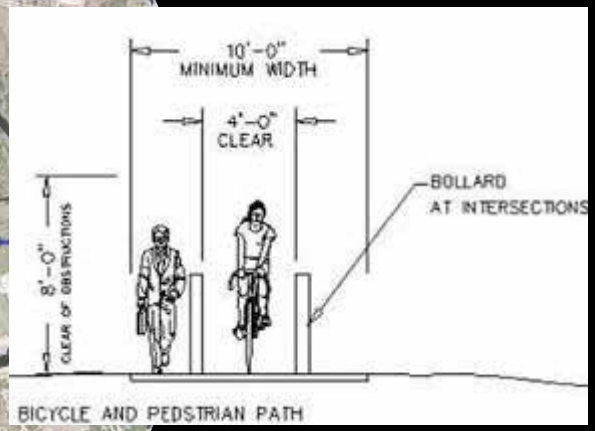
- Incorporating bicycles and pedestrians in street and building design guidelines

Recommended:

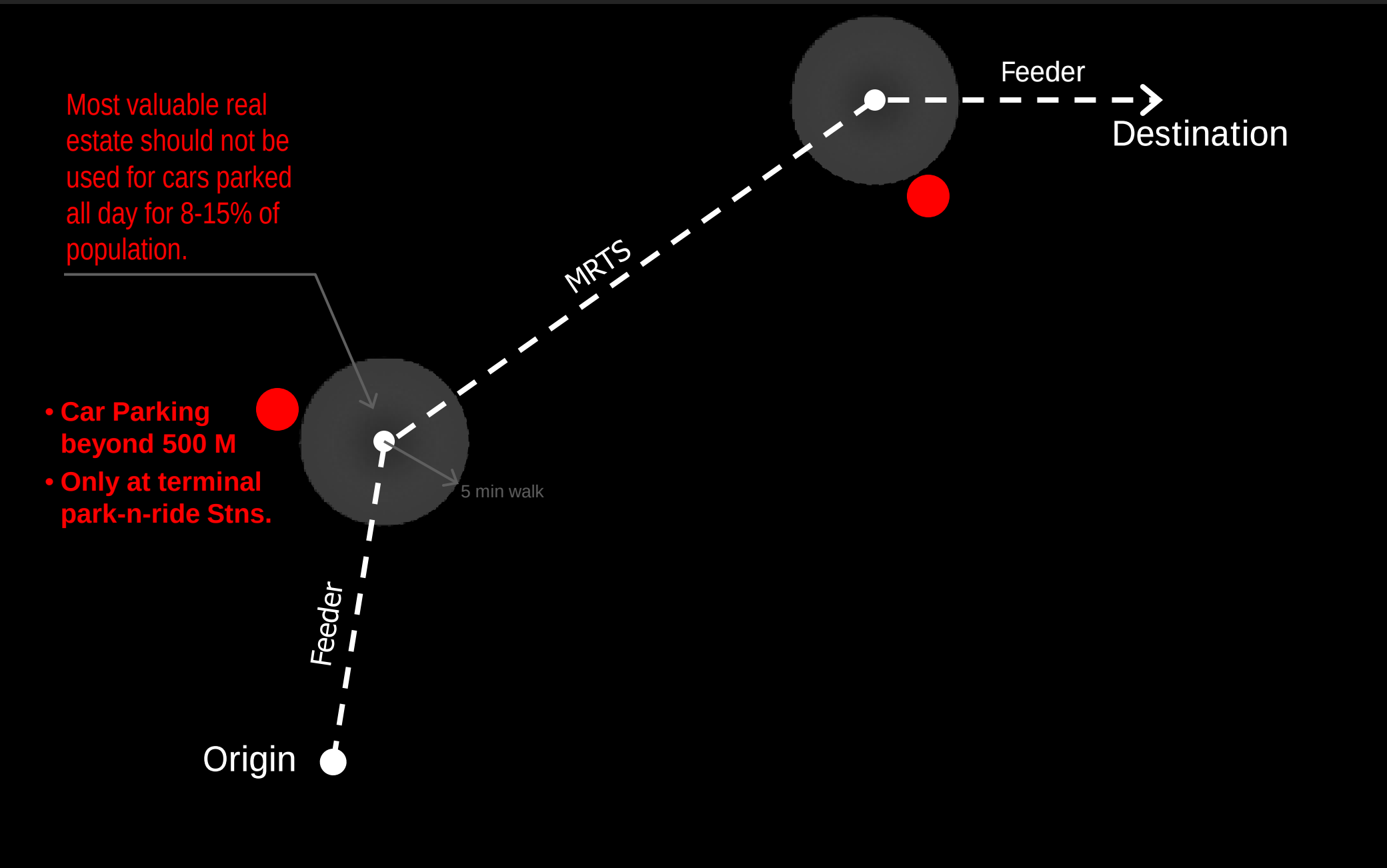


Bike lanes in most streets

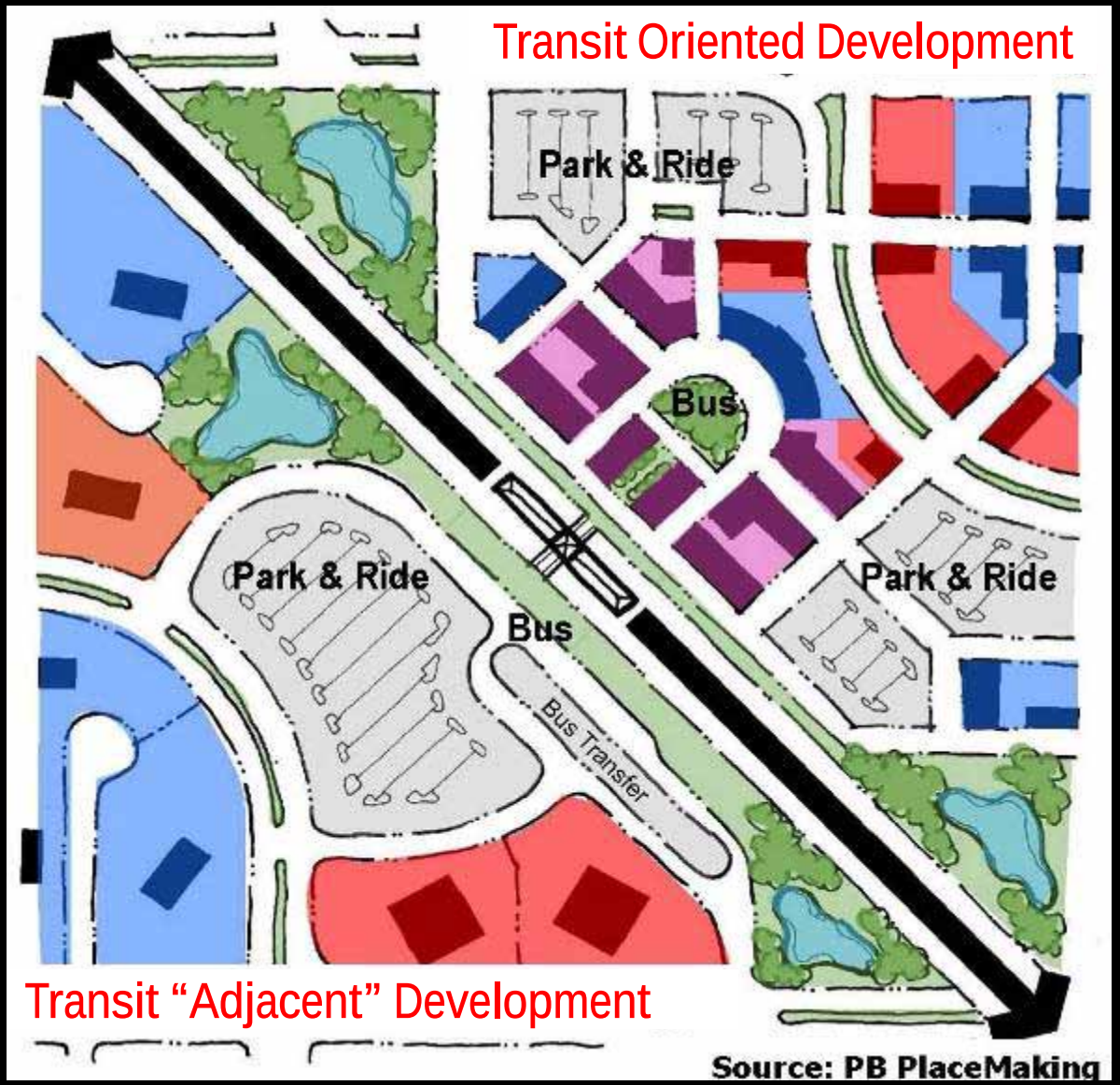
Bike parking at destinations, transit stops



