URBAN CATALYSIS
Operative Strategies for Jump Starting Metropolitan life in Central Houston

by
Cope Bailey

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

APPROVED, THESIS COMMITTEE:

[Signatures]

David Brown, Thesis Director
Assistant Professor, School of Architecture

[Signatures]

Douglas Oliver, Thesis Reader
Brochstein Visiting Assistant Professor,
School of Architecture

[Signatures]

Fares el-Dahdah, Thesis Reader
Associate Professor, School of Architecture

[Signatures]

Dallas Felder, Thesis Reader
Visiting Critic, School of Architecture

[Signatures]

Mark Wamble, Thesis Reader
Visiting Cullinan Professor,
School of Architecture

Houston, Texas
April 2004
INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI Microform 1419052
Copyright 2004 by ProQuest Information and Learning Company.
All rights reserved. This microform edition is protected against unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346
Abstract

URBAN CATALYSIS
Operative Strategies for Jump Starting Metropolitan life in Central Houston

by Cope Bailey

Houston’s lack of zoning, market driven constructs, and dependence on the automobile have produced a sprawling, decentralized city connected by networks of flow, where density and urbanism are exceptions, not the rule. In downtown Houston, after years of neglect, a recent boom in (re)development coupled with new transportation initiatives are radically reshaping Houston’s historic core and its adjacent neighborhoods. As these new transportation corridors (specifically Metro’s new light rail) are realized, their adjacent land use and development (both public and private) provide opportunistic conditions for new visions of urban form and metropolitan life in Houston. The Thesis investigates these emergent opportunities, addressing the changing city in its own terms, focusing on the convergence of these new and existing urban infrastructures to develop new strategies for urban density in Central Houston.
Acknowledgements

To Rice University School of Architecture and Dean Lars Lerup for the opportunity and support.

To Douglas Oliver for his guidance, faith and support from the very beginning.

To My committee: David, Mark, and Dallas for help and criticism.

To Keith Krumwiede for inspiration.

To Ken Andrews and David Duponte for production help.

To Belinda for her support, dedication, and patience.

To My family, especially Mom and Dad for their unconditional support.

To My classmates for knowledge, support, and friendship.
<table>
<thead>
<tr>
<th>Contents</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Conditions</strong></td>
<td>1</td>
</tr>
<tr>
<td>Houston</td>
<td>3</td>
</tr>
<tr>
<td><strong>Strategy</strong></td>
<td>9</td>
</tr>
<tr>
<td>Light Rail Corridor</td>
<td>13</td>
</tr>
<tr>
<td>Midtown</td>
<td>31</td>
</tr>
<tr>
<td>Parking</td>
<td>37</td>
</tr>
<tr>
<td>System</td>
<td>39</td>
</tr>
<tr>
<td>Partnerships</td>
<td>53</td>
</tr>
<tr>
<td><strong>Project</strong></td>
<td>59</td>
</tr>
<tr>
<td>Scenario</td>
<td>63</td>
</tr>
<tr>
<td>Building</td>
<td>67</td>
</tr>
<tr>
<td>Bibliography</td>
<td>97</td>
</tr>
</tbody>
</table>
Existing Conditions
Houston

As a young post-war city Houston's lack of zoning, market driven constructs and dependence on the automobile have resulted in a decentralized city connected by a network of radial freeways and concentric loops. Built on automotive urbanism the greater Houston metropolis has grown at an alarming rate, tripling in size since 1950. Houston is a city of multiple centers linked by networks of flow, consumed by and built on personal mobility, where ease of movement has devalued actual physical proximity. Here models of suburbanism and sprawl thrive, leaving density and urbanism as exceptions.
Houston’s typical growth patterns demonstrate process rather than planning and vision. The metropolis is not sentimental about it’s past, it vacates, relocates, tears down and rebuilds as desired. However, after years of neglect, a renewed focus in both residential and commercial (re)development of Downtown Houston, coupled with new transportation initiatives (implemented to deal with Houston’s mobility and traffic problems) are radically reshaping Houston’s historic urban core and its surrounding neighborhoods.

