

Land use transformation along the BRT corridor - Ahmedabad



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Ahmedabad



Hypothesis

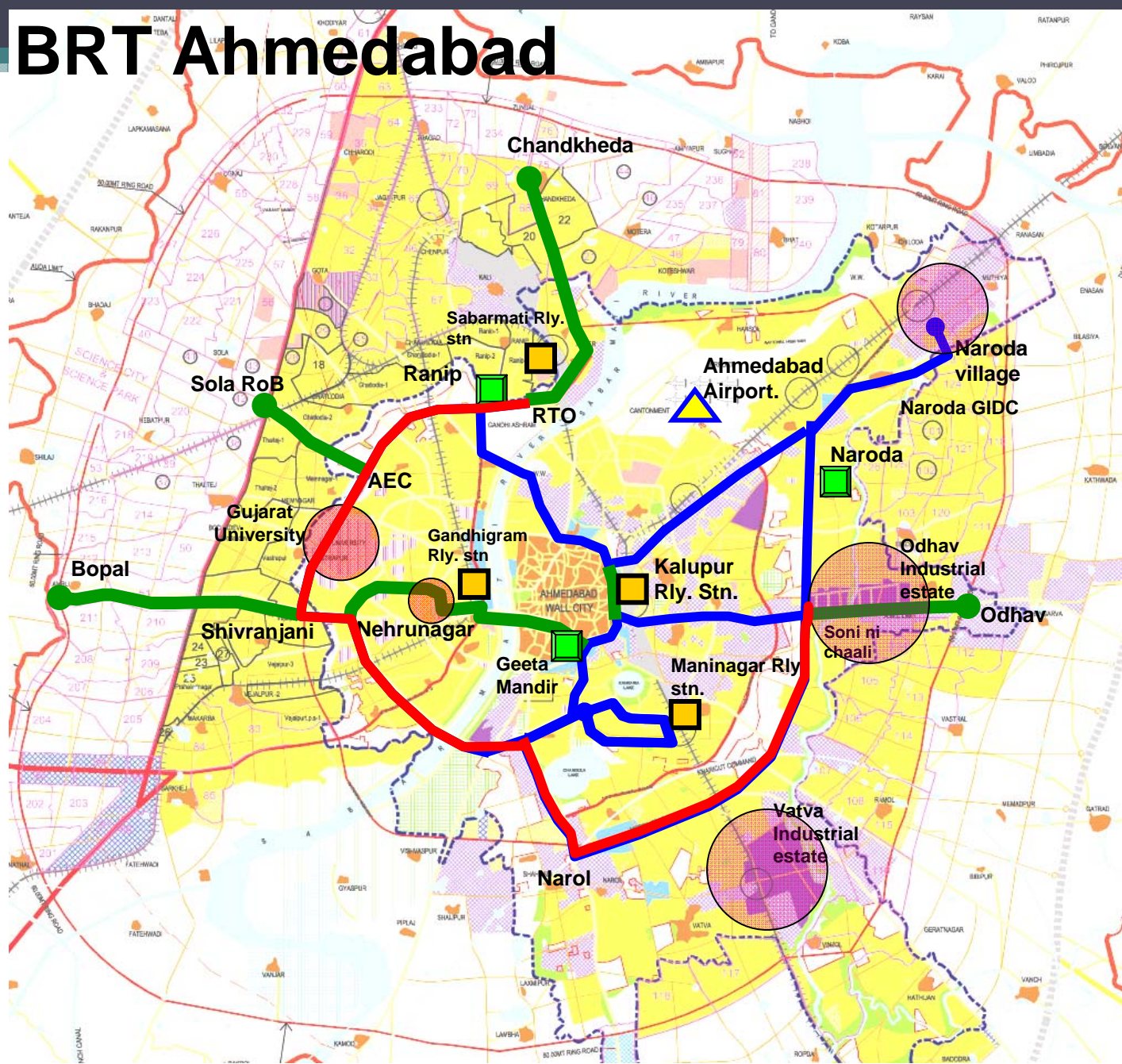
- “Land market has a tendency to place a higher premium on parcels that are in close proximity to the transit corridors due to the travel time saving and hence the land use transformation along the transit corridors is evident.”



Objectives

- Study the land-use changes induced by the introduction of BRT in Ahmedabad.
 - Built Form
 - Land use
 - Property values
- Understand the implication of these changes-
 - Urban poor
 - Transit supportive uses

BRT Ahmedabad



- Phase 1 corridors (58 kms.)
- Phase 2 corridors (30.5 kms.)
- Study Area (25.67Km)
RTO to Soni ni Chali

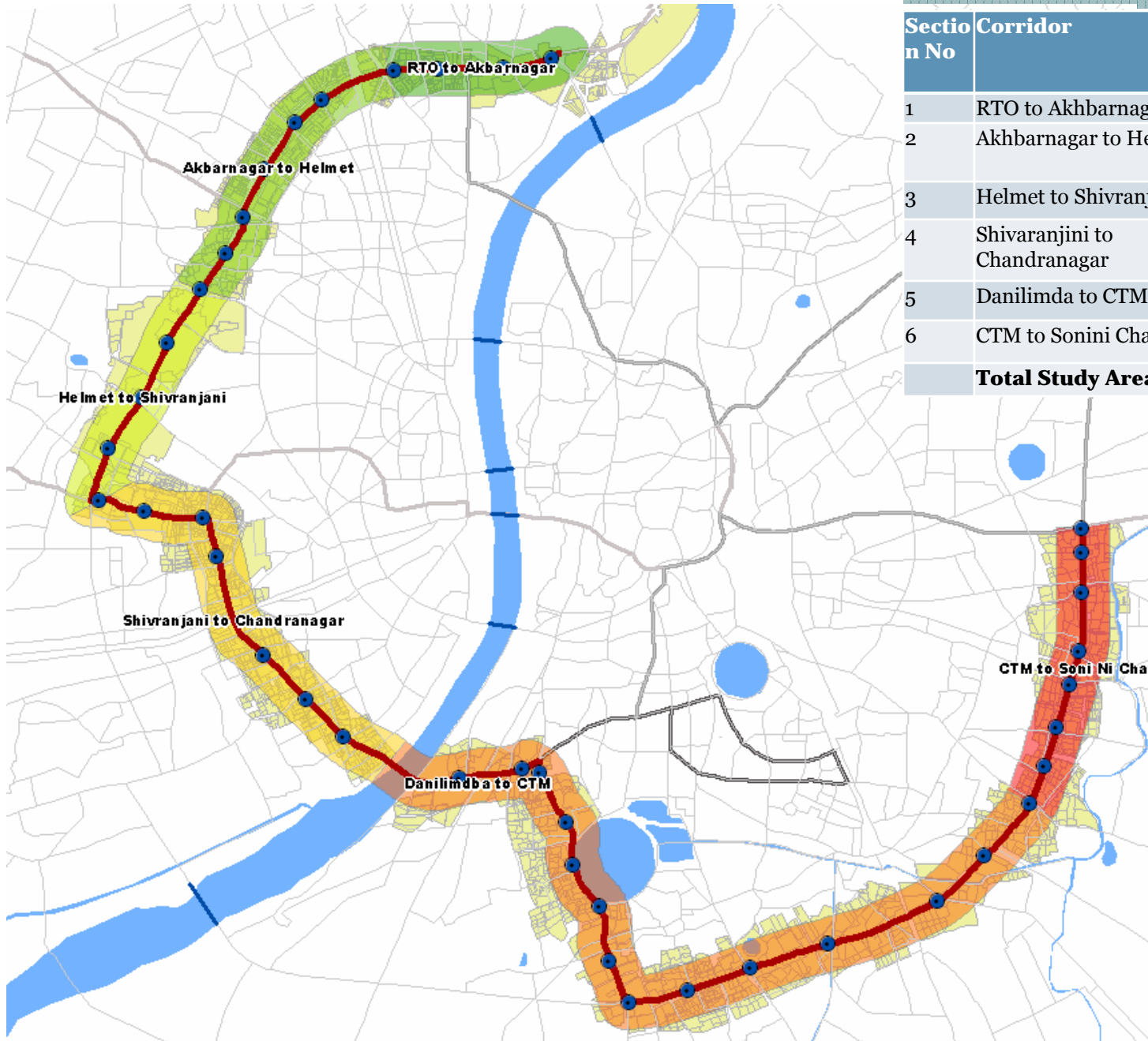
- ▲ Airport
- Railway Stations
- GSRTC terminals
- University/ educational campus
- Industrial estates

Total Number of bus stops- 52

AHMEDABAD - LANDUSE PLAN

- ### LEGEND
- RESIDENTIAL
 - INDUSTRIAL
 - INSTITUTIONAL

STUDY AREA

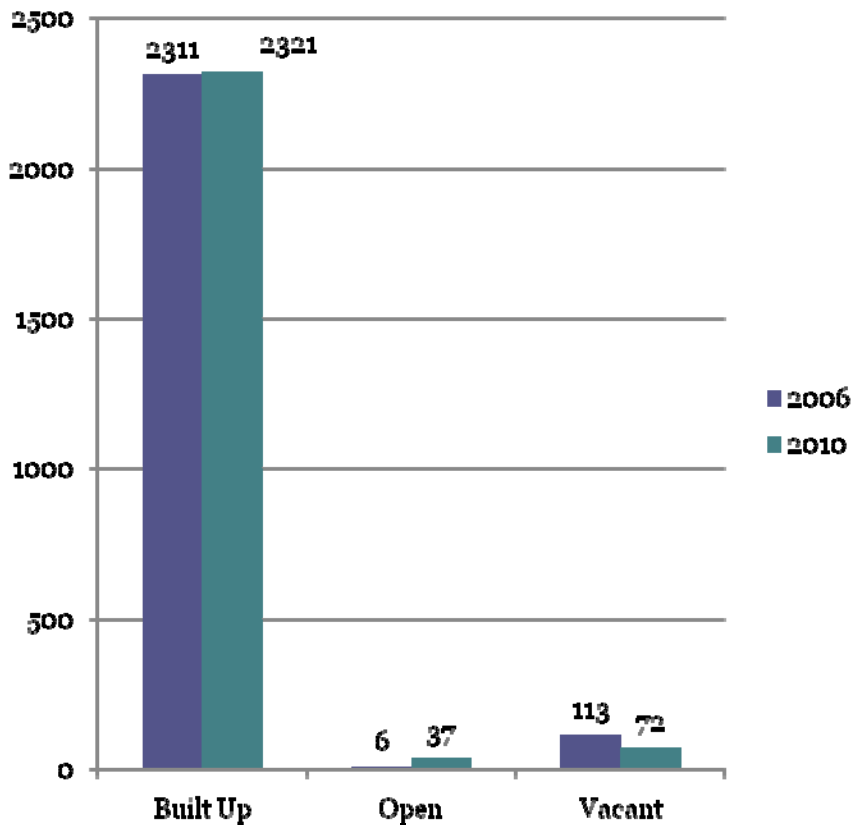


| Section No | Corridor | Total Area (Km ²) | Total Length (Km) |
|-------------------------|----------------------------|-------------------------------|-------------------|
| 1 | RTO to Akhbar Nagar | 1.6 | 1.9 |
| 2 | Akhbar Nagar to Helmet | 1.5 | 3.3 |
| 3 | Helmet to Shivanjani | 2 | 2.7 |
| 4 | Shivanjani to Chandranagar | 2.4 | 4.7 |
| 5 | Danilimda to CTM | 5.8 | 9.9 |
| 6 | CTM to Soni Ni Chal | 2.3 | 3.17 |
| Total Study Area | | 15.6 | 25.67 |

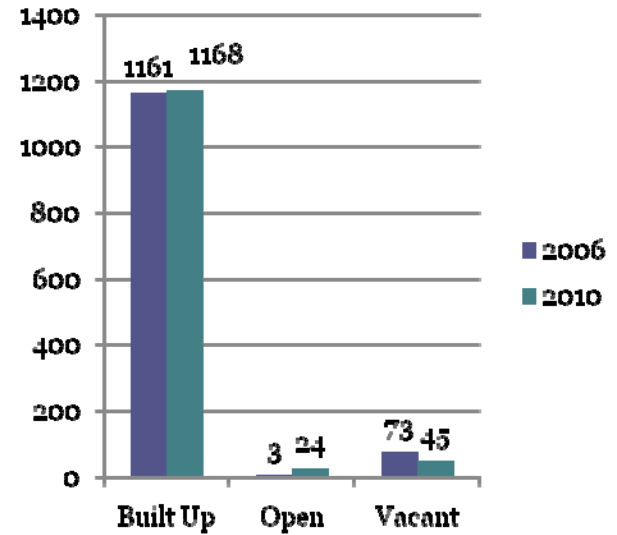
Total Bus stops - 41

Change in Built Up

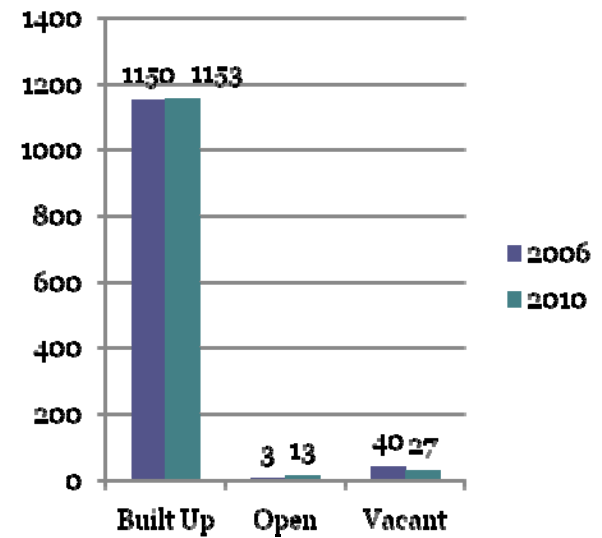
Total Plots Surveyed – 2430
 New built Up -10



