Playtesting the Future: Citizen Engagement through Games

By Louis Burns

September 7th, 2016

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	Yellow	Residential	$110,000	$1500	2/unit
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	Purple	Historic			
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	Green (flat)	Parks	$25,000	+ 1% bonus	
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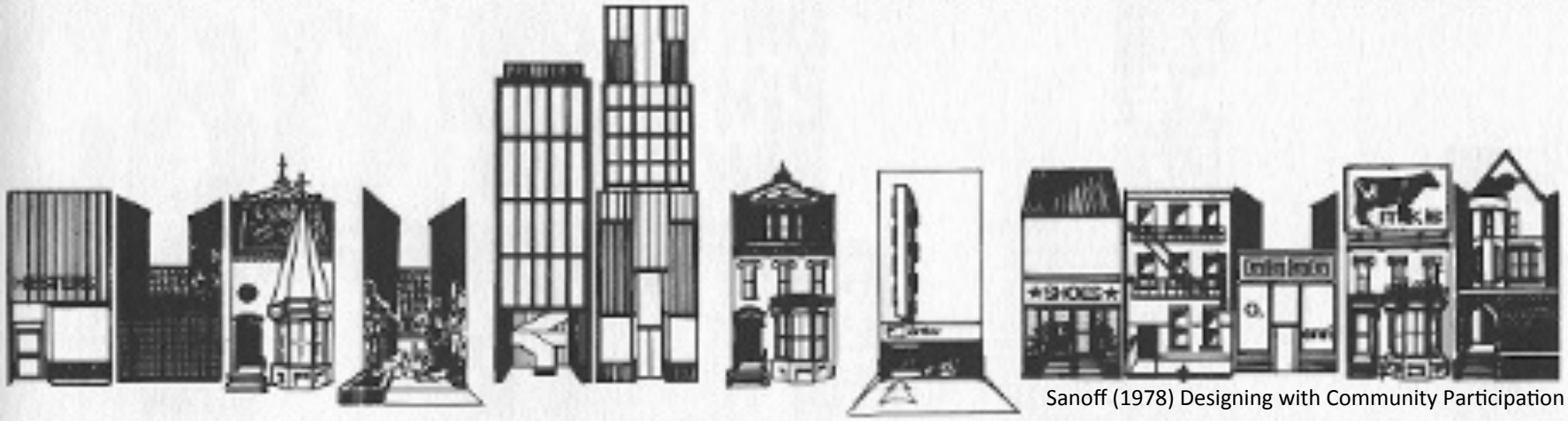
	Black (flat)	Surface parking (3)	$6,000		3 spaces
	Black	Structured parking (6 spaces)	$180,000		6 spaces

