



TRANSIT ORIENTED DEVELOPMENT AND SUSTAINABLE URBAN PLANNING

Strategic Planning for a Livable Karachi



**FRIEDRICH NAUMANN
FOUNDATION** For Freedom.
Pakistan



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With the support of:

Friedrich-Naumann-Stiftung für die Freiheit

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E-mail: pakistan@fnst.org, Web: www.southasia.fnst.org

No of printed copies: 1000

First Edition: 2019

ISBN: 969-9491-18-4

Composing/layout and Graphic Design: Zahabiya Mazahir Bandukwala

Production:

SAUDAGAR ENTERPRISES

www.saudagar.com.pk

021-34152970, 0333-2276331

Disclaimer:

This publication has been produced in partnership with the Friedrich-Naumann-Stiftung für die Freiheit. The contents of this publication are the responsibility of Shehri – Citizens for A Better Environment

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ACRONYMS LIST

BRT – Bus Rapid Transit

ITDP – Institute of Transportation Development & Policy

IVSAA – Indus Valley School of Art & Architecture

KE - Karachi Electric

KMC – Karachi Metropolitan Corporation

LRT – Light Rail Transit

NED – Nadirshaw Edulji Dinshaw

TOD - Transit Oriented Development

CONTEXT

When we talk about Urban Mobility the context it provides blends a particular form of public transport - be it Light Rail Transit (LRT), Bus Rapid Transit (BRT), Subways, Metros or Non- motorized Transport (NMT) like walking and bicycling - into a larger understanding of urban mobility defined by parameters such as accessibility, affordability, reliability and associated environmental controls. This framework also looks at the impact of transportation interventions on the overall urban land use patterns within the city and how both aspects of urban growth can complement into making smart and sustainable cities.

We look into whether people including those with special needs can easily access and use public transportation options. Are roads walkable? Are road crossings safe? Are transportation modes providing ease to people with special needs? Are people well informed about the transportation systems being provided? Are the systems environmentally sound? Is a larger public transportation mode linked to feeder services? Is the use of non-motorized transport like bicycling being facilitated? The core focus of this Booklet is to bring out the understanding that sustainable urban mobility is rooted in the overall discourse on sustainable development at the larger, holistic urban scale. To bring out this understanding, reference is being made to the design concepts and methodologies relate with Transit Oriented Development (TOD).

This understanding is then placed within the mobility context of Karachi-Karachi Breeze BRT Project- to highlight opportunities being missed and to offer models that can still be worked out.

1 SECTION

WHAT IS TRANSIT-ORIENTED DEVELOPMENT?

Transit-oriented development (TOD) is generally considered to be mixed-use development near, and/or oriented to, public transport facilities. Common TOD traits include urban compactness, pedestrian and cycle-friendly environments, public and civic spaces near stations, and stations as community hubs. Typically, a multimodal TOD neighborhood is built around a public transport station or stop e.g. train station, metro station, tram stop, BRT stop (Bus Rapid Transit), bus stop, or even ferry stop, surrounded by relatively high-density development with progressively lower-density development spreading outward from the centre.

CATEGORIZING TODs

Transit Oriented Developments (TODs) are established between 400 -800 meters (1/4 – ½ mile) walking distance of public transit with areas near transit increasing in density. TODs conserve land, encourage walking and bicycling, while reducing infrastructure costs and energy consumption. TODs are categorised according to the following types:

- **Core** – dense downtown cores of regional importance with two or more modes of high capacity transit
- **Center** – mixed use residential and employment districts containing at least two modes of transit
- **Village** – smaller centres of local economic and community activity with transit service
- **Destination** – Institutions and university centres, stadiums and regional parks

Source: 2030 PALETTE - a project of Architecture 2030

TODs are generally located within a radius of 400 to 800 meters from the transit stop. This is considered to be an acceptable walking distance at the start or end of a journey by transit. In some parts of the world, the TOD approach reaches further than single locations towards a network or corridor approach, which aims at realigning entire urban regions around rail transport and away from the car. While these are the basic TOD tenets, the model has been revised to fit a variety of contexts (including low-density cities and regions).¹

A PEDESTRIAN DETERMINING THE TOD DEVELOPMENT

The distance that a person is willing to walk to take transit defines the primary area within which TOD should occur

This distance is equivalent to roughly a 5 minute walk, or 400 to 600 meters

At these radii around a station, there is potential for 125 to 250 acres of land for transit oriented development



Source: Transit Oriented Development Guidelines, the City of Edmonton

¹ Source: Casual Policy Brief #2, June 2016, Urban Europe

RATIONALE FOR TODs

There are many sound reasons for creating TODs. These include but are not limited to:

- Decreasing car dependency by providing transport choice
- Increasing residential densities and facilitating the regeneration of existing transport corridors
- Providing priorities for sustainability, such as energy and water conservation
- Improving pedestrianization of urban areas
- Creating mixed use neighborhoods with a residential focus and integrating services and the communities who access them
- Reducing the need for further green field development

TRANSIT ORIENTED DEVELOPMENT – 10 PRINCIPLES

Listed below are 10 principles that serve as general guidelines for planning TOD districts and neighborhoods.

- Put stations in locations with highest ridership potential and development opportunities
- Designate 1/2 mile radius around station as higher density, mixed-use, walkable development
- Create range of densities with highest at station, tapering down to existing neighborhoods
- Design station site for seamless pedestrian connections to surrounding development
- Create public plaza directly fronting one or more sides of the station building
- Create retail and cafe streets leading to station entrances along main pedestrian connections
- Reduce parking at station, site a block or two away, direct pedestrian flow along retail streets
- Enhance multi-modal connections, making transfers easy, direct, and comfortable
- Incorporate bike-share, comprehensive bikeway network, and large ride-in bike parking areas
- Use station as catalyst for major redevelopment of area and great placemaking

Source: TOD Oriented Development Institute, USA

OPTIMIZE DENSITY AROUND EACH STATION



Source: TOD Oriented Development Institute, USA

Density should be increased around Transit Stations while relating to the surrounding context and particular station type.

Density should be placed in locations with the best access to transit and the local public systems

In new communities, densities should be established for a station planning area and not included as part of the gross community density targets

THE BENEFITS OF TRANSIT-ORIENTED DEVELOPMENT

- Promoting higher densities and the concentration of jobs within relatively small areas, TOD creates agglomeration effects proven to boost a city's competitiveness. Studies have shown that doubling job density, for instance, increases economic productivity by 5 to 10%.
- This concentration creates vibrant communities with high-quality public areas and shorter commuting distances—making cities more livable.
- Compact urban development and high-quality public transit also mutually reinforce each other: mass transit can support the large passenger flows that come with high density development, while the concentration of jobs and housing around stations helps make public transport financially viable.
- Proximity to mass transit improves access to TOD neighborhoods, boosting their attractiveness and increasing real estate value.
- While TOD can drive up property prices and accelerate gentrification, this can be offset by allocating a significant portion of the new development to affordable housing. This type of inclusive TOD approach enhances access to job opportunities and services for residents at all income levels.
- By concentrating jobs, services, and housing within the catchment area of transit stations, TOD makes public transport a more attractive and efficient option, while reducing dependence on private cars and promoting shorter commutes.
- As a result, TOD typically translates into higher productivity and a smaller carbon footprint.

Source: Transforming the Urban Space Through Transit-Oriented Development: The 3V Approach, The World Bank

HOW CAN TOD BENEFIT RESIDENTS?

- Increased transportation choices
- Fewer and shorter auto trips
- Lower personal transportation costs
- Easy access to daily needs

HOW TOD CAN TRANSFORM THE CITY?

- Increased transit ridership and revenue
- Reduced air pollution and energy use
- Ongoing economic stimulus - when people use transit, money that would have been spent on gasoline and sent out of the community, can instead be spent in the local marketplace on other things people need and desire

Source: Transit Oriented Development Guidelines Overview – the City of Edmonton

TRANSIT ORIENTED DEVELOPMENT AND SUSTAINABLE URBAN PLANNING INTERFACE

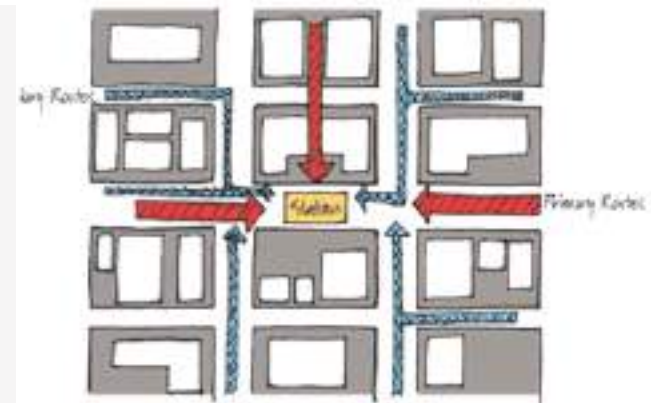
TOD supports urban development patterns with vibrant, diverse and livable communities, where people are encouraged to take public transit, walk and cycle rather than travel by car. TOD is achieved by concentrating urban densities, communities and activities within a 5-10-minute walking distance from mass rapid transit stations (both bus and rail based), developing quality urban space, enhancing universal accessibility, and providing convenient and efficient access to a diverse mix of land uses. TOD brings together elements of land use and transport planning, urban design, real estate development and, investment and infrastructure implementation to achieve such urban development.

PROVIDE QUALITY PEDESTRIAN CONNECTIONS

Primary and secondary pedestrian routes should be identified in the TOD station area.

Primary Pedestrian Routes - These routes run directly between the station platform and station site and major pedestrian destinations in the surrounding community. These routes will attract high pedestrian volumes, associated pedestrian oriented services and act as the major connections to the station.

