

RICE UNIVERSITY

MOBILE TRANSACTIONS ARCHITECTURE: LAGOS
Rethinking The Drive Through Market

by


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A THESIS SUBMITTED
IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE

Master of Architecture

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HOUSTON, TEXAS

MAY 2009

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by Nkiru Nicole Mokwe

MOBILE TRANSACTIONS ARCHITECTURE learns from Lagos’ “publiccongestion” infrastructures to create a new architectural typology: The drive through market, an intensification of the interchange market phenomenon. It anticipates a greater densification of the Lagos megalopolis by appropriating the site of future superstructure abutments connecting the Island to the mainland. The principal design approach renegotiates and de-optimizes the existing motorway interchange geometry and technology to facilitate a flexible and dynamic public space of both mobility and commerce activity, giving Lagos a liberating opportunity to legitimize informal street trade and regularize its economy. This thesis projects an ambition for an architecture of percolation, a flowscape that simultaneously accommodates conveyance and interaction to facilitate an unprecedented magnitude of collective inhabitation.

ACKNOWLEDGMENTS

To my family;

Thank you so much mummy, for all your love and support throughout my architectural education. Thanks Cheeby and Nnekpookie for your guidance, clarity of over view, and words of encouragement at the most difficult of times, rescuing me repeatedly from the depths of the architectural abyss. Thank you grandma for your unconditional faith in me.

I love you.

To the professors who defined my time at Rice;

*Albert Pope, for an unforgettable first review, resonating still,
David Erdman, for the tools and confidence you gave me. A true tutor,
Lars Lerup, for showing me Houston,
Clover Lee, for giving me Asia,
Eva Franch Gilbert, for giving me doubt,*

Thank you.

To my sources in Lagos;

*Papa Omotaya. Looking forward to working with you again.
Tosin Oshinowo. We are fighting for the same cause
Kunle Tejuoso. Thanks for giving me time
David Aradeon. Thank you for paving the way.*

To my thesis helpers;

*David Dewane, you were a rock and an angel
Jessica Hope Tankard, your composure set an example for me to follow,*

I couldn't have done it without you.

To my friends;

*Thank you Jtravis for your undivided attention and positive criticism,
Viktor and Amanda, what a fabulous competition,
Richie, thank you sharing your energy, your enthusiasm, your laughter and
your love.*

I'll miss you

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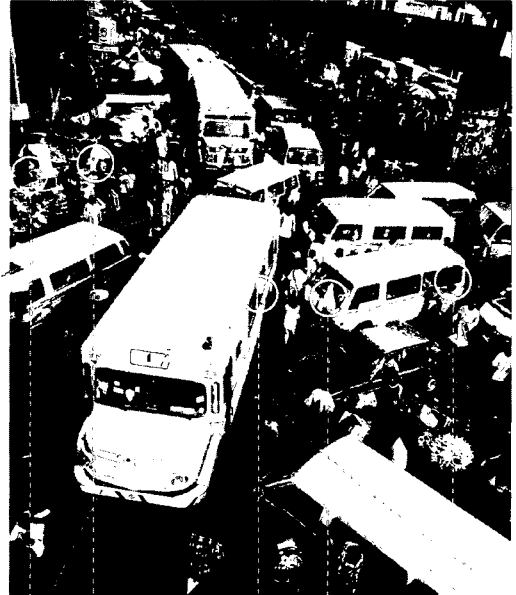
1 FROM MARKET TO MEGALOPOLIS

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“GO SLOW”

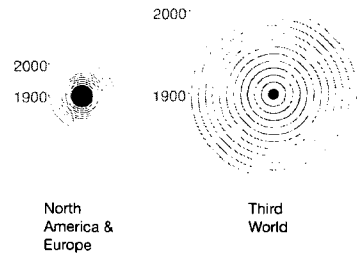
In the densely populated city of Lagos, Nigeria the term ‘go slow’ is a local colloquialism, used disdainfully to describe a common condition known well to its inhabitants.

Trapped by the boundaries of the motorway surface, thousands of drivers participate in the performance of an almost glacial motion of metal, inching forward at a rate of less than 2 miles an hour, ‘v boot’ to ‘504’, bumper to bumper. ‘Go slow’ is both collective event and place in the city, emerging with an unpredictable temporality. To the millions of informal traders living and working in the city, ‘go slow’ is also prime real estate for roaring trade. The bridge market, the cloverleaf market, the expressway market are all thriving forms of successful commercial space in this modern day megalopolis.

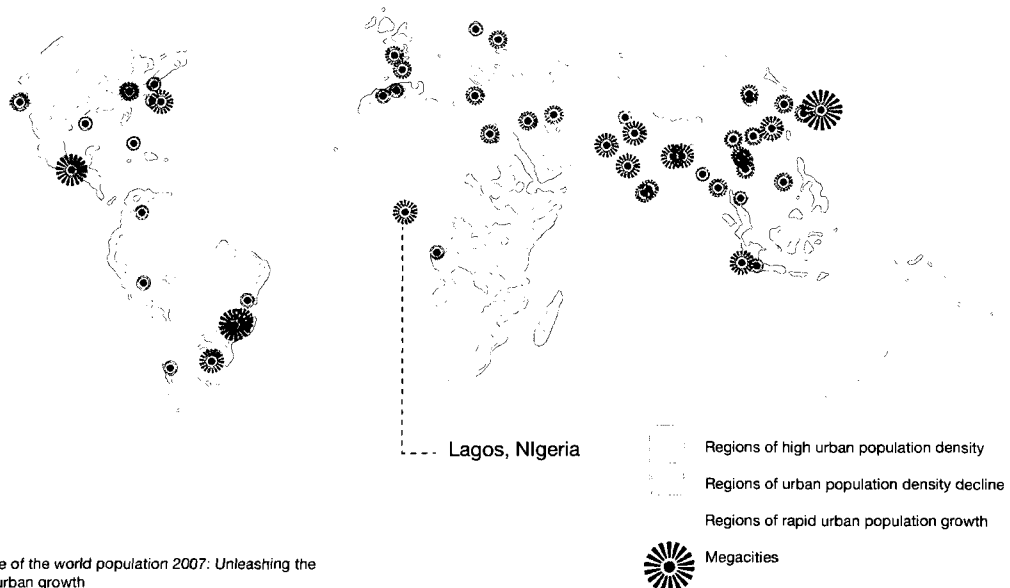


AN URBANISING [THIRD] WORLD

Today more people live in cities than ever before. The number with over four million inhabitants will rise from 42 to 135 in less than half a century. However, urban centers of early industrialization in the so called first world are shrinking while new urbanizations are forming in under developed and unindustrialized regions. Lagos is a third world megalopolis. An urbanized center with a population of over 10 million, of the third world is a phenomenon, which has only emerged in the second half of the 20th century.



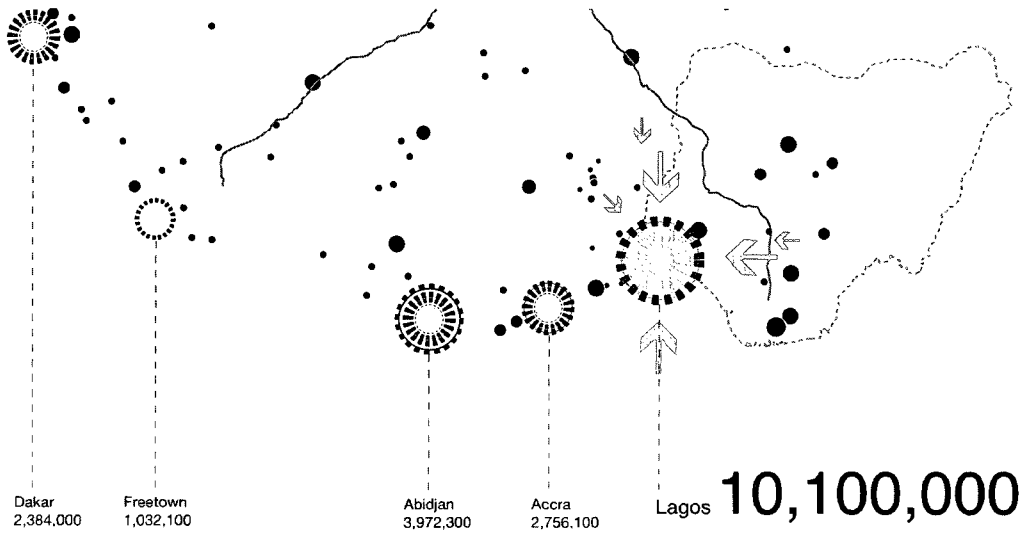
Third world urban growth
56%



Source: State of the world population 2007: Unleashing the potential of urban growth

Source: State of the world population 2007: Rural to urban migration

THE WEST AFRICAN REGION



In the fifty years, between 1950 and 2000, the population of Lagos, Nigeria has increased by over sixteen million, the fastest growing urban agglomeration in the West African region. Lagos is among other third world cities facing an unprecedented rate of urbanization and maintains an average growth rate of 7% per year, 34 persons per hour. By 2015, it will be the third largest city in the world, behind Tokyo and Bombay, with twenty-three million inhabitants.

