ASSESSMENT OF TOD POLICIES AND IMPLEMENTATION PROCESS CASES OF DELHI - AHMEDABAD

Pratibha Singh
Guide: Prof. H. M. Shivanand Swamy
Background & Need for the Study

Problem Statement

More CARS & Demotion of Public Transport.

Worsening Traffic Congestion

Uncomfortable & Unaffordable Mobility Options

Environmental Weakening

Social Inequality

Lack of Safety

Segregated Land Uses

Increased no. of Trips

Large Urban Block Perimeter

Non-walkable blocks

Supply of Extra Wide Roads

Encourage Cars

Lack of Street Infrastructure

Lack of Safety

No Proper Footpaths

Discourage walking

Health problems

Degradation of Quality of Life

Shift

Image Source: UTTIPEC, 2010

Auto-Oriented City

Transit-Oriented City
Background & Need for the Study

National Urban Transport Policy

Identified Need of TOD for Indian cities

Many cities in India are now trying to incorporate TOD in their Planning process. Example, Delhi, Ahmedabad, Haryana, Naya Raipur, Mumbai etc.

Important to understand TOD for Indian cities to promote easy and efficient implantation of TOD in India.

Delhi and Ahmedabad earliest examples of TOD in India.

Can be studied in order to understand on ground complexities to implement TOD.
Aim and Objectives

AIM
To assess the Transit Oriented Development (TOD) policies and its implementation strategies in two Indian cites namely, Delhi & Ahmedabad.

Objectives
To examine TOD concept and policies for implementation.
To examines the TOD implementation process in terms of pace of implementation (likely implications on urban form).
To identify barriers or enablers in TOD implementation in Delhi and Ahmedabad.

Scope and limitation
• Scope of the study includes assessment of TOD policies in Delhi and Ahmedabad, so as to understand the enablers or barriers in implementation of TOD in these cities.
• The study is limited to, examine implementation strategies and TOD norms mentioned in respective Development Plans of Ahmedabad and Delhi.
Methodology

Study Conceptualisation

- Background
- Problem Statement
- Need for the study
- Aim
- Objectives
- Scope & limitations

Understanding TOD

- Concepts & theories of TOD
- Case Studies
- Policies & strategies to implement TOD in world

TOD in India: Delhi & Ahmedabad

- To understand their approaches for TOD
- To understand TOD policies and implementation strategies in Delhi & Ahmedabad

Comparative Analysis

- To understand the difference in TOD approaches in Delhi and Ahmedabad
- To identify barriers & enablers of TOD in Delhi & Ahmedabad

Conclusion

- To identify barriers & enablers of TOD in Delhi & Ahmedabad

Secondary data:

Planning documents

Primary survey

- Personal Interviews of Practitioners & academic planners, architects & developers

Preliminary study

Literature Review

Qualitative Analysis

- 9th Urban Mobility India Conference & Expo 2016 Planning Mobility for City's Sustainability
Transit Oriented Development is a high density and mixed used type of development close to transit service or around transit station so that more trips can be made on foot, bicycle and by public transport.

**Characteristics**

- Proximity to transit station
- High quality transit
- Compact mixed-use buildings
- Housing options
- Moderate to high density
- Pedestrian orientation/connectivity
- Transportation choices
- Reduced parking
- High quality design
Transit Oriented Development

**Household benefits**
Reduced cost of driving.
Improved access to destinations.
Provides mobility options.
Promotes health

**Environmental Benefits**
Reduces green house gas emission
Preserves agricultural land and assist with food security
Promotes energy independency.

**Economic benefits**
Increases productivity and saves time.
Encourages concentration of business activity.
Increases economic competitiveness
Increases property values & development potential.

**Fiscal Benefits**
Saving on cost to build and maintain highway and roads
Generates stronger tax revenues
Land use and Transportation Planning in India

Landuse Planning \[\rightarrow\] Transport Planning

TOD

All ready developed area (To meet urgent demand)

Transit
City Profile: Delhi

NCT of Delhi
Area: 1483 sq kms
Population (2011): 16.7 million

RITES Study in 2008, modal share of 45:55

420 Vehicles per 1000 population.

Fatal road accidents 2200 in year 2014

Vehicles Registered (2011): 6.93 million

MPD 2021 aims at a modal shift of 80:20

1991 | 8.7 mil. People
Urban Area: 685.34 SqKms
Urban Population Density: 124 PPH

