Mumbai's Micro Metropolis

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SHORTLISTED

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The proposal suggests that one should relinquish short term financial gain in favour of social mobility. It proposes accessibility oriented planning strategy with enhancements to the existing roads and creation of intersecting loops of new roads with new service centres. It is a hybrid of a top-down and bottom-up approach to redevelopment, where the government is considered a developer and the community as the managing body. One-third of the housing units will be for sale while the rest are for rehabilitation. The jury found the tandem towers, with high-rise units above and chawl type units below to be an interesting typology for mixed use living.

PREMISE

As Mumbai prepares itself for a new 20-year development plan, it is hard to comprehend how the city can produce decisive plans for its long-term future while ignoring more than half of its citizens. This is, however, the stark reality of Mumbai and its land use policies that are the result of the city's harsh dichotomy between formal and informal urban cityscapes. Unlike most megacities around the world struggling with slum formation, Mumbai's slums are not merely situated at the urban fringe but permeate the entire city. 2/3rd of the city's informal population lives on 1/3rd of the residential land area. Every single new plan or project in Mumbai is confronted by the direct correlation with neighbouring slums, their inhabitants and societies. These close correlations must urgently be mapped, in order to streamline socio-spatial interaction and mitigate conflict.

Currently, however, often precisely the opposite happens. New projects are implemented that ignore the presence of slums, while others are deliberately employed to mount pressure on adjacent slums— most of which fall outside the ordinance of Mumbai's DP regulations.

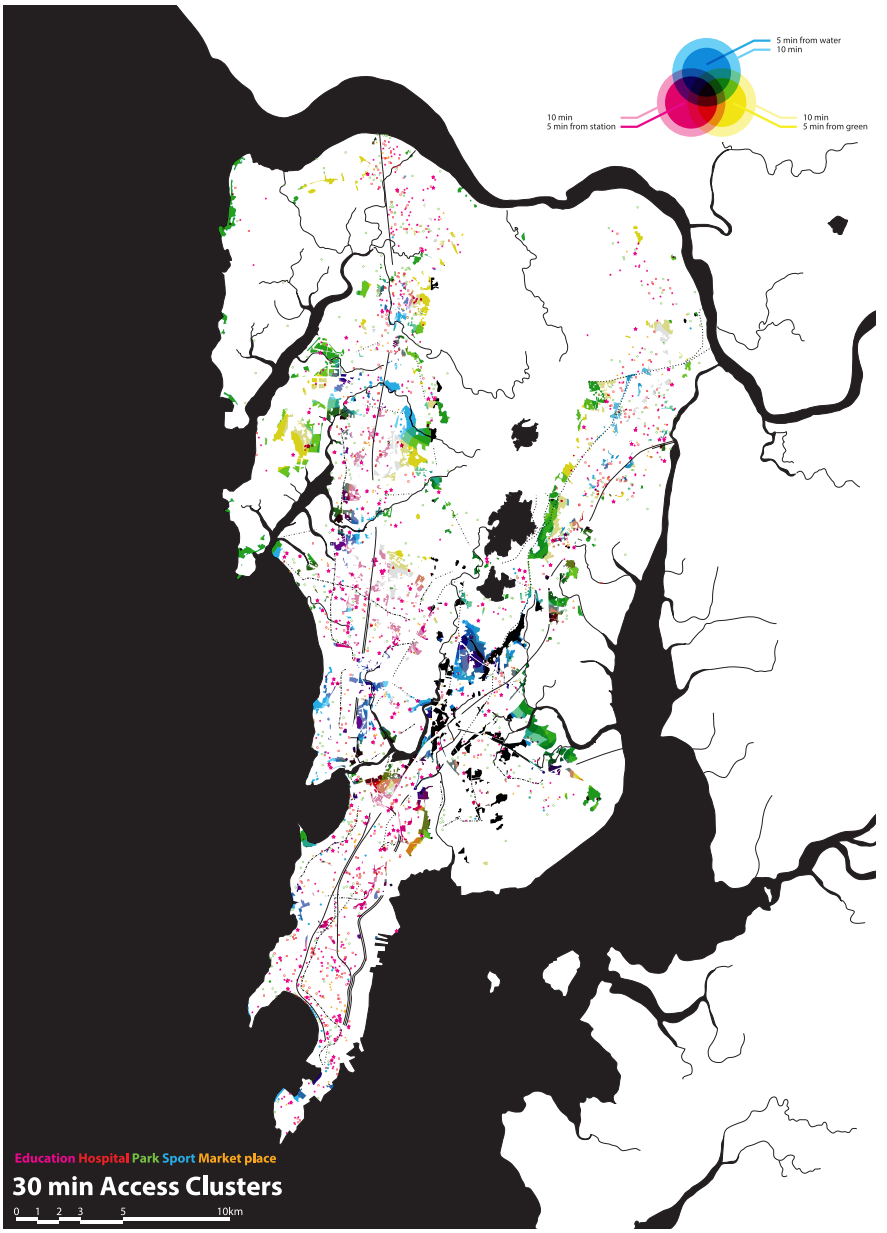
Models dependent on extensive displacement conflict with intrinsic urbanisation tendencies and defy basic planning principles. If current practices continue, we can anticipate expansion and fragmentation of the urban fringe to accelerate. Standard development models for affordable housing simply result in solutions out of reach to the local community.