The first of these transportation initiatives is Metro’s Light Rail. Completed in February 2004 the route is built through Houston’s high-trafic Main Street corridor. Although this new mass transit infrastructure route measures only 7.5 miles, it links major employment centers, educational facilities, sports venues, the museum district and some of Houston’s oldest neighborhoods. Approved in November by voters, an additional 65 miles will be added to the existing route over the next 20 years necessitating strategies for reshaping or jumpstarting metropolitan life in Houston.

What are the potential the impacts and opportunities created from this new light rail line? **What does it mean for Houstonians to use mass transit, to slowly leave their car behind, even if only to become a “temporary pedestrian”?** What additional infrastructures are necessary to enhance ridership and provide necessary support and champion mass transit in Houston?
Aerial view of Central Houston indicating Metro's Light Rail 7.5 mile route (solid yellow line) and proposed expansion over the next 20 years (dotted line).
Strategy (Method)
Metro's Light Rail 7.5 miles route will extend to 72.5 miles over the next 20 years.
Light Rail Corridor

Metro’s initial Rail line, although relatively short, functions as an inner-city collector, linking major employment centers (downtown and the medical center), midtown, the museum district, Hermann Park, three major sports facilities, multiple educational institutions, and various entertainment attractions. As Metro’s Light Rail becomes a part of everyday life it provides an opportunity to examine and explore new urban conditions affecting the design of the Metropolis.

In order to develop the project the entire light rail line was studied to further refine objectives and locate existing areas with urban qualities. The 7.5 miles was studied in terms of demographics, economics, and resources, inventorizing potential sites suited for transient-orientated urban projects. Areas displaying growing density were chosen to attract investment and spur development, changing the image of the city.
Metro's Light Rail Stops with context. Blue circles indicate 1/4 mile walking radius from stop.
The light rail line provides an diverse cut through the city from its starting point at Historic Allen's Landing to the eight wonder of the world, the Astrodome.
Maps were generated using GIS software identifying moments of intensity and density with social, cultural, economic and demographics data and their physical relationships to rail stops, identifying potential site(s) for further investigation.
Midtown

The area of investigation is Midtown, located just south of the Houston’s central business district and between the cultural neighborhoods of Montrose and the Third Ward. Developed as a beautiful residential subdivision Midtown flourished through the 1940’s. Ending in the 50’s due to technological advances and the construction of Houston’s freeway system, resulting in rapid suburbanization. The decline of Midtown was made worse by a ban on new sewer connections and economic downfall of the 80’s. The neighborhood was comprised of vacant land, boarded up buildings, a handful of single family residences, and local businesses in 1992 when (re)development efforts began. Midtown maintains Houston’s original open urban grid, providing and promoting connectivity as opposed to suburban development of the closed enclaves and cul-de-sac. Today Midtown is a multi-cultural, multi-ethnic urban area undergoing quick (re)densification from both public and private development. The influence of new development is radically changing Midtowns image and character of its surrounding areas. The residential population of Midtown has doubled in the last 4 years, unfortunately through typical models of suburban development. Town homes, urban lofts, and apartments infiltrate as private enclaves, turning their backs to the streets, taking the places of the existing character of midtown such as “pioneer” businesses like the flower market strip, local grocers and restaurants. These new conditions actually work against potential revitalizing new urban conditions. As the fabric of midtown is developed it must capitalize on its potential to become a new vision of metropolitan life, utilizing the character of the local conditions to create diversity and mixed use densities and its connectivity to the metropolis, providing a pedestrian friendly atmosphere.
Parking

In a car dependant city what does it mean for an individual to leave their automobile behind, if only temporarily, to engage the city by rail or on foot? **In Houston the place where the driver becomes the pedestrian is the parking lot.** To promote density and urbanism the typical configuration of the parking lot in our contemporary culture has to be challenged.

Traditionally thought of in terms of its mathematical logic and generic character, parking must challenge the notion of a strictly utilitarian space. The presence of parking must be embraced.

Parking along the rail is pivotal. Through public and private inserted initiatives and shared resources the typical notion of parking can be reorganized, creating new alternatives for parking and its users, parking as infrastructure and catalyst for change, generating urban development.
System

The project becomes part of its existing conditions, collapsing day to day routines with potentials of the future. Inserting programs of convenience and overlapping routes and destinations that cater to everyday life, while creating and supporting local economical development. **Parking as developmental infrastructure is the catalyst that facilitates this change towards urbanism.** The tactic argued for is a system of transit oriented hybrid parking facilities that attract investment and development while supporting metropolitan life, a staring point for the urbanization of and area. Revenue generating parking as infrastructure is proposed in a substantial amount to reducing surface area and allowing for more economic density.