2001 | 13.7 mil. people
Urban Area: 924.68 SqKms
Urban Population Density: 139 PPH

2011 | 16.3 mil. People
Urban Area: 1113.65 SqKms
Urban Population Density: 147 PPH


Image Source: Journey issues7, November 2011

Study Conceptualisation | Understanding TOD | TOD in Indian Context | Delhi & Ahmedabad | Conclusion |
City Profile: Ahmedabad

AMC
Area: 466.06 SqKm
Population: 5.5 million
Pop. Density: 120 PPH

AUDA
Area: 1877.7 SqKm
Population: 6.46 million
Pop. Density: 35 PPH

Expected Population
AUDA: 8.86 million

Total road accidents
year 1888 in 2014
(250 Fatal)

Total registered
vehicles: 24,00,000,
2,63,205 are
registered cars (RTO, 2012).

Image Source:
AUDA DP-2021
Journey issues7, November 2011
Phase 1 (2002-2006) and Phase 2 (2008-2011) of Delhi metro constitutes:
6 lines and 193 km and 145 metro stations

Phase 3: (2013-2015) 160.27 km

Phase 4: Expected deadline 2021 100 km.

Phase 1 Pilot stretch (12.5 km):
Phase 1 (46.0 km): Operational since 2009

Phase 2 (30.5 km.):
Operational since 2013

Transit Network and Influence Zone

Image Source: DMRC & Neetu, 2013
Transit Network and Influence Zone

Ahmedabad

200 meters on both the sides along BRTS, Proposed Metro corridor, eastern high density corridor (between Narol Naroda) highway and 132 feet ring road on eastern side of the city.

60 SQ KM (approx.)
12.8% Off AMC area.

Delhi

500m depth on either side from centre line of MRTS.

400 SQ KM (approx.)
40% of Delhi’s Urban area
FSI 4
Transit Network and Influence Zone

- Is it TOD oversupply situation?

- Can Delhi absorb that much of TOD?

- Are all stations important?

- How to decide more important location?

- How to differentiate? Should we create zones?

In Delhi argument of 500 and 800m 300m buffer | Land values exponentially high 300-800m Land values median and above To serve MIG or LIG

Important stations can be identified on the basis of TOD readiness.

Both cities are considering entire corridor

While Selecting only some stations to be developed might have led to political interference.

Ahmedabad is limiting the buffer to 200m so as to provide limited TOZ in market. While Delhi is proving a situation of oversupply.
TOD Regulations

**Delhi**

- min. area 1 Ha
- Ground Coverage 40%
- Roads 20%
- Public Open Spaces 20%
- **FAR 4** | No height restriction

- 30% residential
- 10% commercial
- 10% social
- 50% as/zonal land use plan.

30% mandatory residential use has fixed unit sizes to ensure increase in number of dwelling units. So as to increase population density.

**Strict norms**

**Ahmedabad**

- No Ground coverage restrictions
- Up to 60m ROW: Max. Height 45m
- 60m & above ROW: Max. Height 70m
- **FAR 4**

Uses allowed in a TOZ are:
- Residential-1 & 2, Assembly-1, 2 & 3, Religious, Business, Educational-1 & 2, Institutional, Mercantile-1, 2 & 3, Storage, Transport, Hospitality, Sports and Leisure, Parks and Temporary Uses. So mixed use would be according to market.

High FSI will only ensure more built up and there would be chances for lavish unit size in TOZ. Therefore increase in population density is not ensured.

More market friendly approach
TOD Regulations

**Delhi**

- 30% minimum mandatory residential, 50% 32-40sqm, 50% 62 sqm to ensure affordability for LIG/MIG group.
- Provision for rental housing for students, couples, migrants etc.
- Extra and mandatory 15% EWS FAR is provided.

**Ahmedabad**

- No such strategies for affordability in Transit Oriented Zone.

**Inferences**

Ahmedabad is having its separate zone for affordable housing, concept of mixed income group of TOD is missing from TOZ.

On other hand, Delhi is trying to provide affordable housing in TOD but with the strict %, it can restrict the market to participate.
**TOD Regulations**

**Delhi**

- No front setback with active frontage
- Side & rear Setbacks to be handed over to local bodies as constructed roads for the public use.
- 250m c/c spacing for vehicular street network. 150m c/c spacing for pedestrian network.