fold along this line

BEST FIT SLIDE RULE

Carefully cut out this black PANEL

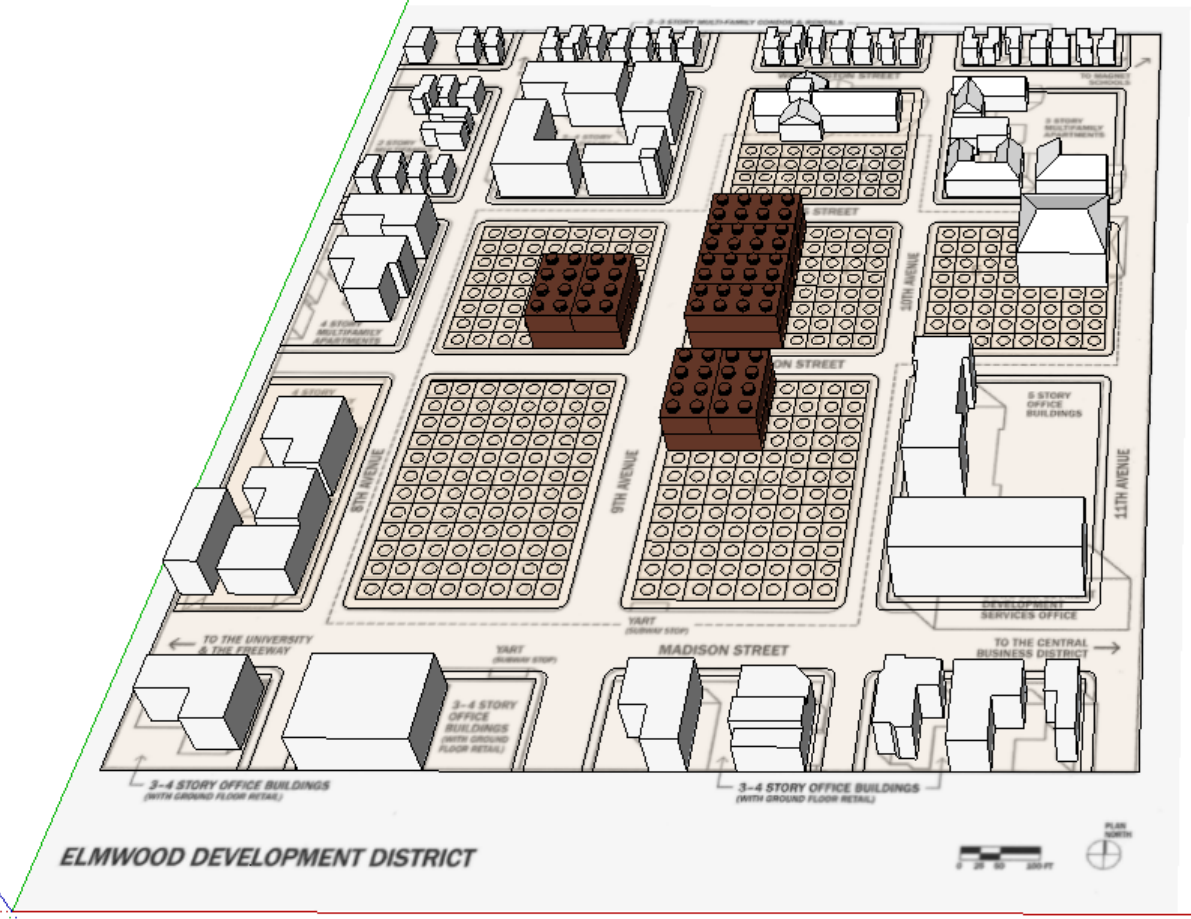
fold along this line

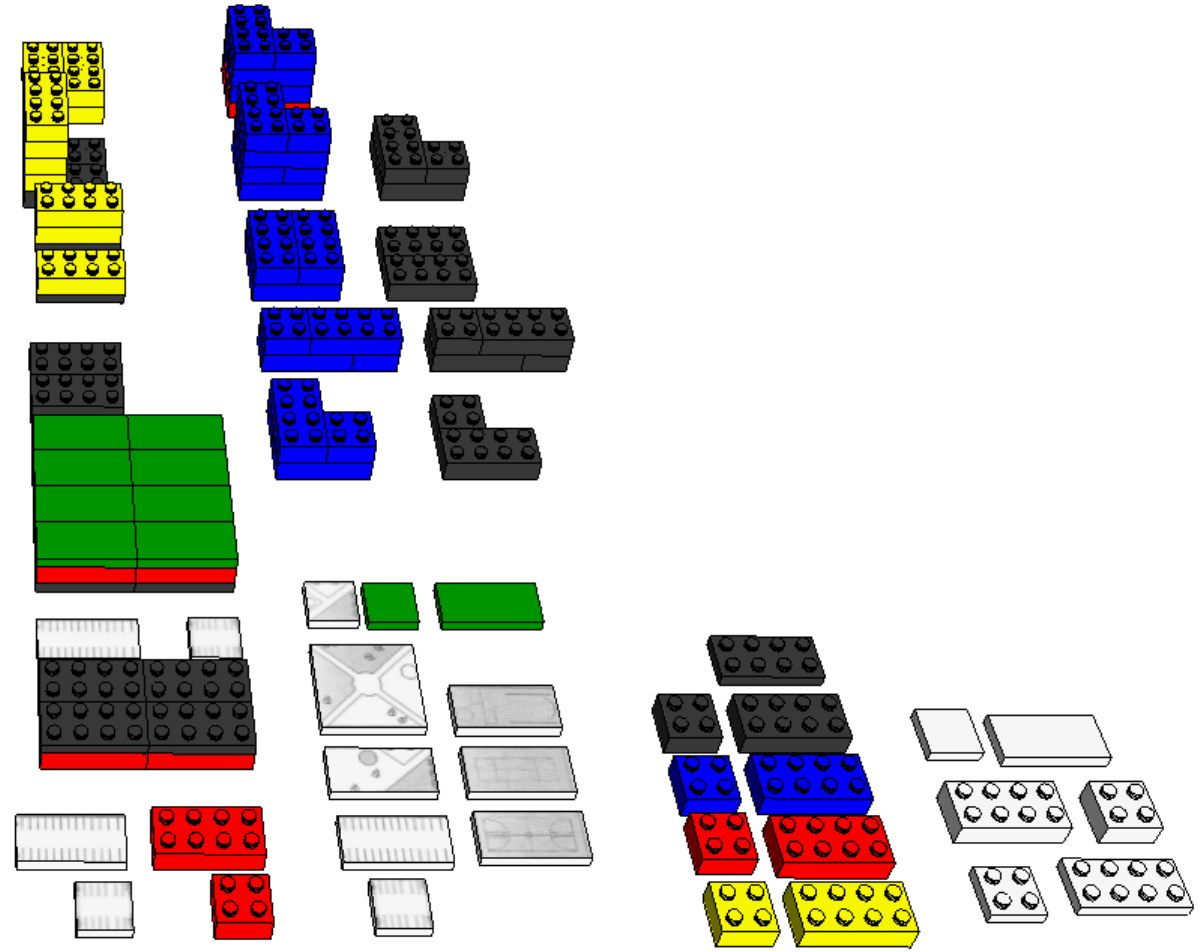


Sanoff (1978) Designing with Community Participation

Consensus Plan.

Calthorpe Associates (2003) Spring Valley and Main Street Station Area Plans, City of Richardson, Texas


8TH AVENUE
9TH AVENUE
10TH AVENUE
11TH AVENUE
MADISON STREET
5 STORY OFFICE BUILDINGS
DEVELOPMENT SERVICES OFFICE
TO THE UNIVERSITY & THE FREEWAY
TO THE CENTRAL BUSINESS DISTRICT
YART (SUBWAY STOP)
3–4 STORY OFFICE BUILDINGS (WITH GROUND FLOOR RETAIL)
