Introduction

The Ahmedabad Development Plan (DP) released in 2013 is one of the most progressive city-level land use transportation plans in India. The DP outlines several mechanisms that will help reign in sprawl by promoting a compact city structure with higher densities in zones that have good public transport access. In addition, the plan includes specific provisions to promote affordable housing, including provisions for higher density and relaxed off-street parking requirements. The plan also facilitates mixed-use development by offering a great deal of flexibility in the permitted land uses within each zone.

At the same time, key modifications are necessary to ensure that the plan can accomplish its goals of integrating the city’s land use and transport systems to reduce trip lengths and increase the use of sustainable transport modes. As described in more detail below, much of Ahmedabad’s developable land will remain outside of the catchment areas of planned mass rapid transit systems. Unless these systems are expanded or development shifted to mass rapid transit station areas, development over the coming decade will result in a large increase in the use of personal motor vehicles, resulting in congestion, pollution, and other negative impacts for all Ahmedabad residents. In addition, it is essential to manage the supply of off-street parking to ensure that transit-oriented zones are not inundated with personal motor vehicles.

Key modifications from a sustainable transport perspective

1. Ensure that residents have access to high quality public transport

Residents are more likely to commute by sustainable transport modes if they live within walking distance of high quality public transport, such as metro rail or bus rapid transit (BRT). Therefore, the DP should seek to maximize the number of people living within a reasonable walking distance (i.e. 5 minutes or 400 m) of a mass rapid transit station.
More than half of Ahmedabad’s existing urbanized area (gray region at left) is outside the 5-minute walking buffer from existing and planned mass rapid transit lines (green). Under the draft DP’s proposed zoning (right), only around a quarter of the region will have access to mass rapid transit.

At present, only around 39 per cent of Ahmedabad’s existing built-up area falls within a 5 minute walk of existing or planned mass rapid transit corridors. Under the proposed land use plan, this ratio will fall to 27 per cent. That is, only 1 out of 4 Ahmedabad residents will have convenient access to frequent public transport service. Key public transport “deserts” include densely populated area of east Ahmedabad between NH8 and S. P. Ring Road; the southwest region of the city from Sarkhej to Juhapura; and portions of west Ahmedabad along Drive-In Rd. The lack of good public transport will compel residents in these areas to rely on personal motor vehicles or paratransit, resulting in worsening travel times, congestion, and pollution.

Residents in areas without public transport (red) will be forced to use personal motor vehicles, leading to worsening congestion and pollution throughout the city.
A key goal of Transit-Oriented-Development, which Ahmedabad DP is attempting to achieve, is to not only incentivize creation of higher intensity development within the catchment of high-quality mass rapid transit system network but also to restrict development in the remaining areas that not well served by mass rapid transit. If the goal is that a significant majority of trips (>80%) in the city should happen by sustainable modes i.e., walk, cycling and transit, then a significant majority of its housing stock and places of employment, commerce and entertainment should be within the catchment of mass rapid transit.

**Suggested modifications**

- **Increase the width of the Transit-Oriented Zone to 400m** on either side of BRT corridors and a 400m radius around metro stations to reflect the a 5 minute walking distance to these public transport services. This will allow a larger portion of the expected growth to occur in proximity to mass rapid transit lines that already exist.

- **Plan new mass rapid transit corridors** within the existing built-up area to ensure that residents have access to high quality public transport and to facilitate densification within the existing city limits. The planned expansion of these corridors into new development areas should be outlined in the DP. Proposed corridors include the following (shown in the diagram below):
  - Kalupur to Nikol via Bapu Nagar/Thakkarbapa Nagar
  - Amraivadi to Vastral via Rabari colony
  - Isanpur and Vatva.
  - Ashram road line extension to Sarkhej.
  - Shyamal Crossroads to Anandnagar.
  - Drive-In Rd to Thaltej and beyond
  - S. G. Highway

- **Increase premium charges in non-TOD zones.** As per the draft DP, allowed FSI in non-Transit Oriented zones (especially R1) is very high. The differential between Transit Oriented and other zones may not be sufficient to incentivize developers to initiate redevelopment in Transit Oriented zones. Thus, development fees should be increased substantially to dissuade people consuming FSI outside public transport buffers and should be decreased in Transit Oriented Zones.

- **Support creation of an active TDR regime.** A transparent and convenient TDR regime that works across the city can help achieve transfer of development rights from non-transit oriented zones to transit-oriented zones. The transit oriented zone that have good access to mass rapid transit should become the sole receiving zones and the rest should become the sending zones.
The addition of new BRT corridors (shown with 5 minute walking buffers in blue) can densify the mass rapid transit network and ensure that the majority of city residents have access to frequent service.

