Main Street
BIM on a complex street project
Christof Spieler and Mandi Chapa
Morris
THERE's NO "S" IN BIM!
Nolli map of Rome, 1748
Designing a street has a lot in common with designing a building.
disciplines
budgets
sequencing
coordination
We can model a neighborhood in BIM.
DURING A WARM MIDDAY DRIVE NORTH on Highway 288, I decided to take the Chenevert exit instead of the Fannin exit (I-45) to go into downtown. As I exited, my mind flashed back to the early 1990s when former City Councilwoman Ada Edwards had an anti-centric bookstore on Chenevert and Elgin, and my favorite black-owned embroidery shop was adjacent to the northeast edge of Balcones Park. As I stepped at the light at Elgin, the urbanites, townhouses, and lots brought my disdain to a crunching halt. The lyrics to “I Get My Love” start going through my mind. “Yeah, I’m going to be fine.” The song’s lyrics instilled notions about an unfulfilled love and the feeling of disorientation in Houston, where the past is treated with a disregard—particularly in what is now called Midtown.

Midtown is a late 20th century Houston urban phenomenon. Our hundred years ago, Houstonians knew Midtown as the South End, at the residential section with one of the city’s finest business lines. Remnant Colonial Revival houses with grand columns, such as A. B. Bankhead’s house at 9611 Bayou Avenue, survive to treat the South End, former status. But without dooms predictions, the commercial development of auto age commercial offices, buildings, and rail buildings from the 1930s through the 1950s occurred at the expense of the houses and their spacious yachts. Houston’s upper midtown developed westward after World War II. In 1970, a landscape of parking lots, abandoned lots, and buildings that hadn’t been built for 30 years was in place. Olds counties communities and so-called touchstone in the Sears at Main and Wickersham.

Midtown’s present makeup, however, is really an agglomeration of a retail and commercial center as they are called by highways corridors. This creation of investor construction is configured by Interstate 45 to its north, Highway 59 to the west, Highway 288 to the east, and I-10 to the west. The I-15 to 20-mile route extends beginning in the 1990s, which created Midtown, but has pockets of residential and commercial excellence but are mostly built in form of a city. This time of renewal provides an opportunity to consider what interventions could make Midtown a more coherent and stable neighborhood.

Some see Midtown as the epitome of market-driven inner-city revitalization, removing blight and seeking a renaissance in the inner city. While investment and new construction on vacant lots does bring hope of a better neighborhood, poor and working class people are being pushed out in such areas at the northwest corner of Midtown, thereby exacerbating existing inequities.

The Midtown TOD No. 1 is mandated to require land to build affordable housing, but skyrocketing land costs forced the TMC to purchase

FUTURE OF HOUSTON’S INNER LOOP NEIGHBORHOODS OR DEVELOPMENT PATTERNS FROM THE PAST?

by Robert S. Muhammad

map by Armanda Chapa

paths outside of Midtown in the Third Ward. As a result, Midtown itself—or within Third Ward boundaries—has already lost and will continue to lose lower-income communities.

Second, a public space could create a diverse and unified neighborhood identity. Midtown has no midtown. It has no discovered cosmos, place, or coherent development pattern. Balcones and Midtown parks are pleasant patches of green space but fail to capture the character of Midtown. Plans for plans at Houston Community College have potential.

The presence of the light rail line affords the possibility of Midtown creating a cohesive urban corridor that can transform the district into a more lively, a better diversity of people. This is in opposition to what could be lost. The recent Transit Corridor plan was an attempt to create pedestrian environments but the standards are optimal. In order to do some excellent transit-oriented development, Midtown has to overcome the urban legacy of stable Main Street businesses being destroyed by the construction of the light rail line. Main Street in Houston, and in communities across the American landscape, was made a ghost corridor by suburban greenfield developments, sectors roads, freeways, rail roads, and highways.

ONE NEIGHBORHOOD? A close look at a map of Midtown reveals many pockets that sometimes meet but rarely relate to form a whole. -Christophrazier

Buildings since 1970

Commerical

Multifamily

Office

Simple Parity

Non-profit

Governmental

The First Midtown complex has ground floor retail and wide sidewalks but in between across the street is a parking lot.

West and northwest Midtown fill up with lofts and converts and cast iron buildings and mom and pop stores.

Midtown and Main have a facade and patio with high parking lots but walk to this height with the standard.

Social services are scattered throughout Midtown, many being in the area.

Houston Community College is working to build public schools on campus and improve sidewalks around.

Veracruz at Midtown contains 282 apartments, but there is potential toward an essential commercial opportunity for businesses and a potential for expanding retail.

Main has seen little development near Greyhound, but plans for apartments, retail, and a park at McGovern are available.

SEE MORE: The story continues at www.greendraft.com/.

#BIMForumED
We can masterplan a development in BIM.
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<th>ELEMENTS</th>
<th>GROSS FLOOR AREA</th>
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<th># PARKING PROVIDED</th>
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<td><strong>152</strong></td>
<td><strong>845</strong></td>
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**Option 4 Program**

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<td>Lobby</td>
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**LEVEL 2 BLOCK A**
- Hotel registration, Ballroom, Conference Rooms, Fitness Center, Hotel Bar and Terrace overlooking Plaza. Hotel services, BIM and Amenity Deck.