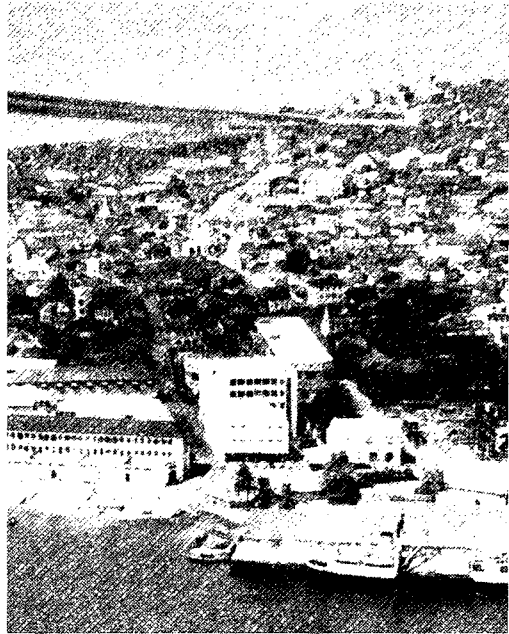
INTERSECTIONS

“Lagos” is both a Portuguese word for lakes or lagoon and an intersection of trade routes. The only natural break in 2,500km of West African coastline it emerged as a point of exchange between merchants and indigenes. Its urban components were early affected by movements and interactions on a global scale. The markets of “Obun Eko” and “Ebute Ero” have been sited on advantageous locations for trade, in the shelter of the lagoon. These were the Lagos forums of social activity and local politics, the only source and distribution of all manner of goods, from foodstuffs, to vegetables, animal products and imported conveniences. All city life must pass through the market, a temporal migration to and from the edge.

Following the establishment of the British encampment, on the side of the Island more exposed to the mouth of the lagoon, a great market emerged.



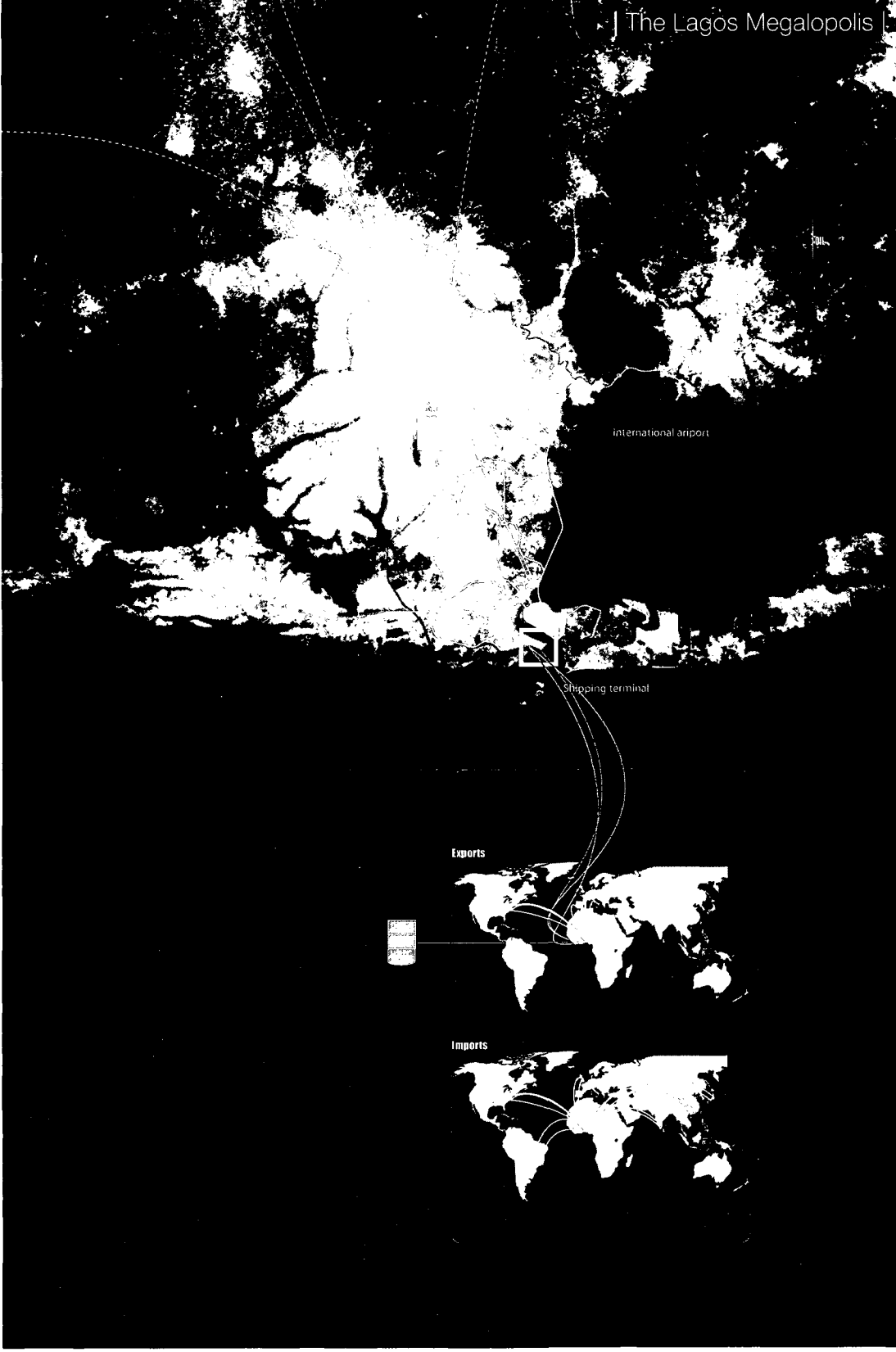
'Isaleko', literally bottom of 'Eko', a way of saying downtown, straddled the length of a boundary, the intersection between the old indigenous city and the British encampment. It was a thronging, linear entity that would grow along the road to the islands edge, to the base of the Carter Bridge, then the only connection between the mainland and the Island. The market would later take the name of the primary stop along the tramline, built by the British, to circle the boundary of their encampment. "Ebute Ero" was a major communication link between the new and old citizens of Lagos. Traditionally, the Lagos market embodies a temporality that sets a pace for society. The character, a combination of scale, diversity and amplitude, of the morning market differs entirely from that of the night market, and the four-day periodic market. The spatial qualities and temporal rhythm of the markets so far as to define time, the structure of the week, divided literally into market days.