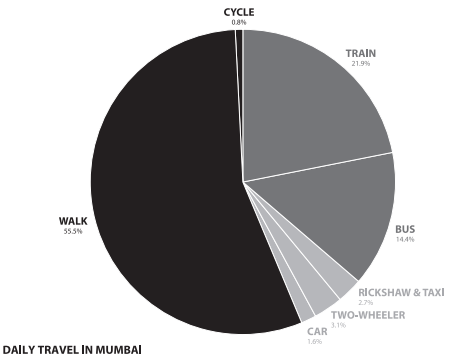
Although highly criticized by academics, planning experts and civic organisations, the Dharavi Redevelopment Plan (DRP) is reflective of the various influences that guide planning decisions in Mumbai. Irrespective of these concerns, the DRP is an important indication of the government's formal acceptance of slums in Mumbai and the new rights bestowed on its inhabitants.

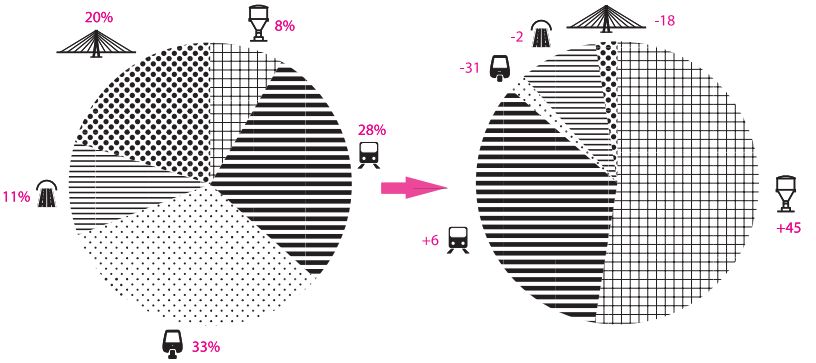
The mismatch between citywide planning and community level incentives widens, while the window of opportunity to bridge the gap is closing. In this context, Dharavi presents a profound strategic opportunity. The broad interest Dharavi exerts on experts, policymakers, foreign, national and local aid agencies alike, makes this a crucial project with real potential to affect change.

The resilience of slums in the face of policies undermining their development, is evidence to the strong symbiotic relationship between formal and informal cityscapes. As Mumbai opens its doors to the global market, slum dwellers are organising themselves into increasing number of associations and federations to claim their rights within the city.

Currently, as much as 85% of Dharavi's occupants find their job opportunities within the sphere of the district. This can, however, no longer inform planning decisions. Today, as local (polluting) industries are moved off-site and opportunities are diversifying, local residents are steadily looking outward. But opportunities are severely restricted by poor accessibility to the rest of the city, including to other slums. Excessive time in transit negates many opportunities. Beyond poor access to jobs outside, the extreme density within slums prevents even the most basic public amenities from being installed - most notably, public water, sanitation and sewage; and disproportionately reduces the hours available to residents.







Current investment Split
by modality

Proposed investment
allocated according to MEC
(trip length x ridership, or Mobility
Efficiency Coefficient)

GUIDING PRINCIPLES

What this project aims to reveal is that a phased approach to slum rehabilitation can effectively unite the ambition to elevate urban poverty with the parallel ambition to boost real estate values and property development. Relinquishing short term financial gains in favour of broad social mobility is the key.

