Praia do Futuro and the TOD Standard

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Fortaleza Sprawling

Praia do Futuro
Praia do Futuro
20 km  (12.5 miles)
Figura 19: Empregos.
Figura 18: Densidade populacional por bairro.
Example from Toronto, based on the following article:
Vision Rendering by ITDP for Ashram Road, Ahmedabad, India
Fortaleza 1930
(Source: Arquivo Nirez, via Wikipedia Commons)
Group activity

Praia do Futuro

Hotel Gran Mareiro

BRT Station Santos Dumont
Group activity

1940’s

Praia do Futuro

Punta de Muricipe
Gran Mareiro

1980’s
ITDP’S PRINCIPLES OF URBAN DEVELOPMENT FOR TRANSPORT IN URBAN LIFE
& TOD STANDARD KEY IMPLEMENTATION OBJECTIVES

WALK
DEVELOPING NEIGHBORHOODS THAT PROMOTE WALKING
OBJECTIVE A. The pedestrian realm is safe, complete, and accessible to all.
OBJECTIVE B. The pedestrian realm is active and vibrant.
OBJECTIVE C. The pedestrian realm is temperate and comfortable.

CYCLE
PRIORITIZE NONMOTORIZED TRANSPORT NETWORKS
OBJECTIVE A. The cycling network is safe and complete.
OBJECTIVE B. Cycle parking and storage is ample and secure.

CONNECT
CREATE DENSE NETWORKS OF STREETS AND PATHS
OBJECTIVE A. Walking and cycling routes are short, direct, and varied.
OBJECTIVE B. Walking and cycling routes are shorter than motor vehicle routes.

TRANSIT
LOCATE DEVELOPMENT NEAR HIGH-QUALITY PUBLIC TRANSPORT
OBJECTIVE A. High-quality transit is accessible by foot (TOD Requirement).

MIX
PLAN FOR MIXED USES, INCOME, AND DEMOGRAPHICS
OBJECTIVE A. Opportunities and services are within a short walking distance of where people live and work, and the public space is activated over extended hours.
OBJECTIVE B. Diverse demographics and income ranges are included among local residents.

DENSIFY
OPTIMIZE DENSITY AND MATCH TRANSIT CAPACITY
OBJECTIVE A. High residential and job densities support high-quality transit, local services, and public space activity.

COMPACT
CREATE REGIONS WITH SHORT TRANSIT COMMUTES
OBJECTIVE A. The development is in, or next to, an existing urban area.
OBJECTIVE B. Traveling through the city is convenient.

SHIFT
INCREASE MOBILITY BY REGULATING PARKING AND ROAD USE
OBJECTIVE A. The land occupied by motor vehicle is minimized.
## - PRINCIPLES -

### - IMPLEMENTATION OBJECTIVES -

### - METRICS -

### WALK

**Objective A**: The pedestrian network is safe and complete.
- Metric A.1. Pedestrian Network: Accessibility to all residential areas and destinations.

**Objective B**: The pedestrian network is active and vibrant.
- Metric A.2. Pedestrian Access: Number of pedestrian access points per 1000 people.

**Objective C**: The pedestrian network is temperate and comfortable.
- Metric A.3. Shade and Shelter: Percentage of walkways that incorporate shade or shelter elements.

### CYCLE

**Objective A**: The cycling network is safe and complete.
- Metric B.1.1 Cycle Network: Access to a safe cycling network.

**Objective B**: The cycling network is accessible for the transit commute.
- Metric B.1.2 Cycle Parking at Transit Stations: Number of bicycle parking spaces.

**Objective C**: The cycling network is active and vibrant.
- Metric B.2.1 Cycle Parking: Number of bicycle parking spaces.

### CONNECT

**Objective A**: The cycling network is accessible for the transit commute.
- Metric B.1.1 Cycle Network: Access to a safe cycling network.

**Objective B**: The cycling network is accessible for the transit commute.
- Metric B.1.2 Cycle Parking at Transit Stations: Number of bicycle parking spaces.