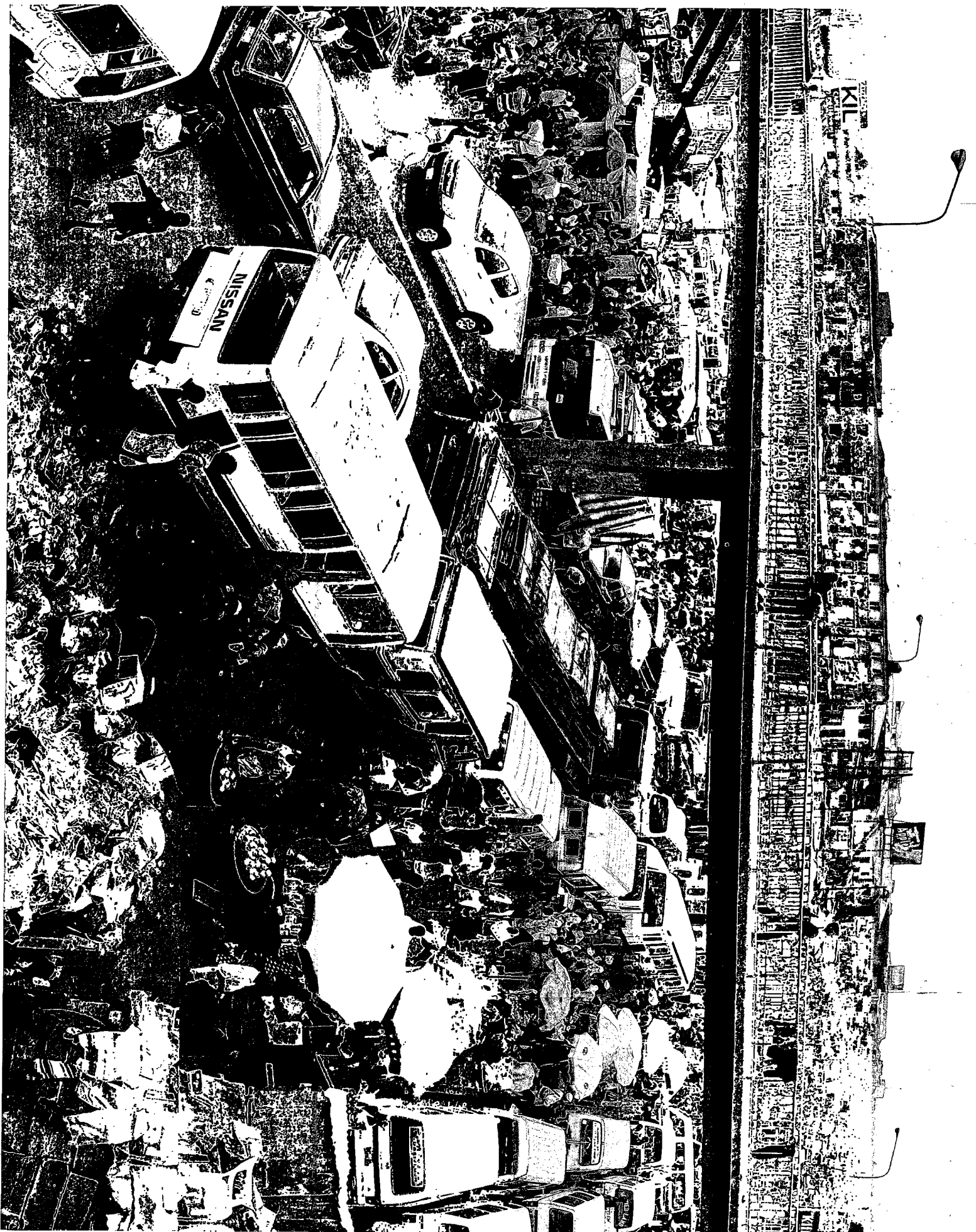


096. WEST-AFRICA ~ Nigeria - Lagos
Massey Street



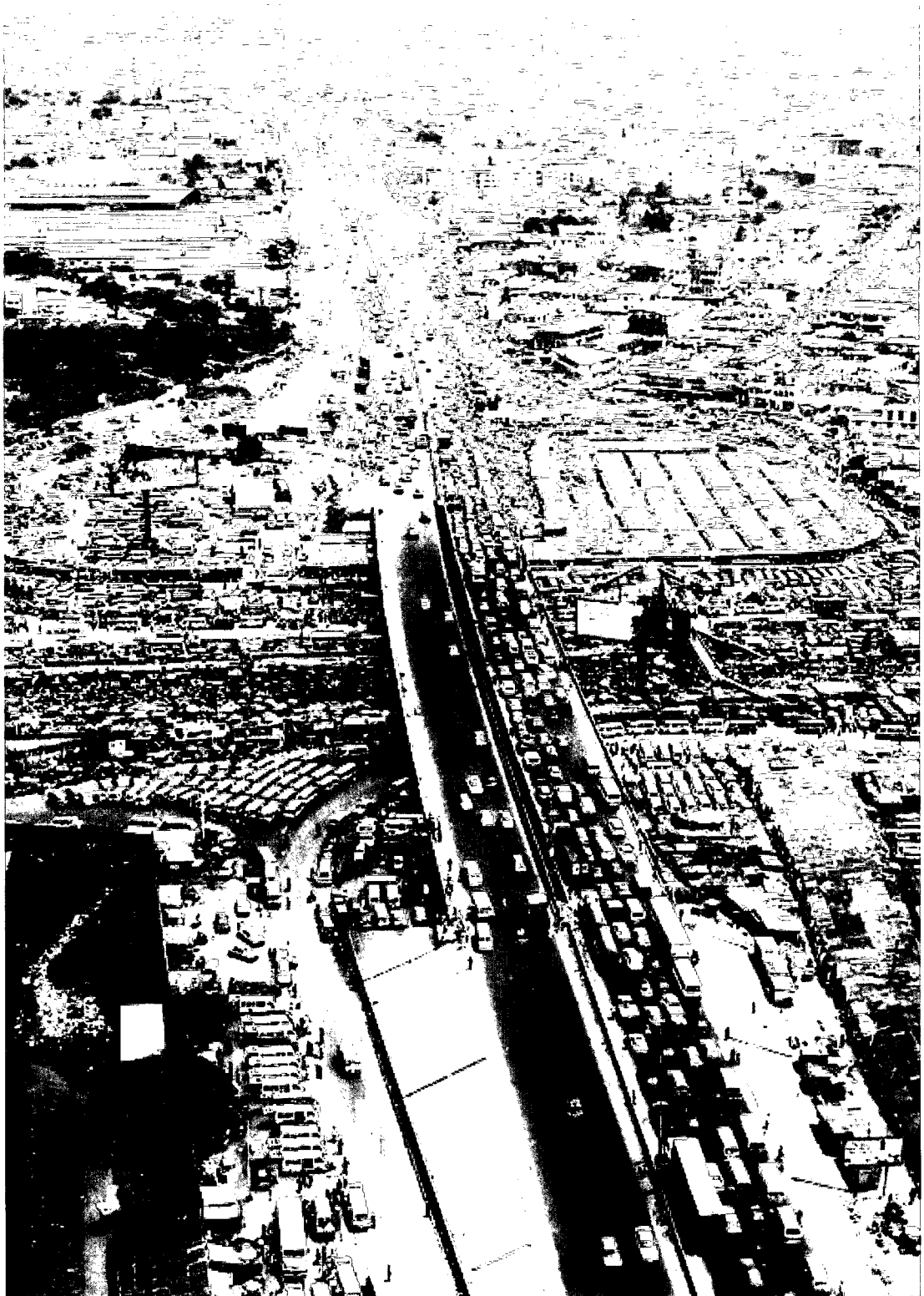
The Lagos Megalopolis





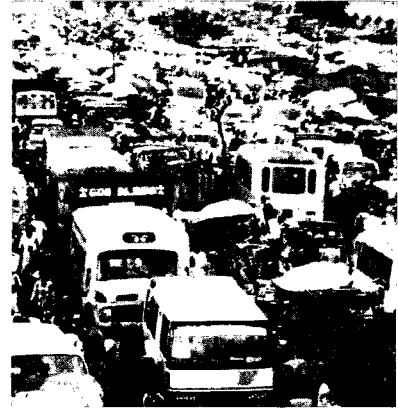
2 **INFORMAL APPROPRIATION**

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PUBLIC DENSITY | Sites of hyper-congestion

The partial modernization of Lagos was stimulated by the escalating value of its natural resource and primary export, oil. The project was never completed to the extent required to order the massive population into an efficiently functioning, modern city. The incomplete infrastructural network is now the site of the largest informal economy operating of any modern conurbation in Africa. Today these largely unregulated roadways are sites of public intensity, a modern public space in the third world megacity. Their wide tarmac surfaces offer relief from the warren of narrow, crowded local roads. These conduits carry thousands of people traversing the urban plane daily accumulating into a public realm of hyper congestion. Accommodating the multitude of transient consumers there are over 30 markets defining a unique typology of modern market space.



CLOVERLEAF MARKET

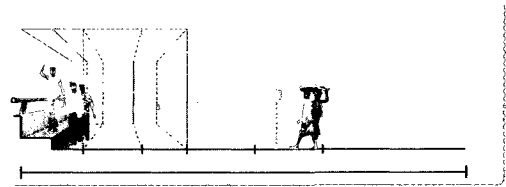
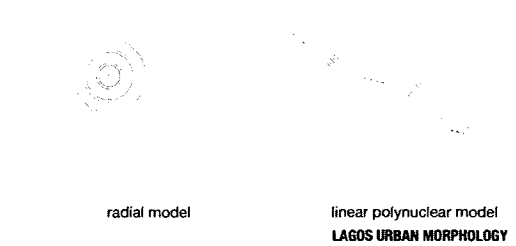


BRIDGE MARKET



EXPRESSWAY MARKET

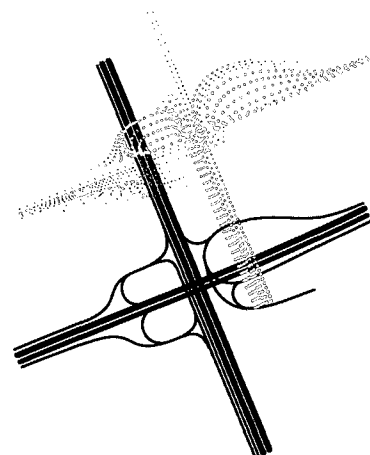
Despite being colonized by the British for 59 years, between 1901 and 1960, as the city grew, public space in the European sense never formed as a defining element of its urban morphology. The traditional civic square, an open area in the centre in the city, reserved for communal congregation and public amenity is not a functioning entity in the city of Lagos. Instead, it is the market area that represents the main communal space of the city. Its form is not determined by a converging dynamic into a center, but by a transient linearity of movement across a threshold. Today, within the hyper density of the Lagos megalopolis, the junction market is a space of public intensity. Transition zone, edge condition or boundary between two places, one neighborhood and the next, the junction market is strung out to the course and motion of the passer by. The market itself is a vector. There is no centre.