Secondary Pedestrian Routes - These routes do not provide a direct link to the station site but feed into the primary routes. These routes would typically be at ground level and include standard to individual buildings.



Source: *Transit Oriented Development Policy Guidelines, Land Use, Planning & Policy, the City of Calgary*

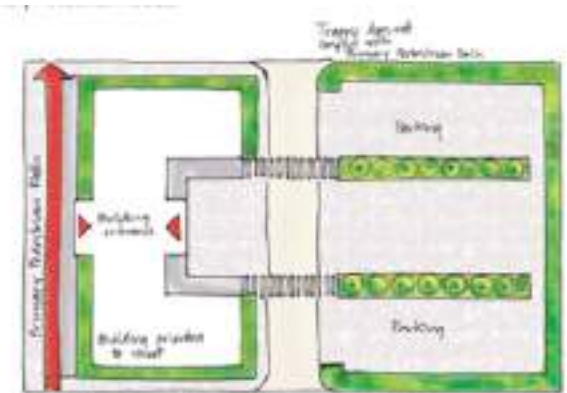
By connecting multiple stations with high-quality and frequent public transportation, city residents can thrive without the need for a car. Investing in effective and thoughtful design of the neighborhood surrounding such stations, prioritizing pedestrians, cyclists, and other connecting transit makes neighborhoods livelier and more vibrant, enhances quality of life, and encourages economic growth. Implementing TOD also improves the performance of urban transportation assets in which cities are investing.

Additionally, inclusive TOD can address concerns over gentrification by supporting affordable housing and stimulating economic diversity in TOD areas. TOD can also integrate climate resilience and vulnerability factors in planning. By using land value capture mechanisms, the city can harness the increase in property value around stations to help offset the cost of supporting transport infrastructure. TOD can be implemented at different geographic scales, from improving local station areas to coordinating development along a corridor to implementing a metropolitan-wide strategy for integrated planning. It is a useful and customizable concept that can benefit cities as they address high demand for new urban and real estate development and the accompanying challenges of congestion.

PLACE PARKING IN APPROPRIATE LOCATIONS

Major parking areas should be accessed from collector and arterial roads around the station areas, without impacting existing communities or the pedestrian environment closest to the station.

Direct and convenient pedestrian connections should lead from these parking areas to primary destinations such as the transit station, major office areas, high-density residential, etc.



Source: *Transit Oriented Development Policy Guidelines, Land Use, Planning & Policy, the City of Calgary*

walk

High quality, unobstructed pedestrian footpaths provide basic mobility for all. Furniture, landscaping elements, and active building edges transform walkways into vibrant public spaces.

▶ Leave at least 2 m of clear space to ensure that footpaths are accessible to all.

▶ Use speed table crossings to reduce motor vehicle speeds.

▶ Create continuous, physically segregated cycle tracks when motor vehicle speeds are higher than 30 km/h.

▶ Provide street trees and covered walkways to make walking pleasant even during hot months. Ensure that lighting is present to increase safety at night.

▶ Encourage active and visually permeable frontage—rather than blank compound walls—to improve safety.

cycle

Street design ensures safety for cyclists by reducing carriageway speeds or creating separate cycle tracks. A complete network, adequate shading elements, smooth surfaces, and secure cycle parking are essential.

connect

A dense network of walking and cycling routes results in short, varied, and direct connections that improve access to goods, services, and public transport.

► Break up large blocks by creating publicly accessible pedestrian- and cycle-only paths.

► Reduce the size of city blocks (consisting of one or more plots) to 1 hectare or less, with the longest dimension no more than 150 m.

RAPID TRANSIT CORRIDOR

CYCLE SHARING STATION

PEDESTRIAN SPACE

≤ 1 ha

≤ 150 m



► Create a dense network of rapid transit lines to ensure that the majority of the population has access to high quality public transport.

public transport

Frequent, fast, and reliable high capacity rapid transit reduces dependence on personal motor vehicles.

shift

Adequate parking fees and a reduction in the overall supply of parking create incentives for the use of public transport, walking, and cycling.

▶ Reduce the space used for motor vehicle traffic and parking to no more than 12 per cent of the total land area.

▶ Replace minimum off-street parking requirements with parking maximums.

▶ Price on-street parking to manage demand.

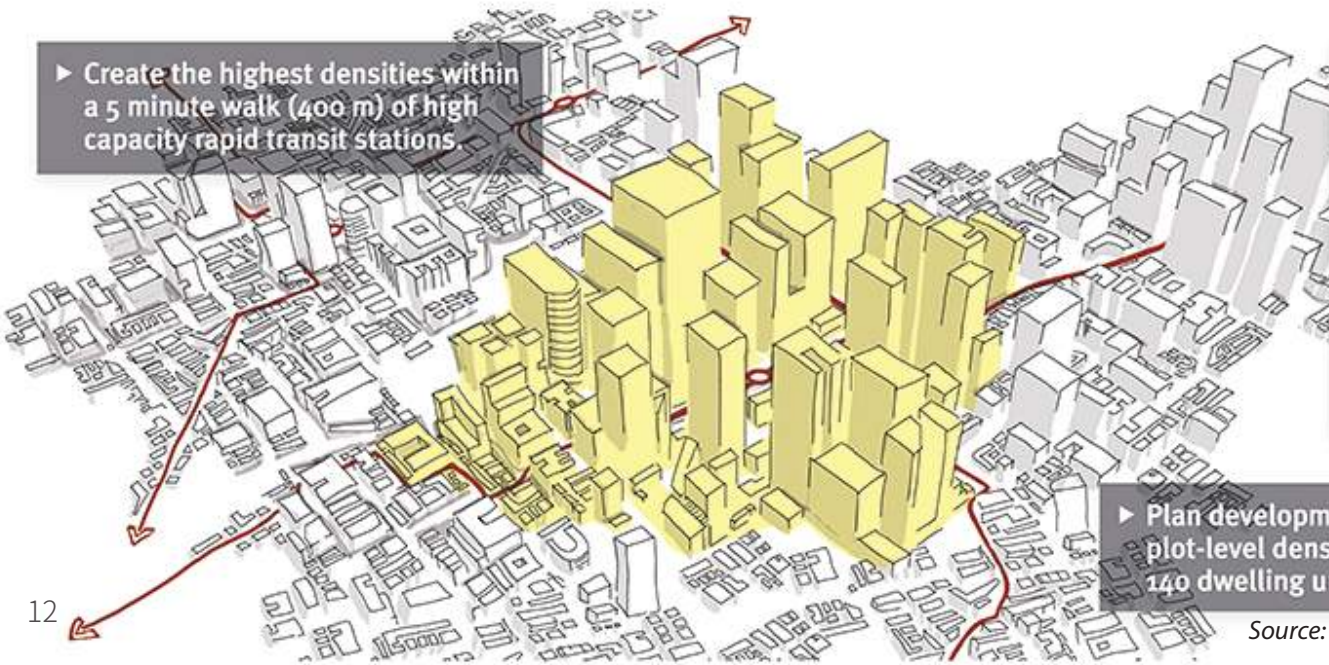


▶ Create the highest densities within a 5 minute walk (400 m) of high capacity rapid transit stations.

densify

Intensification of residential and commercial uses around high capacity rapid transit stations helps ensure that all residents and workers have access to high quality public transport.

▶ Plan developments with a plot-level density of at least 140 dwelling units per hectare.



mix

A diverse mix of residential and non-residential land uses reduces the need to travel and ensures activation of public spaces at all hours.

▶ Encourage diversity through a variety of built forms.

▶ Reserve at least 30 per cent of residential floor area for affordable units.

RESIDENTIAL

INSTITUTIONAL

AFFORDABLE RESIDENTIAL

LIGHT INDUSTRIAL

MIXED RESIDENTIAL/OFFICE

COMMERCIAL

▶ Provide a horizontal and vertical mix of uses.