These structures are thought of as urban “assemblages”, new arrangements of existing urban constructions producing new urban conditions with shared resources strengthening the link along the rail corridor and its adjacent neighborhoods.

Although the system as proposed is inserted after the rail is already running and in place, it is seen as an infrastructure that in the future could be construction along with the rail becoming part of the pre-existing city engaging latent adjacencies.

Developed in conjunction with Metro’s new light rail, a system of 3 alternate typologies was established to promote a strategic densification of certain open sites and continuities through the city. The criteria for their deployment were: a significant amount of unused or open land, direct relationship to the rail and major transportation corridors, and its potential impact (immediate and future). These facilities are designed to augment the rail by bringing together multiple functions and amenities spurring development without altering the residential qualities of the adjacent neighborhoods.

The project is envisioned as a partnership between the public and private interests (semi-public). This relationship establishes a new dynamic, sharing risks and resources, providing a new model of development.
Park & Ride

“Park and ride” is a raised multi-level structure with direct connection to major roads, freeways, and interchanges. They provide an economic parking facility for the 30,000 people along the rail line, providing direct support for the rail. The lower level or ground floor is reserved for day-to-day convenience services such as daycare, dry cleaning, coffee shop, etc. Two to three levels of parking are provided to allow for approximately 300 cars.
Park and Ride

MAIN IDEA
parking and daily needs as collector

CONCEPTS
place to leave car and use rail, lower level is given to ventures that assit in our day to day needs
Big Box

The second system challenges urban “big box retail”. What happens as this suburban typology infiltrates the inner city. How do they coexist with existing neighborhoods? How can they be reinterpreted in new urban conditions to their typical street/parking lot/box configuration. In urban conditions the big box must be transit orientated and multifunctional. I must enrich the local communities by providing public space and support entrepreneurial business without expansive parking lots. It must provide infrastructure, and connect to neighborhood, connecting to the area, accessible to pedestrians as well as vehicles. Parking is underground, 2-3 levels with vertical circulation. The ground level is given back to the public as a single flexible urban surface (pedestrian, plaza) with direct visual connection across or through the space, providing opportunities for pavilions and secondary businesses and the big box sits raised above the plaza.
BIG BOX SCHEME

MAIN IDEA
suburban > urban
how do you create (reinterprate suburban conventions in urban form)

CONCEPTS
infrastructure
interchange
public
Park(ing)

The third typology is more community based. These are sites that would be one or two blocks of the rail line, imbedded into the neighborhood, providing parking for local businesses and adjacent land uses developing densities in certain areas. Parking is primarily underground with the top surface given back to community in park from with community based programs, retail, and leisure. These become a link between the rail and community providing direct amenities to the community.
PARK(ing) as urban incubator

MAIN IDEA
parking and community space
as urban incubator

CONCEPTS
artificial landscape, topography, programmatic carpets, flexibility, potential, LINK between community and rail

EXISTING
structure and surface (parking)

LIGHT RAIL
PROPOSED
underground parking
Partnerships

The integration of public and private forces can create a needed new dynamic. Benefits from these semi-private partnerships include less financial risk, easier provision of easement, donation of land, coordination of private open space with public funding, schedule and shared resources. Partnerships are key in integrating mass transit and adjacent land-use developing a seamless interface between private development and the public realm.

Public Partnerships

Government programs - existing city, county, state, and METRO programs should implement many of the infrastructure improvements.

Federal transit funding - provide up to 80% of the cost of the transit-related portion of parking facilities

City of Houston - Planning and Development Department (P&D) conduct grant management, raise funding, and ensure coordination among planning efforts. Strengthening connections between Main Street and adjacent neighborhoods. Seeking additional federal funding for Main Street projects, to transform Main Street a vital transit and pedestrian-oriented corridor for the City. CoH operates several successful parking facilities that provide funding for important public activities and can additionally provide basic design standards.