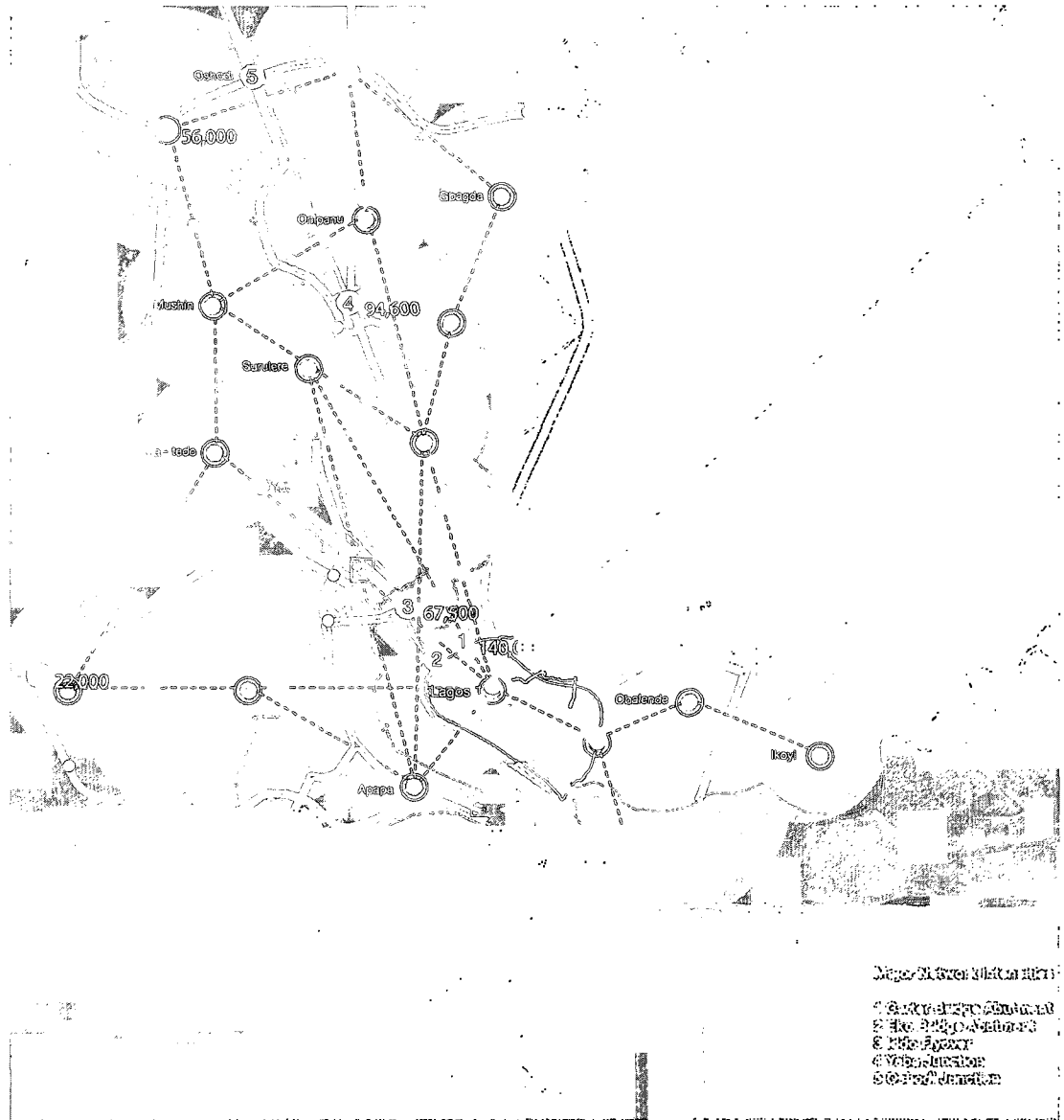
ROADWAY SURFACE APPROPRIATION



OSHODI JUNCTION, CLOVER LEAF MARKET

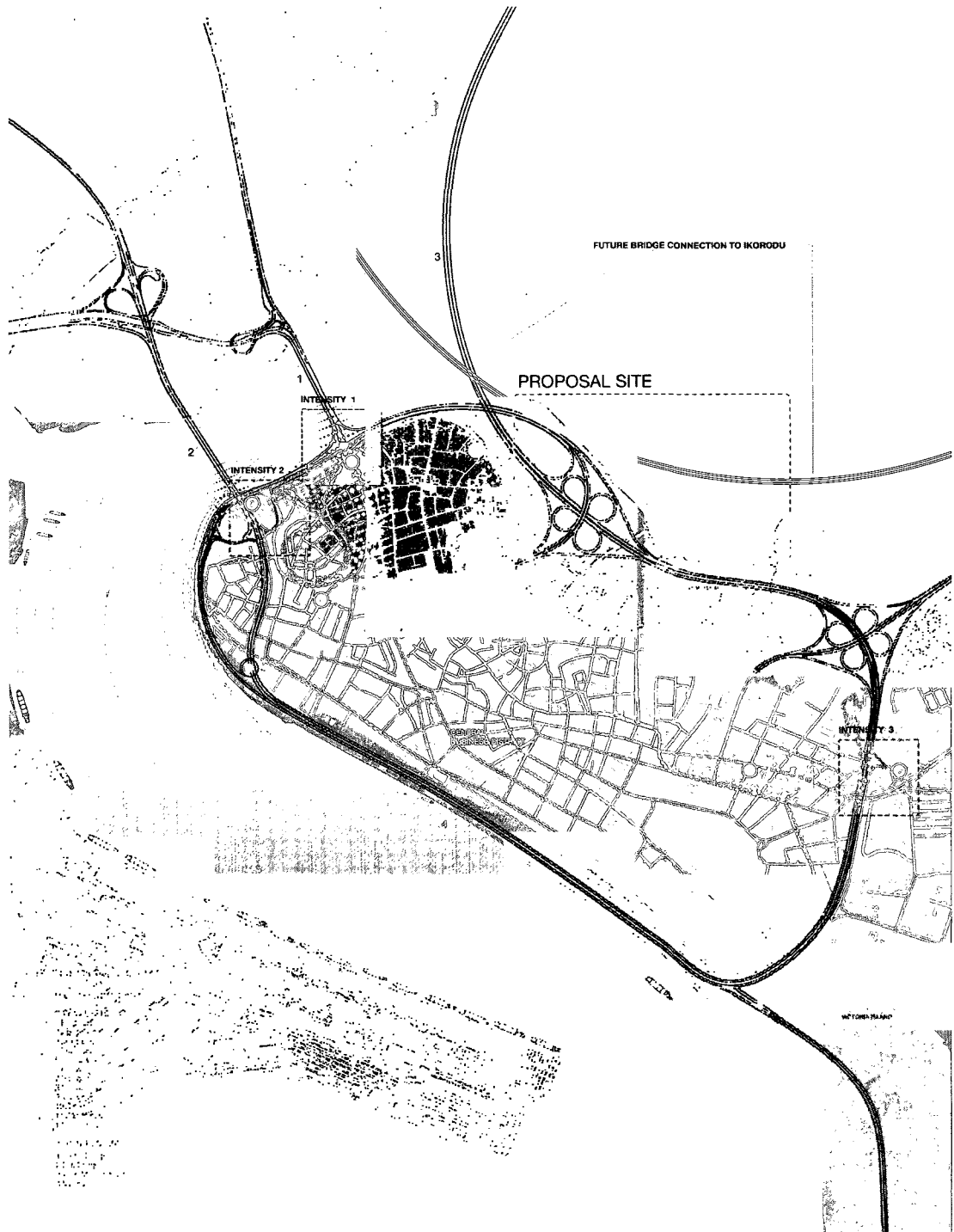


INTENSITIES | Lagos metropolitan area

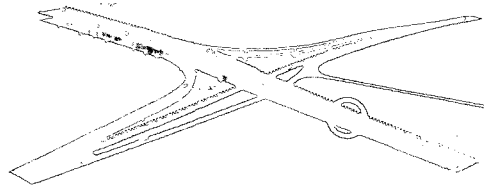


- Neighbourhood Intensities
- Passengers Per Day
- Major Junctions
- Civic Attractors
- City Market
- Future Connection