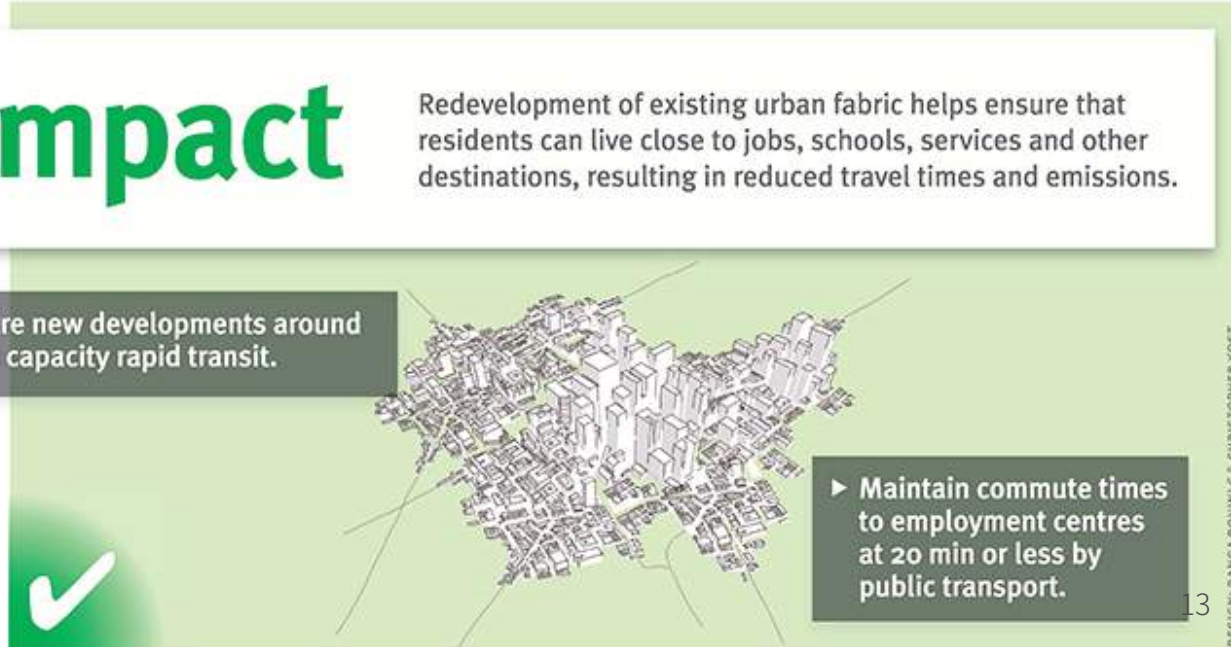
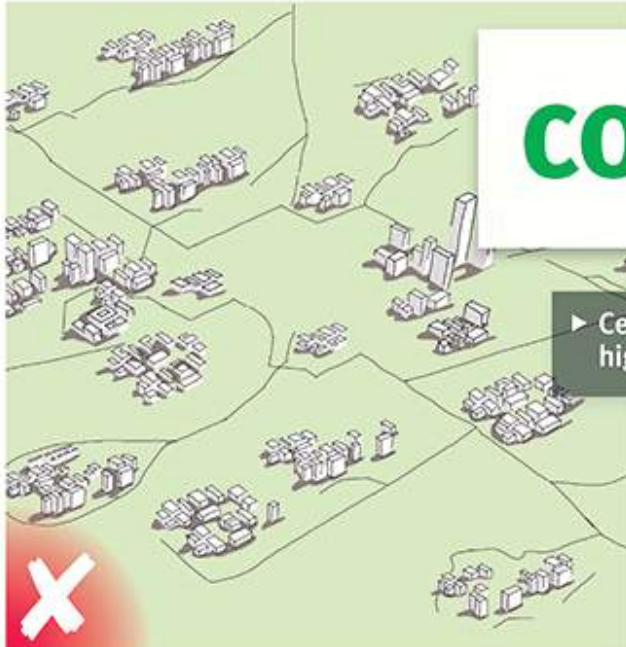
Source: Institution of Transport and Development Policy, USA.

compact

Redevelopment of existing urban fabric helps ensure that residents can live close to jobs, schools, services and other destinations, resulting in reduced travel times and emissions.

▶ Centre new developments around high capacity rapid transit.

▶ Maintain commute times to employment centres at 20 min or less by public transport.





NOTICES SECTION

CREATING SPACE FOR TRANSIT ORIENTED DEVELOPMENT IN KARACHI BREEZE BRT PROJECT

An issue of major concern is that Karachi BRT project is being planned in isolation of the larger consideration of embedding it within the objective of city wide livability improvement. The focus is on getting people from point A to Z, while in the case of all the lines (with the exception of the Red and Yellow Line) considerations for rolling out a wider public space agenda, land use implications and focus on related social, economic and environmental improvements on a city-wide scale are missing. Even within the Red and Yellow line details, a major design intervention potential such as TOD is missing. There should have been a visioning process involving all relevant stakeholders on board to both structure and own the vision. Till date, the Trans Karachi Breeze project has neither succeeded in mobilizing public opinion around a shared vision of the project nor has emerged a centralized leadership having the required public legitimacy.

So it is a matter of concern that important key considerations of mobilizing of a broad base of stakeholders around a shared vision and process, compatibility in design, operational and financial models and the linking of a wider city-based, social, environmental and economic agenda with the project are missing. Given all this, it comes as no surprise that considerations for TOD are not a part of the Karachi BRT initiative. However, even at this late stage, it is felt that if the government makes a move and decides to interface this BRT project with TOD Station Area designs along some key priority stations, then the project can have a much wider and optimized beneficial footprint.

In this Booklet, an effort has been made to identify some potential high value TOD Station Areas along the Green Line and Red Line routes that can relate to a specific land use of the TOD. These are just a few possibilities that can provide a model that can be replicated or adopted. A detailed analysis involving all critical stakeholders can lead to a much better realization of the opportunities on offer. In addition to this identification, a basic design has been prepared for the Urdu Bazaar space, based on the key design guidelines of TOD Station Area that can become part of the proposed Municipal Park Station TOD Area (Green Line).



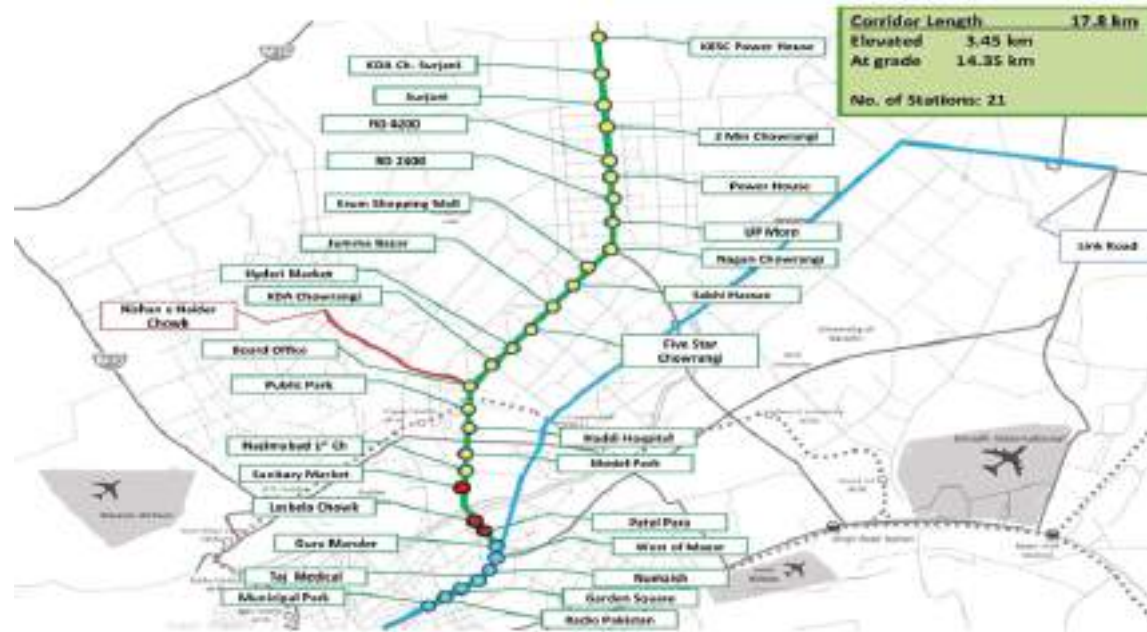
GREEN LINE – POTENTIAL TOD STATION AREAS

The Green Line start point area is at Karachi Electric (KE) Power House leading to Surjani area from where it runs southwards through Khwaja Shamsudin Azeemi Road toward Nagan Chowrangi along Shareh-e-Usman. From Nagan Chowrangi it runs along Sharah-e-Sher Shah Suri (South westerly) onto Nawab Siddiq Ali Khan Road through Nazimabad Petrol Pump intersection proceeding towards Lasbella Chowk. At Lasbella Chowk the route turns South eastwards onto Business Recorder Road and runs upto Guru Mandar. On crossing Guru Mandar the Green Line route turns south westward onto M. A. Jinnah Road. The route westwards crosses Numaish and reaches to the Municipal Park (also known as Aurangzeb Park).

The Green Line from its starting point at Surjani till Numaish Square (the convergence point of all BRT routes) is elevated. From Numaish till Municipal Park and then beyond the route is known as the Common Corridor and buses will run at ground level. This decision is based on the consideration that a number of heritage and protected sites are located along the M.A. Jinnah road and an elevated route would have impacted on the aesthetics, visibility of the sites.

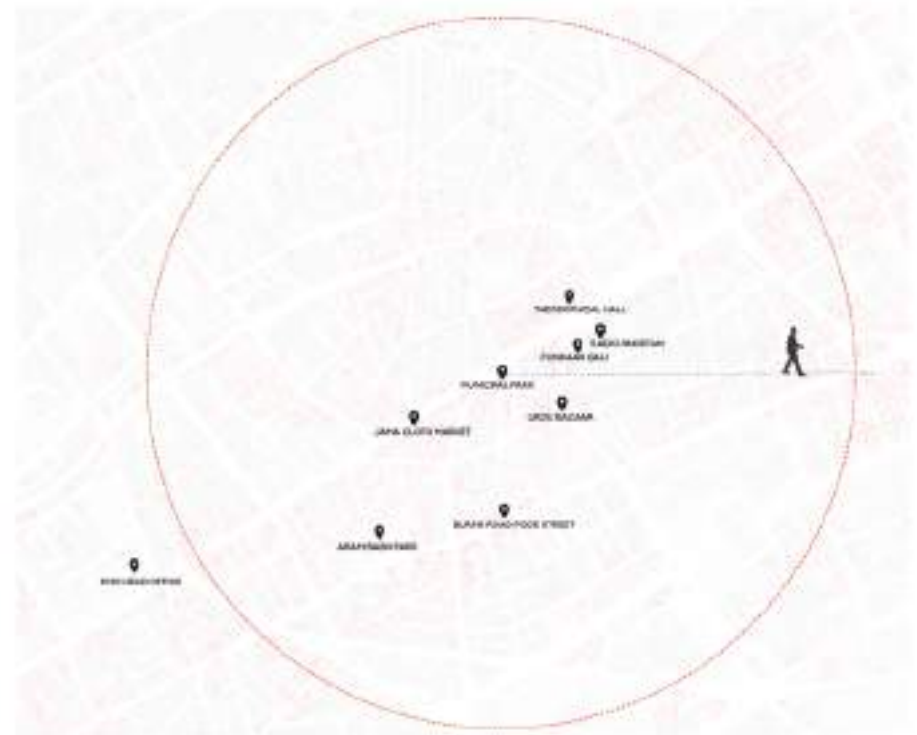
In the Green Line two stations are being identified for possible development as TOD Station Areas:

- Municipal Park Station
- Hyderi Market Station



MUNICIPAL PARK STATION

This station is suited in an ideal position to support a TOD Station Area Design that can encompass old Karachi Downtown attractions such as Karachi Metropolitan Corporation (KMC) Head Office, City Courts, Hindu Temple, Urdu Bazaar, Jamia Cloth Market, Burns Road Food Street, Pakistan Chowk, NED University City Campus etc. Critical design elements can include improving walkability, transit, connectivity, shift (transport demand management and parking footprint reduction) and place design. Such an intervention can have economic, social and environmental improvements. Improved access, aesthetics and cleaner environment would lead to economic growth and creation of innovative public spaces – such as transforming streets into public spaces would facilitate building of greater social capital and community bonding. Added benefits would include improved safety and security generation of new businesses and employment. Heritage spaces threatened with extinction can be protected and rejuvenated.