3–4 STORY OFFICE BUILDINGS (WITH GROUND FLOOR RETAIL)
ELMWOOD DEVELOPMENT DISTRICT



Tan (2014) Negotiation and Design for the Self-Organizing City: Gaming as a Method for Urban Design

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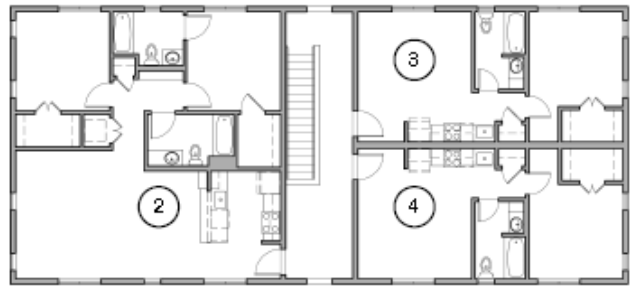
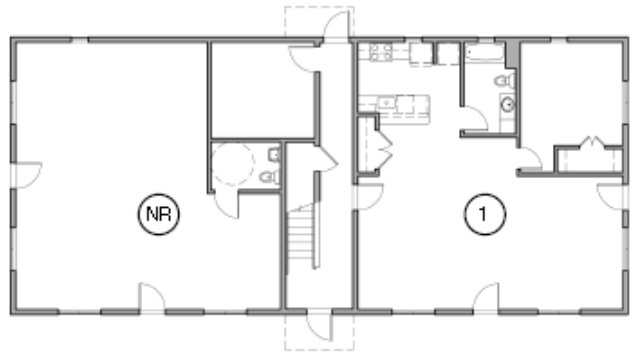
Unit	Program	Area
1	1BR - First Fl.	1,024 SF
2	2BR - Second Fl.	1,024 SF
3	1BR (#1) - Second Fl.	512 SF
4	1BR (#2) - Second Fl.	512 SF
	Common Area	617 SF
	Residential Subtotal	3,689 SF
NR	Non-Residential	919 SF
	Total	4,608 SF

19.9% of the building is non-residential.