INTENSITIES | Lagos Island



INTENSITIES | Carter Bride Abutment

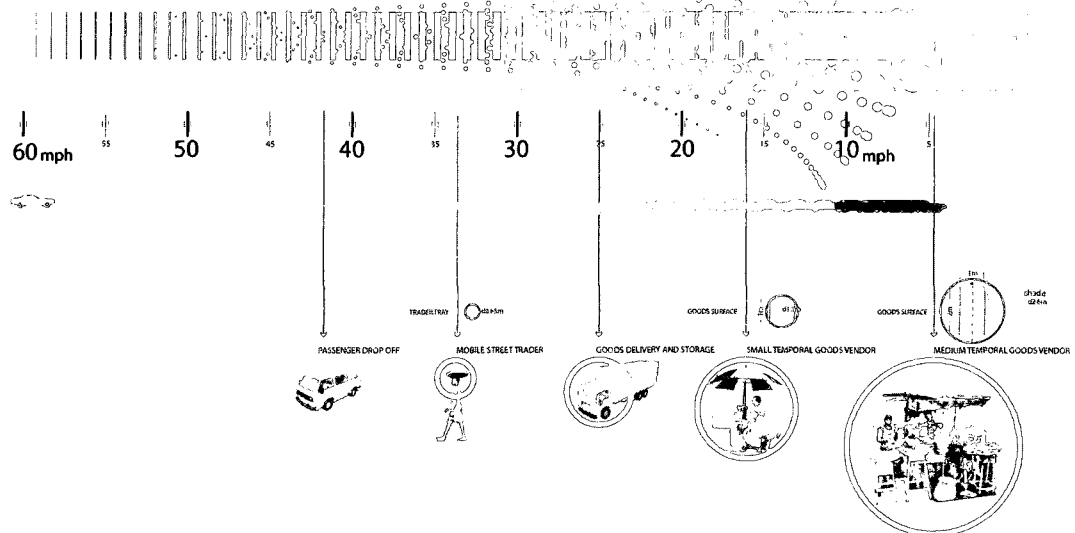


DIAMOND INTERCHANGE APPROPRIATION

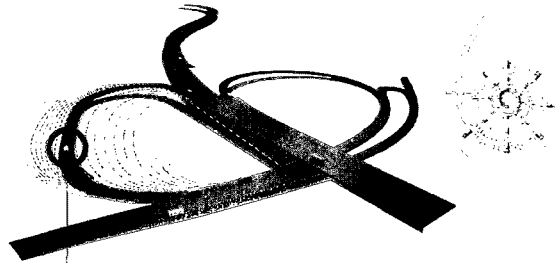
INFORMAL TRADE INTENSITY



LINEAR DECELERATION | TRADE INTENSITY CURVE



INTENSITIES | Eko bridge abutment

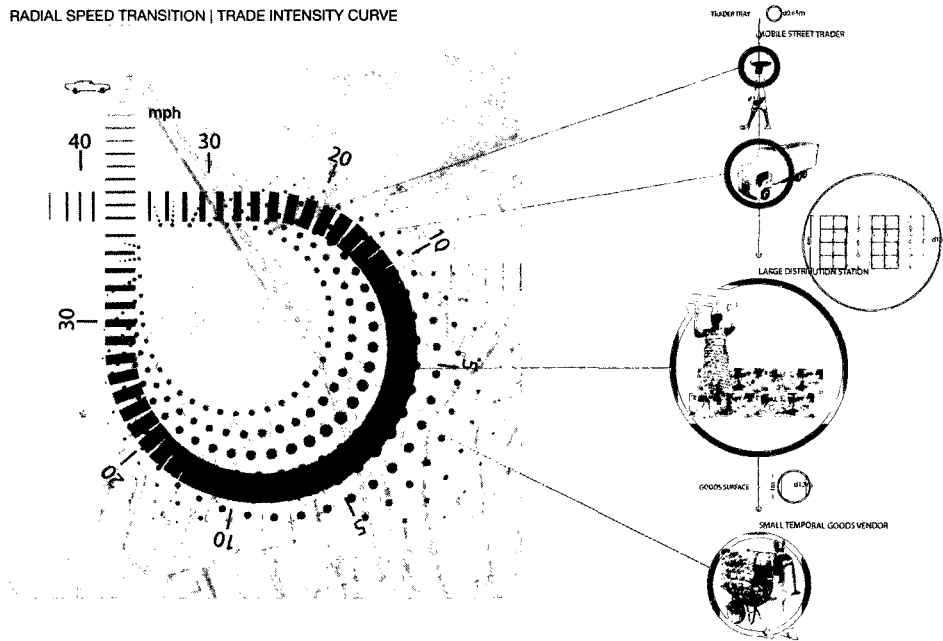


HALF CLOVERLEAF INTERCHANGE APPROPRIATION

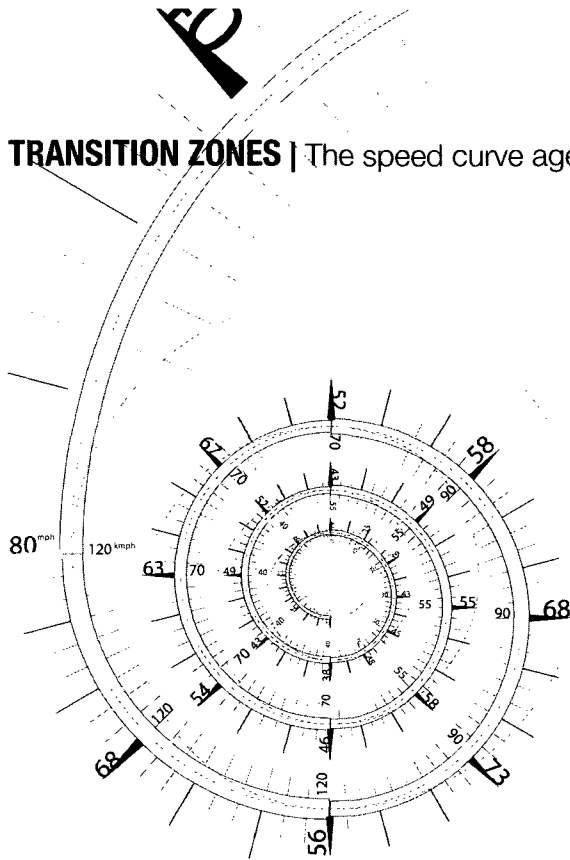
INFORMAL TRADE INTENSITY



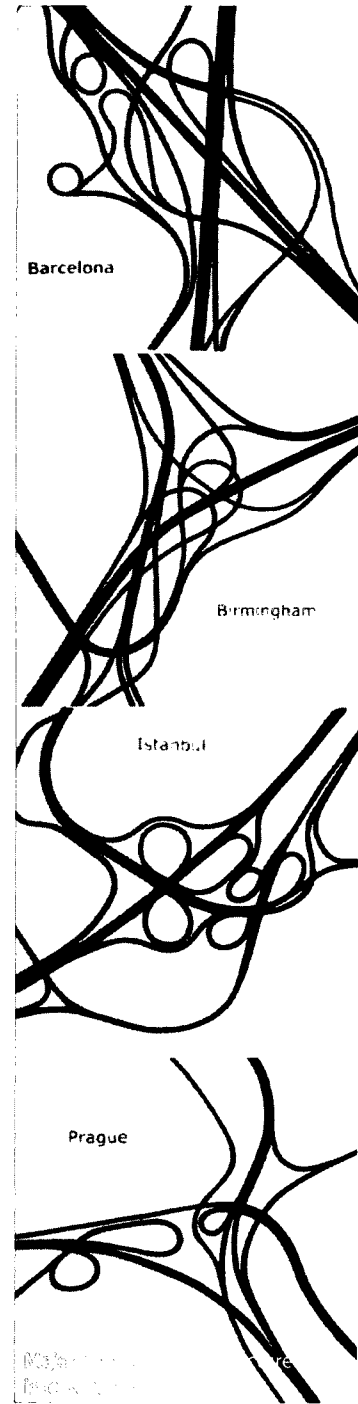
RADIAL SPEED TRANSITION | TRADE INTENSITY CURVE



TRANSITION ZONES | The speed curve agent



The speed curve agent is an element of transportation infrastructure technology employed to facilitate and modulate transitions within the system. It reconciles the permissible turning radius of a vehicle, traveling at a given speed with the curvature and geometry of the roadway surface, to facilitate a desired rate of deceleration or acceleration, permitting a transition in scales, from the metropolitan to the local, or to make a change in trajectory over a given area



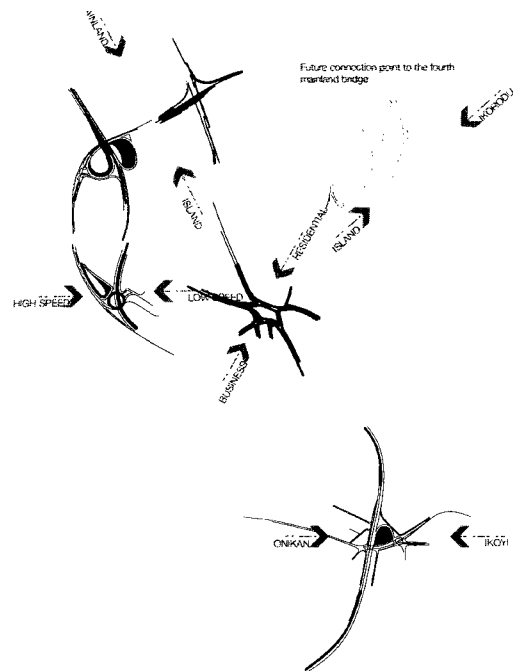
INFRASTRUCTURE Reclaiming land



INFRASTRUCTURE APPROPRIATION

The ageing infrastructural elements existing on Lagos Island are concentrations of public density and hyper congestion. The informal market traders capitalize on the public density by appropriating the motorway infrastructure for the temporal housing of public markets. The atomization of the individual vendors and their saleable goods, which they ingeniously transport and display, is juxtaposed against the context of massive infrastructural elements transforming bridges, highways and cloverleaf's into instant markets. The structure of these markets is loose and undefined. The goods themselves, forming and reforming as transactions occur generate enclosures.

At the event of a major intersection the privacy of the citizen in their motorcar is violated by the visible, the audible and the olfactory presence

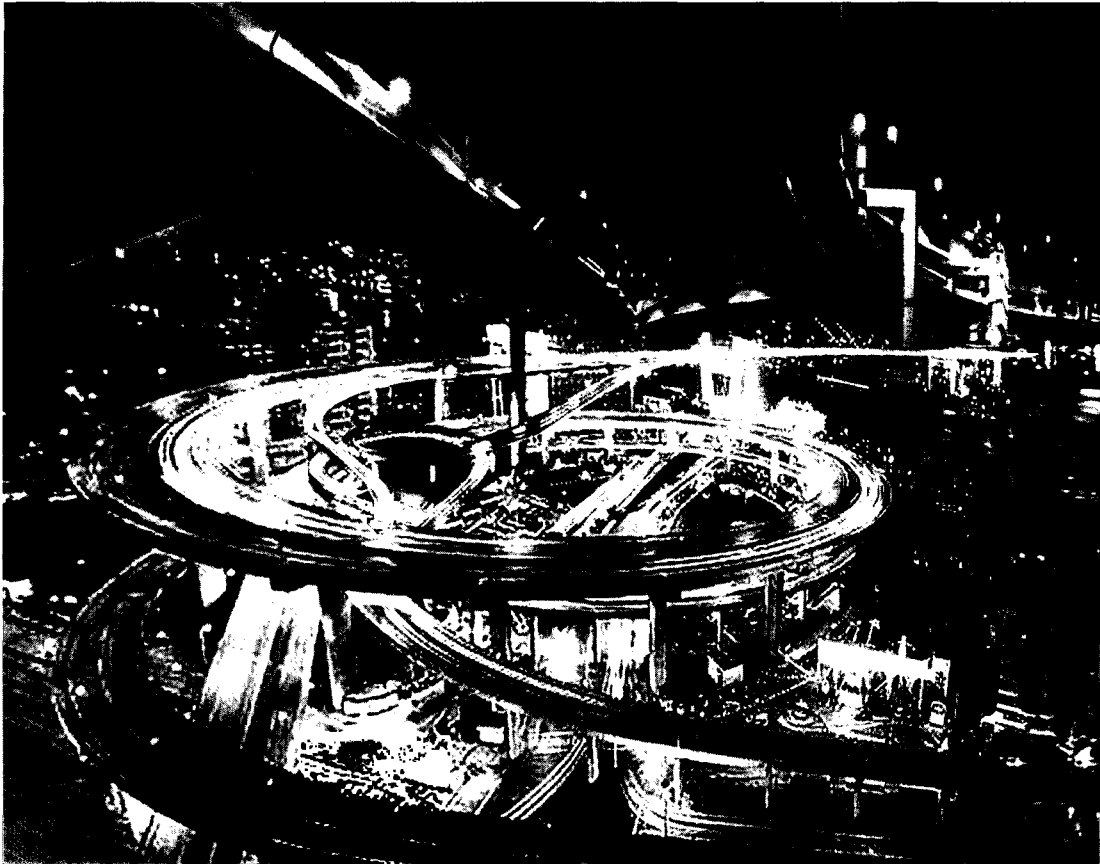


of an urban public, pushing back against the stream of traffic. “Ojuelgba, Isolo, Bariga, Ojoto!” can be heard; cries from the conductors of the ubiquitous, yellow “danfo”, a nine seater Volkswagen combi, carrying up to twelve passengers, who hop on and off regardless and fearless of surrounding motorcars. These minibuses are the only extensive public transportation system in a city where 95% of all journeys is taken by road.