The city's patchwork of formal versus informal falls apart along sharp divisions, defined by train tracks, roads, rivers and other hard barriers. This proposal begins by bridging these divisions and linking urban spaces through small strategic interventions, an accessibility oriented planning strategy.

Top-down Planning and Grass Roots Upgrading
The proposal is a hybrid of the two extreme ideologies/mechanisms of slum development. It involves intervention at both scales and relies on them to happen simultaneously. This 'backbone' development is able to rightly supplement and support grass roots efforts of both individuals and communities alike. Whether it is building a toilet inside an existing slum dwelling or constructing a cooperative housing complex, the backbone has the potential to facilitate developmental change in a way that, both the desire of the residents and the ambitions of the government are met.

Kick-start the Process / Building the Backbone
The sole intention of the project is to stir/ stimulate/kick-start a process, rather than achieve a definitive end. The current situation in Dharavi has reached a point where grass roots up scaling is not possible any further. The new spurt of development is therefore meant to rekindle home-grown building activity and channel it effectively, without infringing on the intrinsic capability of these methods. The model, not only offers short term gains of tangible deliverables or political credit and compensation for both eligible and non-eligible residents, but also paves the way for genuine economic and cultural stimulation, forming a strong backbone for urban resilience.

Generational Approach

By acknowledging the fact that there is no single-step solution to Dharavi's problem, the proposal focuses on finding the right first step. The strategy is to phase development in such a way that every subsequent phase can be receptive and responsive to changes that occur along the course. Moreover, bulk of the redevelopment relies on the efforts of local residents themselves, allowing for a more socially sustainable transition to take place. Ultimately, the idea is to tap into the immense potential that people of Dharavi possess, to build the kind of neighbourhood only locals know works best for them.

A New Hybrid of Informal and Formal

The proposal recognises that much of Dharavi's efficiency and harmony rests on the social order that has been established through self-organisation amongst its residents. It is precisely for this reason, that the proposal steers clear of artificially imposing a new framework onto what exists currently. By slowly inserting formal market elements within the context, the project sets a unique urban environment where the planned meets the unplanned and where the formal and informal co-exist in parallel, without undermining the latter, and yet prompting its eventual 'formalisation'/ stabilisation.

State Community Partnership

In the case of Dharavi, traditional public private partnerships are less likely to be successful if profit incentives are kept low and delays due to social resistance are to be avoided. Which is precisely why, the proposal demands a new kind of partnership between the state and community instead. The partnership capitalises on the strong knowledge that local residents have of the constitution of their neighbourhood, something that the government has been unable to determine so far. By involving locals in the management and organisation of the new development, the government will be able to resolve issues of compensation and bring in demographic transparency.

By applying the urban plan, as a discursive tool to organise the different in-between actors, from NGOs to expert platforms, and the roles they can play to mediate between state objectives and slum communities, Dharavi can seed an inclusive and truly holistic planning culture.

GOVERNANCE

Government as Developer

Since private investors find limited incentive to participate in such schemes due to unprecedented delays, the government is to assume the responsibility for redevelopment. In order to keep profit margins low and be inclusive, short term returns on investment would have to be held back partially.

Community as Managing Body

To ensure that intentions and resources are translated effectively into implementation, it is necessary that local community takes initiative of the project. Thus, the proposal is that the community organises itself into building committees based on the footprints of new towers.

Outsource Services to Private Players

Although criticised by some, delivery of services like electricity and gas has proven to be more effective when managed by private providers as opposed to government-owned companies. The sheer complexity of fee collection in a slum context makes it impossible for the under-staffed and under-resourced government to oversee. The proposal therefore intends for public utility services (other than piped water) to be the liability of private enterprise.

Responsibility of Building Committee

The building committee set up for each of the proposed towers will initially comprise of all 'eligible' residents who are displaced due to redevelopment. Amongst them, a list of eligible tenants shall be prepared and members of this list will subsequently be included to the committee. Finally, all new residents, through purchase of the tower shall also be included to the committee. The fully formed committee has the responsibility of managing funds for the maintenance of the building through jointly owned commercial units in the short tower. It would also decide eligibility for compensation, including tenants and assist the government in organising the allotment of flats.