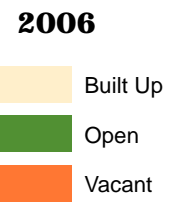
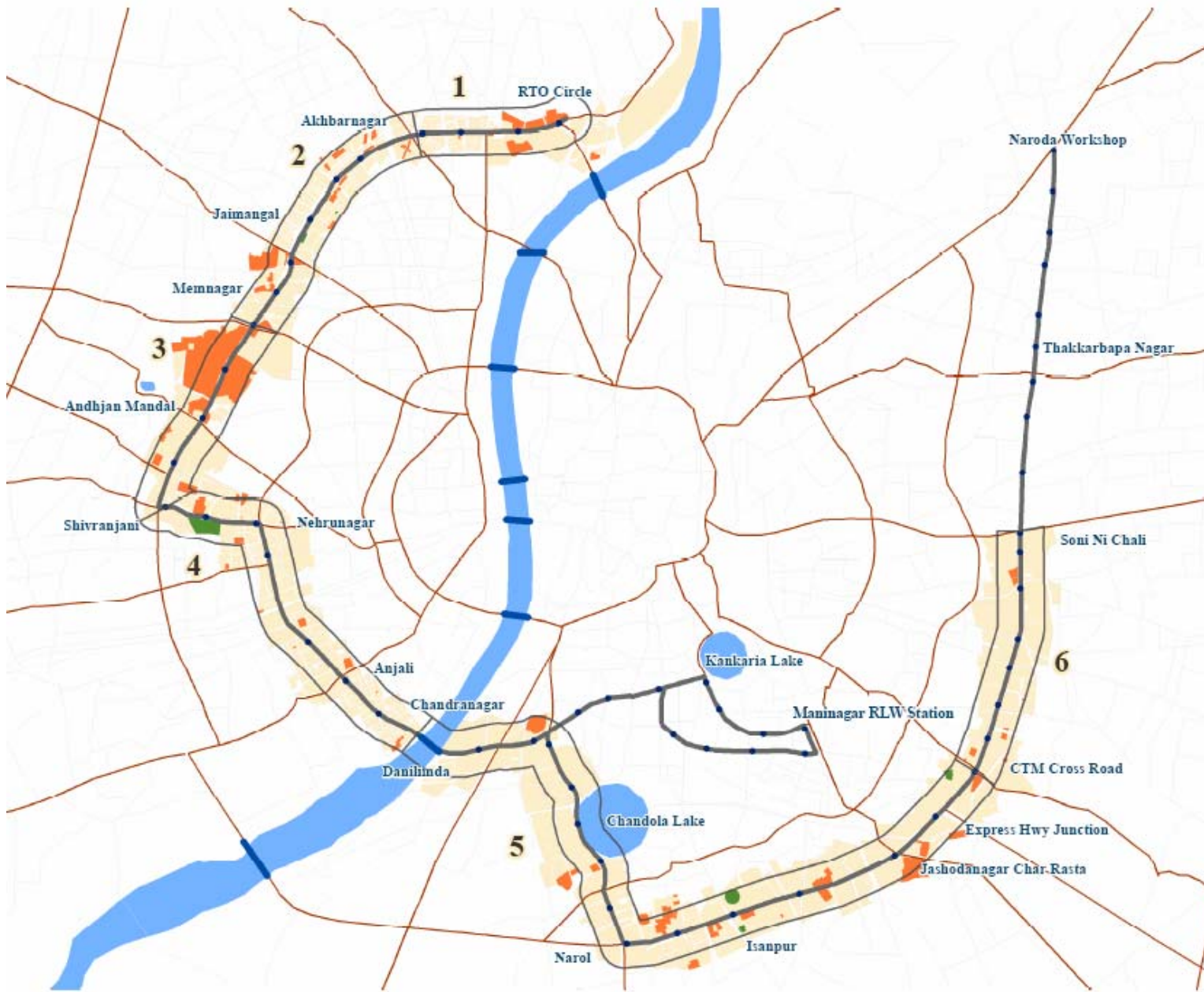
West stretch



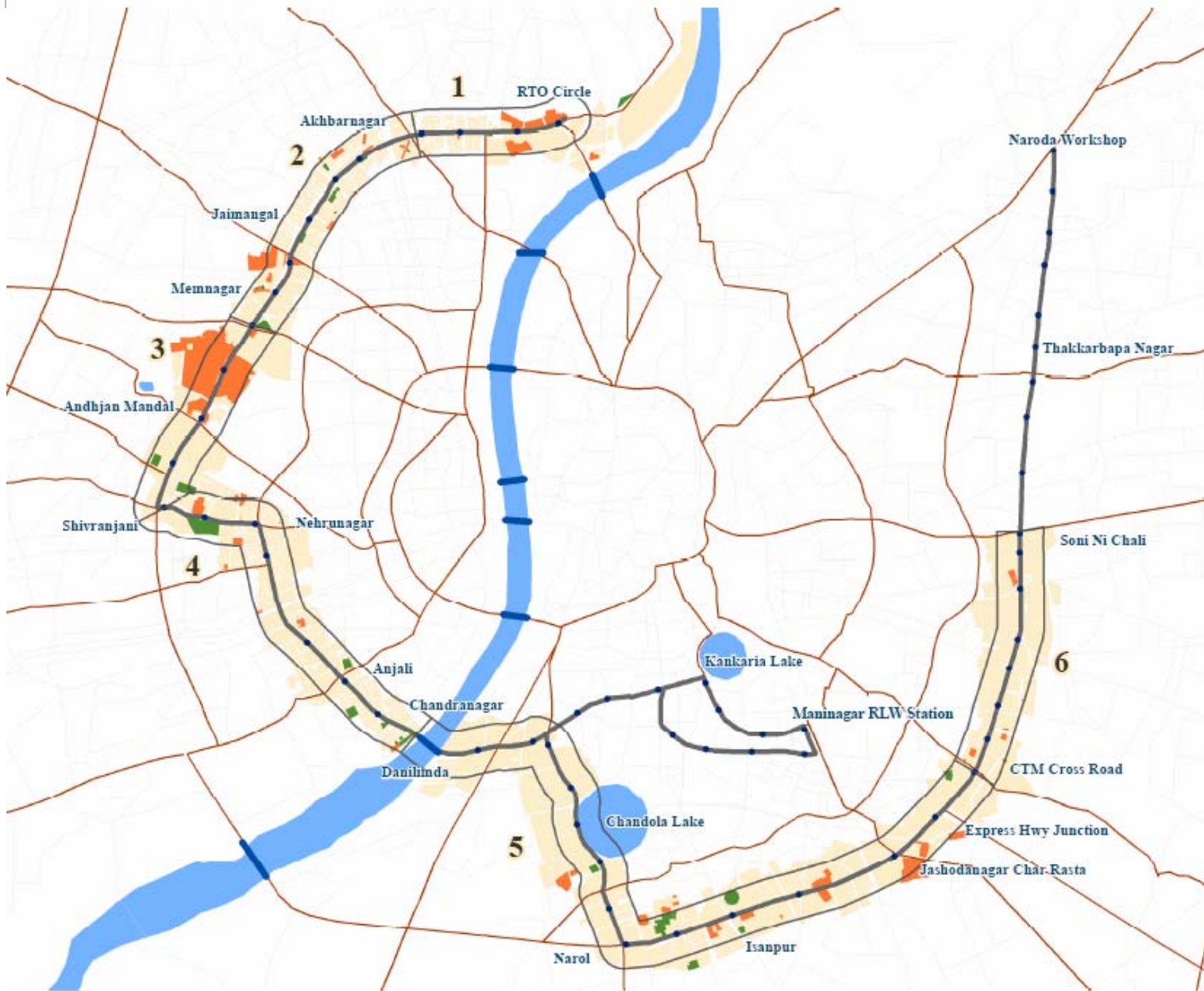
East stretch



BUILT UP, OPEN AND VACANT -2006



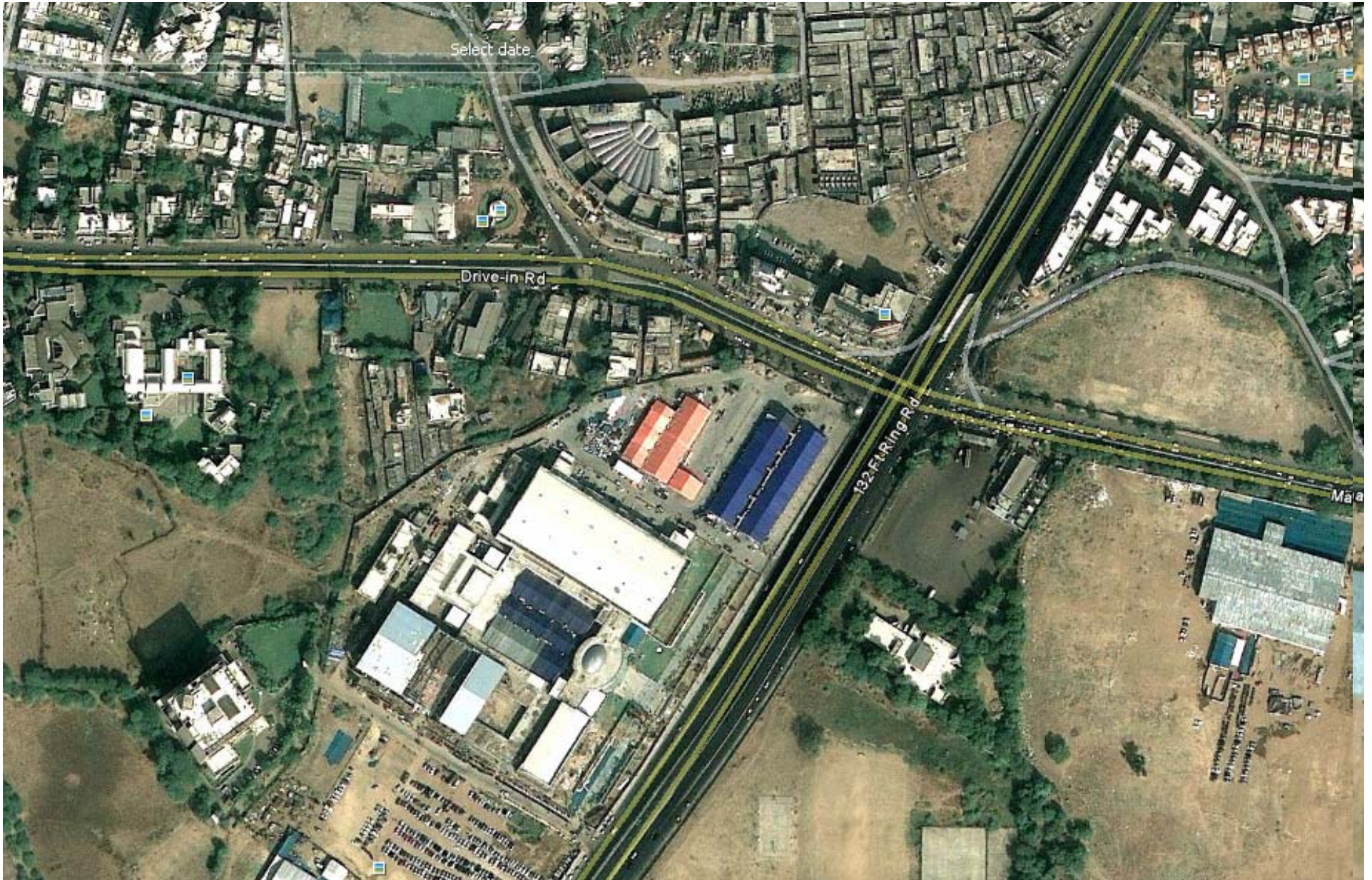
BUILT UP, OPEN AND VACANT -2010



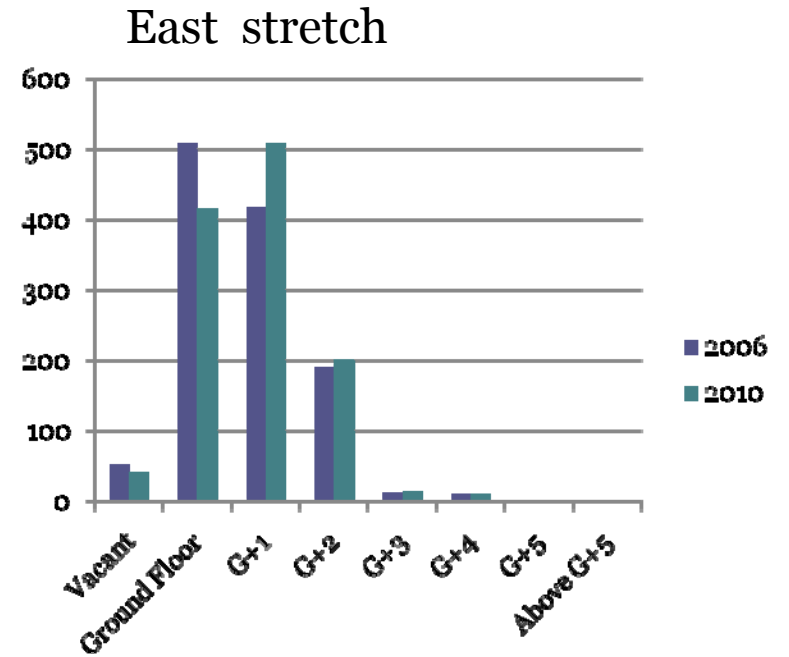
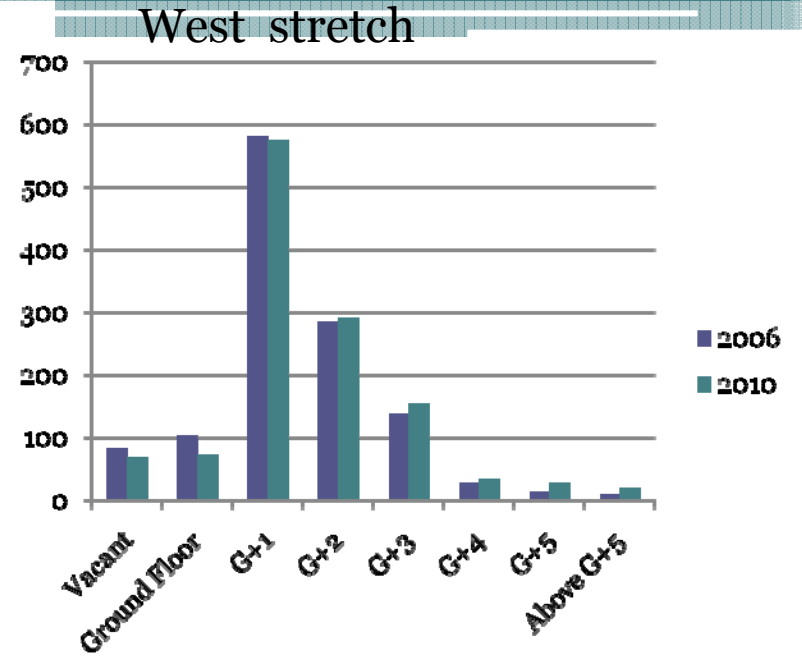
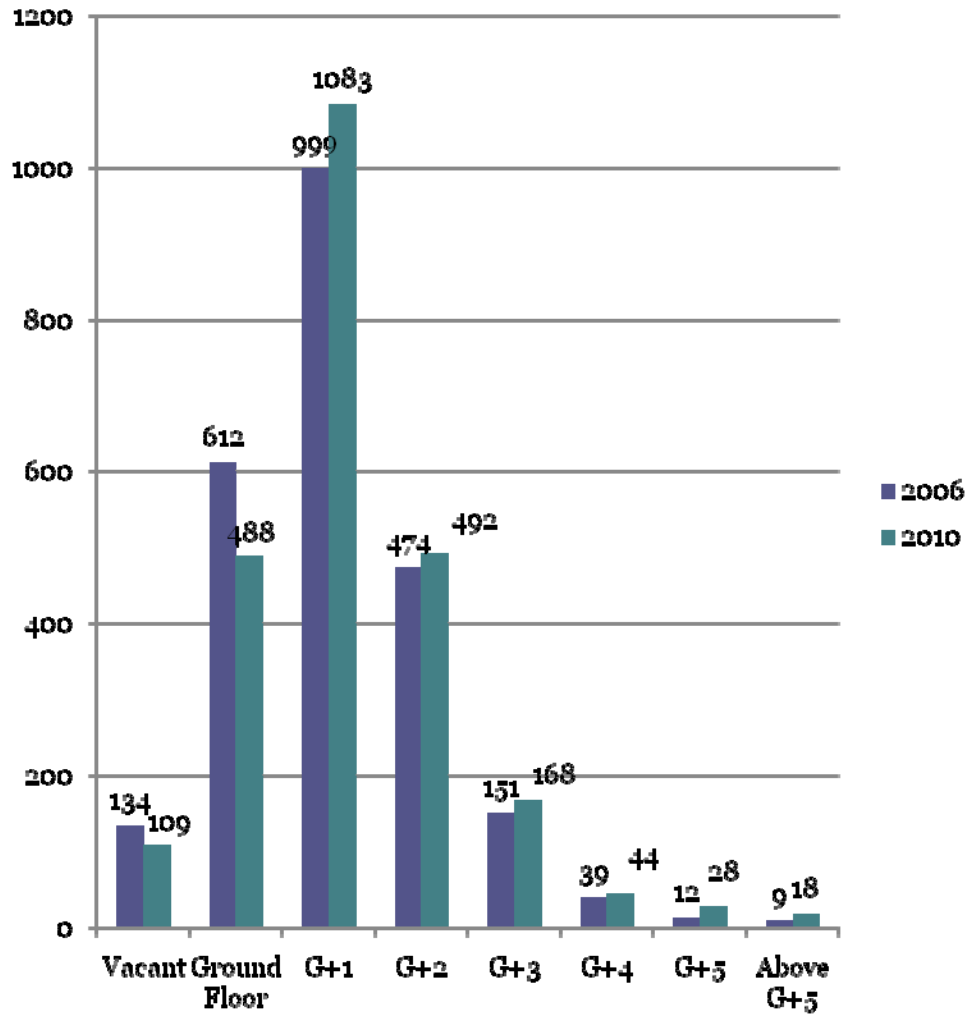
2010