PROPOSAL | Informal interchange



INTERCHANGE CONCEPT | Programmed transition spiral

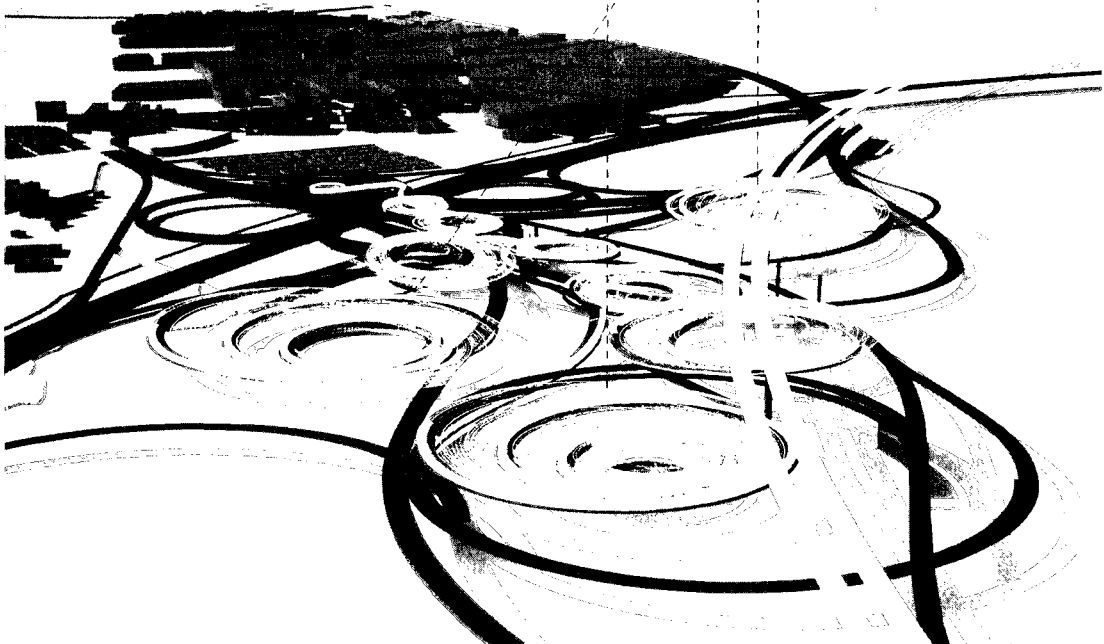


The programmed spiral is an opportunity to intensify and maximize the trade potential of the interchange, filtering volumes of vehicles through a zone of active goods distribution and storage. A multiplicity of goods can be viewed by a multiplicity of customers - the commerce coliseum

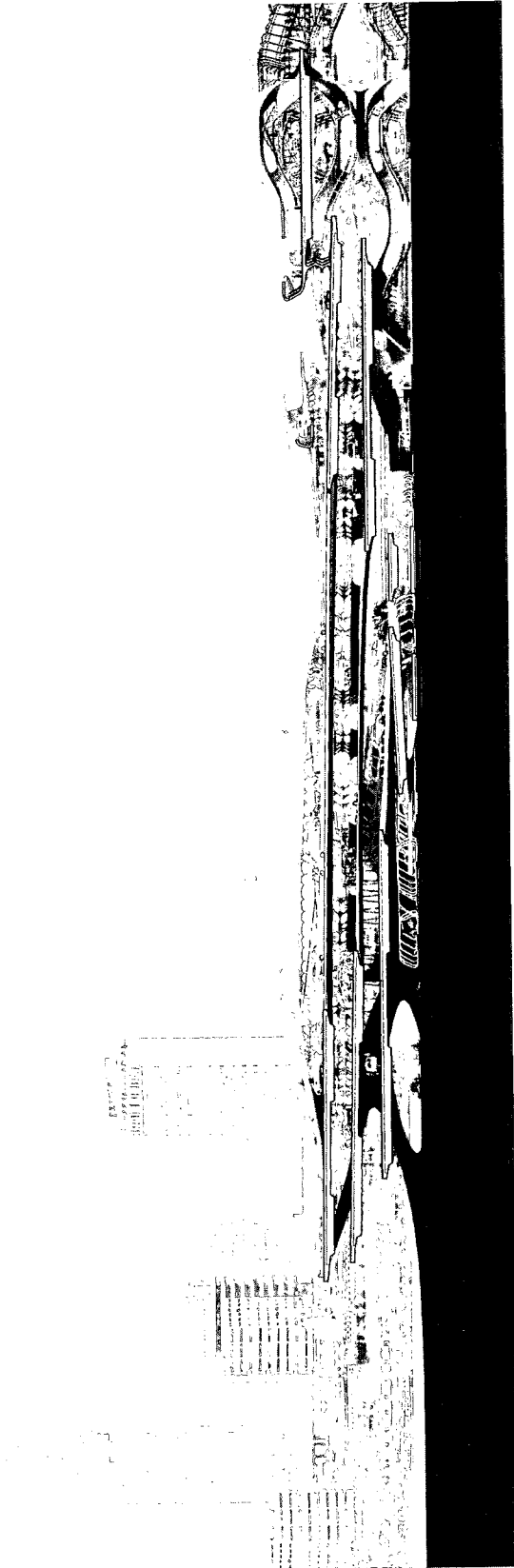
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MTA [LAGOS] | A Future History

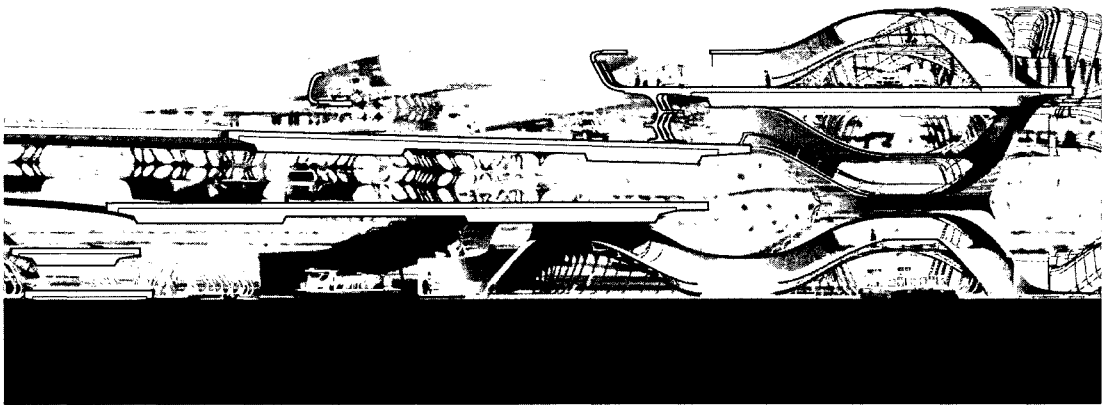
In 2020 The Mobile transactions agency is a government body initiated to oversee the motorway market system of Lagos. As part of its statutory management function the agency permits traders to use the marketways for informal commercial activity. Although trading occurs on a strictly atomized and informal basis, occupancy is subject to regulations, which are considered necessary to secure proper management, preserve mobility and prevent abuse within the marketways.



SECTION | MTA “Ikola” market



SECTION MOMENT | MTA “Ikola” market



The first marketway “IkoLa” was built in 2015 at the Lagos Island abutment of the fourth mainland bridge.

It housed the largest city market within a major interchange, ROUTE A Inbound, Ikorodu to Lagos. The MTA constabularies patrol all marketway structures, docks and storage yards, enforcing congestion regulations.