2. Ensure that affordable housing is located in areas with good public transport access

Applying the preceding analysis to the proposed affordable housing band outside Sardar Patel Ring Road reveals that this area falls almost entirely outside the 5 minute catchment area of Ahmedabad’s mass rapid transit systems. Given the inadequate supply of public transport in the affordable zone, many residents will be forced to rely on private vehicles or have poor levels of service in public transit in the form of ordinary bus service or paratransit, thereby increasing commuting costs and time spent in traffic. Similarly, school children and college students will face difficulty in reaching educational institutions. Since low and middle income residents represent the bulk of the potential customer base for public transport, it is essential to ensure that they can live close to mass rapid transit stations.

Suggested modification
- **Shift the affordable housing zone to coincide with mass rapid transit corridors.** All affordable housing zones should coincide with at least a 10 minute buffer around existing and planned mass rapid transit lines.
3. Manage off-street and on-street parking to encourage the use of sustainable modes

The draft DP is equivocal about off-street parking, suggesting that parking should be restricted but proposing to expand the supply of public off-street parking at public transport stations and “significant destinations with high demand” (Vol 2, p 50). By encouraging people to use personal motor vehicles despite the presence of public transport, such parking would contradict the goal of “[promoting] transit-oriented development along existing and future public transport corridors” stated in the draft DP’s vision chapter (Vol 2, p 8).

While the draft DP’s reduced parking requirement for affordable housing is laudable, the requirement for other buildings has increased relative to the previous DP: up to 50 per cent of consumed FSI for commercial buildings and 20 per cent of consumed FSI for residential buildings. For buildings in Transit Oriented Zones, the commercial parking requirement is relaxed somewhat to 40 per cent of consumed FSI, but this provision is only applicable to BRT corridors. This is still higher than the parking requirement as per the existing DP.

Under the draft DP, Ahmedabad will have some of the highest parking requirements among peer cities in South and East Asia, as shown in the charts below. Even in BRT zones, the parking requirement will be higher than parking requirements for general zones in these other cities. Plentiful parking at employment and commercial destinations will encourage residents to travel by personal vehicle even as the city attempts to provide attractive public transport alternatives.
The proposed parking requirements for commercial buildings in Ahmedabad are some of the highest in South and East Asia. The chart shows the base requirement (red) and the requirement for Transit-Oriented Zones along BRT corridors (purple) in the draft DP for Ahmedabad.

Suggested modifications

- **Significantly reduce minimum parking requirements in Transit-Oriented Zones (BRT as well as Metro) and set maximum parking levels.** Minimum parking requirements should be significantly reduced for all land uses in all Transit Oriented Zones—not just commercial land uses along BRT corridors—to encourage the use of public transport. This provision will reduce the cost of development in Transit Oriented Zones. The minimum requirement of parking within developments of all format - commercial as well as residential - should be kept at 5% of the total FSI. This parking supply should be primarily allocated for parking of bicycles, two wheelers and vehicles for the disabled. The parking requirement for commercial development as well as affordable housing should be capped at 10% of total FSI. The requirement for other residential units should be capped at 15% of the total FSI.

- **Restrict the supply of public parking, on street as well as off-street, in public transport station areas.** Standalone parking structures, if created, should be located outside the 400m walking buffer of public transport stations to reduce congestion and facilitate pedestrian access in these areas. Any such off-street parking should be financed through private investment rather than with government funds. The only exception to this rule is creation of parking for bicycles within the transit-oriented zone.

- **Set zonal parking caps based on the carrying capacity of the local street network.** The total parking stock in any area - on street as well as off-street - should be limited to the carrying capacity of the street network. For example, most major streets in the walled city experience significant traffic congestion during peak hours. Areas such as Drive-In Road are also reaching poor levels of service during commuting hours. Creating more parking stock in these areas facilitates the entry of more motor vehicles, exacerbating the congestion, air
pollution, and noise pollution experienced by visitors and residents. Parking requirements should be eliminated and the DP should focus on bolstering the supply of public transport.

- **Parking requirements in non-TOD zones should be retained at existing levels.** The minimum parking requirement in non-TOD zones should be retained at existing levels (15% of residential and 30% for commercial). A further rebate of 5% may be given to affordable housing created in non-TOD zones.

- **In non-TOD zones, parking provided above the minimum requirement should be counted toward the building’s FSI.** This policy will create an incentive for builders to provide usable living and working space rather than parking.

- **Initiate a citywide public parking management regime.** All public parking should be clearly defined and managed. Parking pricing should be initiated for optimal utilization of available parking supply. Parking prices should be pegged to the demand. Higher demand should result in increase in parking fee sufficient to dissuade marginal users and reduce the demand to match the supply.