- Built Up
- Open
- Vacant

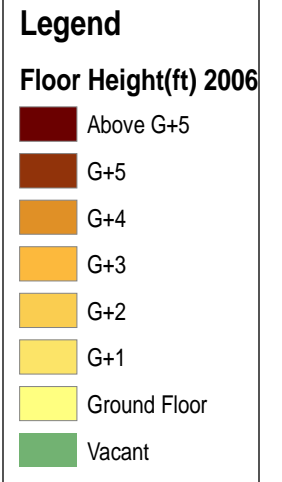
Helmet Cross Roads



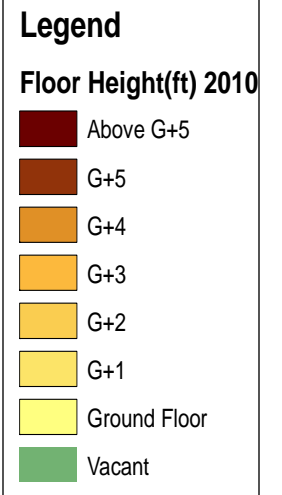
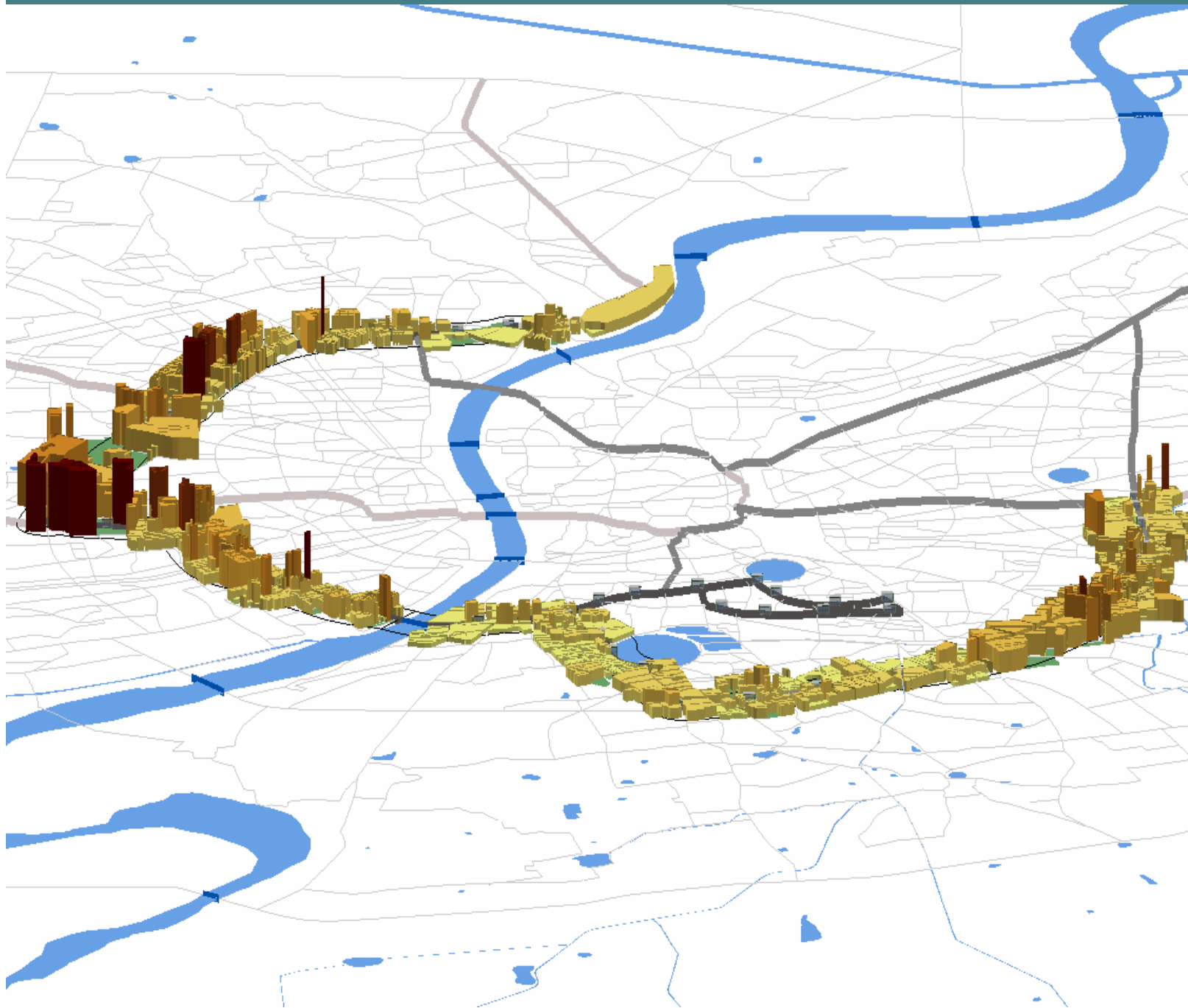
Change in Built form



Building Height- 2006

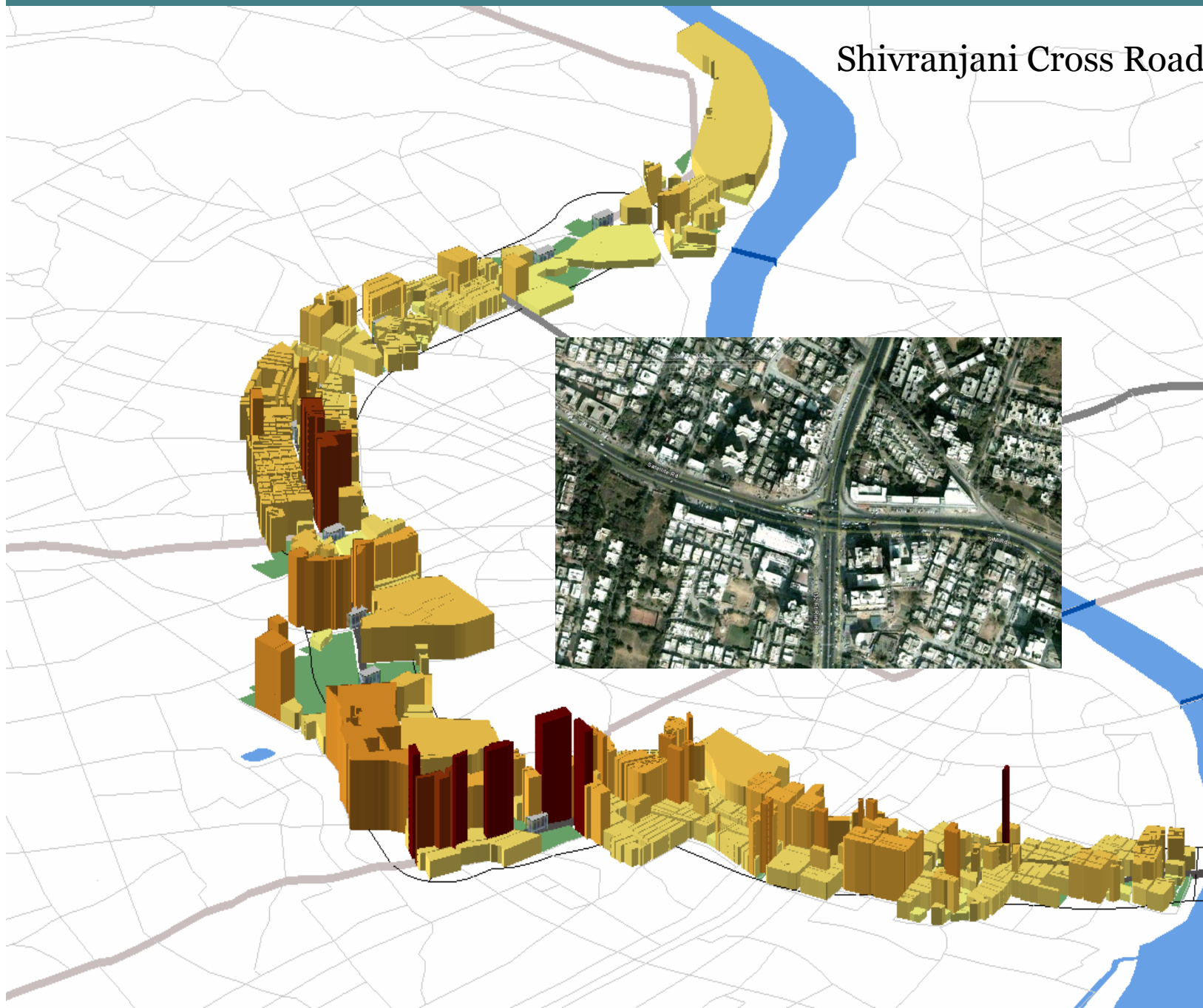


Building Height- 2010



West Stretch - 2006

Shivranjani Cross Roads



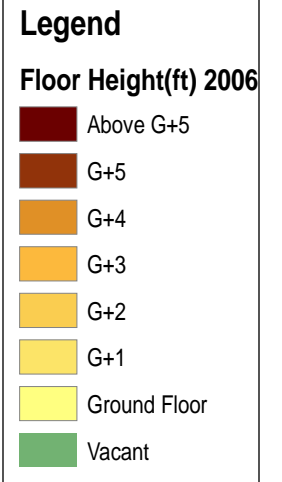
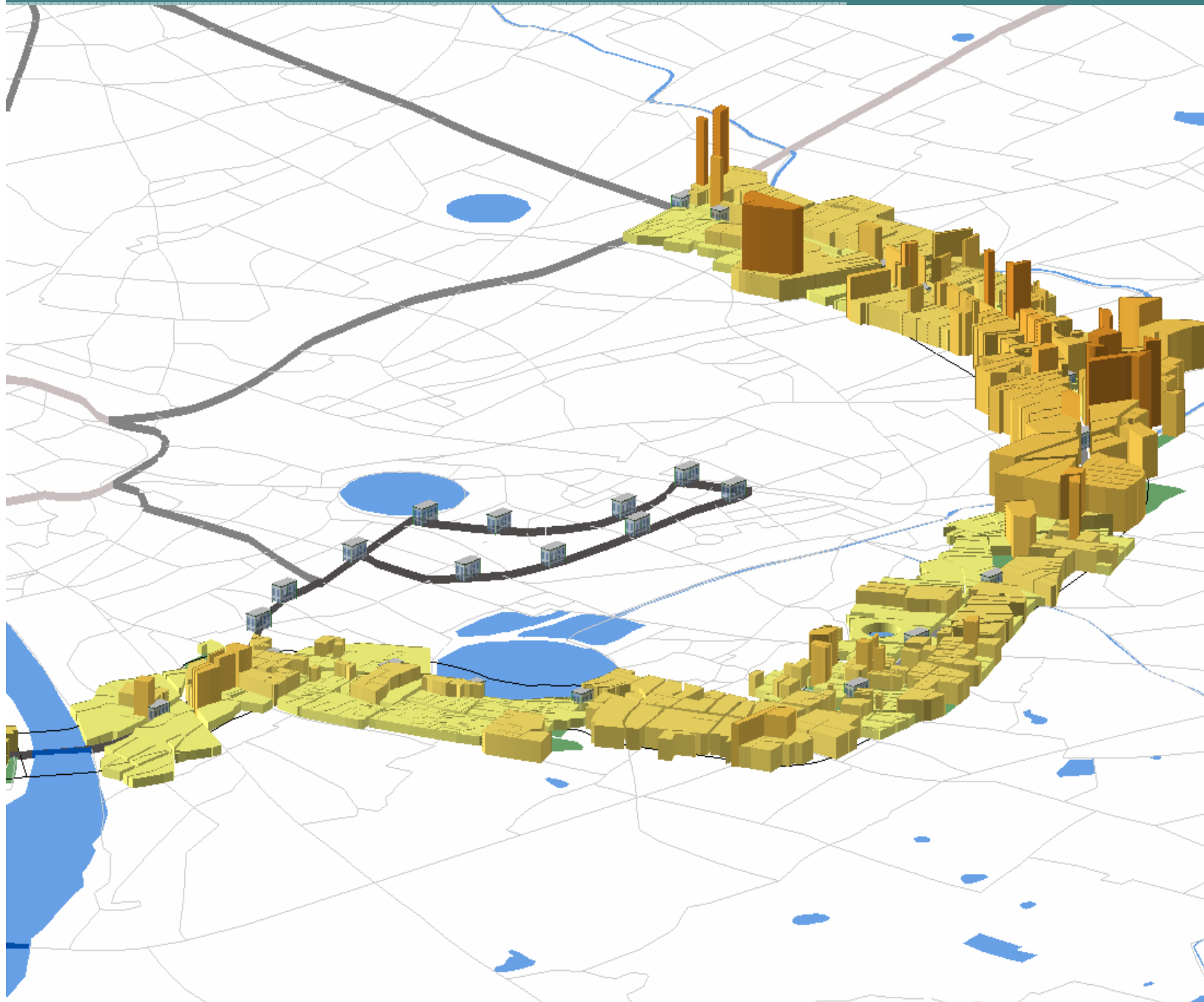
| Legend | |
|-----------------------|--------------|
| Floor Height(ft) 2006 | |
| Dark Red | Above G+5 |
| Brown | G+5 |
| Orange | G+4 |
| Light Orange | G+3 |
| Yellow-Orange | G+2 |
| Yellow | G+1 |
| Light Yellow | Ground Floor |
| Green | Vacant |