FINANCE

Of the total units in a twin tower,
1/3rd is compensation for owners
1/3rd is resettlement of tenants
1/3rd is the sale component

One Third, One Third, One Third

Saleable units are restricted to the top 4-5 floors, depending on building height, and ground floor of the tall tower. The idea is to release the most valuable real estate from the development while still retaining at least two third of the units, including all units in the short tower, for rehabilitation of evicted residents. The model not only brings in sufficient revenue but also creates a healthy mix of residents.

Capitalisation of Real Estate on Main Roads

This strategy has two main advantages. First, by starting with existing road networks, the project saves on significant time and cost to build new infrastructure with minimum disruption to slum houses. The second advantage is strategic capitalisation of real estate along primary roads, the sale of which will yield higher profits than any other area. While residential units would enjoy good access to transport (thereby, the rest of the city), commercial establishments (concentrated along the streets) would benefit highly from increased pedestrian traffic.

Funds for Maintenance

Besides sale of units in the tall tower, all of the ten ground floor units in the short tower (as explained under housing) would be reserved for local businesses and enterprises that get displaced or those who choose to upgrade their work spaces. These ten units would be jointly owned by the building residents of the twin tower, who must form a committee to manage the property. Under the discretion of the committee, these units would be rented out to suitable candidates and the money collected every month, would serve as a fixed deposit fund for the maintenance of both towers. Since rent collection would be the prerogative of the community itself, the risk of renting out to small businesses would be mitigated by familial bonds.

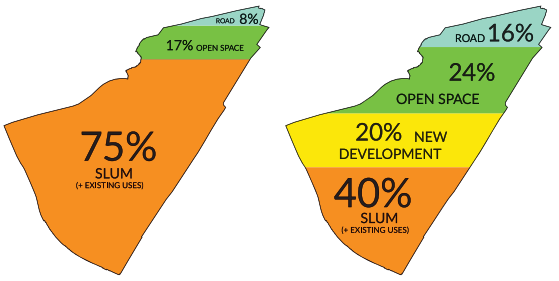
Revenue from Public Utility Buildings

In addition to the twin tower typology, the proposal also includes public function buildings that comprise of health clinics, schools, community centres etc. These establishments may be run publicly or privately, but a portion of the premises would be made available for commercially run public utilities like cinemas, guest houses, community kitchens etc. that would help generate further revenue for the redevelopment.

New Centre at BEST Bus Terminus

Another major source of revenue is the proposed commercial/service/industrial centre at the BEST bus terminal. While keeping operations of the buses uninterrupted, the centre would serve as a new site for local production and services, thereby relieving some pressure off existing slum settlements. Much like the model proposed for the twin towers, units at the BEST centre would be partially sold and partially reserved as office rental (possibly managed by BEST itself).

PLANNING



Existing land use Proposed land use

The plan concedes to the impossibility of replacing slums with a planned form. It suggests a dynamic process that allows for organic changes within structured guidelines and the final outcome remains ambiguous.

Development Parameters	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Population living in slums	404,788	364,047	330,257	309,912	273,879
Population living in towers	33,000	67,200	117,000	151,200	207,000
Projected total population	437,788	431,247	447,257	461,112	480,879
Population living in slums (%)	92%	84%	74%	67%	57%
Population living in towers (%)	8%	16%	26%	33%	43%
Number of towers	55	57	83	57	93
Unit production	6,600	6,840	9,950	6,840	11,160
Projected population in twin towers	33,000	34,200	49,800	34,200	55,800

Assumptions	
Total no of units per twin tower	120
Population per family	5
Projected population per twin tower	600
Projected total no of twin towers	345

Conditions	
Existing estimated population	430,000
Site area	2.4 sq km
Population density per sq km	179,167 people per sq km
Population displaced by construction of twin tower	126

Land Use Budget	Existing (ha)		Proposed (ha)		(+/-)
Slum area + existing development	180	75%	96	40%	-25%
Built area	-	-	48	20%	20%
Open space	41	17%	58	24%	7%
Road network	19	8%	38	16%	8%
Total	240		240		

The plan focuses on two ideas: time scarcity and space scarcity.