HYDERI MARKET STATION

Here the potential exists for a TOD Station Area having a commercial context. Market spaces are now being promoted globally as vibrant and healthy public spaces. In Karachi, as in many other cities globally, markets and bazaars having a historic importance and being places of great community gathering are being threatened with the Mall culture. Then there are issues of cleanliness and pollution, access and walkability and safety and security. All such concerns can be effectively catered by a well thought out TOD Station Area Design. With the Station providing improved access to the market, where a wonderful opportunity of reviving and rejuvenating the Hyderi Market as a viable public space is being provided that can be and should be leveraged. Again incurring benefits would be economic, social and environmental.



Image Courtesy: Aamina Amir

RED LINE – POTENTIAL TOD STATION AREAS

The route is located along an east-west alignment, overall length of 23+ km, running contiguous with M.A. Jinnah Rd., University Rd. (Malir Cantonment Link Rd.) and M.A. Jinnah Avenue in the north-eastern sector of Karachi. It crosses the administrative districts of Central and East Karachi and Malir Cantonment, specifically East District: Jamshed and Gulshan Town, and District Central: Liaquatabad and Gulberg Towns.

The Project is located along an east-west trending alignment, overall length of 23+ km, running contiguous with New M.A. Jinnah Rd., University Rd., University Rd.2 (Malir Cantoment Link Rd.) and M.A. Jinnah Ave, in the north-eastern sector of Karachi. It crosses the administrative districts of Central and East Karachi and Malir Cantoment, specifically: East District: Jamshed and Gulshan Towns, and District Central: Liaquatabad and Gulberg Towns. Towards the east, the alignment turns south following the eastern and southern segment at Gulistan-e-Jauhar Block 6 and a plot near the intersection of M.A. Jinnah Ave and Shakra-e-Faisal Rd.

In the Red Line two stations are being identified for possible development as TOD Station Areas:

- Gulshan-e-Iqbal Station (Bait-ul-Mukkaram)
- Karachi University Station



Source: Exponent Engineers (Pvt.) Ltd.

GULSHAN-E-IQBAL STATION

This station can be considered as having the potential of being designed as Neighbourhood Station Area. This opportunity being provided can be utilized to have a smart neighbourhood design implemented in Gulshan-e-Iqbal. All the critical considerations of smart neighbourhood design can be worked with that may include improved walkability and bicycling options, transport in demand management and parking management, public space design, improvement of existing public spaces and exploring opportunities for new ones etc. Walkability and bicycling routes can be designed (introduction of public bicycle stands can make bicycling a mode of intermodality connecting with the BRT Station). Such design innovations can lead to making the neighbourhood a more inclusive, environment friendly, lively and safe space and provide a working model that could be replicated with suitable adaptations in other neighbourhoods in the city.



Image Courtesy: Samrah Aamir

KARACHI UNIVERSITY STATION

Normally, with any primary mobility mode – BRT, LRT or Metro, it is common practice that routes of such modes are designed in a way that they pass through important academic institutions of higher learning as a larger majority of transit users are students of such institutions. In our case, while the Red Line route does not cater to mobility within the Karachi University campus but it does provide and lead route to by it. In Karachi University there are no feeder neither shuttle services available and large number of students using public transit modes have to walk long distances in extreme heat to reach their respective departments. While the Karachi University management itself does not seem to consider this a matter of concern, for Shehri-CBE it is. An opportunity now is being offered with the BRT Green Line route connecting to the campus main gate. A feeder/shuttle bus service can be initiated where students dropping of at the BRT Station then can board on the shuttle service and reach their destinations in comfort and in a timely manner.



ESLECTIONS

TOD STATION AREA

MUNICIPAL PARK STATION, GREEN LINE, KARACHI BREEZE BRT

This Section aims to undertake a pioneering effort in the context of Karachi and Pakistan when it comes to urban mobility planning – develop a basic design narrative for a TOD Station Area. For this, the ongoing Karachi Breeze Bus Rapid Transit (BRT) project is being leveraged. A specific station on the Green Line of the BRT – Municipal Park Station – on MA Jinnah Road has been selected as the pivot point to delineate a TOD Station Area and within the area, the spatial envelope of the Urdu Bazaar has been designed based on some selected parameters of TOD Standards. This area is part of the city downtown (Old Karachi) that houses a number of historical, heritage sites in addition to being a pulsating and diversified commercial space. The Municipal Park Station TOD Station Area in addition to the historic Urdu Bazaar, also houses important historic, cultural sites such as the Theosophical Hall, Radio Station, Fankar Gali (Performers Lane), Burns Road Food Street, Aram Bah and the head office of the Karachi Metropolitan Corporation (KMC). As such, a full scale TOD Station Area design of this space, for which the present work gives a direction and method, offers truly exciting and socially, financially and environmental viable options for interfacing urban land use and mobility planning for holistic urban livability improvement – a process that can be extended to the

entire Karachi Breeze BRT project for having a city wide footprint. In addition, selected design renderings of a final year thesis of Aamina Amir, a former student of the Architecture Department, Indus Valley School of Art & Architecture (IVSAA) are being presented. In her thesis, Aamina has used the Hyderi Market Station transit node of Green Line BRT to design the station and surrounding spaces as an ‘Imageable Public Space’.

The Section is divided into four parts.

The first part describes how the TOD standardization process works, and the associated design parameters being used for the TOD Station Area design of Urdu Bazaar

The second part gives a historical context to the project area of Urdu Bazaar

The third part documents the design philosophy, methodology and design renderings for Urdu Bazaar public space design

The fourth part documents design renderings for the Hyderi Market Station transit node of Green Line BRT

TOD STANDARDS AND SPACE

When taking up the task of doing some baseline design work in this Booklet, for inspiration and guidance has been taken from two separate documents:

- TOD Standards (Institute for Transportation and Development Policy, USA)
- Global Street Design Guide (Global Cities Designing Initiative/National Institution of City Transportation Officials)

TOD STANDARDS

One cannot start any design work unless the enabling space created by the relevant design standards and specifications have been established. The TOD Standards states that,

“A global shift from urban sprawl to inclusive TOD is a most urgent matter. It is, however, more easily conceptualized than executed. Multiple, complex and interdependent elements must be aligned and brought together. They range from infrastructure, street, and building planning and design, to codes, regulation reform, and finance. Diverse participants with disparate world views and interests are involved: decision and policy makers from many institutions, professional technicians of various disciplines, developers and investors, future tenants and residents, people attached to car-based suburban lifestyles, people in communities set to be transformed by redevelopment and densification, and grassroots and civic organizations. In this context, a large-scale shift to TOD must begin with the building of a common understanding and a conceptual framework for collaboration.”

“The purpose of the TOD Standard is to facilitate and expedite these processes. It provides an accessible reference, with clear definitions, simple standards, and a rapid assessment tool, to be shared by all parties as a basis for the implementation of inclusive TOD.”

WHAT IS THE TOD STANDARD?

The TOD Standards document describes its mandate as follows:

The TOD Standard is, first, a condensed policy brief. It lays out the core principles of inclusive TOD, based on ITDP's Principles of Urban Development for Transport in Urban Life, and identifies the key concrete objectives that are essential to implementing these principles in urban development.

Second, the TOD Standard is a unique assessment tool available to score the plans and products of urban development according to their adherence to the TOD principles and implementation objectives. A simple scoring system distributes 100 points across 25 quantitative metrics that are designed to measure the implementation of the eight principles and their 14 specific objectives. This point distribution approximately reflects the level of impact of each element in creating an inclusive TOD, as approved by the TOD Standard's international technical committee of experts. No particular design solutions are prescribed. Project designs should reflect the local climate and culture, as well as the creativity and innovation of their developers and designers in lowering costs, improving performance, and heightening the appeal of compact, car-independent urban development.

Finally, the TOD Standard includes a recognition system that awards bronze, silver, and gold status to build development projects that have strong performance toward the TOD objectives and embody the TOD principles.

TOD STANDARD KEY IMPLEMENTATION OBJECTIVES

Among the TOD Standards key implementation objectives the following have been selected for reference in the TOD Station Area Design of Urdu Bazaar and an effort has been made to suggest design recommendations that comply to the best possible with the design details and philosophy of the TOD standards:

- Walk
- Connect
- Transit
- Shift

ITDP Principles of Urban Development for Transport in Urban Life & TOD Standard Key Implementation Objectives

WALK - Developing Neighbourhoods 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

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)

SHIFT - Increase mobility by regulating parking and land use

OBJECTIVE A – The land occupied by motor vehicle is minimized

WALK

Walking is the most natural, healthful, clean, efficient, affordable, and inclusive mode of travel to destinations within short distances, and it is a necessary component of virtually every transit trip.