Shivranjani Cross Roads

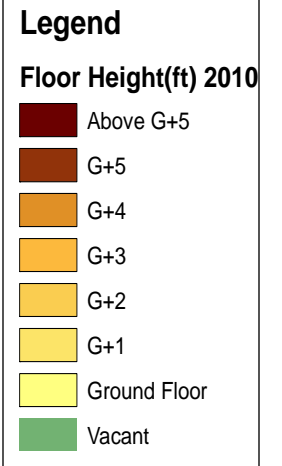
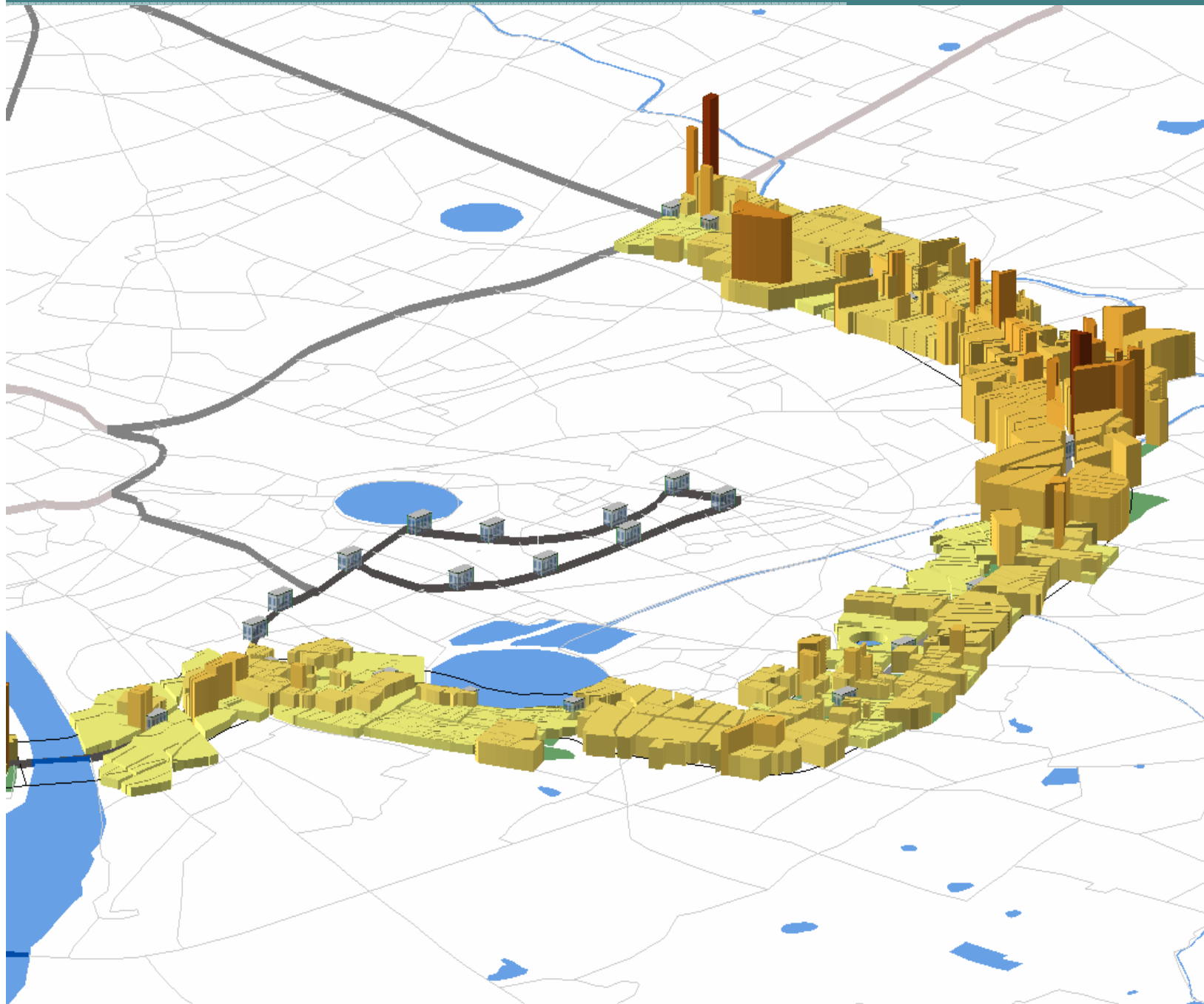


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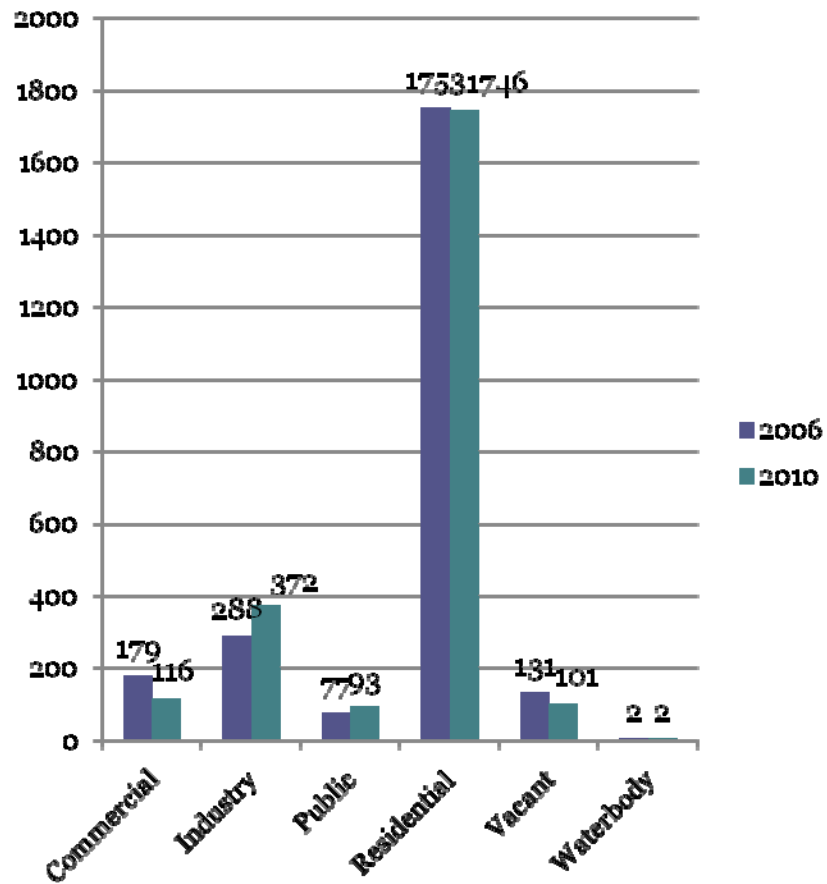
East Stretch - 2006



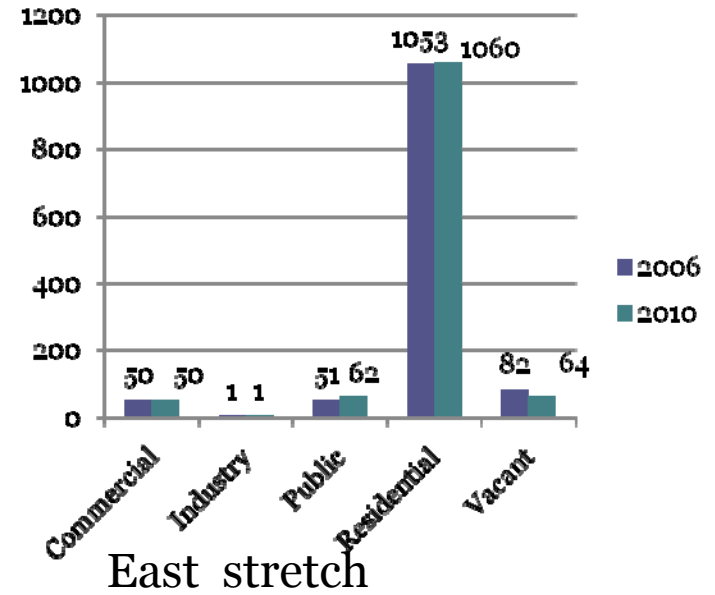
East Stretch - 2010



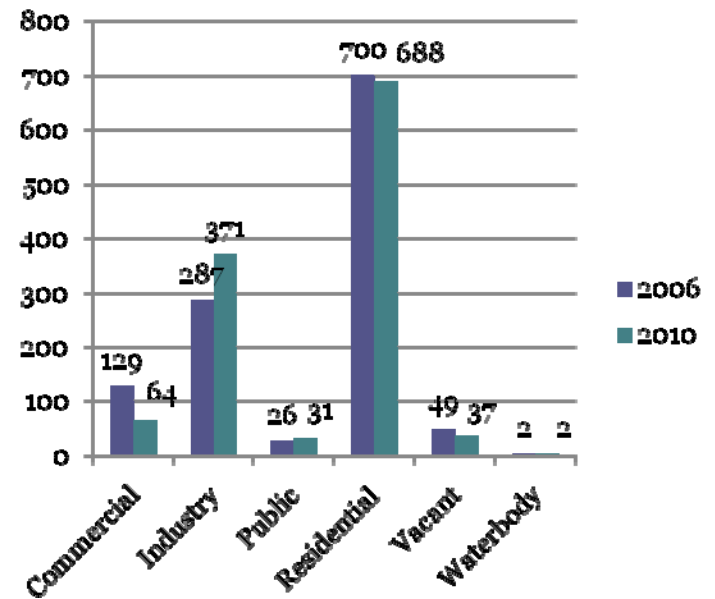
Land Use Change



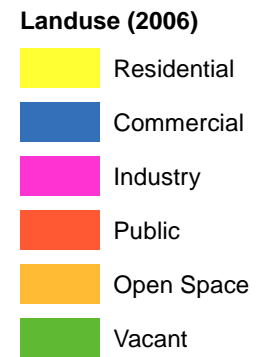
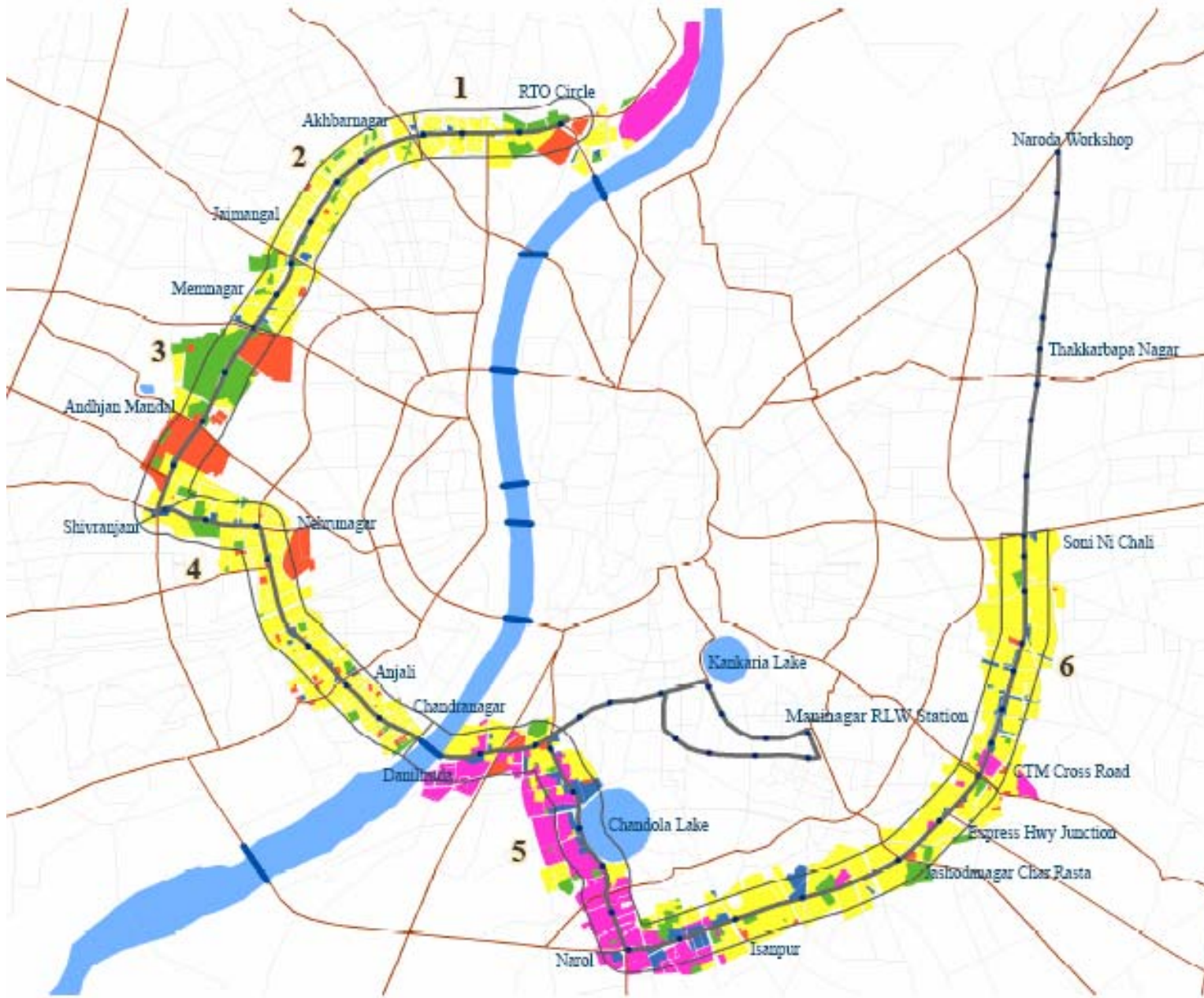
West stretch