FHA mortgages allow for a maximum of 20% non-residential.





4F: NOI and Cap Rate Analysis

Static proforma Prepared July 2011 by Anderson Kim

0.12 Floor Area Ratio (FAR) formula: Building SF / Land SF

Project Costs

Land Cost	$51,012	6,384 SF parcel	$8.00 per parcel SF	8% of project costs
Direct Construction Costs	$414,120		$90 per building SF	69% of project costs
Indirect Construction Costs	$138,240		$30 per building SF	23% of project costs
Construction Costs Subtotal	$552,960		$120 per building SF	92% of project costs
Project Costs	$604,032			

Net Operating Income

Revenue Assumptions:	Rate	SF	monthly rent	Annual Rent		
#1: 1BR, First Flr.	$1.17	1,024	$1,200	$14,400		
#2: 2BR, Second Flr.	$1.17	1,024	$1,200	$14,400		
#3: 1BR, Second Flr.	$1.31	512	$100	$8,400		
#4: 1BR, Second Flr.	$1.31	512	$100	$8,400		
Common Area		617				
					$45,600	Subtotal: Potential Income from Residential
Non-Residential (NNN)	$1.36	919	$1,250	$15,000		
Total Building SF		4,608	$5,050	$60,600		
Annual Rent					$60,000	Gross Potential Income (GPI)
5%	Vacancy rate				3,030	
					$57,570	Gross Operating Income (GOI)

Annual Operating Expenses (Res. Only; Non-Res is NNN)

Property management	5.00%	2,879	(assumed at 5% of rents)
Accounting		300	NNN
Legal		300	NNN
Insurance; property and GL		600	NNN
Real estate taxes	1.00%	6,040	
maintenance & supplies		500	NNN
Utilities; water, trash		300	NNN
Contingency		4,000	
subtotal		$14,919	$14,919
Operating Expenses as % of GOI	26%		$42,651	Net Operating Income (NOI) formula: GOI less Operating Expenses
Acquisition Cost/Project Cost			$604,032	
			7.00%	Cap Rate/Cash on Cash return on leverage formula: NOI divided by the Acquisition Cost

Cash Flow

Acquisition Cost/Project Cost		604,032	
Down payment	20%	120,806	
Assumes 30 year amortization		483,226	
Monthly payment P&I	5%	($2,594)	
Annual NOI		42,651	
Annual Debt Service		(31,129)	
Annual Cash Flow above debt service and operating expenses:		$11,622	9.6% pre-tax return on equity (down payment)
Debt Service Coverage ratio:	1.31		
Annual depreciation @ 21.5 years assumes 15% of project cost = value of improvements to land	$16,414		
Key inputs in yellow		Key outputs in tan	