**Ahmedabad**

- Setbacks to be used for pedestrian access

**Inferences**

Possible threats of encroachments like, parking, vendors, etc. which could block the passage could resist the entry important services in case of emergency.

*Image Source: UTTIPEC,2010 & AUDA DP-2021*
Delhi

1.33 ECS/ 100 sqm built-up

Unbundled from property

50% of parking should be shared parking.

Ahmedabad

10% relaxation for commercial parking.

Inferences

Delhi

One size fits to all
TOD typologies: city center TOD, suburban TOD, commercial TOD, Residential TOD.

Relaxing parking norms in commercial: Promote PT
Delhi

extra FSI charges will be as per standard rate, irrespective of landuse/use premises
to avoid any complications to change the use of FSI in future.

Ahmedabad

Additional FSI has to be purchased by payment (40% of the Jantri rates) to the Competent Authority.

Revenue Generated

- Sardar Sarovar Narmada Nigam Ltd.
- MRT
- AUDA/AMC

Inferences

Uniform FSI rates for commercial and residential in Delhi, either adversely affect the affordability of residential Or chances for govt. to loose opportunity to earn from commercial FSI.
TOD + Finance

Delhi

No identified financial model
Expected Resources:
Sale of FSI
EDC Charges
Betterment Charges

Ahmedabad

Implementation of TOZ can be funded by AMC and AUDA through various mechanisms identified in LAP,

example- sale of FSI, sale of land identified through TP Schemes, Public Private Partnership for improvement of public open spaces, advertisement rights etc.

Inferences

Though the resources of finance (direct collection and LVC) have been identified but use of revenue (generated from TOD), in TOD policies/regulations is not ensured in Delhi.
**Local Area Plan**

**Delhi**

Need of LAP has been discussed in various meeting but no work has been done on it yet.

500m Pedshed area will be marked on ZDP according to existing road network.

**Ahmedabad**

LAP includes overall mobility, pedestrian accessibility, public transport, public open spaces, amenities infrastructure and enhancement of overall neighbourhood character.

East zone has been divided in 23 LAPs and West Zone has 26 LAPs.

10 LAPs from West zones; completed by AMC & AUDA. Will be submitted to Government by November 2016.

**Inferences**

- Delhi is not able to work on LAPs, due to lack of capability of Municipal Corporation
- Ahmedabad: smooth integration of city and local level interventions
A typical Local Area Plan consists of:

- **Study of existing area**
  - built form, development character, activity pattern.
- **Specific proposals & recommendation**
  - for improvement of street network, public transportation infrastructure, parks, public spaces, physical and social infrastructure.

10 LAPs from West zones; completed by AMC & AUDA. Will be submitted to Government by November 2016.
Delhi: Pilot Project Karkardooma

- Mixed-use at main street level Re-densifying into G+4 developer flats (with stilts)
- Gated Colonies with no thoroughfare
- Rental: Ownership Rate = 30:70
- 100 sqm - 300 sqm
- Costs of home: Rs 2.2 crore +

Source: UTTIPEC
Delhi: Pilot Project Karkardooma

**Business As Usual**

- Residential population = 14060
- Residential = 81.7% of total FAR
- Neighborhood & Community level facilities = 18% of total FAR
- Usable Open Space = 15% of land area
- Ground Coverage = 15%
- Roads = 15% of land area
- Density = 500 pph

**Design Option-1**

- Densification by MPD-2021
- Residential population = 30,375
- Residential = 80% of total FAR
- Neighborhood & Community level facilities = 20% of total FAR
- Usable Open Space = 30% of land area
- Ground Coverage = 20%
- Roads = 20% of land area
- Density = 1242 pph

**Design Option-2**

- Densification by TOD principles
- Residential population = 21,000
- Residential = 50% of total FAR
- Neighborhood, Community & District level facilities = 25% of total FAR
- Additional Commercial = 25% of total FAR
- Usable Open Space = 20% of land area
- Ground Coverage = 35%
- Roads = 20% of land area
- Density = 830 pph

Source: UTTIPEC
Delhi: Pilot Project Karkardooma

According to JLL Study

Prime location 2 metro stations | Anand Vihar in proximity.
1BHK: 60 lakhs
2BHK: 1.08 Cr.

Layout proposal has been approved by governing body in principle.