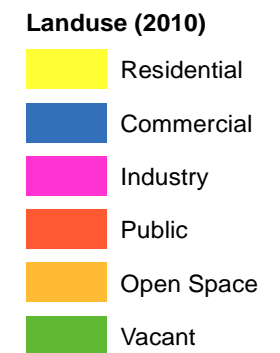
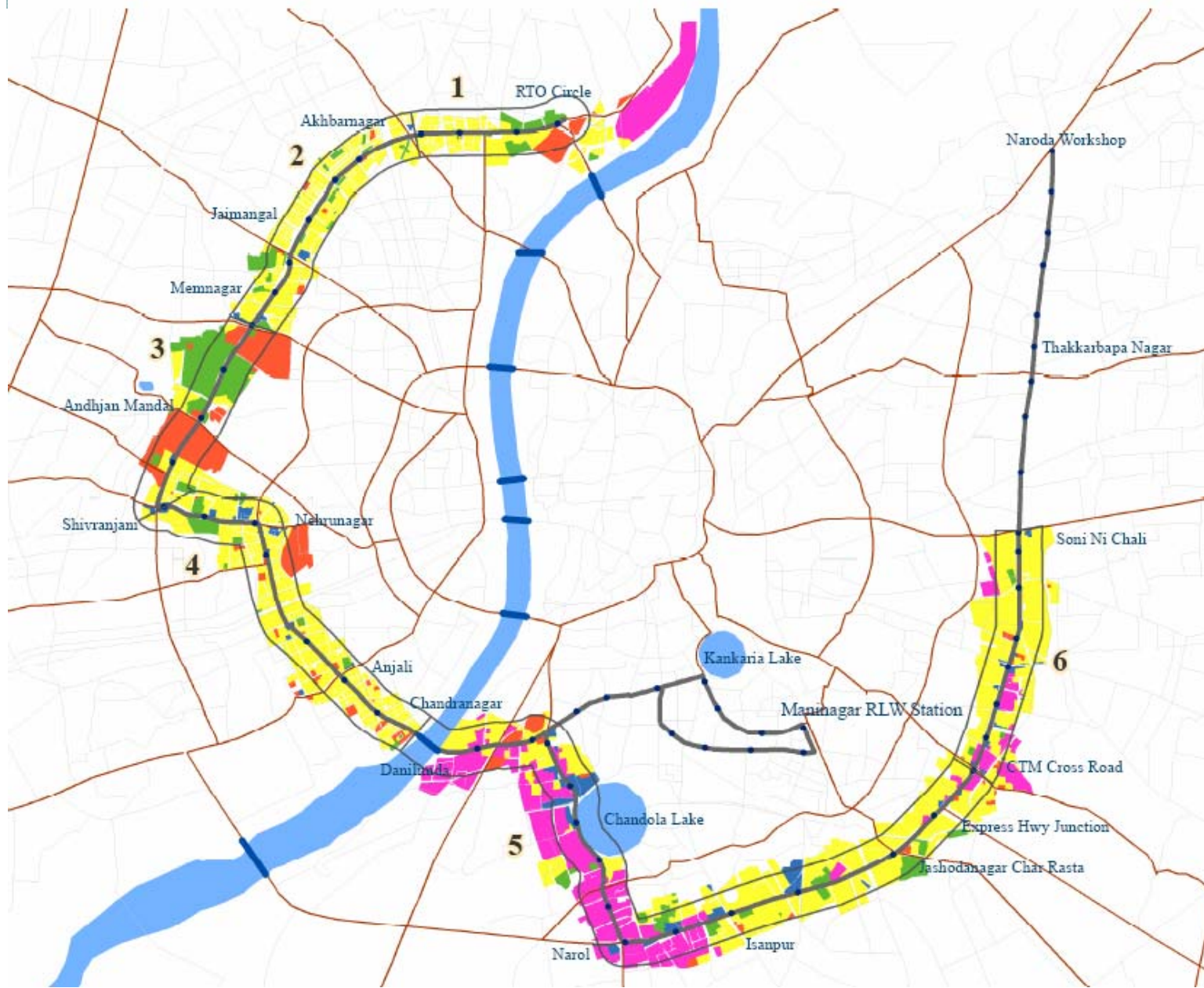
East stretch



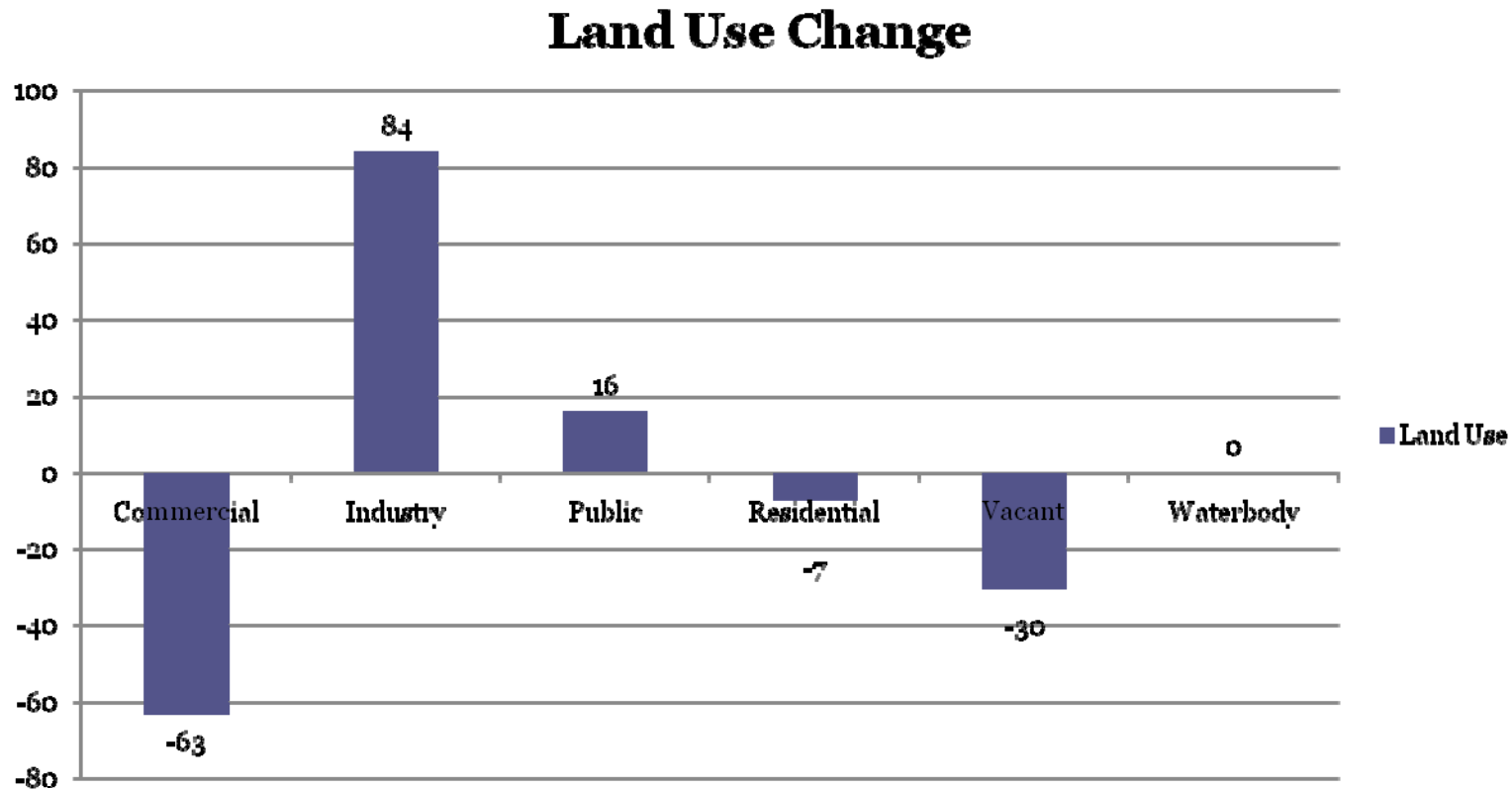
LANDUSE-2006



LANDUSE-2010



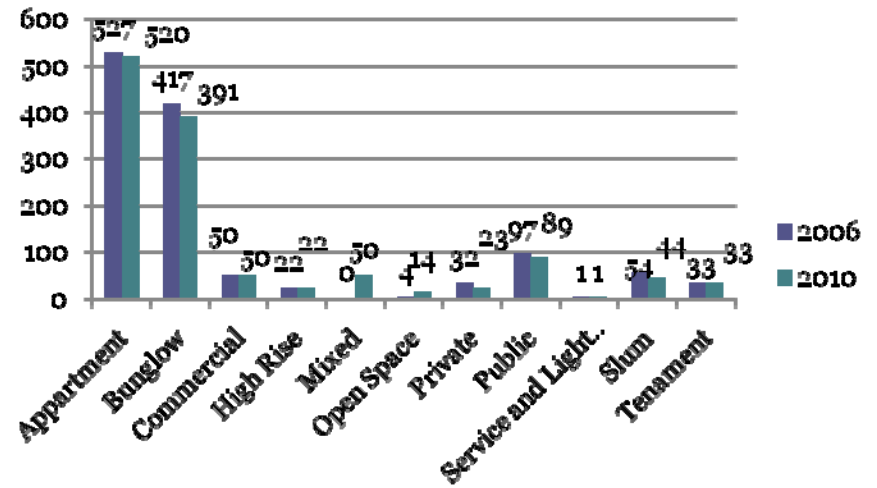
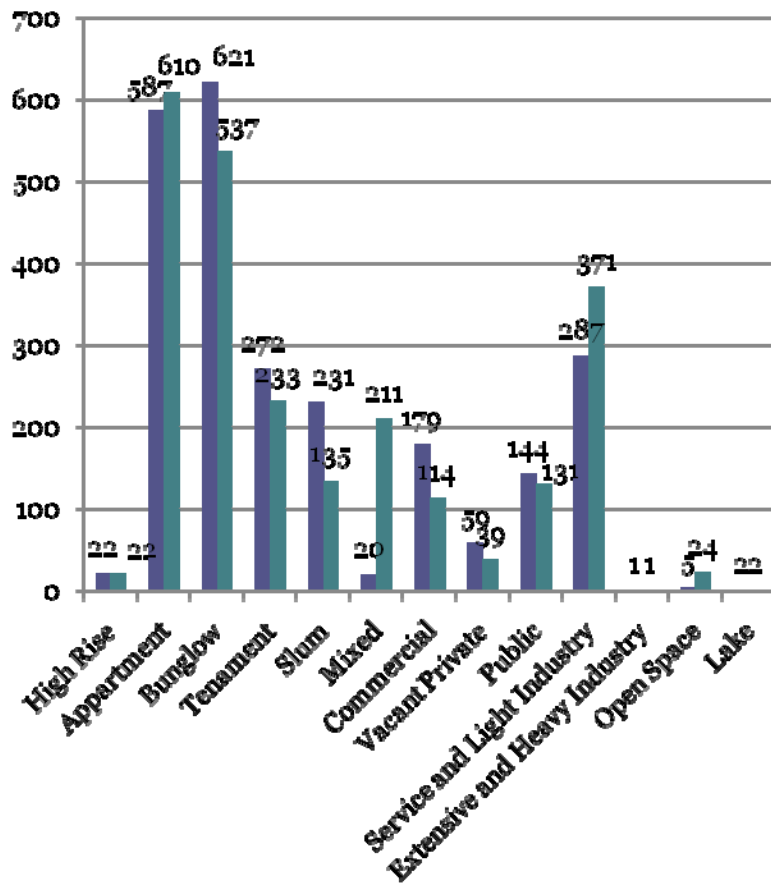
Land Use Change



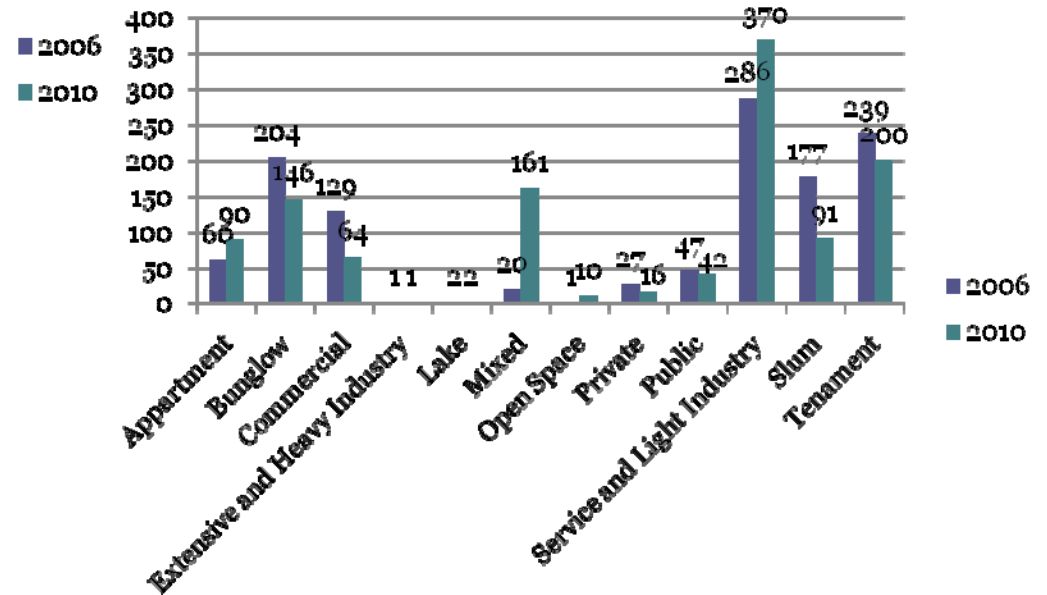
➤ Both Residential areas and Commercial areas being converted to industrial (Service and Light, Automobile) on the eastern side of river.

➤ Public areas increase as vacant lands and slums converted to Public.