MTA | Guide to Market Speeds

MARKET SPEED ZONES

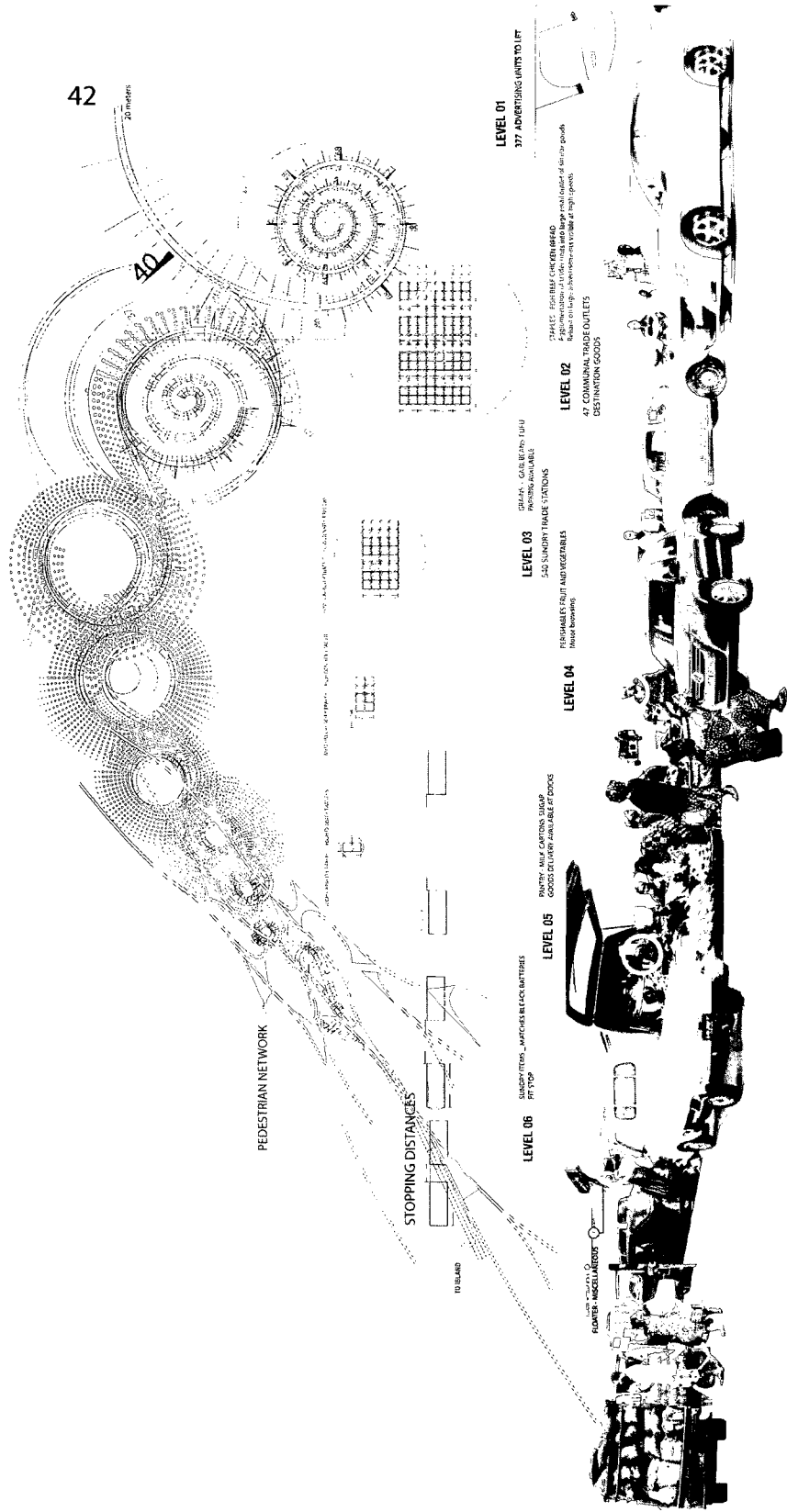
54 - 30mph DECELERATION ZONE

35 - 25mph STOP START ZONE

25 - 15mph MOTOR BRUISING ZONE

15 - 5mph CLUTCH ZONE

5 - 20mph CURB CHANG. ZONE



42

40

PEDESTRIAN NETWORK

STOPPING DISTANCES

TO BLANK

LEVEL 01
377 ADVERTISING UNITS TO LEFT

LEVEL 02
274416 PRIORITY FUNCTION BLEED
4.8g dimensions in 10 lines must enter large multi-column of service pack
Return to large column for more details at high speeds.
47 COMMON TRADE OUTLETS
653 SUNDRY GOODS

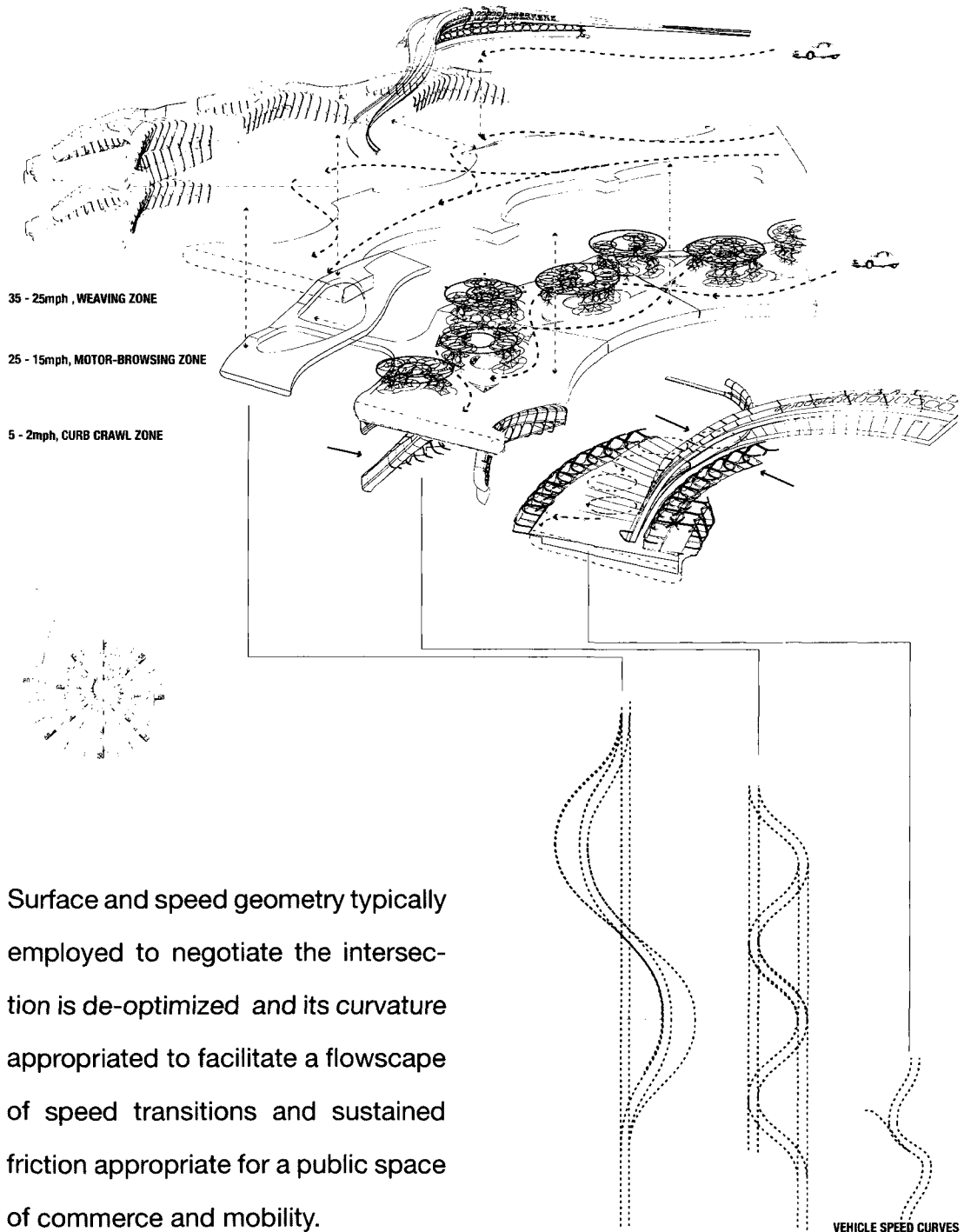
LEVEL 03
2444K - GARBAGE TUNN
METERS AVAILABLE
540 SUNDRY TRADE STATIONS

LEVEL 04
FISHABLES FRUIT AND VEGETABLES
boxed flowlines

LEVEL 05
SUNDRY ITEMS, APPLIANCES, ACCESSORIES
FRY STOP
METERS, METERS, CARTONS, TRAYS
GOODS TO BE AVAILABLE AT DOORS

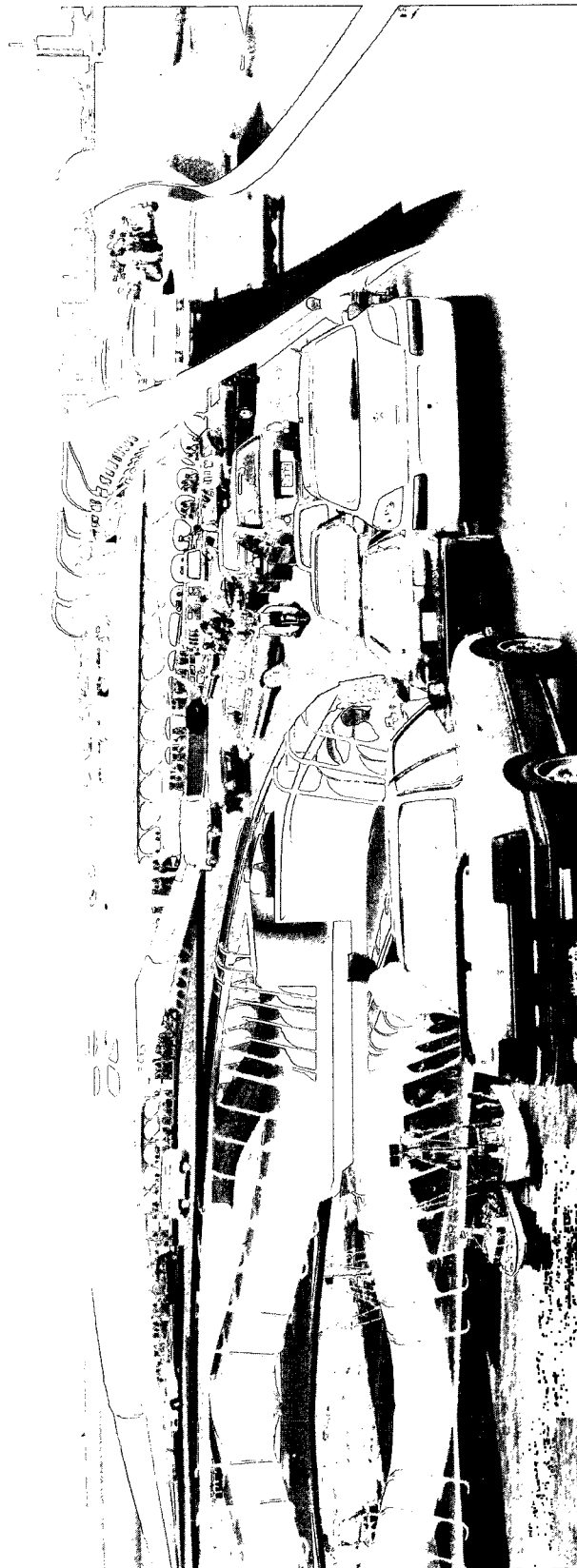
LEVEL 06
SUNDRY ITEMS, APPLIANCES, ACCESSORIES
FRY STOP

CIRCULATION | Vehicular and Pedestrian Movement



Surface and speed geometry typically employed to negotiate the intersection is de-optimized and its curvature appropriated to facilitate a flowscape of speed transitions and sustained friction appropriate for a public space of commerce and mobility.