**Objective C**: The cycling network is active and vibrant.
- Metric B.2.1 Cycle Parking: Number of bicycle parking spaces.

### TRANSIT

**Objective A**: High-quality transit is available for the transit commute.
- Metric A.1. Transit Access: Number of transit access points.

**Objective B**: High-quality transit is accessible for the transit commute.
- Metric A.1.7 Transit Options: Number of transit access points.

### MIX

**Objective A**: High-quality transit is accessible for the transit commute.
- Metric A.1.7 Transit Options: Number of transit access points.

**Objective B**: High-quality transit is accessible for the transit commute.
- Metric A.1.7 Transit Options: Number of transit access points.

### DENSIFY

**Objective A**: High-density development is available for the transit commute.
- Metric A.2.4 Residential Density: Number of residential units per acre.

**Objective B**: High-density development is accessible for the transit commute.
- Metric A.2.4 Residential Density: Number of residential units per acre.

### COMPACT

**Objective A**: The development is in an existing development area.
- Metric A.3.1 Existing Development Area: Number of existing development areas.

**Objective B**: The development is in an existing development area.
- Metric A.3.1 Existing Development Area: Number of existing development areas.

### SHIFT

**Objective A**: The land use is mixed and compact.
- Metric A.4.2 Mixed Use: Number of mixed use areas.

**Objective B**: The land use is mixed and compact.
- Metric A.4.2 Mixed Use: Number of mixed use areas.
**METRIC (sample)**

**Metric 1.2 Crosswalks**

Percentage of intersections with safe, wheelchair accessible crosswalks in all directions.

**Details**
- Compliance of the walkway network is a basic requirement, and the network should meet local accessibility requirements or standards and receive adequate street lighting.
- In the case of very dense street networks, where there are qualifying crosswalks at an interval of 80 meters or less, crosswalks through the longer road are not required at all intersections.
- Qualifying safe crosswalks are:
  1. Less than 10 meters in width and delineated, and
  2. Fully wheelchair accessible, and
  3. If the crossing is longer than a traffic lane, safe crosswalks also have a wheelchair accessible refuge island.

**Measurement Method**
1. Quantify the number of intersections requiring pedestrian crossing facilities.
2. Quantify the number of these intersections with qualifying crossing facilities (see details above).
3. Divide the second measure by the first to calculate the percentage of complete intersections.

**Data Sources**
Maps and designs, maps, up-to-date aerial/satellite photography, site survey.

**Scope**
Within development boundaries.

<table>
<thead>
<tr>
<th>Crosswalks</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% of intersections have complete crosswalks</td>
<td>3</td>
</tr>
<tr>
<td>Less than 10% of intersections have complete crosswalks</td>
<td>0</td>
</tr>
</tbody>
</table>

**Station Area Evaluation**
Measurement method: Same as above.
Scope: Within the defined station area.

<table>
<thead>
<tr>
<th>Crosswalks</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% of intersections have complete crosswalks</td>
<td>3</td>
</tr>
<tr>
<td>95% of intersections or more have complete crosswalks</td>
<td>2</td>
</tr>
<tr>
<td>90% of intersections or more have complete crosswalks</td>
<td>1</td>
</tr>
<tr>
<td>Less than 10% of intersections have complete crosswalks</td>
<td>0</td>
</tr>
</tbody>
</table>

Walk - Develop sidewalk heads that create walking connections.

Objective: 1A. The pedestrian realm is safe and complete.
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OBJECTIVE A. Walking and cycling routes are short, direct, and varied.
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TRANSIT
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OBJECTIVE A. High-quality transit is accessible by foot. (TOD Requirement)

MIX
PLAN FOR MIXED USES, INCOME, AND DEMOGRAPHICS

OBJECTIVE A. Opportunities and services are within a short walking distance of where people live and work, and the public space is activated over extended hours.
OBJECTIVE B. Diverse demographics and income ranges are included among local residents.