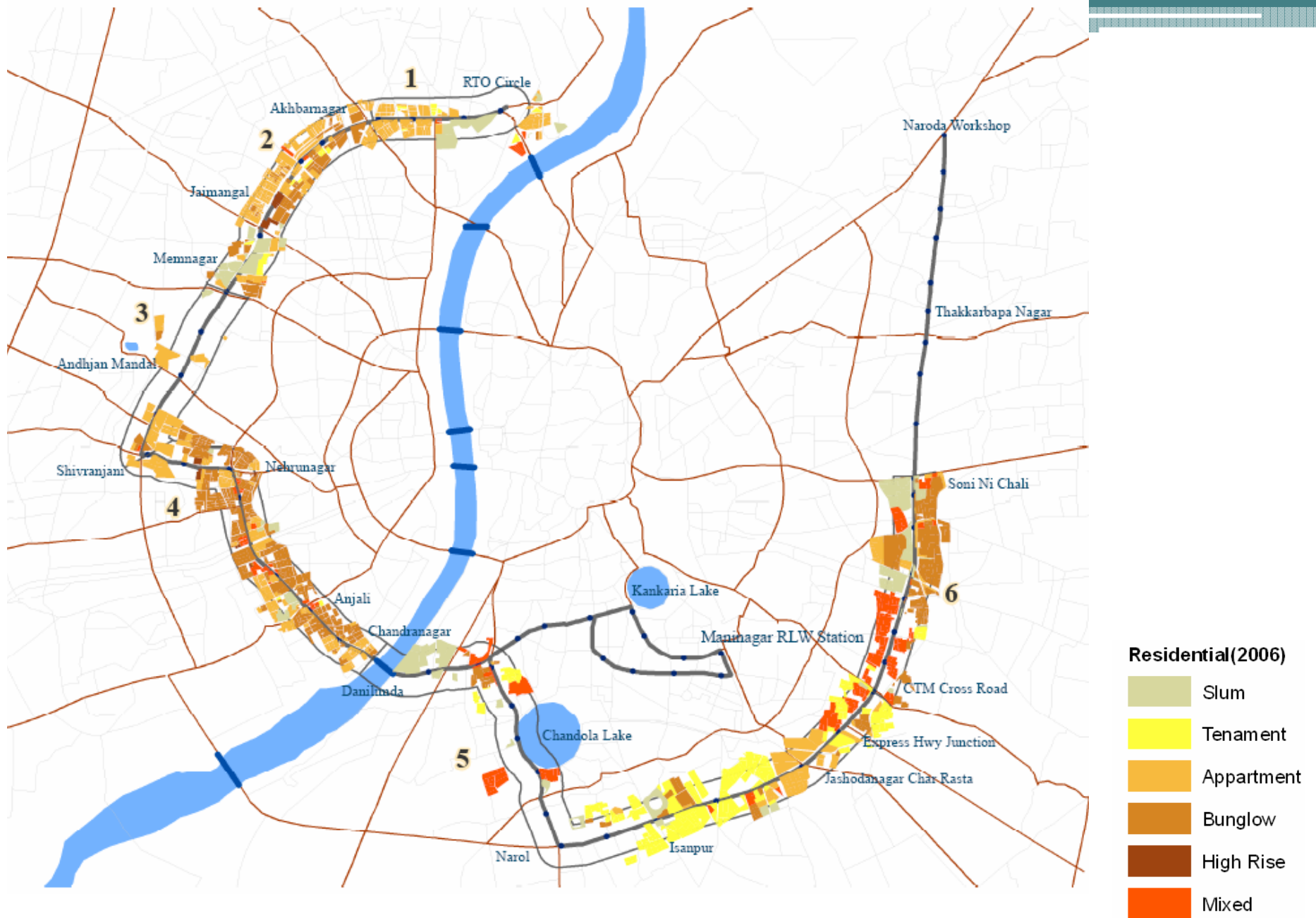
Changes in Sub-category Land use West stretch



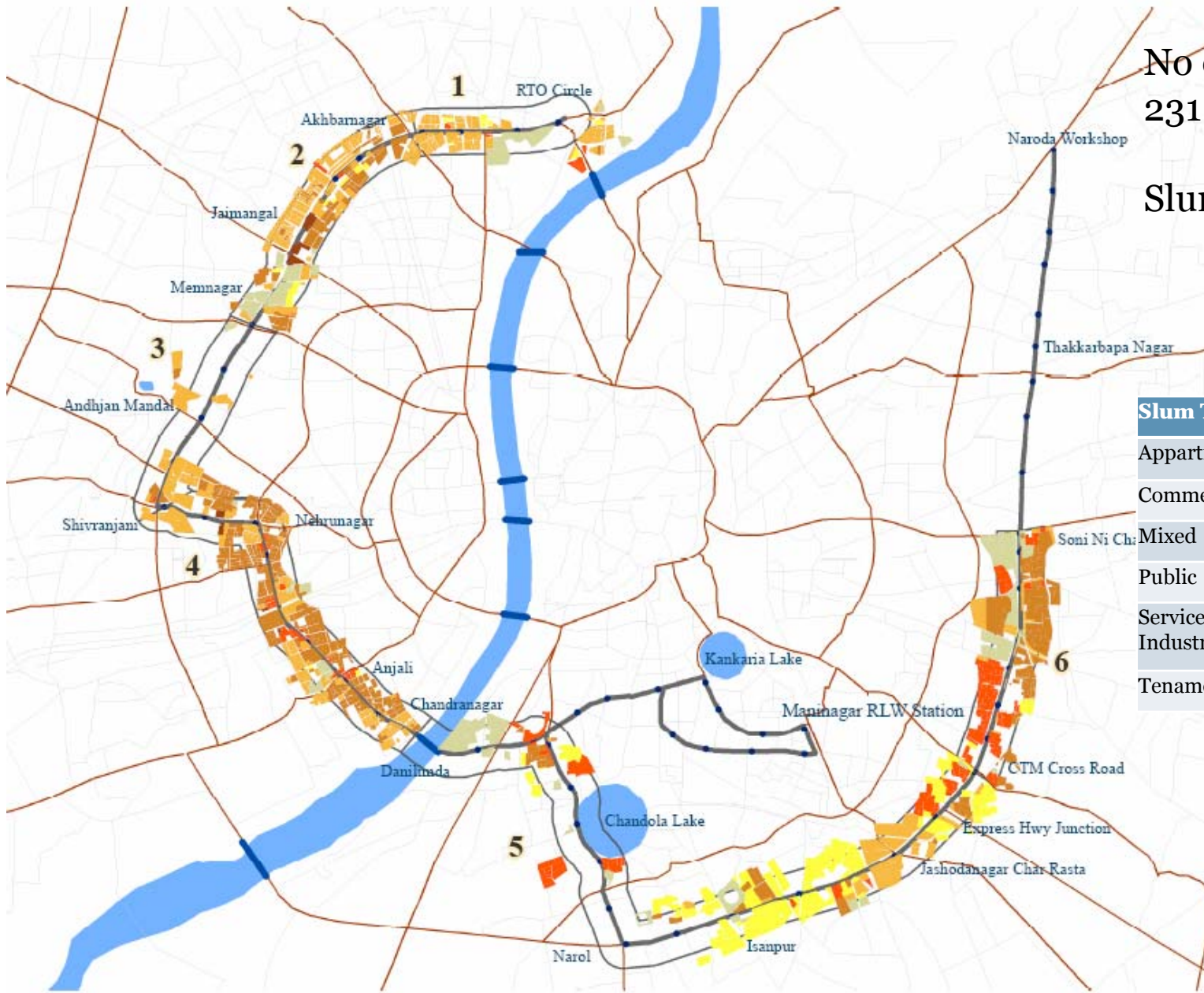
East stretch



CHANGE IN SUB CATEGORY RESIDENTIAL-2006



CHANGE IN SUB CATEGORY RESIDENTIAL-2010



No of Slums in 2006- 231

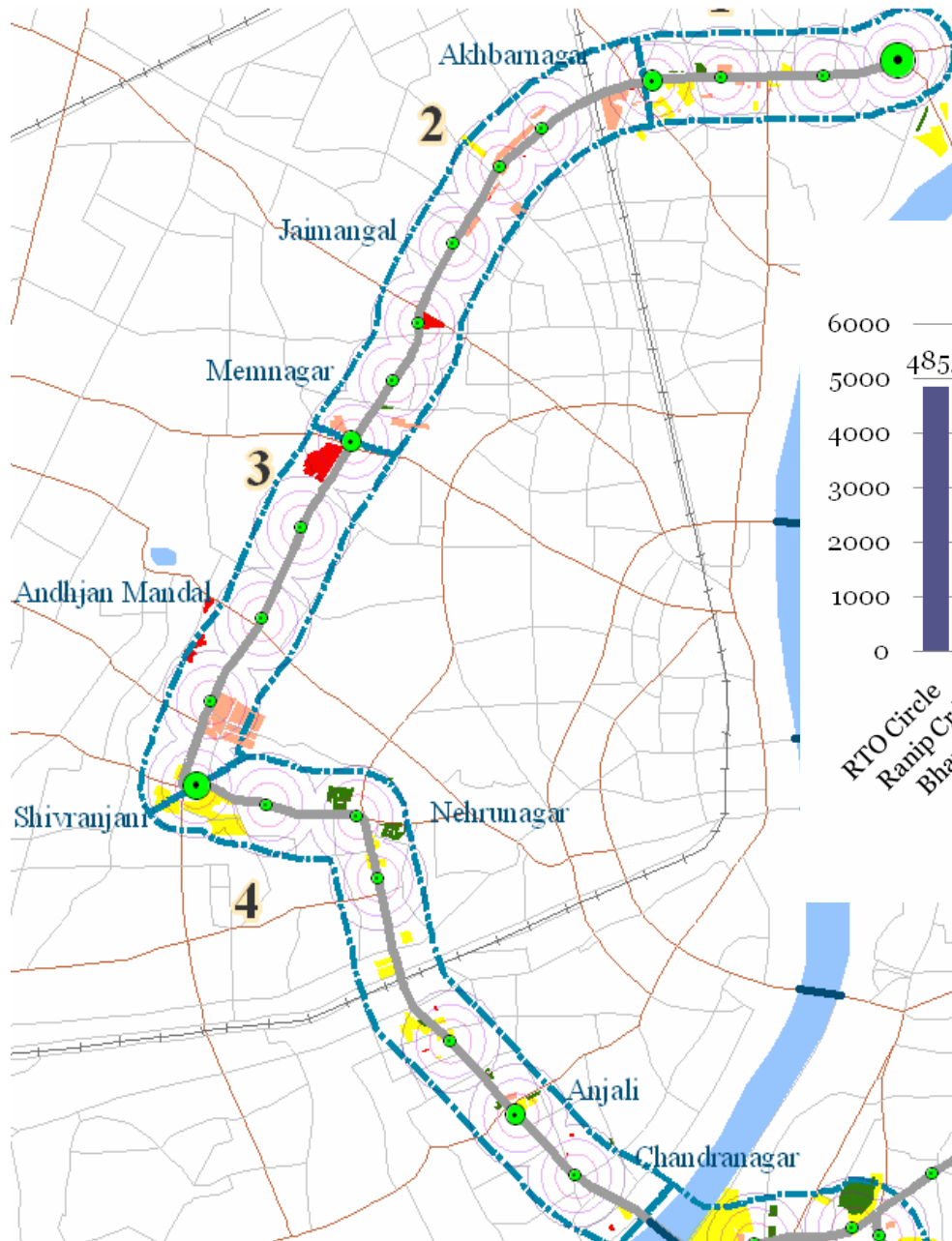
Slums in 2010- 128

| Slum To | Number |
|----------------------------|--------|
| Appartment | 25 |
| Commercial | 4 |
| Mixed | 13 |
| Public | 5 |
| Service and Light Industry | 40 |
| Tenament | 16 |

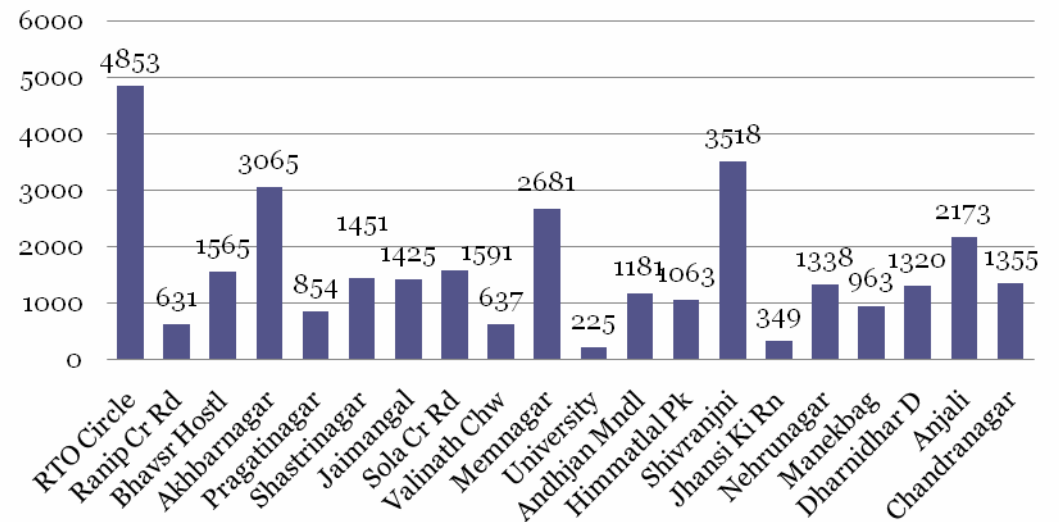
Residential(2006)