Walkways

Percentage of walkway segments with complete, all-accessible walkways

- A project has complete, all-accessible walkways when all blocks and all building and property entrances are served by safe, continuous walkways, connected in all possible directions to the adjacent pedestrian network. This is a core attribute of TOD and should be achieved by all new TOD projects
- A block's walkways are measured as segments in the pedestrian network. Segments are stretches of walkways between two adjacent intersections in the network and can be of any of the following types:
 - (a) dedicated sidewalks protected from vehicular traffic by a curb or other adequate device
 - (b) shared streets designed for safe sharing between pedestrians, cyclists, and vehicles (i.e. with speeds capped at 15 km/h [10 mph])
 - (c) pedestrian paths or pedestrian-cyclist shared paths
- Acceptable complete walkway segments must meet all the following criteria:
 - (a) be designed for easy pedestrian access to all abutting buildings and properties on the block frontage segment,
 - (b) be unobstructed and barrier-free for people with disabilities, including wheelchair users and people with low vision, according to local regulations or international standards³, and;
 - (c) receive street lighting at night that is adequate for pedestrian safety and security

Visually active

Percentage of walkway segments with visual connection to interior building activity

- A walkway segment, defined as a length of frontage between two adjacent intersections in the pedestrian network, is considered visually active if 20% or more of the length of its abutting building frontage is visually active
- Visually active frontage is defined as the length of ground-floor building frontage abutting public walkways that is visually penetrable
- Visually penetrable frontage comprises partially or completely transparent windows and materials along the length of frontage at any point between ground level and 2.5 meters above ground. In this definition, residential building windows with ledges just above pedestrian eye level are acceptable
- Garage entrances and other vehicle-only access points are not included as visually active frontage and count as blank walls
- Undeveloped plots (plots farmed, fallow, vacant, or used as park and gardens) are not included in the measurement
- Alleyways that dead-end and have no main pedestrian entrance need not be counted as public walkway segments

Shade and Shelter

Percentage of walkway segments that incorporate adequate shade of shelter amenities

- Walkway segments are the parts of walkways that lie between two adjacent intersections in the pedestrian network, including non-motorized network intersections
- Shade and shelter can be provided through various amenities, as locally appropriate. Such amenities include trees, buildings (e.g., arcades, awnings, cast shadows), freestanding structures (e.g., shade shelters at intersections and public transport shelters), and vertical wind and solar screens (e.g., walls and lattices)
- Shaded walkways are walkways that provide appropriate shading over the clear pedestrian path in the hottest season
- Streets with more than two traffic lanes must be adequately shaded on both sides to qualify as shaded walkway segments
- In hot climates, walkway segments in narrow streets that are adequately shaded by buildings other than for a short time at peak sun qualify as shaded walkways

CONNECT

Short, direct walking and cycling require dense, well connected networks of paths and streets around the city clock.

Small Blocks

Length of longest pedestrian block

- Pedestrian blocks are defined in this Standard by pedestrian connectivity, as opposed to vehicular connectivity. A block is a continuous set of adjoining enclosed properties impermeable to pedestrian public passage. A block is demarcated by the block line separating these adjoining properties from the publicly accessible pedestrian passages and the right of way around it. For instance, a building or property with a through passage open to the public counts as two pedestrian blocks public accessibility is defined as unrestricted passage for all for at least 15 hours a day
- Blocks are measured by the length of the longest block face or block frontage. The block line is measured corner to corner between two adjacent intersections in the pedestrian network
- Blocks located along pre-existing linear infrastructures that are permanently impermeable to pedestrians, such as at-grade railroads and motorways, need not be counted

Prioritized Connectivity

Ratio of pedestrian intersections to motor vehicle intersections

Pedestrian intersections are intersections in the all-accessible and publicly accessible pedestrian network. The network includes streets with appropriate sidewalks and crosswalks, pedestrian-priority (shared) streets, and pedestrian paths and passages

- Motor vehicle intersections are defined as intersections in the vehicular roadway network, excluding pedestrian-priority (shared) streets
- Intersections at plazas and open spaces permeable to pedestrians and cyclists, but without defined paths, are counted as four-way intersections
- Cul-de-sacs and dead ends with no throughway or pedestrian exit connecting back to the pedestrian network do not count toward an intersection's connection count. Therefore, a four-way intersection for which one of the ways is a cul-de-sac is counted as a three-way intersection

TRANSIT

Walkable access to rapid and frequent transit, defined as rail transit or bus rapid transit (BRT) is integral to the TOD concept and a prerequisite for TOD standard recognition.⁴

Walking Distance to Transit

Walking distance to the nearest transit station

- Applicable transit stations are accessible to all by design, and may be:
 - (a) a rapid transit station (defined as bus rapid transit, rail, or ferry), or
 - (b) a station on a non-rapid transit service that connects to rapid transit within 5 kilometers
- Buildings in the development must all be within a 1,000-meter (m) all accessible walking distance of a rapid transit station or within a 500 m walking distance of a qualified non rapid direct service
- The actual walking distance between the entrance to the farthest building and a transit station is measured via all-accessible walkways and crosswalks in public areas (not a straight line)
- All-accessible stations and walkways are defined as barrier-free for people with disabilities, including wheelchair users and people with low vision, according to local regulations or international standards.⁵

SHIFT

In cities shaped by the above principles, the use of personal motor vehicles in day to day life becomes unnecessary for most people and the various detrimental side effects of such vehicles can be drastically reduced.

Off- Street

Total off-street area dedicated to parking as a percentage of the development area.

- Add the area of all surface parking lots, the total floor area of structured parking facilities (underground parking floors included), and all related driveways starting from the access property line
- Leave out the parking places and driveway reserved for car share service, people with disabilities, and essential service vehicles

URDU BAZZAR

NOT JUST A SPATIAL, BUT A HISTORICAL AND CULTURAL IDENTITY

Not many people know that **'Urdu Bazaar'**, that literally means **'Urdu Market'**, has a very unique history to it. The original Urdu Bazaar was a major market in the walled city of Delhi, India that connected the canal in the middle of Chandni Chowk to Jamia Masjid.

It was destroyed in 1857, in the war of independence, and has now evolved into a food street and cloth market. Today, the main book publishing, printing and selling markets of major Pakistani cities such as Lahore, Karachi, and Rawalpindi are also known as Urdu Bazaar, with Karachi Urdu Bazaar being the largest of all.

The Urdu language also obtained its name from this market. The famous poet Ghalib lamented on the 1857 destruction of Delhi as such, 'My dear man, when Urdu Bazaar is no more, where is Urdu? By God, Delhi is no more a city, but a camp, a cantonment. No Fort, no city, no bazaars'¹



¹ Khurshidul Islam, Ralph Russell, published by Allen & Unwin, 1969

As Purnea Gillani, in her write-up Urdu Bazaar Karachi: A Specter of the Revolution, posted (April 04, 2019) on the web application Charcoal + Gravel² states, ‘the case of Urdu Bazaar Karachi can be considered an anomaly. While other bazaars have made space for eateries, gift shops, and cloth vendors, Urdu Bazaar Karachi has stood firm in its legitimacy- kitab, not kebab. Purnea documents the Urdu Bazaar scene as follows, ‘having evolved in its offerings over time, the bazaar is the center point of publishing, printing, and selling of various books as well as craft materials.



The Bazaar has a designated area solely for textbook compilations and photocopying. Reprinting and repackaging expensive textbooks is a lucrative business- copyright laws be damned. Some have stuck to the family code of largely selling Islamic and Religious literature, others offer classic literature only. Those looking for a hit of nostalgia can easily come across Archie comics and R.L. Stine books hidden underneath piles of contemporary young-adult fiction. Urdu Bazaar sells art supplies, such as paints, charts, clays, and paintbrushes, alongside stationary and journals and lab equipment. The beginning of the school term finds the bazaar flooded with students, and school representatives. The zhuzhed up bookshops dotted across Clifton, with their neatly stacked shelves and shiny wooden floors, don't hold a candle to the labyrinth that is Urdu Bazaar Karachi. Every reader knows this. Rummaging through tall stacks of discarded books and journals, you might just come across something life altering.

Urdu Bazaar is among the oldest book markets in the entire subcontinent, and its roots can be traced back to the Mughal Empire. ‘Urdu’ comes from the Turkish word Ordu meaning ‘army’ and ‘Bazaar’ is a Persian word meaning ‘market’. Urdu was widely spoken among the soldiers of the Mughal era, and some historians go so far as to say that the Urdu language received its name from the **Urdu Bazaar**. Since it originated in the Mughal period, the bazaar was located not just in present-day **Pakistan**, but also near the Red Fort in Delhi. With its vast collection of novels, travelogues, poetry and essays, the bazaar attracted aspiring writers, poets and scholars from all over the subcontinent, and hosted poetry sessions inside many of its shops. Unfortunately, though, it is said to have been destroyed in the 1857 War of Independence.