Metropolitan Transit Authority (METRO) - and METRO joint development authority invests in commercial, residential, industrial, or mixed-use developments that are undertaken in concert with transit facilities. Transit authorities in other cities have implemented this approach by establishing a nonprofit joint development entity in partnership with private developers. Partnership with METRO is critical for integration of land-use and transit.

Texas Department of Transportation (TxDOT) - funding assistance for street and streetscape improvements along the Main Street Corridor.
Regional parking authority - potential new authority which could create a parking implementation district to ensure that new parking resources are consistent with the objectives of plans for the Main Street Corridor.

Tax increment reinvestment zones (TIRZs) are special districts created to attract investment to a particular area. TIRZs help finance the cost of redeveloping in an area that would otherwise would not attract sufficient market development in a timely manner. Typically these funds help support inner city redevelopment.

Private Partnerships

Main Street Coalition - is a public-private partnership involving government agencies, nonprofit organizations, private companies, and individuals, coordinating to achieve common goals and continuing to involve, educate, and inform the public at large. The Main Street Coalition is also responsible for identifying and preparing a plan for three to five viable transportation and/or land use pilot projects for the corridor based on stakeholder consensus and the vision for Main Street revitalization.

Midtown Redevelopment Authority - manage (TIRZ) created to help finance the cost of redeveloping the area. Financial incentives The Midtown TIRZ can provide funding for necessary infrastructure, streetscape enhancement, schools, parks, and other recreation spaces. Midtown also has the ability to adopt land use controls similar to those available to suburban developers.

Individual Property Owners - Owners of key properties in the project areas have been identified and are actively involved in project development. Private participation — the portion of each facility that benefits associated private development, as well as non-parking components of the projects such as retail, should be financed using private capital.

Making Main Street Happen, Inc - MMSH is a private, nonprofit fund-raising entity whose mission is to facilitate, fund, and support the revitalization of Main Street into a signature corridor. Promoting the design and development of important civic spaces, provision of design assistance and funding opportunities.
The key is what type of partnerships are developed at various locations, suggest a shared use venture unique at each location, providing the opportunity for shared expenses.

source: Main Street Coalition, Main Street Strategic Plan

Potential Programs

Private

bank, juice bar, atm, restaurant, bookstore, card store, cleaners, photo, hair stylist, gas, video/music store, kiosk, garden, coffee shop, newsstand, gallery, bar, ice house, theater, rental hall, copy store, daycare, gymnasium, carwash, convenience store, grocery, drug store, pharmacy, movie theatre, skate park,

Public

Library, post office, tables, chairs, etc., public market, space for swap meet, flower market, playground, amphitheatre, community center, pool, dog park, track, tennis court, basketball court, pool, theatre, rock climbing wall recreation center, visitors center.
MIDTOWN 2004

A BIG BOX
B PARKING
C PARK AND RIDE
Scenario

Midtown was studied and sites were chosen that would have the greatest impact on the area, potential nodes of development along Metro's light rail. Selected sites were undeveloped, interstitial spaces with a certain proximity to the rail and major throughfares. The following project investigates a single iteration of just one type of the hybrid parking system on one specific site, a key site after the light rail is starting to run and its ridership base is growing and the city is going to subsidize parking for the rail. The site is 250' x 250', one city block and has direct connection to the McGowen Rail stop to the east, Fannin street to the west and pedestrian access from local residential development from all sides.
New development must capitalize on the existing tendencies of mixed use, promoting density, complimenting the character of midtown and promoting a new direction for development.

Suburban models of both housing and commercial projects make up the majority of the redevelopment in Midtown, assuming this trajectory of development will continue, the project investigates how the model of Big-box retail could actually become an “urban assemblage” woven into the neighborhood, restructuring parking with other familiar components of everyday life, combining multiple diverse programs (public space and a recreation center), and bundling various sectors of activity. The goal, to create opportunities for interaction with flexible public space, generating business opportunities, utilizing latent potentials and instigating new patterns of use.

Exist “urban” Randalls in Midtown (above) and “suburban” Home Depot on I-45
Building

The suburban “Big Box” is structured by their plan relationship between street/sign/parking/entery/building formula. In the “urban big box” the plan becomes the section. Existing infiltrations of this typology (suburban Big Box) in Midtown actually deter pedestrian atmosphere acting as walls with no circulation (physically or visually) across or through the space.