**LEVELS 3-4 BLOCK C**
- Residential
- Parking Structure

**LEVELS 4-7 BLOCK C**
- Residential
- Parking Structure

**LEVELS 4-11 BLOCK A**
- Hotel Tower, 75 key floor

**LEVEL 8 BLOCK C**
- Residential Lofts
Options For Future Land Use

To understand what density and uses the site can support, we first looked at each block individually. We developed between 3 and 5 options for each block. Each option is a different mix of uses, building height and shape. Since parking is always one of the major limitations of a dense urban project like this one, we calculated parking demand and supply for each block. Some options provide more parking than they require; others require more parking than they provide. Supply and demand of parking can then be balanced over multiple blocks.
Phasing
A key require for any project on the site is the continuous operation of both the clinic and the bank. We developed phasing possibilities for all three schemes which demonstrate that this is indeed possible.
We can do LEED calculations in BIM.
75% Minimum Previously Developed

Project Boundary

Undeveloped

PREVIOUSLY DEVELOPED SITE
Intersections at 1/2 Mile of Project Boundary
158

31,227,811 SF TOTAL
1 SQ MI = 27,878,400 SF
1.120 SQ MI
139 INTERSECTIONS
THE PROJECT
2003: light rail
ten years later...
MAIN STREET IMPROVEMENTS
FOR THE DOWNTOWN REDEVELOPMENT AUTHORITY (DRA)

CONSULTANT TEAM:
Morris, Clark Condon Associates, Huitz-Zollars, Quentin Thomas Associates

#BIMForumED
Main Street Square

Character
Maintain and enhance the identity established in 2003: fountain, lighting, paving.
Less cluttered, more open, more visible, better lighting.

Shopping District Character
As part of a separate project, rebuild Dallas with wider sidewalks, new pedestrian lighting, and distinctive palms.

Treat Main/Dallas intersection as the crossroads of two districts -- Shopping and Main Street Square.
Give Shopping District a presence on Main Street.

Improvements
Simplify tree and landscape configuration
Add palm trees from McKinney to Polk as link to Shopping District
Upgrade lighting on OCS poles and at trees
Close southbound traffic lane at Block 256 (former Macy’s) and create plaza for continuity with other blocks
Pedestrian safety enhancements at light rail
Meanwhile ...
BIM filled a gap in how we visualized and documented buildings.
BUILDING THE MODEL
Existing conditions
floors
floors
walls
electrical
floors
walls
electrical
plumbing
systems
furniture
floors
walls
electrical
plumbing
systems
furniture
USING THE MODEL
Discussing existing conditions
Design ideas
Exploring options
-creating sidewalk café boundaries
Figuring out details
– upgrade / replace street lights
Showing the design

Pedestrian light pylons
Way-finding kiosk

Crosswalk way-finding graphic
Sidewalk super-graphic
Showing the design - landscaping

- Add palm trees from McKinney to Park, linking to the Shopping District
- Upgrade lighting on OCS poles, add banners
- Pedestrian safety enhancements at light rail
- Simplify landscape configuration, adding railing between planters
- Outdoor cafe seating area
- New LED light fixtures on existing OCS poles (across entire district)
- New Elm trees in new tree wells (across entire district)
- Elevated planted planters in median
- Banners
Cafe railing and umbrellas for new curbside dining

New trees in sidewalk at County Administration plaza
Parking bay shortened to accommodate trees
New lighting

Replace lights with LED fixtures

New curbside planters to define sidewalk cafe

Hanging planters on OCS poles
Southern Downtown
Elements

- New CD light fixtures on existing
  - add pole beyond store district

- Outdoor Cafe seating area

- New Elm trees at new line with
  - curbstone store district

- Enclosed planters in median
Documenting Scope - phasing
Documenting Scope - phasing

Proposed Demolition Aso

Proposed Improvements Aso

Name: Block 33-32
Scale: 1" = 50'-0"
Main Street Square
Scope

Documenting Scope

Improvements
- Bike lanes
- Bus stops
- Decorative glass panel fixtures
- Upgrade lighting on800 block and at 1200
- Close southbound traffic lane at Block 256 (former Macy’s)
  and create plaza for continuity with other blocks
- Pedestrian safety enhancements at light rail

New planters at block ends and pedestrian safety improvements at Dallas, McKinney, Lamar, and Walker intersections

New palm trees in 1100 and 1200 blocks

Dallas Street improvements project

Note: Overall Main St. Square 3D View
Scale: 1” = 50’-0”
# Budget

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<th>Quantity</th>
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**TOTAL:** $37,120.00
LESSONS LEARNED
BIM is about avoiding surprises.

(WYSIWYG)
Don’t forget the “M”.
(sometimes what matters is simply that the cabinet is there.)
Focus on the design, not the model.

(the client doesn’t care about the model)
Decide what the model is for.

(coordination, not documentation)
Think about accuracy.

(do we need to model slopes?)
Think about level of detail.

(this is not a building prettiness model)
Focus on presentation.

(not all 3-D views are created equal)
Keep your boots on the ground.

(the model will never capture full reality)
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