Source: Urdu Bazaar's evolution - From the Mughal times to the present, Amber Juman, October 21, 2016, Youlin online magazine





URDU BAZAAR PUBLIC SPACE DESIGN

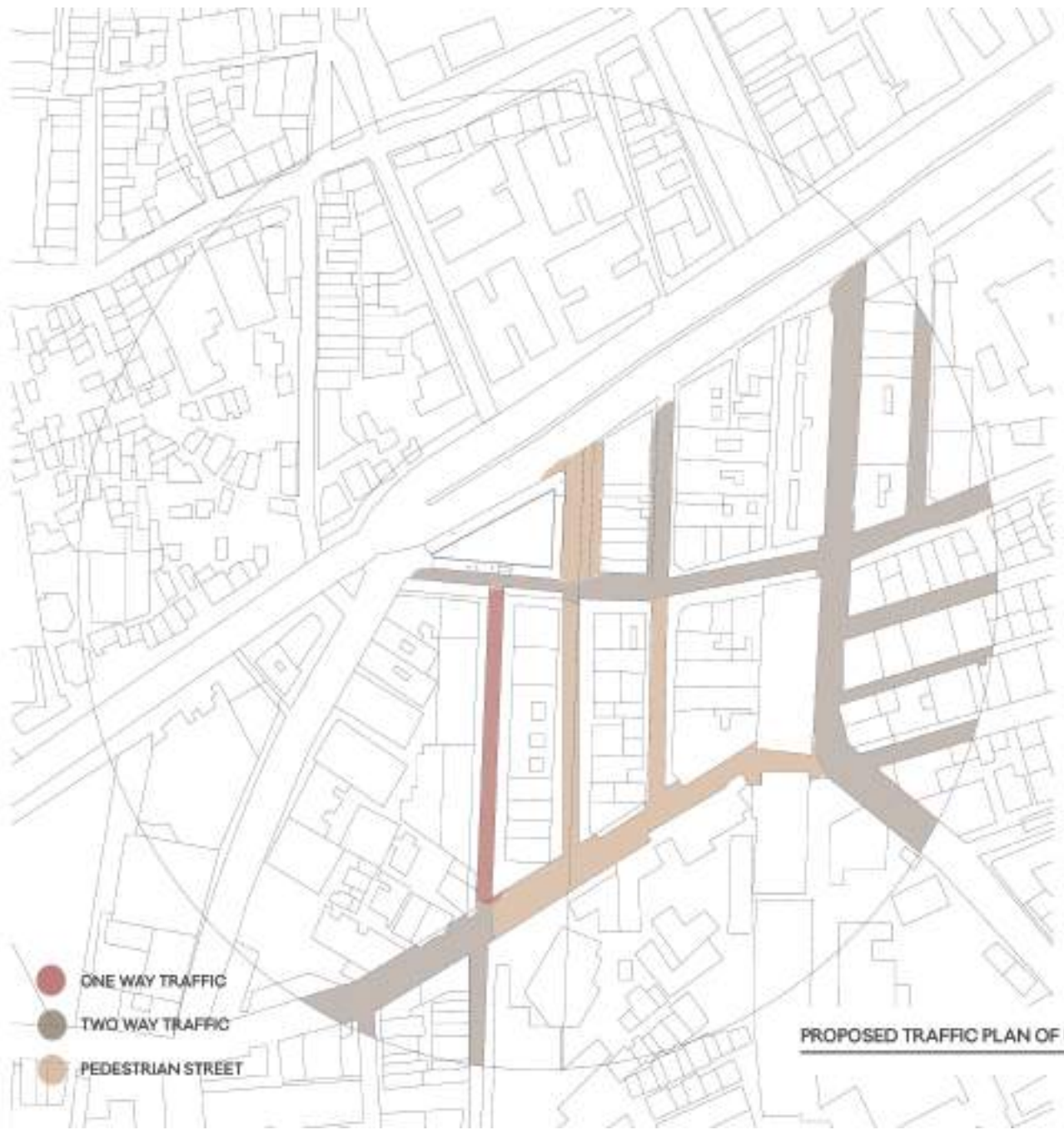
Transit Oriented Development (TOD), Municipal Park Station, Green Line, Karachi Breeze BRT Project





● TWO WAY TRAFFIC

EXISTING TRAFFIC PLAN



- ONE WAY TRAFFIC
- TWO WAY TRAFFIC
- PEDESTRIAN STREET

PROPOSED TRAFFIC PLAN OF URDU BAZAAR PROJECT

PROPOSED DESIGN INTERVENTION

- 1- Open public space in Municipal Park footprint, next to Parking
- 2- Sabri Nihari pedestrianised road.
- 3- Elevated pelican crossing with ramps on end for the physically impaired (wheelchair bond)
- 4- Retractable bollards
- 5- Central freight lane
- 6- Canopy covered areas for seating and kiosks
- 7- Main street light.



Lighting

General lighting to the street well-lit so visitors can enjoy the streets even at night. Acts as a safety enhancer element.



Retractable Shade and Awnings

Retractable waterproof shades to protect shopfronts and provide a shaded pathway for visitors.



Tactile Tiles

Clear marking of end of pathway for differently-abled people. Tactile tiles help identify periphery and boundaries for visually impaired.



Seating

Benches for people to sit and relax and enjoy informal gatherings with a cup of tea.



Mini Kiosks

Compact mini kiosks which can be closed and stacked against the shops when the market is closed.



Central emergency clear

Clear central pathway wide enough to let emergency and freight vehicle through.



Seating II

For more inclusive family gatherings with a shade overhead.



INTERSECTION INTERVENTIONS

Corner Curb Ramps

For easy and universal accessibility, corner ramps have been proposed. These will also be used by kiosk and shop vendors for moving carts around.

Traffic Calmer

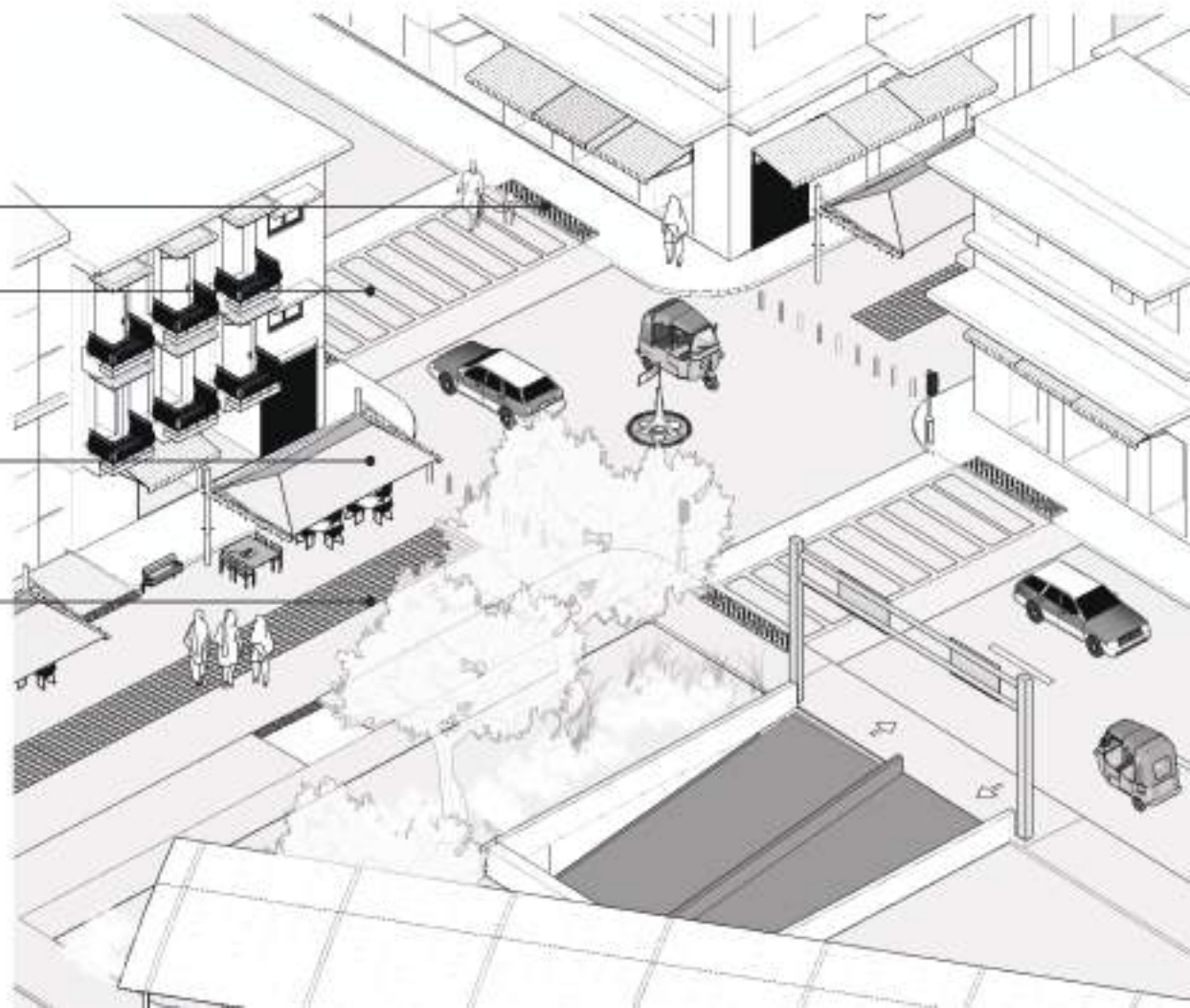
Before intersections making the intersections safer to cross. These are also used to avoid accidents at the crossings.

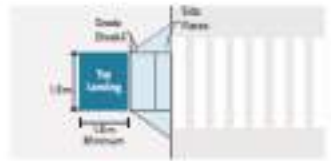
Shaded Seating

Covered seating areas which are more inclusive and inclined towards family gatherings.

Central Clear Way

Central clear way designed to allow emergency and freight vehicles to pass.





Traffic Calmer

Before intersections making the intersections safer to cross. These are also used to avoid accidents at the crossings.

Corner Curb Ramps

For easy and universal accessibility, corner ramps have been proposed. These will also be used by kiosk and shop vendors for moving carts around.





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BEFORE



Ceiling Element

Ceiling to be renovated and skylight to be maintained.

Lighting

Ambience lighting to enhance the arcade and make it suitable for night usage.

Signage

Uniform main signages and standalone floor signages for other details.