This translates into a network of primary access roads and foot bridges and a backbone of commodity housing to begin the funding cycle and generate public space. Displaced populations are accommodated in houses within the same location.

The proposed model aims at a hybrid of top-down and bottom-up planning principles that offer generational upgrading to take hold.

Perimeter Block

The phased perimeter block strategy requires constructing low and middle high-rise buildings within each block. These buildings would be able to create enough floor area for all the missing public programs in Dharavi, including facilities for health, education, vocational training, parks etc. Commercial activity will be concentrated along these primary roads, to boost development. In a phased process, the network of urban rooms gradually form a new backbone that includes within it all the necessary services and infrastructure required to upgrade Dharavi into a well functioning self-sufficient neighbourhood. Public services will be brought close to the people, without infringing heavily within existing settlements and with direct access to basic civic needs within walking distance from the home.

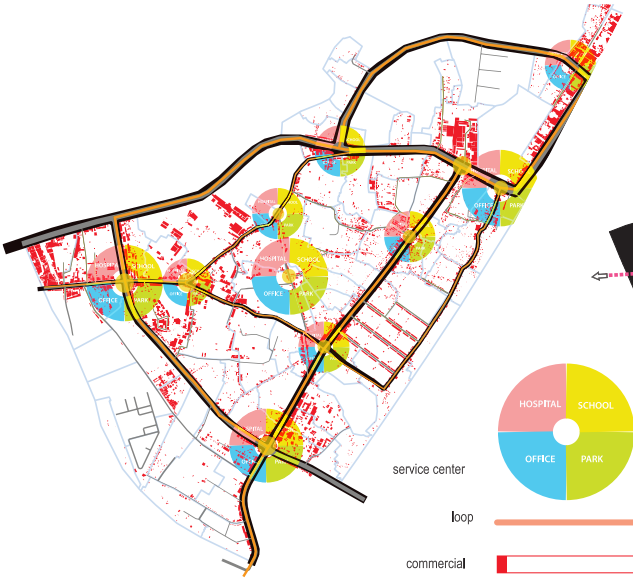
Transit Oriented Development

In order to compensate those residents who get displaced from the widening of roads, an 18 x 18 urban module has been created. This basic Transit Oriented Development (TOD) principle requires a minimum amount of upscaling to rehouse displaced residents and at the same time kick-start a market involvement to generate seed money for the redevelopment.

Relocate Polluting Industries

All polluting industries and manufacturing units would be relocated outside city limits. Heavier, non-polluting industries shall be encouraged to move to the dedicated service zone planned at the BEST bus terminal.

Building along main roads would allow easy access to transport as well as the units will gain from pedestrian traffic.



Organic logic driving economic activity in Dharavi forms the basis of a series of service hubs

Proposed TOD locations where the inner and outer ring roads intersect

Proposed master plan showing the location of perimeter blocks along main roads

HOUSING

Tandem Towers

The proposal introduces a tandem tower typology, consisting of two towers - a taller 10-13 floor tower and shorter 4-5 floor tower connected by galleries at lower levels that wrap around a central courtyard.

The taller tower is in itself a hybrid typology, served by galleries on the first five stories and internal corridor and elevator for the top part. This presents the combined typology of Mumbai's vernacular chawl, which is two-directional for lower units at the base of the tower and omni-directional above the fifth floor. The galleries become shading devices and private balconies at the higher floors.

Between the two, they accommodate a mix of residents and uses catering to home owners, tenants and new entrants. The taller tower accommodates relocated, eligible residents in the lower half (level 1-6). The top floors and the ground level of the tower would be sold in the open market, and effectively contribute to the project's revenue. The shorter building on the other hand is designed to be more modest, and will accommodate the local tenants. Thus, in principle, out of the total units in the twin tower, 1/3rd is for owners, 1/3rd for resettlement and 1/3rd as a sale component.

The saleable units can be a mix of commercial and residential use; however the ground level units of the short tower are reserved specifically for local commercial enterprises.