MoU has been signed between DDA and NBCC

Source: UTTIPEC
## Implementation Strategies

### Delhi

- Inclusion of **TOD concept in MPD 2021**, as city level policy with urban design norms.
- Preparation of **TOD regulations** to ensure the design elements of TOD.
- Preparation of **influence zonal plan**
- Provision of online, georeferenced system with **single window clearance**.
- Formation of **Competent Authority**
- Identify and propose **pilot projects**

### Ahmedabad

- Inclusion of **TOD in AUDA DP-2021**, as city level policy with **modifications in regulations**.
- Adding provision of **Local Area Plan in GTPUD Act**.
- Preparation of **LAP** by AMC and AUDA with the help of consultants.
- Ensuring any **redevelopment project in TOZ (to avail 4FSI)** would follow LAP.
- Identification of any **TOD supporting project in LAP**.
- AMC & AUDA would be responsible for approval of any such project.
Inferences

Delhi TOD policies and urban design guidelines have been deliberately discussed and proposed clarity in implementation process is still not visible.

Approval process, Single window clearance, influence zone on ZDP need more clarity.

While Ahmedabad has started on ground development along BRT with less changes in approval process.

Integrated working of AMC and AUDA is major supporting factor in Ahmedabad.
TOD in Delhi: From concept to Commission

**Core group discussions** on principles, application and implementation of TOD
Sub group was formed.

2009

**LG has** approved in principle, **masterplan addition and revisions** based on TOD

2010

**Management Action Group of Transport - meetings**

2011

**Draft Transport Chapter was discussed.**

2012

**Regular core group meetings** on TOD regulations and implantation framework.

2013

**KKD TOD Pilot project: MoU b/w DDA and NBCC.**

2014

**GAZETTE NOTIFICATION of TOD policies in Chapter 12: TRANSPORTATION**

2015

**Public notification of TOD Draft regulation.**

2016

**Way forward Provision of single window clearance Demarcation of influence zone on ZDP.**

---

- **TOD need was identified**
- **formation of Working Group**
- **Decided to initiate TOD Draft guidelines by UTTIPEC**
- **Decided to make TOD task force to identify Pilot projects.**
- **GBM agreed to take KKD pilot project.**
- **Proposal of KKD pilot project presented by UTTIPEC to GB.**
- **Public notice for TOD draft policy.**

---

Source: MOM GBM UTTIPEC
AUDA DP-2021, has announced TOZ and also specified regulations.

On ground construction has started with 4FSI

Working on LAP with Total station surveys

2014

AUDA DP-2021, has announced TOZ and also specified regulations.

2015

Out of 49 LAPs, 10 LAPs have been prepared & will be submitted to government by the end of Nov. 2016.

2016

In Delhi
• targets were not defined.
• TOD as Desk exercise
• lack of integration
• lack of political will
• Misinterpretation

While Ahmedabad is having a defined targets collaboration of AUDA and AMC.
On ground implementation of projects (with 4FSI) has been started. (5 lakh Sqm built-up approved in TOZ by AMC)

On other hand in Delhi, in the absence of TOD regulations, on ground development has not been started.

| Study Conceptualisation | Understanding TOD | TOD in Indian Context | Delhi & Ahmedabad | Conclusion |
Conclusion

2 CITIES 2 APPROACHES.

• Delhi centralised approach with stringent norms while Ahmedabad is having more market friendly approach.

• Delhi TOD’s institutional framework involves: Engineering Dept, (concerned local body) Delhi Urban Arts Commission, Dept. of Urban Development GNCTD, Dept. of Transport GNCTD, Planning Dept, DDA, Land Management, DDA, Delhi Jal Board, Delhi Fire Services, Dept. of Power GNCTD, Airport Authority of India, Delhi Urban Shelter Improvement Board GNCTD, Public Works Dept. GNCTD, and National Monument Authority.

While in Ahmedabad, AUDA & AMC are working in collaboration on TOD.

Involvement of private sector in collaboration is a key factor for pace of implementation of TOD in Ahmedabad.

• Delhi: Pilot approach while Ahmedabad: LAP approach and guided approach.

• Delhi: “one size fits to all” while Ahmedabad: location efficient development.

• There is a need for Delhi to speed up the implementation of TOD.

• Ahmedabad with the help of TPS and LAP, able to intervene successfully on local level to ensure TOD built form over a time while Delhi has no such tool to mechanise land.

Due to arrangement of city level strategies as well as local level interventions and coordinated working of AUDA and AMC, Ahmedabad is proactively promoting TOD in city.
Thank You