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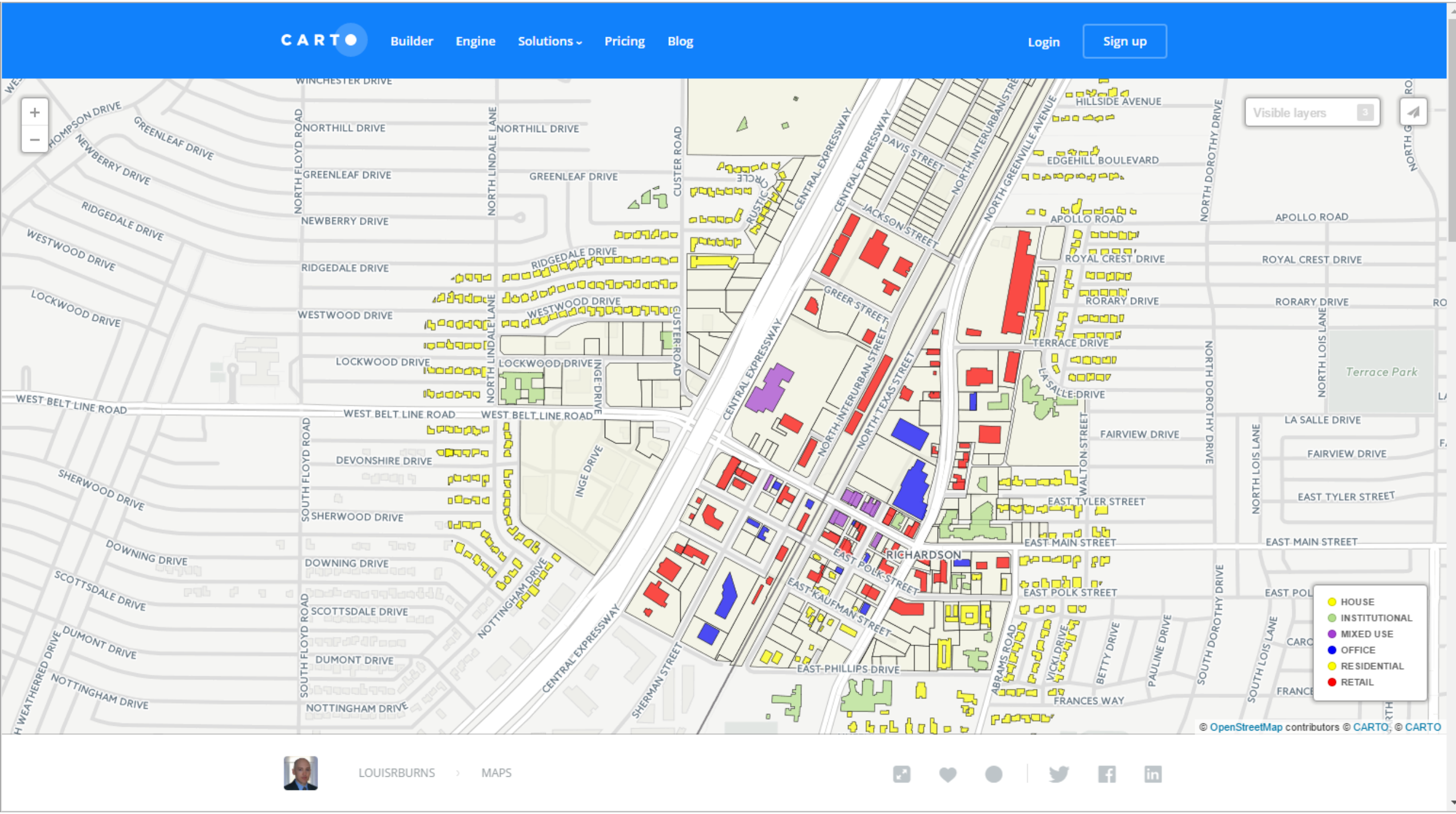
THE 4F: REVISED PLAN

MAY 2012

0' 8' 16' 32'