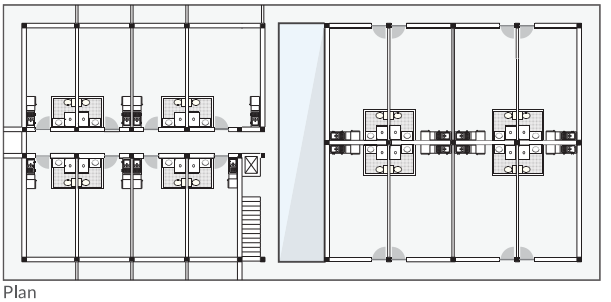
Local and international architects will be invited to design the towers based on this new approach. The entire process, more importantly, is meant to trigger a unique relationship between local (slum) builders and formally trained experts.

Incremental Upgrading

The proposal also supports a natural upgrading process of existing dwelling not a part of the redevelopment.

The redevelopment should prompt local residents to adopt strategies to gradually upgrade their homes. Every developmental milestone would be accompanied by micro-scale innovations in the built environment from rainwater collection, to waste segregation, to use of sustainable materials. At the community level, this would include electricity generation, construction of shared utilities like recreation halls, small gardens and perhaps even urban farms, leading the way forward.

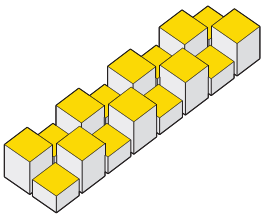
Section



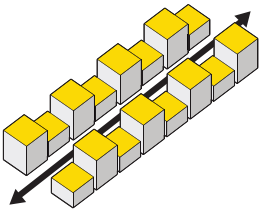
Plan

Proposed tandem towers

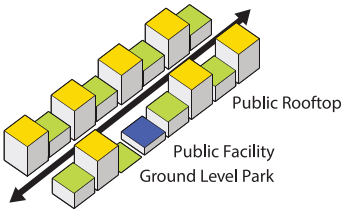
Double Layer Checker Pattern



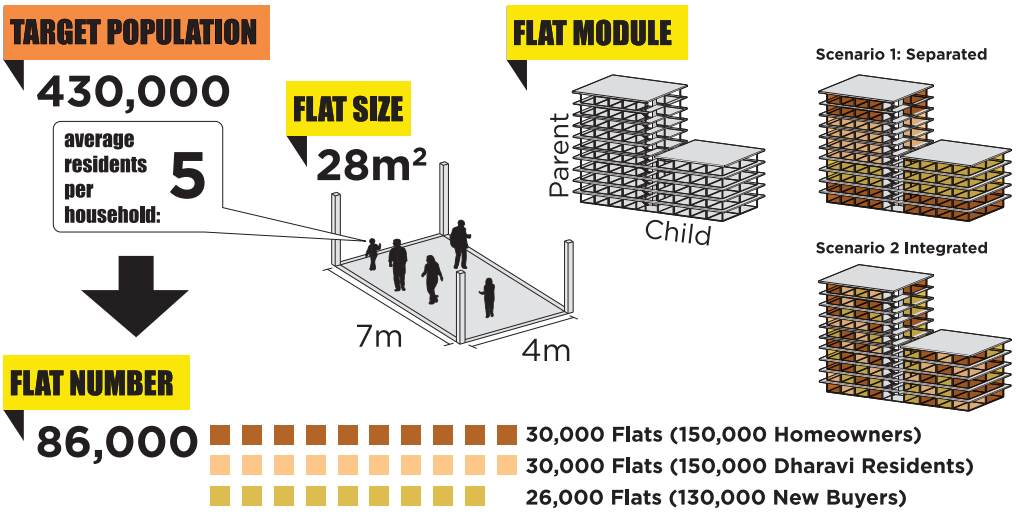
Checker Pattern along Road



Integrated Public Functions



Proposed clustering of towers



Proposed number of units

POLICY

Sell 1/3rd Units in Open Market

A maximum of 1/3rd of the total units in a twin tower may be sold in the open market. These units include the top levels of the tall tower and the ground level of the same tower, but does not include any units in the short tower.

Reserve Ground Floor Units of Short Tower

All 10 units in the ground floor of the short tower shall be reserved for commercial/ manufacturing/service enterprises owned by Dharavi residents. The rents of these units shall be set, managed and collected by the relevant building committee, and will be used for general maintenance of the towers.

Modify Current SRA Regulations

Existing SRA schemes must be made accessible to those who wish to cooperatively build new residential buildings and encourage communities to organise themselves.

Compensate Eligible Households

All households, considered to be eligible under the current DRP rules, will be compensated with a unit of minimum 25 sq m. Households with shops attached to their homes, can rent commercial property in the towers, with approval of the building committee.