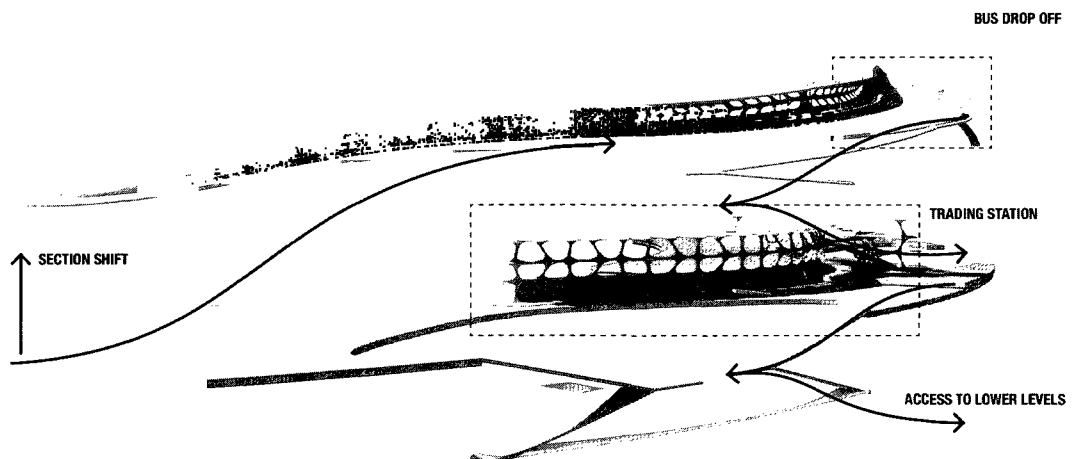
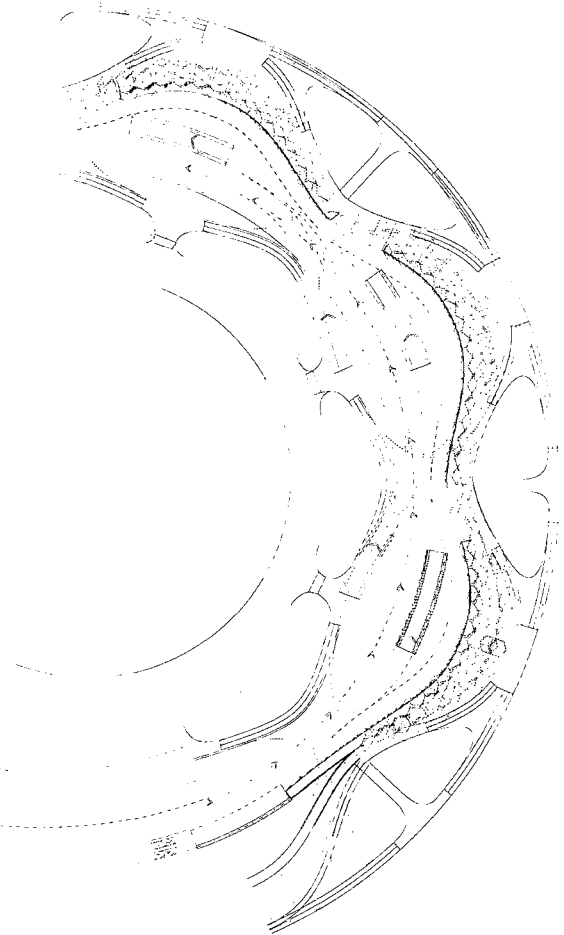
LEVEL 2 | 35 - 25mph, Weaving Zone



LEVEL 2 | 35 - 25mph, Weaving Zone

The speed curve agent is used to manipulate the vehicles traveling speed. The resulting curved geometry defines the parameters for the trading stations.

An architecture of percolation, the flowscape at once facilitates conveyance and interaction, filtering volumes of vehicles through a zone of active goods distribution and storage. The interchange efficiency is compromised in the service of capacity, multiplying the interface surface to generate a site of continuous negotiation.



LEVEL 3 | 25 - 15mph, Motor-browsing Zone



LEVEL 3 | 25 - 15mph, Motor-browsing Zone



LEVEL 6 | 5 - 2mph, Curb Crawl Zone



AFTERWORD

Rethinking the drive through market was an opportunity to explore the potential of unique public spaces in Lagos, Nigeria.

A Statement of Concern:

Throughout the first world, public spaces in the city are disappearing. In recent years, public spending on the built environment has fallen dramatically. The traditional local center, once the convergence point of a multiple trajectories, frequented by dwellers and visitors, the site of news and goods exchange is being transformed in the 21st century into new concepts of public and collectivity,

The scale of public space itself has been shifted. It is the conduits of the automobile mobility network that represent the primary site of public collectivity constant and actively thriving in the city. In the city of Houston, while on your drive from Sharpstown

Highway 59, towards the private retail outlet, just over the junction of the Interstate I10 and the 610 loop, you will see your fellow citizens of Houston, a true cross section of the city.

Freeways were introduced principally to avoid the constraints of density in urban passage. Today they proliferate across and boldly define the glorious city of Houston. They represent a twentieth century fantasy of uninflected, uninterrupted flow, facilitated by the motorcar and the mono-functional landscape, ever expanding and improving the connection from the center to the periphery.

But it is often to the detriment of many local neighborhoods that it crosses effectively snuffing out the vibrancy of their local centers. The city life, contained in the freeway, has no relationship with what surrounds it.

“The city is unaware of the path of the road and the driver is unaware of their position relative to the city”

Reyner Banham, architectural critic

In the half-century since the inception of the freeway, the tension between its metropolitan scale and the local scale of the city street has seldom been addressed and remains, still, not yet resolved. In the first world, many once thriving neighborhoods in the city of Houston have been extinguished by the shadows of the freeway built over or often through their blocks

LAGOS

There can be no stronger sense of public, or the collective in the city than when descending from the Carter Bridge onto Lagos Island, amidst a crowd of pedestrians, socializing, networking and consuming. The senses are subject to a spatial blurring.

it becomes unclear where the road ends and the city begins.

“ With its massive traffic jams creating instant markets on roads and highways, Lagos is not “a kind of backward situation” but, rather, “an announcement of the future.”

Rem Koolhaas

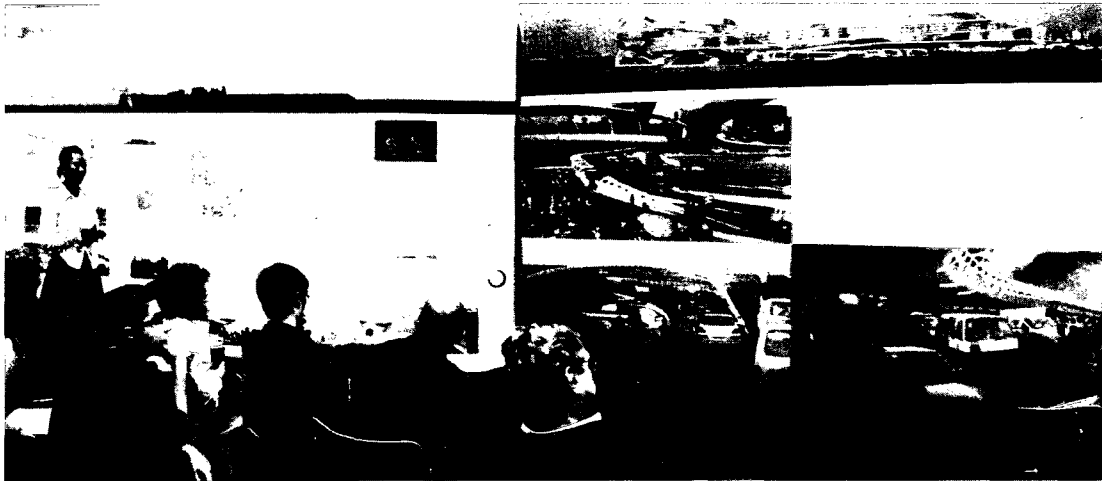
In Lagos, an exploding urban population trapped by its own geography, with limited governance and laissez faire regulations, the motorway ‘functions’ as a multipurpose surface and active public space. It is an appropriation that is part of a long Lagosian history. The result is an inherently post-fordist attitude that balances the scale of vehicular, pedestrian and bicycle movement. This blurring of territories defines the city, the fuzzy edge, the blurred boundary, where public and private space continuously cross with one another.

The future of the public space in the city is not in single elements but in a formal partnership between multiple flexible infrastructures responsive, to the ebb and the flow of the urban field, coming into being only when needed. New diagram of speed and movement, such as weaving, emerge from a post fordist perspective . The modern motorway fulfils the desire for individuated space but it also holds the potential for a flexible public realm, its navigation now ever more dependent on mobile and satellite technology.

Visions of this alternative reality are already the topic of science fictions like minority report however these projections do not explore the latent potential of the return to a sense of community that such space may hold. By learning from Lagos we reveal the temporal formation of a valuable, dynamic urban space of interaction

and exchange, the potential of a new transit culture.

PRESENTATION | Rice School of Architecture,
January 2009



Jury [L - R]
Barbra Binick
Neyran Turan
Nana Last
Sarah Whiting
Nader Tehrani
Lars Lerup
Troy Shaum
Geoff Manaugh

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