- Slum
- Tenament
- Appartment
- Bungalow
- High Rise
- Mixed

Land use Change Vs Passenger Numbers - West Side



Average Boarding /Day

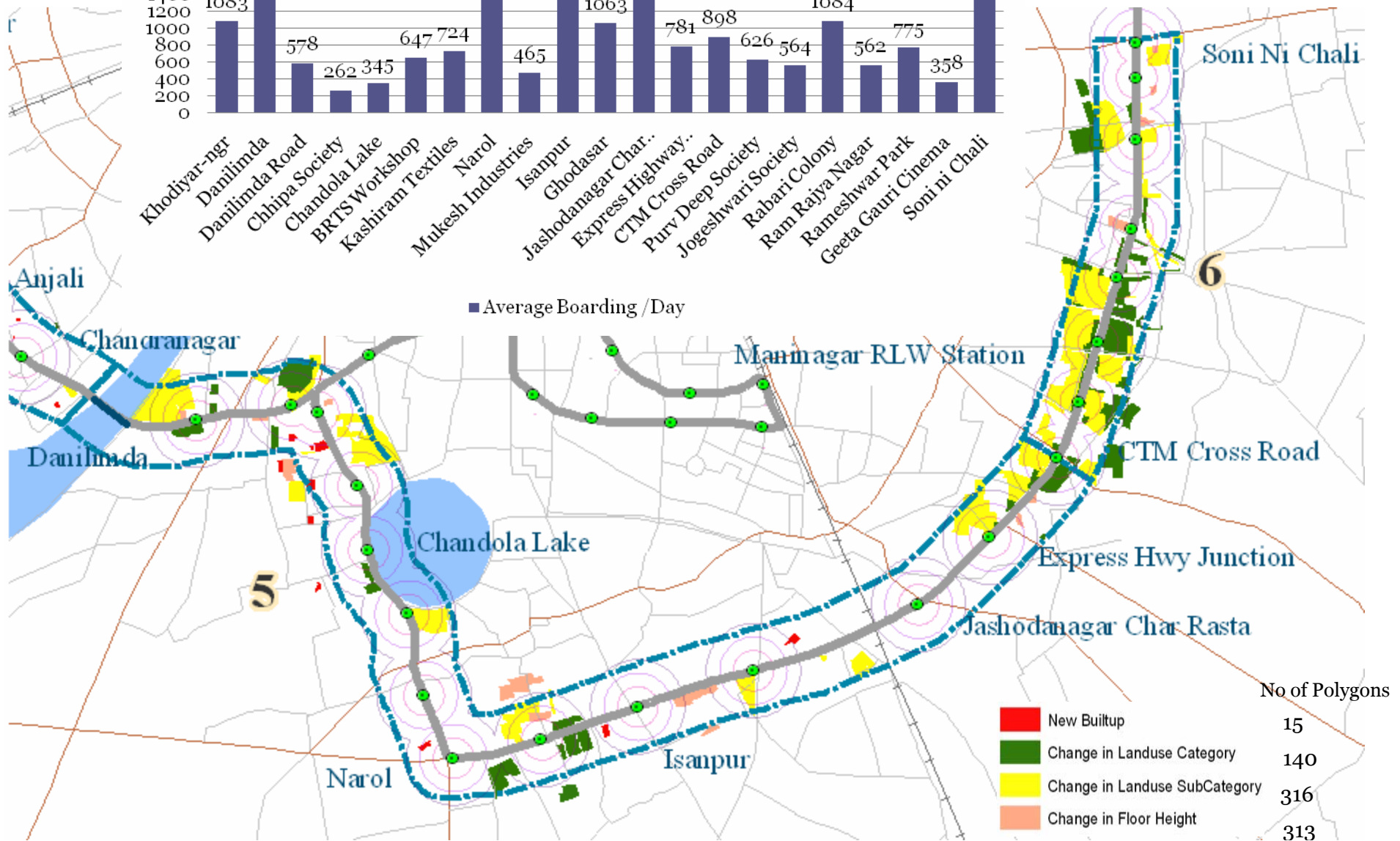
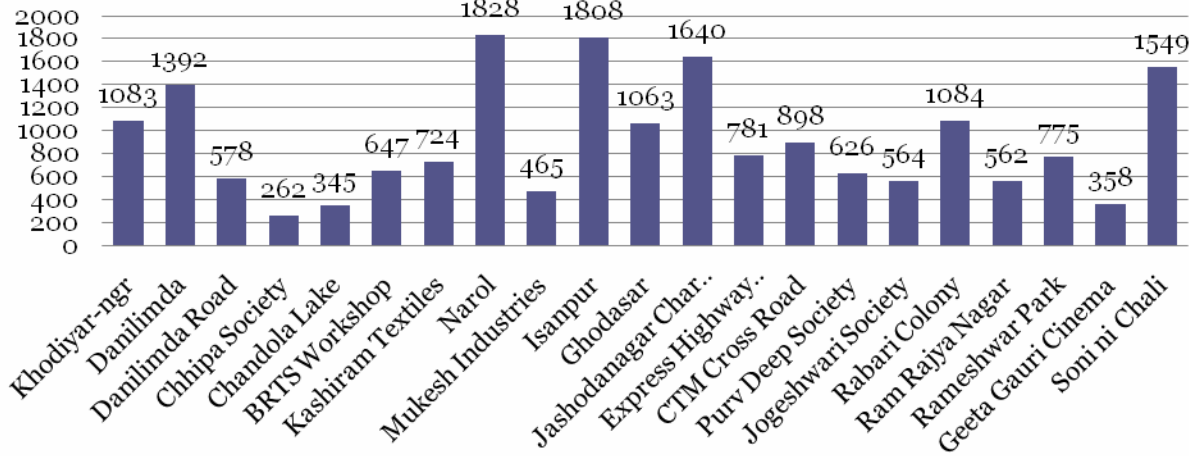


■ Average Boarding /Day

| Category | No of Polygons |
|-------------------------------|----------------|
| New Builtup | 15 |
| Change in Landuse Category | 45 |
| Change in Landuse SubCategory | 154 |
| Change in Floor Height | 96 |

Land use Change Vs Passenger Numbers - East Side

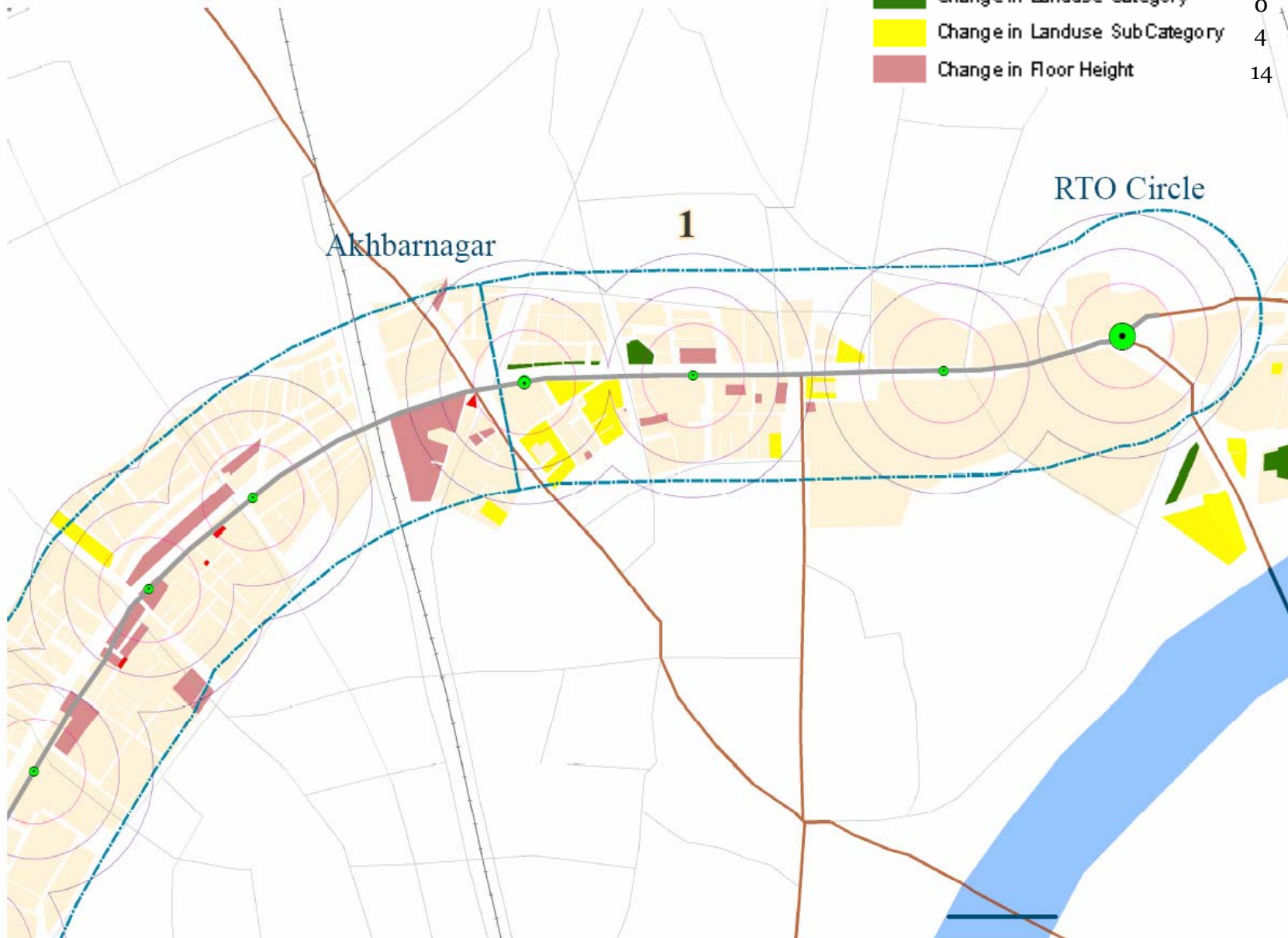
Average Boarding /Day



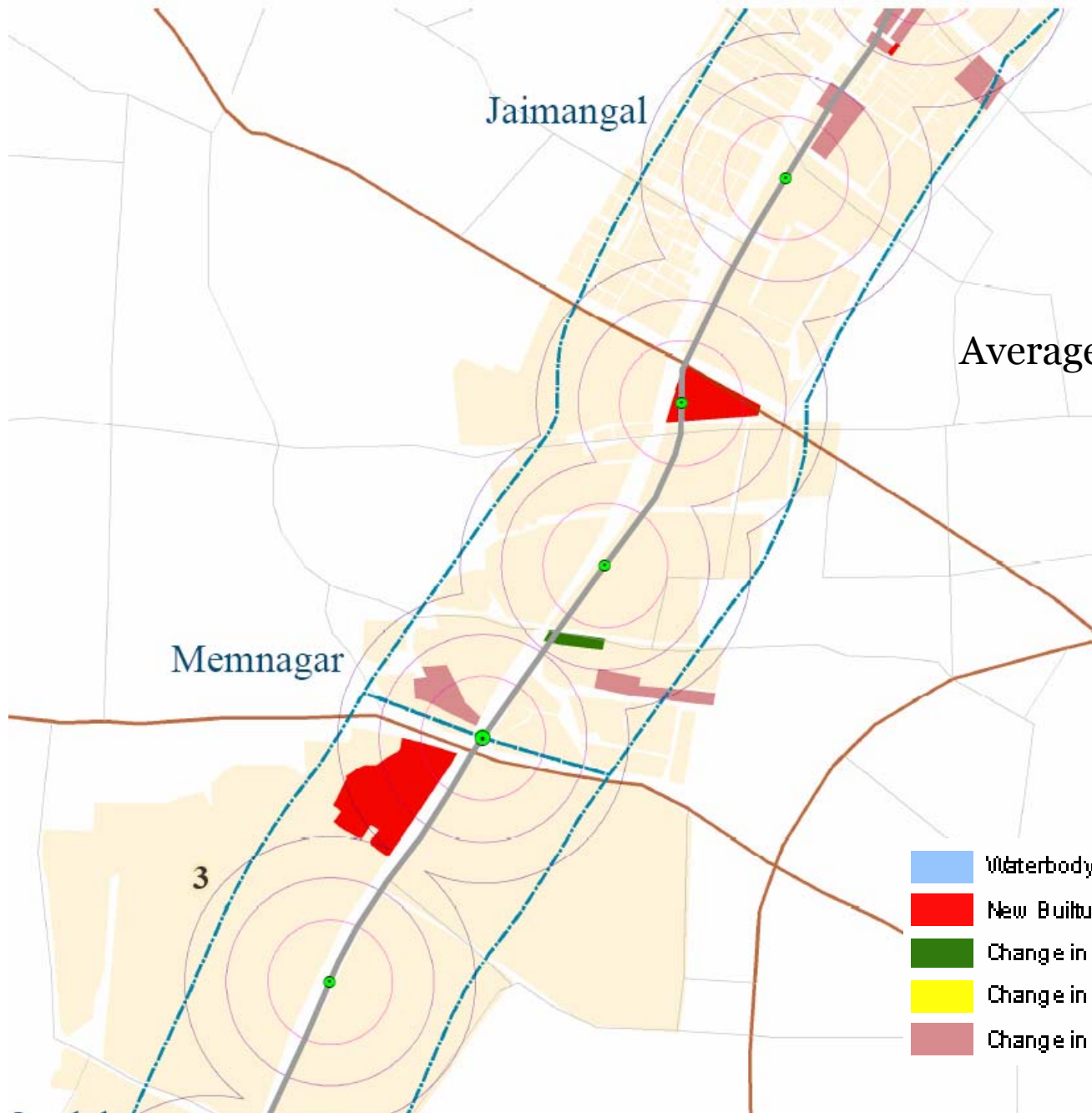
Akbarnagar bus stop






Average Boarding/Day- 3065

| | Buffer | | |
|-------------------------------|--------|-----|-----|
| | 150 | 250 | 350 |
| Waterbody | 150 | 250 | 350 |
| New Builtup | 1 | 3 | 0 |
| Change in Landuse Category | 0 | 3 | 5 |
| Change in Landuse SubCategory | 4 | 8 | 6 |
| Change in Floor Height | 14 | 11 | 9 |