Compensate Non-Eligible Residents

Tenants or extended families of home owners are entitled to free units, at the discretion of the building committee.

Delayed Ownership Rights

Ownership rights of all non-saleable units can be sought only ten years after occupancy, failing which the resident could forfeit his/her right to ownership.

LIVELIHOOD

Use Local Workforce for Construction

Preference shall be given to local builders and construction workers for the execution of redevelopment.

Prioritise Relevant (Creative) Industries

Preference shall be given to new businesses and firms which are interested in establishing offices in the region and which indicate an ability to directly tap into Dharavi's existing informal resources.

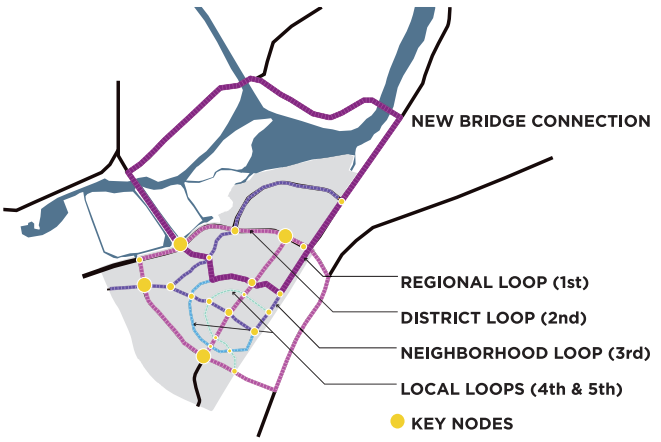
Business Improvement District

Small businesses and entrepreneurs can be made more stable through monetary means and effective mentorship by larger businesses in the region. One way is to take advantage of the newly amended companies act (2013), which mandates CSR spending for profit making companies.

Service Centre

A new commercial/service centre on top of the BEST bus terminal is proposed to provide dedicated offices, workshops and small scale manufacturing units for the residents of Dharavi, eventually provoking a gradual formalisation of the work force and facilitate a reciprocal relationship between creative industries and informal entrepreneurship.

TRANSPORT



Looping Infrastructure

Phase 1

Connect to Regional Loop

Phase 2

Create District Loop

Phase 3

Create Neighbourhood Loop

Phase 4

Create Local Loop

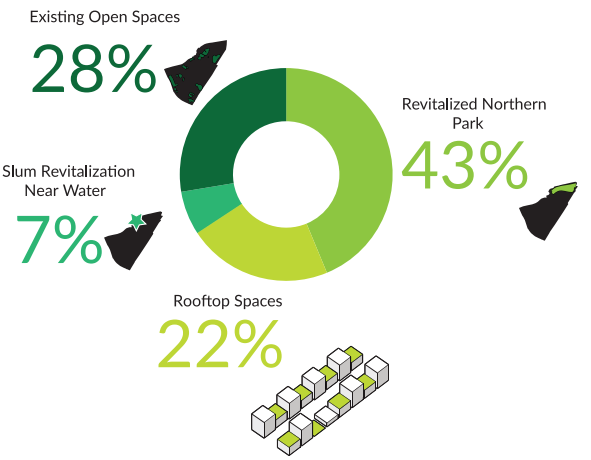
Phase 5

Establish Local Connections

Phasing strategy for transport: Introducing partially interlocking loops

Based on a 15 mins walking radius from each of the gates of Dharavi, a distinct pedestrian accessibility profile emerges. Starting with two new footbridges that give access to nearby stations this profile is dramatically improved. In addition, two new bridges are proposed that would strengthen Dharavi's connection with BKC and the Eastern Express Highway respectively, thereby relieving some of the pressure off the Sion-Bandra Link Road. In the near future, once the Tansa pipeline receives its underground replacement, a dedicated transport link could connect Dharavi across the Mahim Creek, by reusing the existing road in-between the defunct pipelines.

SOCIAL AMENITIES



Proposed public/ open space

The Tandem Tower typology provides ample space to add public functions and create open spaces along the redevelopment corridor. In addition, roofs of the taller towers can be used for storage, washing, drying and urban farming, whereas the roofs of the shorter towers can be used as public use terraces and gardens.