4. **Encourage urban design that supports pedestrian access**

The design of private buildings has a large impact on the quality of the walking environment on public streets. Buildings with transparent facades that front the public right-of-way enliven the public realm and contribute “eyes on the streets” that increase personal safety, especially for female commuters. With the DP revision, there is an opportunity to ensure that new buildings actively contribute to a vibrant public realm.

The draft DP calls for large roadside margins of up to 12m for streets with a right-of-way above 40 m. Furthermore, the DP allows compound walls up to a height of 1.5m in front of residential and commercial properties. The combination of large setbacks and high walls sever the relationship between the street and the public realm.

**Suggested modifications**

- **Prohibit compound walls along the street frontage of commercial buildings.** Disallowing compound walls for commercial buildings will help activate the public realm.

- **Specify that front margins cannot be used for parking.** To improve pedestrian safety and access, front margins should be programmed as public spaces and should accessible to the public.

- **Increase the transparency of residential compound walls.** The DCR may allow residential compound walls but should require such walls to be transparent above a height of 0.3 m.

- **Reduce front setbacks.** Reduce front setbacks to a maximum of 3m from the public right-of-way.

5. **Create dense networks of pedestrian and cyclist streets and paths**

Ahmedabad’s practice of local-area planning through town planning schemes has resulted in a fairly dense network of streets throughout the city. However, block sizes in some newly developing areas have remained large, compromising pedestrian access and increasing walking distances to public
transport. Especially in Transit-Oriented Zones, Local Area Plans should ensure that large blocks are divided

**Suggested modifications**

- **Set a maximum parcel size of 1 hectare.** Parcels larger than the minimum should be subdivided, with new pedestrian/cycle access paths created between the new blocks. Property owners can be compensated through additional FSI or TDR.

- **Establish Local Area Plans as a prerequisite for development in Transit-Oriented Zones.** Revised street networks should be planned prior to redevelopment to facilitate the planning of new streets before.

6. **Plan for complete streets**

Chapter 3.3 discusses the importance of classifying streets based on multiple factors (such as mobility needs, street character, and so on) rather than using the right-of-way (ROW) as the sole criterion for classification. However, the draft DP’s proposed classification system, introduced in Figure 3.3-7, is primarily based on ROW (Vol 2, p 38).

The cycle network plan should be enhanced. Just as the draft DP identifies future metro and BRT corridors, it should identify a priority network for cycling. While some street elements such as footpaths, bus stops, and parking bays, can be planned at the micro level as part of individual street redevelopment projects, the cycling network must be planned at the citywide level to provide continuous connectivity. In addition, there is an opportunity to increase cycle connectivity by integrating the planning of open spaces with the cycle network. Dedicated cycle and pedestrian-only greenways can be planned along canals and rivers. These elements must be identified as part of the DP to ensure that subsequent town planning schemes are consistent with the citywide network plan.

The DP identifies a network of “green streets.” However, pedestrians require shade on all streets, and trees should be a standard component of street designs for the entire city.

**Suggested modifications**

- **Prepare a cycle network plan and notify it in the DP.** The cycle network should include streets with cycle tracks as well as greenway links such as the lower level promenade of the Sabarmati Riverfront.

- **Create a street classification system that takes into account the public transport priority network (i.e. BRT corridors), the cycle network, street character, and adjacent land use.**

- **Rather than identifying a network of green streets, state that standard sections for all ROWs should include provisions for street trees.** This will help improve comfort for pedestrians, encouraging walking trips and aiding in access to public transport.

7. **Encourage mixed-use development on former mill-lands**

The draft DP limits future land uses on former mill lands to institutional and educational uses (Section C, 81). Allowing dense, mixed-use development including commercial and residential space would help make the best use of these well-located lands, without detracting from the commercial and
residential uses. Residential and institutional uses can occur on the upper floors of large format buildings. To ensure that a minimum quantity of educational space is constructed on the mill lands, the residential uses can be permitted in additional FSI after minimum educational/institutional land use requirements are met.

Suggested modification

- Permit residential and commercial uses on mill lands after educational/institutional floor area quotas are met.

8. Include public transport in the Principles for Development Planning and Growth Management

Chapter 2, Vision for Development of AUDA area, includes the goal of “Enhancing accessibility, connectivity, and mobility options for all citizens.” While the text under this principle covers improvements in street design, paratransit, and accessibility for the disabled, it does not mention public transport. Given the crucial role of public transport in providing mobility for Ahmedabad residents, specific mention should be given to the need to expand the mass rapid transit network and regular bus services in the city.

Suggested modification

- Expand the planning goals to include the provision of better public transport service in the city.