...Private Car: is the undesirable feeder



Location of Parking defines:
TAD vs. TOD



TOD:

- Encourages Walkability and Mixed Use

eg: Dadar Station, Mumbai

TAD:

- Separates the Community from the Station.
- Is Auto-oriented development

e.g. Janakpuri West Station, Delhi

Ridership: Parking Versus Joint Development Housing

- Surface parking
  - 100 spaces per acre
  - **200 rides per day**
  - All at peak period
- 3 Story Garage
  - 200 spaces per acre
  - **400 rides per day**

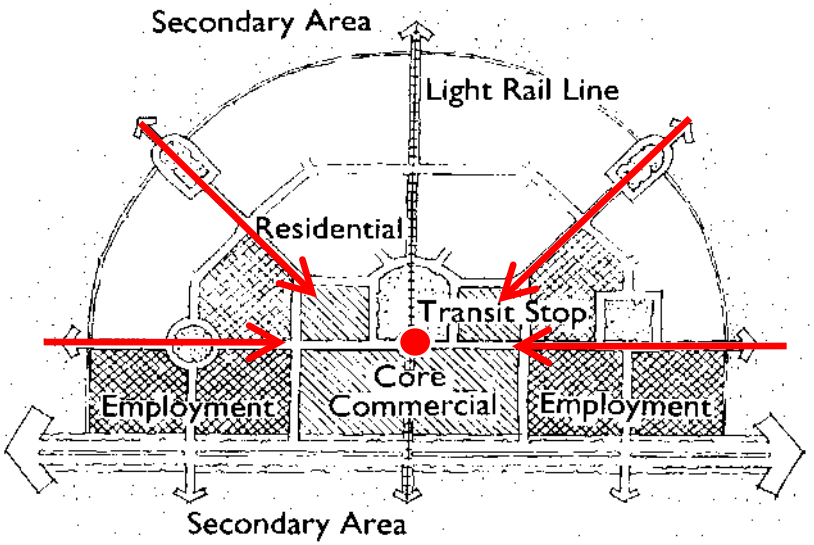
Housing = ~1.6-4 rides per unit

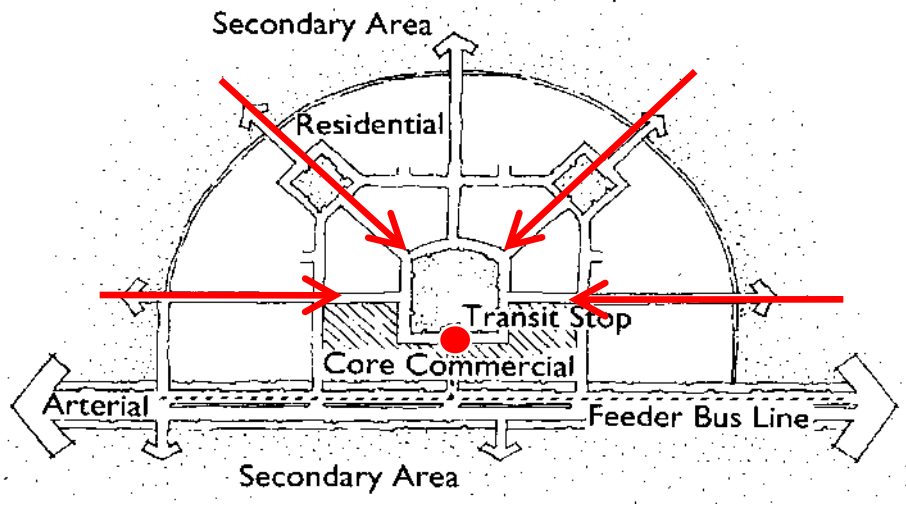
- 50-100 units/acre = 200 rides per day
- **100-200 units/acre = 400 rides/day**
- Spread throughout day especially if affordable

Principle C) Direct Connectivity

- Finer Street Network for shortest routes to pedestrians & cyclists.
- Faster to walk or cycle; than to drive.