DENSCIFY
OPTIMIZE DENSITY AND MATCH TRANSIT CAPACITY

OBJECTIVE A. High residential and job densities support high-quality transit, local services, and public space activity.

COMPACT
CREATE REGIONS WITH SHORT TRANSIT COMMUTES

OBJECTIVE A. The development is in, or next to, an existing urban area.
OBJECTIVE B. Traveling through the city is convenient.

SHIFT
INCREASE MOBILITY BY REGULATING PARKING AND ROAD USE

OBJECTIVE A. The land occupied by motor vehicle is minimized.
**TRANSIT & COMPACT**

**Objective A:**
The development is in, or next to, an existing urban area.

Metric 7.A.1 **Urban site**

**Objective B:**
Traveling through the city is convenient

Metric 7.B.1 **Transit Options**
500 m walk to station

100 m local pedestrian grid

800-1000 m arterial spacing
CROSSWALKS
SAFE, ALL-ACCESSIBLE WALKWAYS
SAFE, ALL ACCESSIBLE CROSSWALKS
ACTIVE FRONTAGE
PERMEABLE FRONTAGE
SHADE AND SHELTER
Objective A.
Pedestrian realm is safe, complete and accessible to all

Metric 1.A.1 Walkways
Metric 1.A.2 Crosswalks

Objective B.
Pedestrian realm is active and vibrant

Metric 1.B.1 Visually Active Frontage
Metric 1.B.2 Physically Permeable Frontage

Objective C.
Pedestrian realm is comfortable and temperate

Metric 1.C.1 Shade and Shelter
Praia do Futuro

SAFE, ALL-ACCESSIBLE WALKWAYS

SAFE, ALL ACCESSIBLE CROSSWALKS

PERMEABLE FRONTAGE

ACTIVE FRONTAGE

SHADE AND SHELTER
**Objective A:**
Cycling network is safe and complete

- Metric 2.A.1 Safe cycleways

**Completeness**

**Objective B:**
Cycle parking and storage is ample and secure.

- Metric 2.B.1 Cycle Parking at Transit Stations
- Metric 2.B.2 Cycle Parking at Buildings
- Metric 2.B.3 Cycle Access in Buildings
Objective A. The land occupied by motor vehicles is minimized

Metric 8.A.1 Off-Street Parking
Metric 8.A.2 Driveway Density
Metric 8.A.3 Roadway Area
Objective A: Walking and cycling routes are short, direct and varied
  Metric 2.A.1 Short Blocks

Objective B: Walking and cycling routes are shorter than motor vehicle routes
  Metric 2.B.1 Prioritized connectivity

Fortaleza Centro Block density: 73

Praia do Futuro Block density: 43
Objective A:
Densities support high quality transit and local services.

Metric 6.A.1 Nonresidential Density
Metric 6.A.2 Residential Density
Existing density distribution Praia do Futuro
Res./Non res. density: Praia do Futuro

Low residential density profile.
Job & visitor-generating activities include beachfront hotels, and recreational uses.
Objective A:
Opportunities and services are within a short walking distance of where people live and work, and the public space is activated over extended hours.

Metric 5.A.1 Complementary uses
Metric 5.A.2 Access to Local Services
Metric 5.A.3 Access to Parks and Playgrounds

Complementarity Goal:
Residential and non-residential uses balance (b. 40 and 60 %)
Local services

ESSENTIAL LOCAL SERVICES:
SCHOOLS, HEALTHCARE, SOURCES OF FOOD
Objective B:
Diverse demographics and income ranges are included among local residents.

Metric 5.B.1 Affordable Housing
Metric 5.B.2 Housing Preservation
Metric 5.B.3 Businesses and Services Preservation

Inclusivity:
Social-Demographic integration in local communities
Metric 5.B.1 Affordable Housing availability
Metric 5.B.2 Housing Preservation
Metric 5.B.3 Local Redevelopment and Housing Preservation

Low income communities
Interactive Workshop PFK

Group 1: Optimizing Density
Group 2: Optimizing the Urban Mix