In the proposed scheme the “Big Box” is raised, and the parking submerged. Revenue generating parking is provided for the “Big Box” customer and the rail user. The raised box acts as signage andprotects a 250’x250’ public plaza below.

Extending the site, the plaza acts as a filter, providing an area for public events, swap meets, flower shops, concerts, movies, etc. This type of utilization helps spur local economy and with additional programs can energize the Rail Line during off hours. Generic pavillions are provided in the plaza to be leased by smaller, “pioneer” buinesses drawing customers from the retail above and plaza events. Lights wells allow natural light into the box and plaza below and become lanterns at night. Envisioned as a semi-public partnership the plaza is financed by the Box above and parking below, providing the community with a new layer of infrastructure shaped to create new forms of publicness and encourage personal physical interaction. The following pages describe this iteration.
LEVEL 2
MIDTOWN\textit{recreation}

LEVEL 1
HOME DEPOT
ROOF LEVEL

PROGRAM VERSATILE DEPENDING ON LOCATION AND ADVANCES.
IN A RESIDENTIAL AREA, THE ROOF LEVEL CONTINUES AS AN
EXTENSION OF THE PUBLIC PLAZA, AN AMENITY TO THE
COMMUNITY THROUGH SUCH AS A RECREATION CENTER
OR URBAN GARDEN.

IN A COMMERCIAL AREA THE ROOF REMAINS
PART OF THE BIG BOX, SUCH AS A GARDEN CENTER, ETC.
IN A DENSE DOWNTOWN AREA BIG BOXES ARE STACKED

BIG BOX

URBAN BIG BOX BECOMES A LARGE MULTIFUNCTIONAL
STRUCTURE RAISED 25 FEET TO GENERATE A COVERED
EXTERIOR SPACE, PROVIDING APPROXIMATELY
50,000 SF SPACE PER LEVEL.

PUBLIC

THE GROUND LEVEL IS DEVOTED TO THE PUBLIC REALM.
A COVERED HYBRID SPACE PROVIDING FOR FUTURE EVENTS,
PLACE OF COLLECTION ENRICHING LOCAL COMMUNITY INITIATIVES

PARKING

CONVENIENCE OF ACCESSIBILITY OR MULTIPLE DESTINATION IN
A SINGLE TRIP.
THE URBAN BIG BOX IS CONSTITUTED BY A 250' X 250' CITY BLOCK
FORMED BY EXISTING URBAN USES AND CONTEXT.
CONNECTED TO MASS TRANSIT, THE LIGHT RAIL AND METRO.
THE BOX IS A MULTI-FUNCTIONAL URBAN ASSEMBLAGE,
INFRASTRUCTURE POISED INTO POTENTIAL SITES OF ACTION.
IMPLANTS THAT CAUSE AN EFFECT
TRANSIT ORIENTED PARKING FACILITY THAT ATTRACTS PRIVATE
DEVELOPMENT
Bibliography


Bekaert, Geert (2002) Xaveer De Geyster architects : after-sprawl : research for the contemporary city. NAI Publishers ; Antwerp : deSingel International Art Centre


Hollinghurst, Alan (1999) Gust. The Urban Condition: Space, Community, and Self in the Contemporary Metropolis. 158-166. 010 Publishers


Smithson, Alison Margaret (1968) Team 10 Primer. Cambridge, MIT Press

Sudijc, Dejan (1992) The 100 Mile City. London: Andre Deutsch


Sources

Main Street Coalition (01.2001) Main Street Strategic Plan

www.railway-technology.com

www.houstonmidtown.com  Midtown Home Page

www.hou-metro.harris.tx.us  Metro Houston

www.mainstreethouston.org  Main Street Coalition

www.ci.houston.tx.us  City of Houston Home Page

Image Credits

All reasonable efforts have been made to trace the copyright holders of the visual material reproduced herein. The author apologizes to anyone who has not been credited.

Erik Slotboom, Houston Freeways; p. 3 upper right

Aerial Photos, Rice University GIS; typical

Main Street Coalition; p. 15

© Photohome; p. 19 upper right


www.cardiology-houston.com/Locations/St_Lukes_s_Medical_Tower; p. 19 lower left

Architectural Graphic Standards; p. 37 lower center

Alex S. MacLean, Designs on the Land (p. 289) p. 37 lower right