AFTER



BEFORE



AFTER

Redesigned Canopies

Weatherproof colourful canopies acting as shade as well as an added aesthetics to the street

Activating Facade

Facade niches and setbacks become an interactive architectural element, humanising the street

Seating

Planting trees for natural shade and adding seating underneath

Kiosks (Eatery and Books)

Kiosks placed along the periphery retaining the market aspect of the street

FACADE TREATMENT

POP OF COLOUR

Adding colour to shopfronts, activating the facade on ground level.

GRAFFITI ARTWORK

Making the architecture fabric more lively by adding graffiti to the more recent facades that aren't categorised as heritage.



PARALLEL PARKING

On-street Parking

Parallel curb side parking spaces for vehicles will avoid disruption of traffic flow.



Parking Meters

Parking meters can help keep parking systematic and orderly.



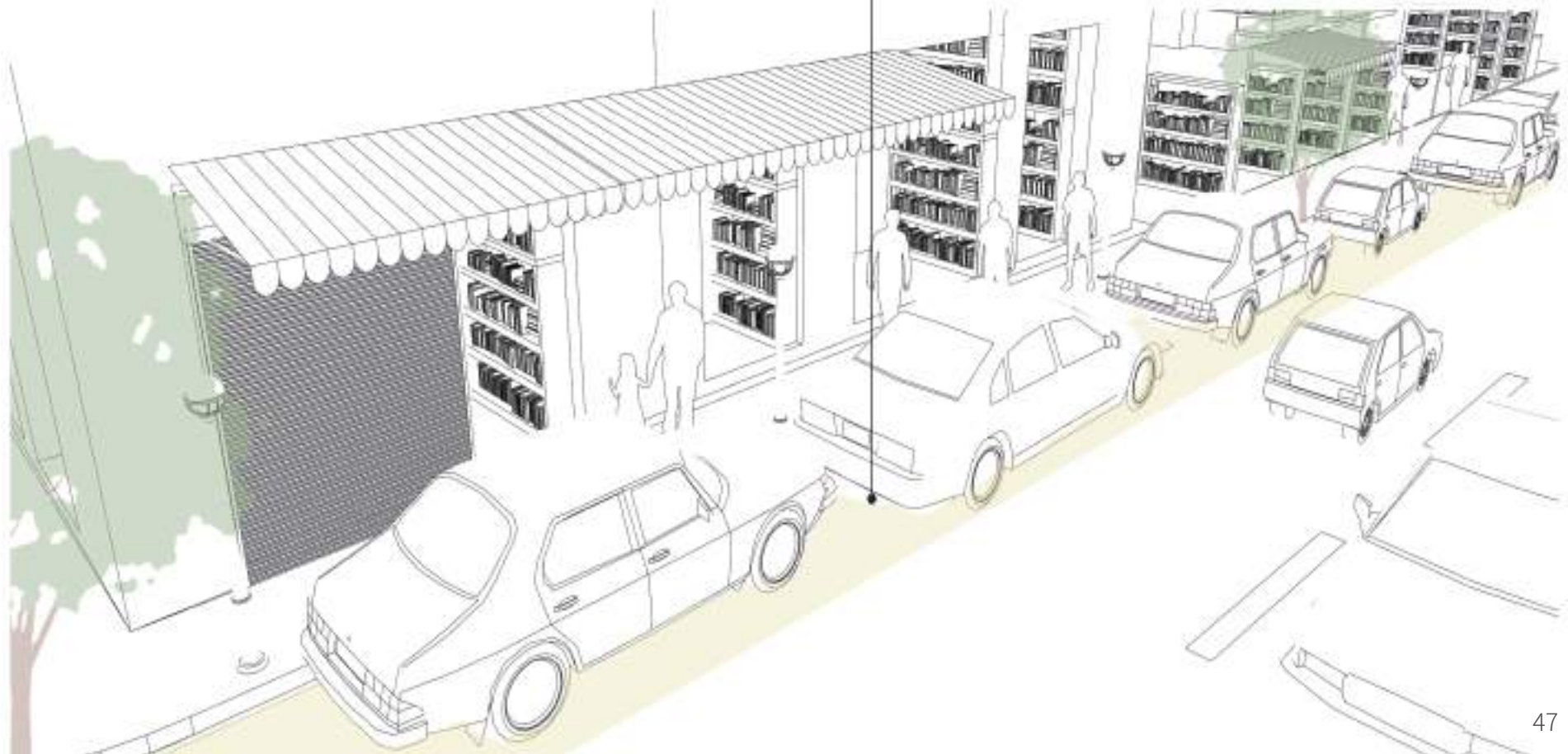
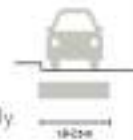
Accessible Parking

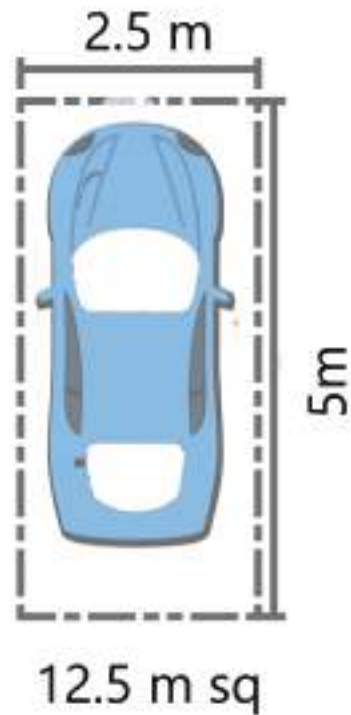
Clear access to pedestrian sidewalk in commercial spaces.



Parallel Parking

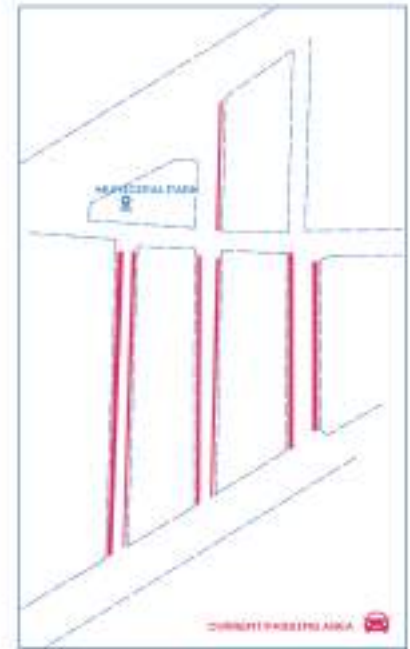
Parking lanes parallel along the sidewalk should be marked clearly.





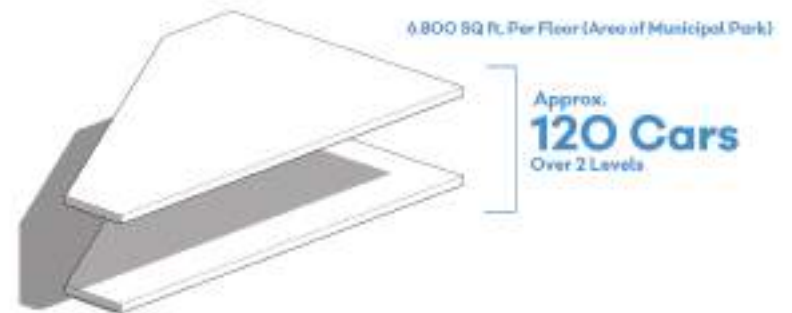
Sub-Surface Parking


Proposal to design underground level parking on the footprint of Urdu Bazaar streets and Municipal Park, to clear the streets.





PARKING MANAGEMENT PROPOSAL USING SUBSURFACE PARKING UNDER MUNICIPAL PARK:


On street parking of Urdu Bazaar to be transferred to sub surface parking lot.