Shortest walking distance for Pedestrians:





- Interconnected Street Network
- Small walkable blocks; Pedestrian cut-throughs every 100 M.
- Mix of uses to provide people of varied social groups with options to live, work and play within easy access to public transport and daily necessities.

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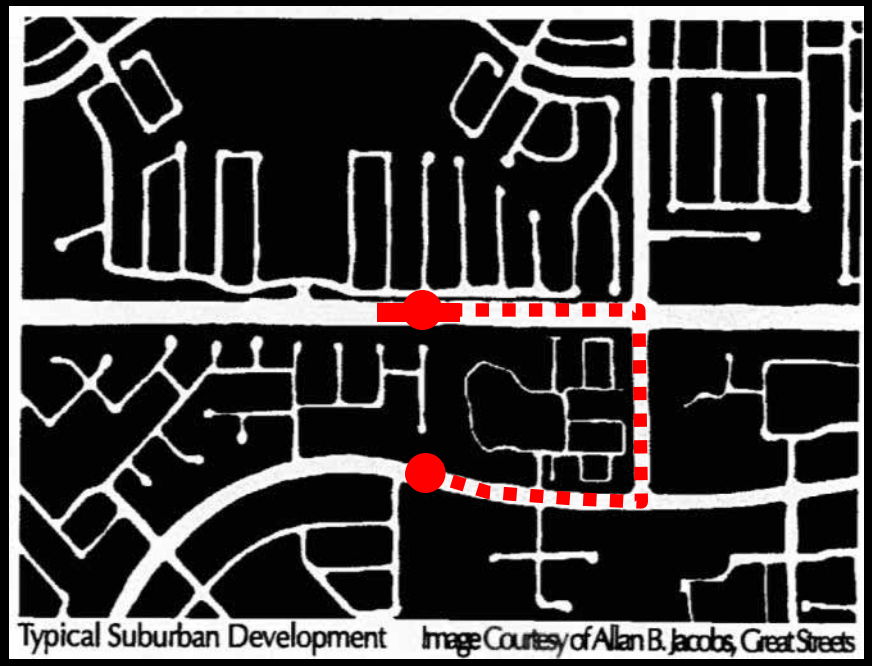
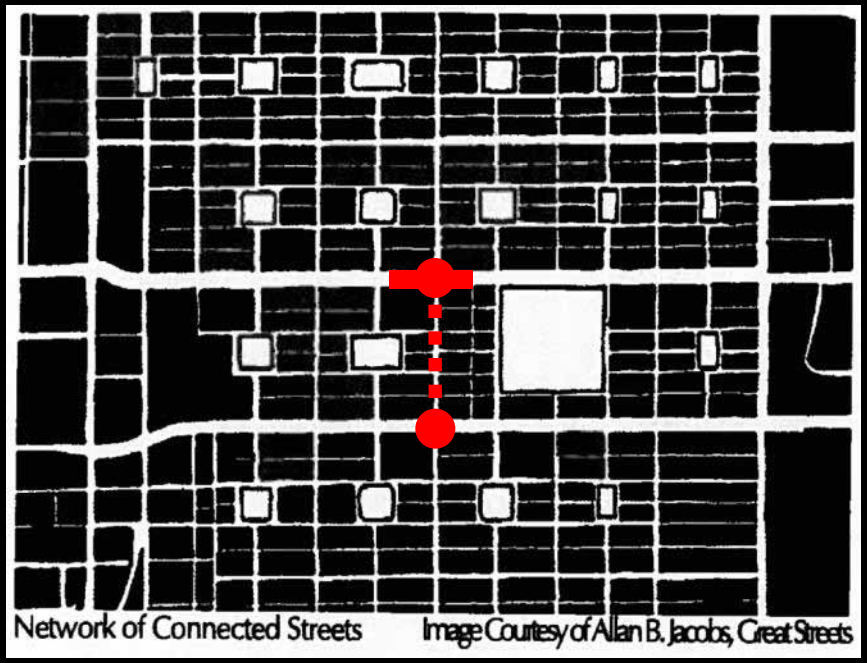
Typical Delhi Housing Block

Vancouver Block: e.g. 80 x 125 M



15-minute walk



5-minute walk

Principle D) Public Realm Design:

- Pedestrian/disabled friendly, safe, pollution free

Pedestrian experience around a Mall near a Metro Stop.