"Form Follows Finance" Fourplex

Multifamily Housing for the New Economy


CARTO
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Visible layers
3
HOUSE
INSTITUTIONAL
MIXED USE
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RETAIL
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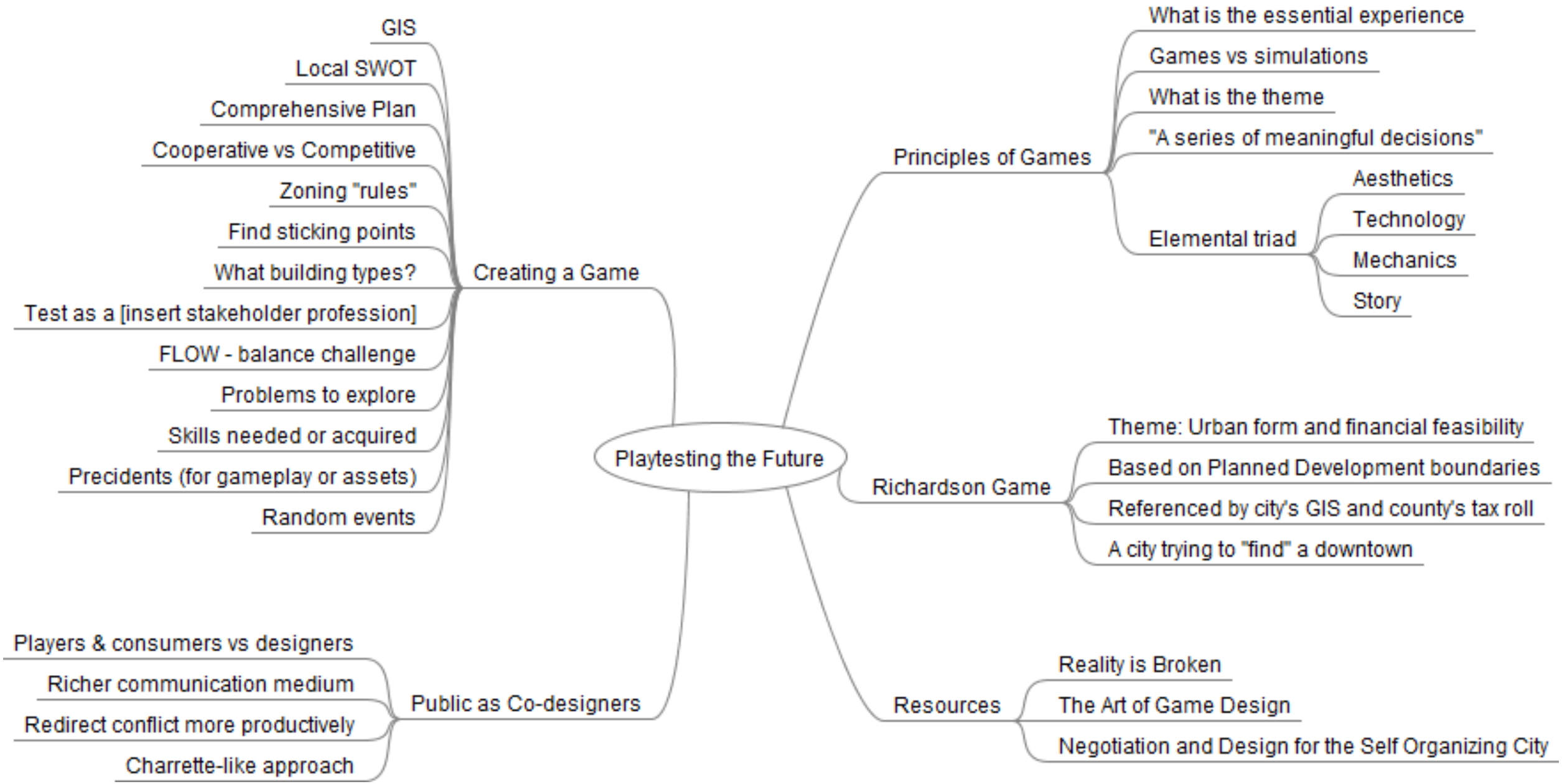
LOUISRBURNS
MAPS


Playtesting the Future
Creating a Game
GIS
Local SWOT
Comprehensive Plan
Cooperative vs Competitive
Zoning "rules"
Find sticking points
What building types?
Test as a [insert stakeholder profession]
FLOW - balance challenge
Problems to explore
Skills needed or acquired
Precidents (for gameplay or assets)
Random events
Principles of Games
What is the essential experience
Games vs simulations
What is the theme
"A series of meaningful decisions"
Elemental triad
Aesthetics
Technology
Mechanics
Story
Richardson Game
Theme: Urban form and financial feasibility
Based on Planned Development boundaries
Referenced by city's GIS and county's tax roll
A city trying to "find" a downtown
Resources
Reality is Broken
The Art of Game Design
Negotiation and Design for the Self Organizing City
Public as Co-designers
Players & consumers vs designers
Richer communication medium
Redirect conflict more productively
Charrette-like approach

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louisrburns.com/Richardson
louisrburns.com/spreadsheet

louisrburns.com/FAPA2016