- 

1. Elevated zebra-crossing
- 

2. Parallel Parking
- 

3. Back road pedestrianised with mix of book stalls and kiosks
- 

4. Main pedestrianised road with seating on either sides and freight lane in centre
- 

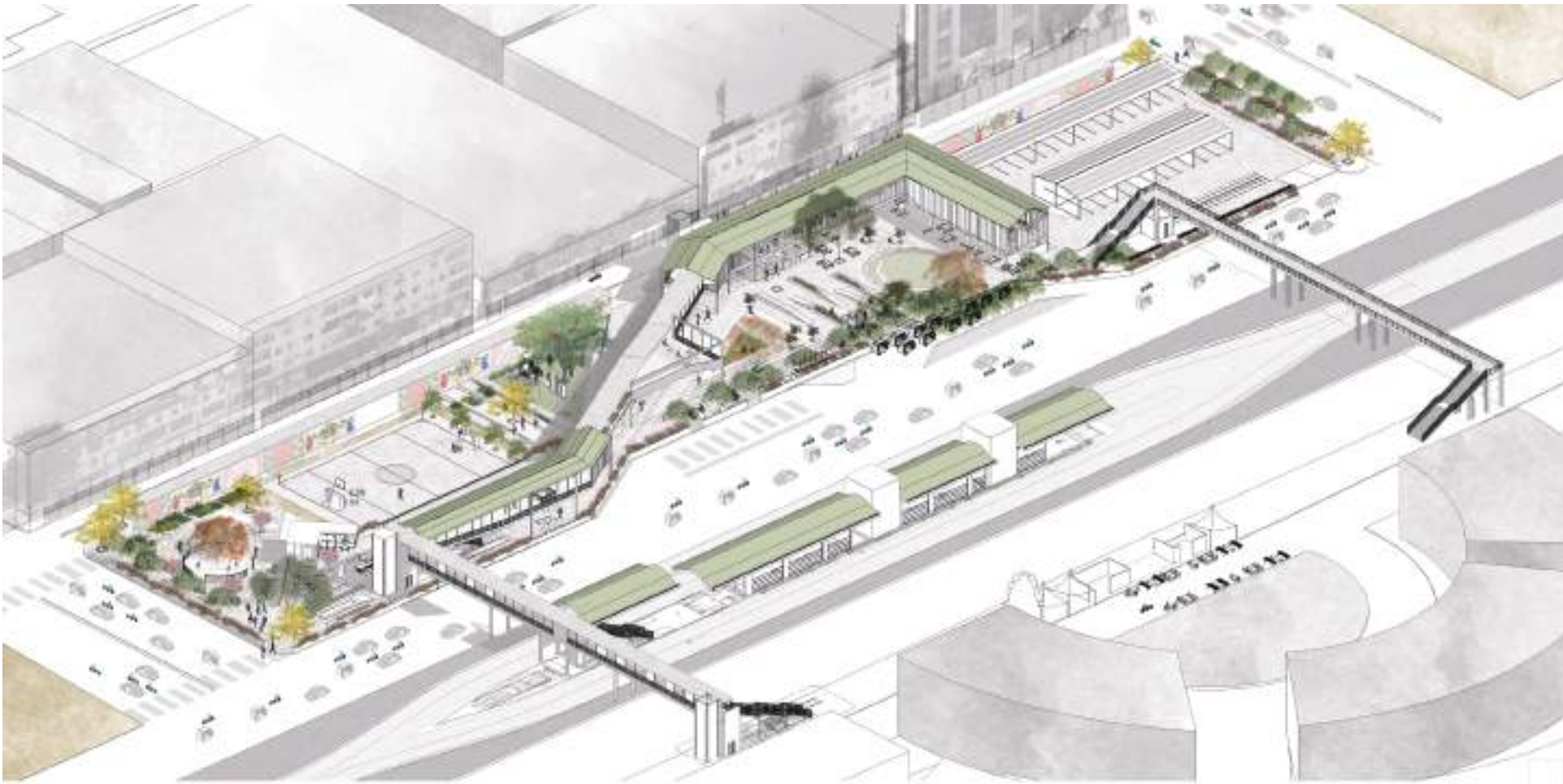
5. Municipal park turned into underground car park and open public space



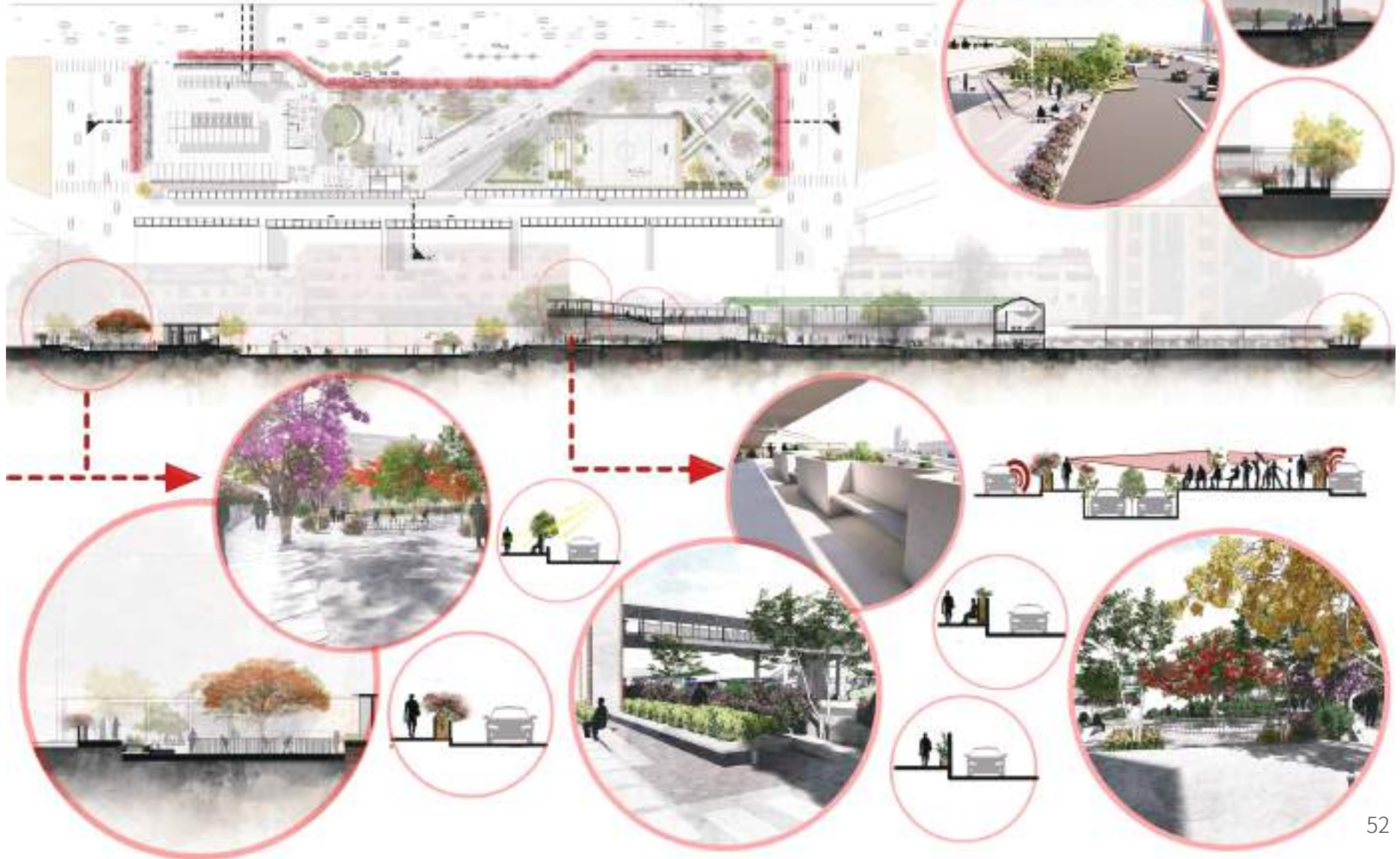


HYDERI STATION TRANSIT NODE AS AN IMAGEABLE PUBLIC SPACE

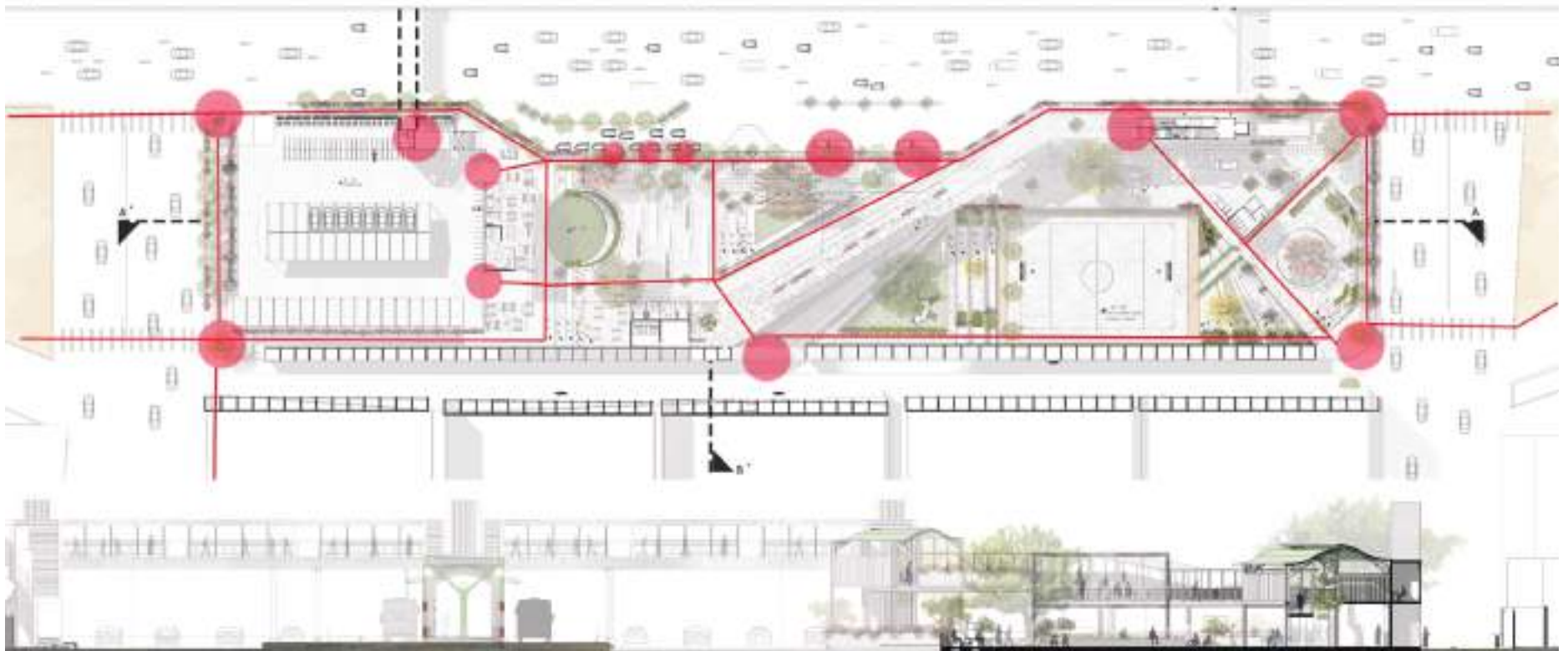
*Transit Oriented Development (TOD) Hyderi Market Station, Green Line, Karachi
Breeze BRT Project*



BUFFER BETWEEN PEDESTRIAN WALKWAYS AND ROADS



PEDESTRIAN ENTRY, PATHS, SHADE



ACCESSIBILITY FEATURES