Remove Setbacks!

Build Sidewalks!!

TRANSFORMATION of a similar street in Los Angeles

Note: Street-lights are for Pedestrians, not cars!

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Graphic Source: **http://sites.google.com/site/cornfieldsla/index**

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Critical Zoning Laws that may need to be introduced:

Remove Setbacks,
Require Entries on sidewalks

Building Entries/ windows on Sidewalk (eyes on the street - provides safety for pedestrians)

Regulate
Maximum Block Widths,
Minimum Frontages

Smaller blocks, interconnected streets create shorter travel routes for pedestrians.

Design Street Guidelines
for pedestrians, not cars!

Streets for Trains, Buses, cars and Pedestrians.

Built-to-edge Buildings for Safety & Comfort.

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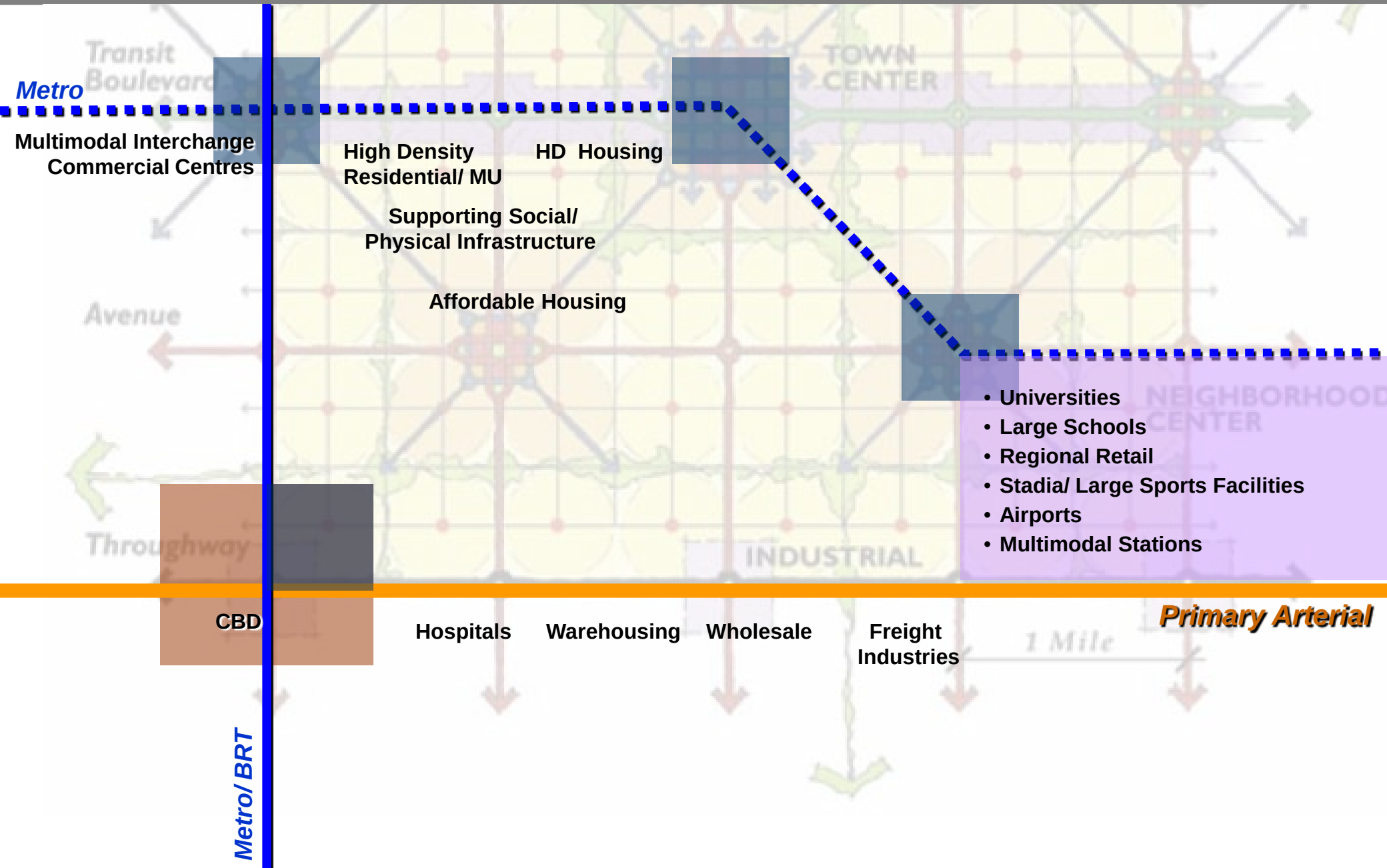
Hierarchy: Use location based on Infrastructure proximity