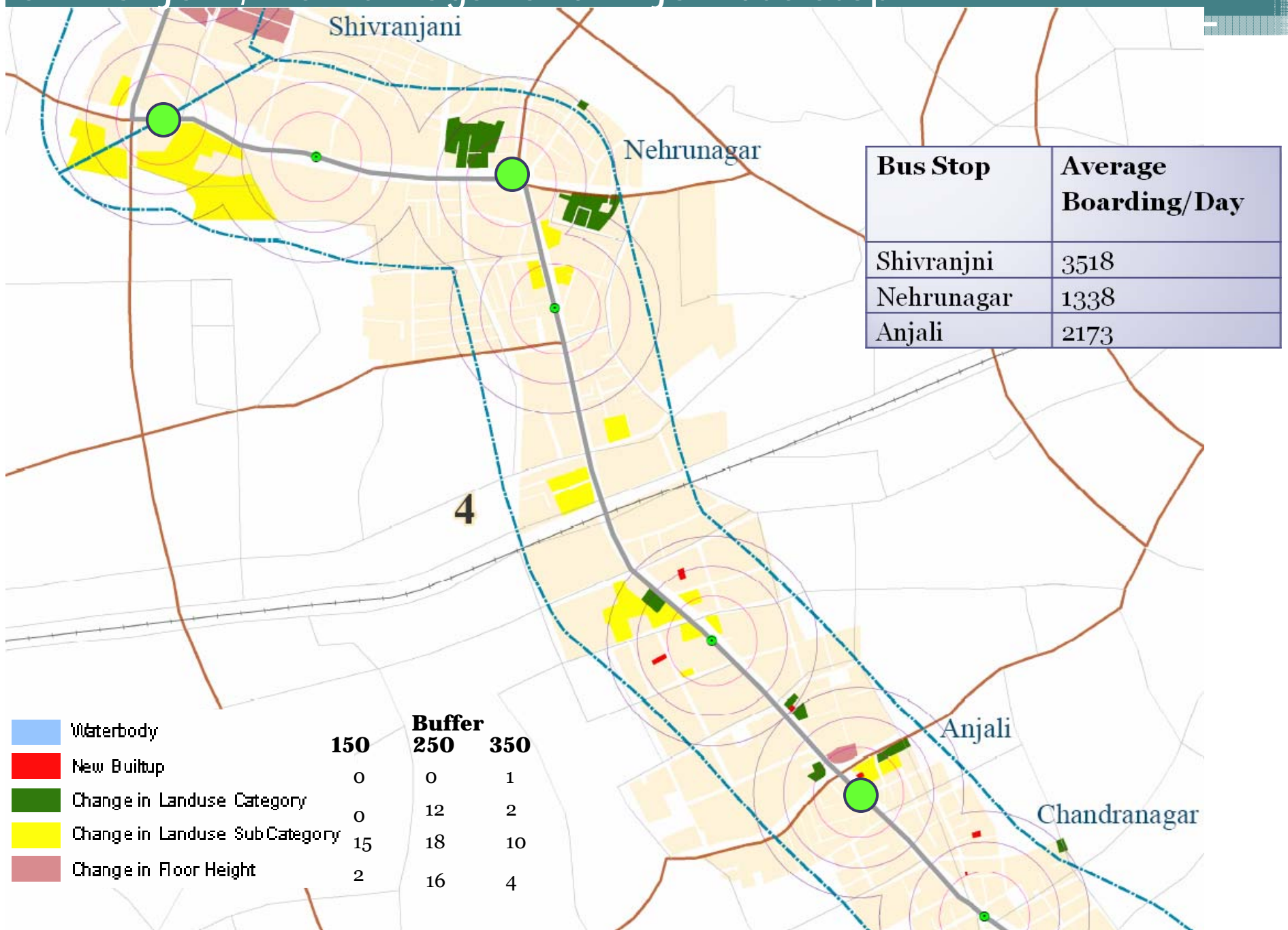


Memnagar bus stop

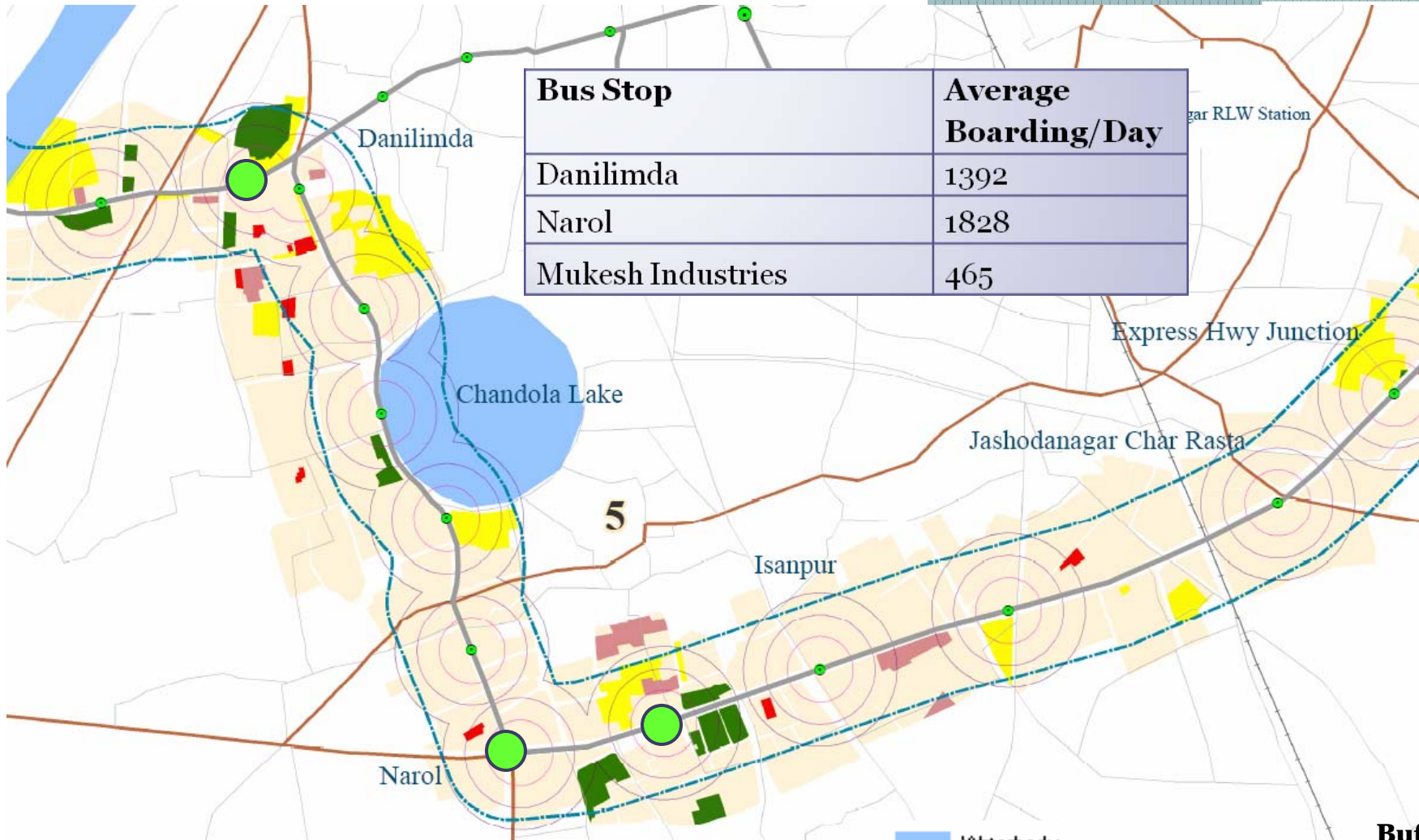


| | | Buffer | | |
|---|---|---------------|------------|------------|
| | | 150 | 250 | 350 |
|  Waterbody | | | | |
|  New Builtup | 2 | 0 | 0 | |
|  Change in Landuse Category | 2 | 1 | 0 | |
|  Change in Landuse SubCategory | 2 | 1 | 0 | |
|  Change in Floor Height | 3 | 0 | 5 | |

Shivranjani, Nehru Nagar and Anjali bus stop



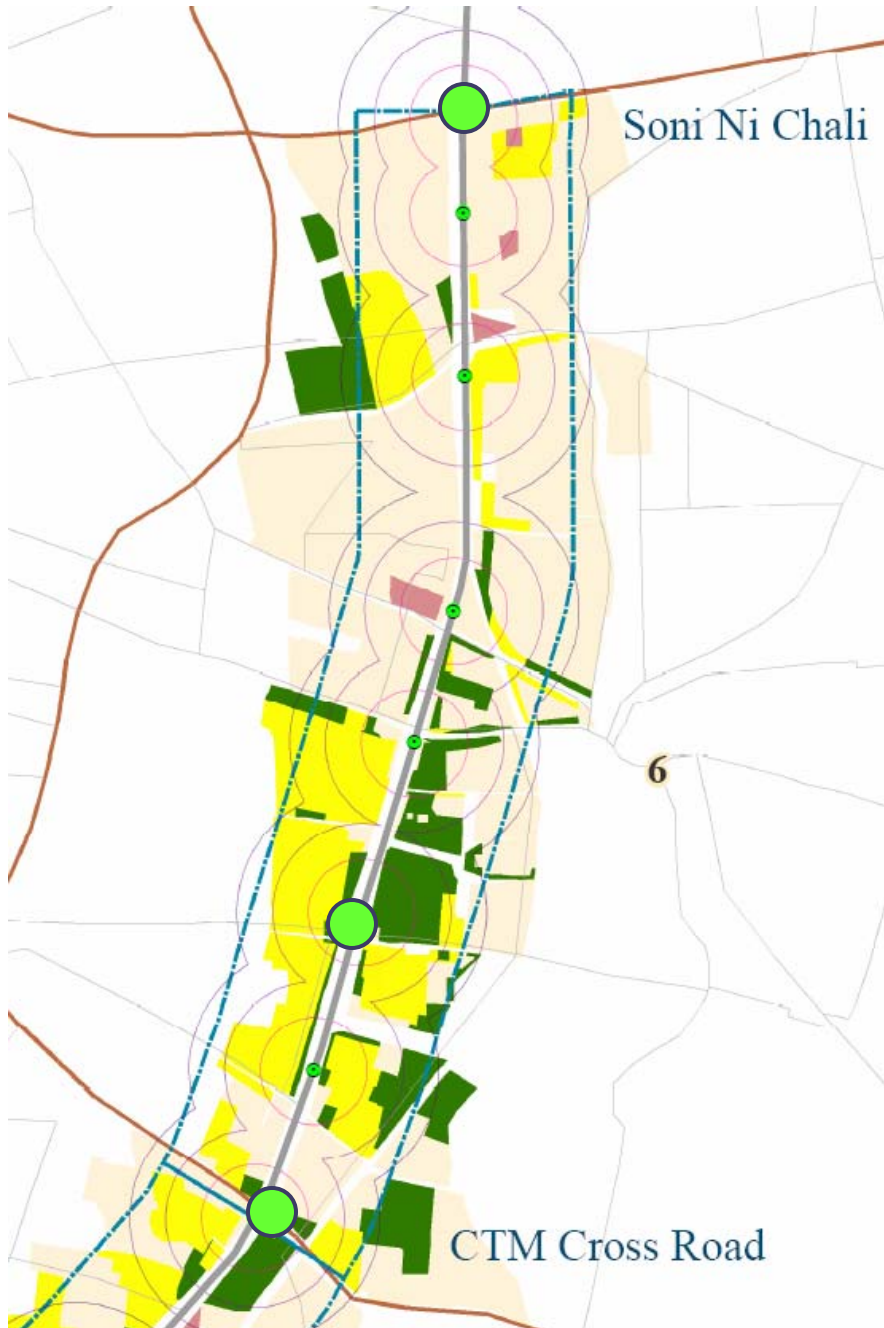
Danilimda, Narol bus stop



| Bus Stop | Average Boarding/Day |
|-------------------|----------------------|
| Danilimda | 1392 |
| Narol | 1828 |
| Mukesh Industries | 465 |

| | 150 | 250 | 350 |
|-------------------------------|-----|-----|-----|
| Waterbody | 0 | 3 | 6 |
| New Builtup | 1 | 29 | 13 |
| Change in Landuse Category | 7 | 46 | 15 |
| Change in Landuse SubCategory | 7 | 8 | 27 |

CTM, Jogeshwari Society, Soni ni Chali stop

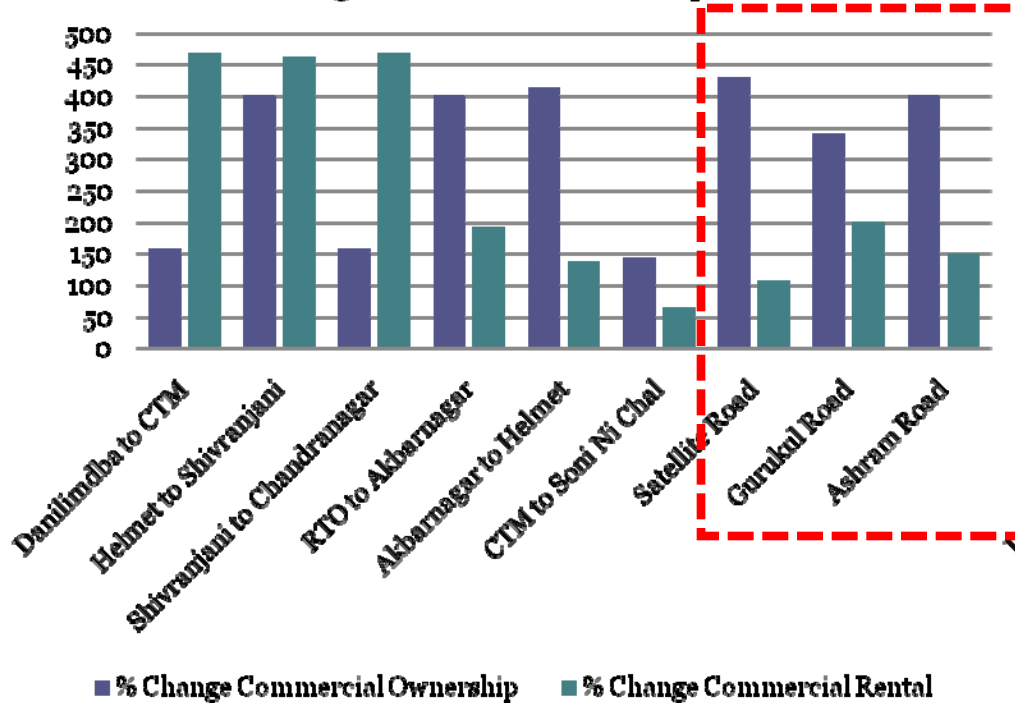


| Bus Stop | Average Boarding/Day |
|--------------------|----------------------|
| CTM Cross Road | 898 |
| Jogeshwari Society | 564 |
| Soni ni Chali | 1549 |

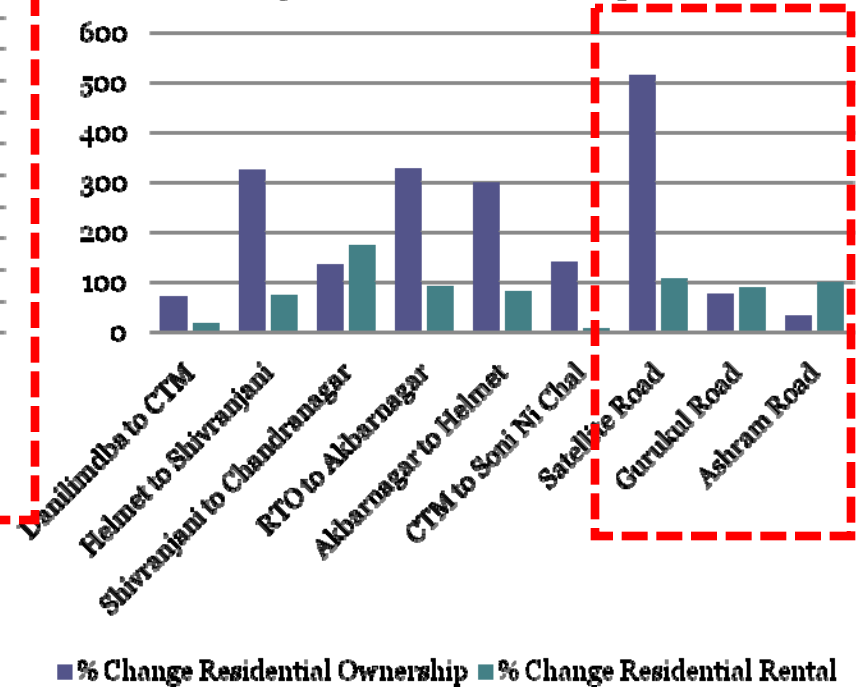
| | | Buffer | | |
|-------------------------------|-----------|---------------|------------|--|
| | 50 | 250 | 350 | |
| Waterbody | | | | |
| New Builtup | 0 | 0 | 0 | |
| Change in Landuse Category | 42 | 20 | 17 | |
| Change in Landuse SubCategory | 45 | 32 | 36 | |
| Change in Floor Height | 6 | 3 | 1 | |

Changes in Property Value

% Change in Commercial Properties



% Change in Residential Properties



Implication

- **Urban Poor**
 - Affordability of housing and accessibility issues may emerge in future. Shortage of affordable housing in the eastern side of the city.
- **Transit Supportive uses**
 - Change in land use especially towards non transit supportive in the eastern of the river needs to be checked. Unfavorable trend for Transit Oriented Development.
- **Land values**
 - Land prices in overall city have increase phenomenally.
 - Although there is an increase in land values it is too soon to link it to transit as the BRT has been operational for just over one year.



Thank You