MPD Goal: SHELTER

Accommodating: 230 Lakh people
83.82 Lakh jobs by 2021.

Providing: 3.5 lakh Redev. DUs
3.5 lakh New DUs by 2011

10 lakh Redev. DUs
14 lakh New DUs by 2021

Incorporating Low-Income Housing Near Stations, through Bonuses/ Incentives, etc.

There are several possible options for delivering low-income housing near public rapid transit (i.e. Metro, BRT) and near other middle to high income homes and employment centres:

Option 1:

- **Mandatory Reservation for % of low-income housing in private developments near public transit.**

According to the Delhi Masterplan, all private developments are to provide and maintain 15% of the total FSI for low-income groups. Other states are likely to adopt this mandate under the JNURM guidelines. This would be a mandatory requirement for projects to obtain planning approvals.

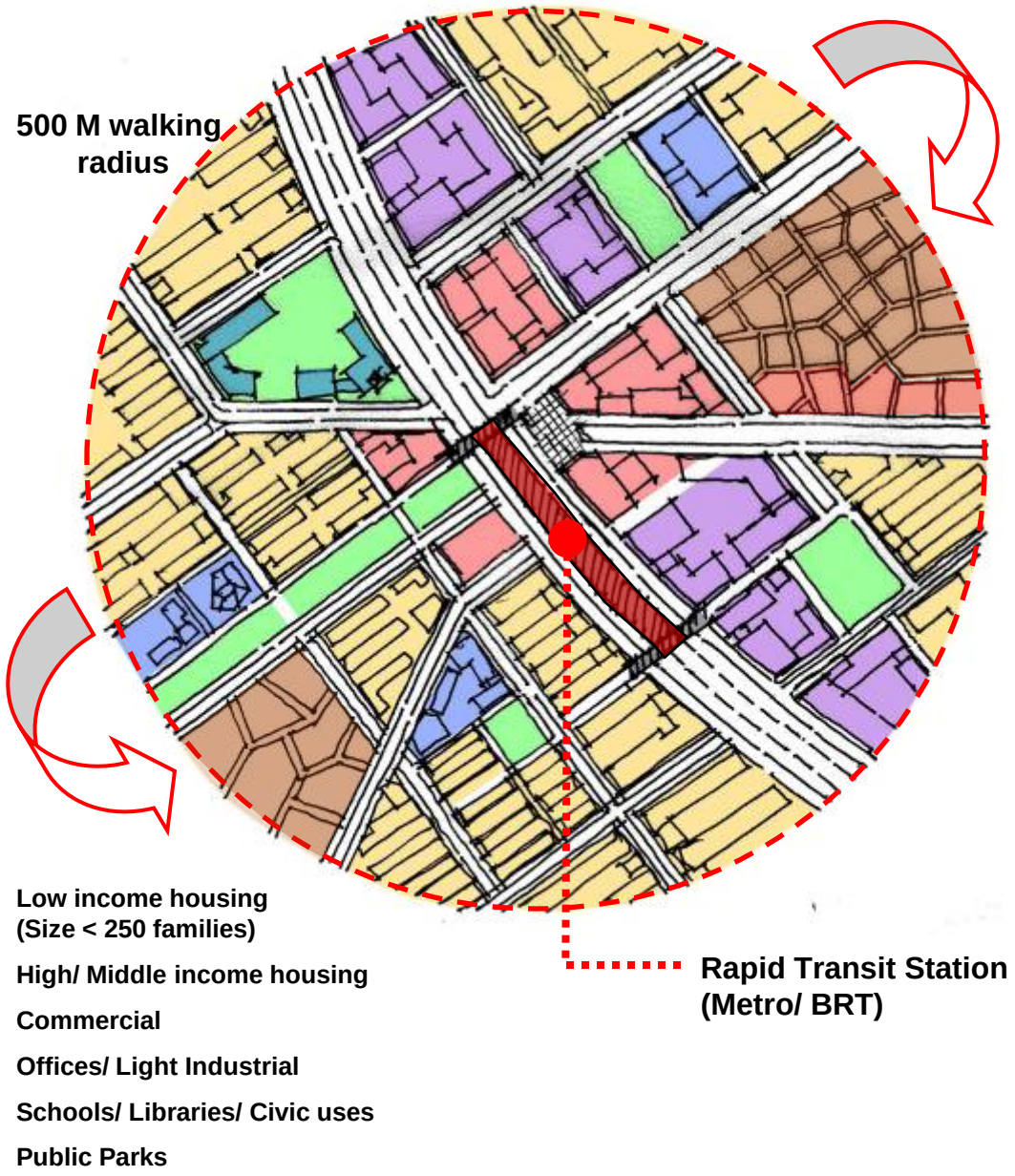
Option 2:

- **FSI-density bonuses for market-rate developments to pay for, or construct nearby low-income communities.**

- **Density bonuses for providing and maintaining shared public parks, facilities and social infrastructure.**

Option 3:

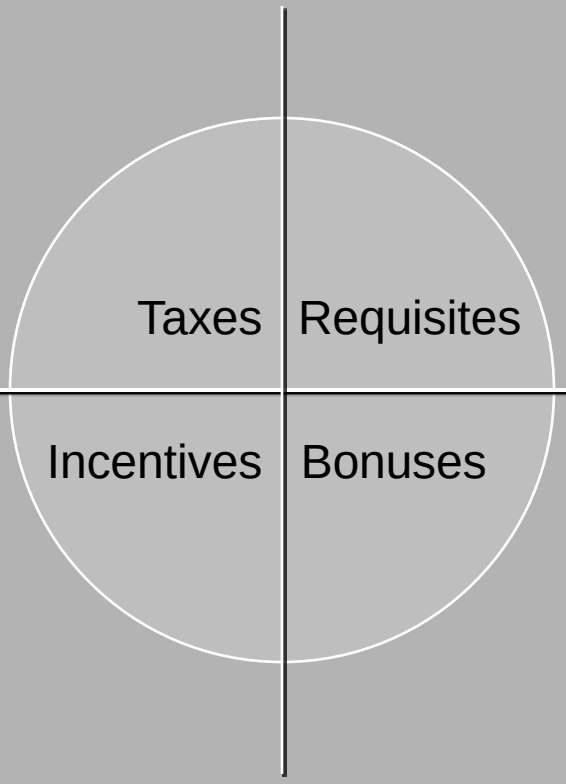
- **Government built low income housing within 800 M walking distance from a rapid transit stations, limiting the size of each community to a maximum of 250 families.**



Source: Spatial Inclusion and Sustainable Design of low-income communities

Benefits: Cross Subsidization of Social & Physical Infrastructure.

Private Investment



Designated Neighborhood level Open Space Provision and Maintenance.

In-situ Upgradation/ Redevelopment of slums and/ or provision of low-income housing near stations.

Provision of schools and civic facilities.

Maintenance of public realm.

TRANSIT SUPPOTIVE USES *ENCOURAGED* NEAR STATION

- **Residential uses like affordable/ low-income housing, youth hostels, homes for the aged.**
- **High-quality serviced apartments for young professionals, Govt. housing for low-income.**
- **Employees, working women’s hostels, small unit rental housing, etc. would be preferable.**
- **Amongst Commercial and Civic uses – daily-need stores like department stores, cultural.**
- **Institutions, health clubs, day-care facilities, clinics, entertainment facilities, dry-cleaners.**
- **Small coffee shops, small restaurants, trans it-hotels, budget hotels, neighbourhood oriented retail, etc. could be prioritized.**

TRANSIT NON-SUPPOTIVE USES *ENCOURAGED* NEAR STATION

- **Uses like car-sales showrooms, banquet halls, large foot-print high quality hotels, large.**
- **Single commodity showrooms, high-end Malls, automobile- repair shops, warehouses, large.**
- **Format religious facilities, low intensity industrial uses, etc. should be prohibited.**