2017-2018 Housing Design Education

Baltimore Housing Studio: A Restorative Learning Community 32706

Baltimore City is experiencing a persistent housing crisis, symptomatic of most shrinking cities, with affordable housing shortage and widespread vacancy and in the city's poorest and racially segregated communities. Meanwhile, luxury housing development in the central business and waterfront districts is booming but remains generally inaccessible to working and middle class families.

For the students at a minority serving, public research institution, housing equates to the lifeblood of a community. When introduced early in the architecture curriculum, it offers aspiring architects a fertile ground for reconstructing knowledge about place, identity and opportunity. It also provides a robust framework for empowering students with limited knowledge of the architecture field to engage public agencies and community constituents in vigorous discussions about restorative housing futures.

A city of row houses, designed for the now obsolete urban working class of the last two centuries, Baltimore is facing the challenge of adapting and reinterpreting this practical invention in order to address the multifaceted socio-economic needs of its residents. This Undergraduate Baltimore Housing Studio offers students a transition from fundamental design coursework to upper-level, socially engaged curriculum that challenges the traditional low-rise housing context of Baltimore neighborhoods. Row house prototypes are hybridized with higher density types through tactics that seek to enhance both the spatial utilization of site and the quality of life for the residents. Ranging from speculative and hypothetical to site-specific proposals, design activities challenge students to develop a critical position on the subject and engage in a collaborative design process while continuing to develop basic spatial and design communication competences. The studio serves as an annual platform for engagement between young designers, professionals, city officials and community organizations by investigating typological, financial and ethical aspects of urban housing.

Baltimore Housing Studio

A Restorative Learning Community



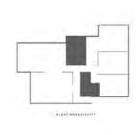
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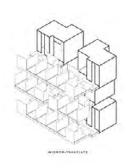
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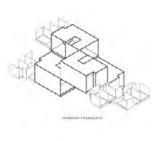






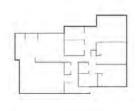


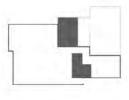


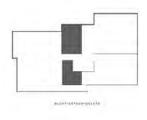




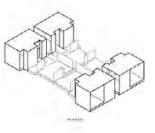
















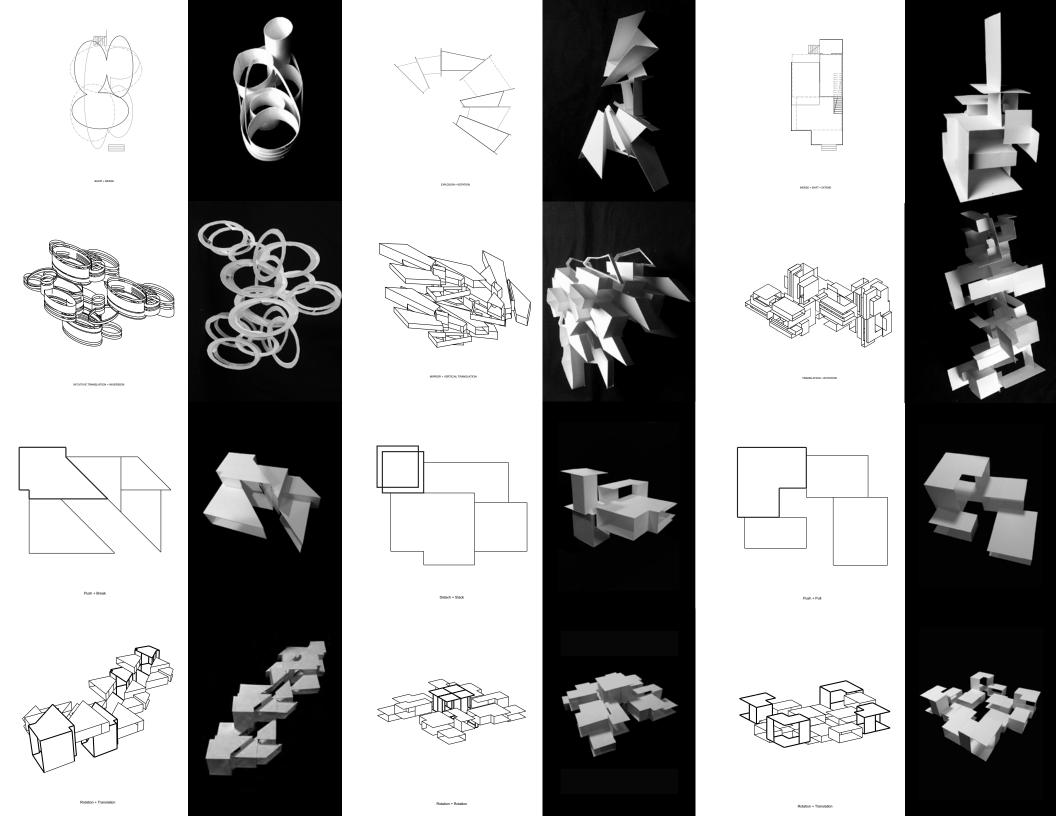
7 triptychs: house (1), home (2), assemblage (3&4), aggregation (5&6), actualities (7)

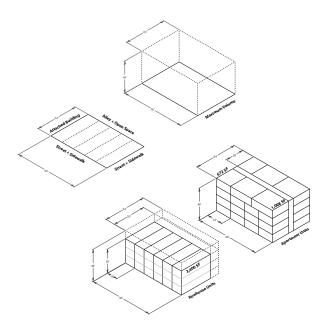
House & Home

Design process begins with exploring the duality of 'House and Home' using students' intimate experiences and speculative investigation of **spatial assemblage and aggregation** resulting in visions of housing futures on various scales. The design method involves interpreting the 'house' as an assemblage of living spaces that is modified through the of use **spatial operations** based on themes from a fourteen-verse sonnet composed to express one's perception of 'home'. Students work in triptychs to study the physical and emotional implications of a familiar domestic space and conceptualize the potential for unit aggregation using **iterative geometric transformations**.

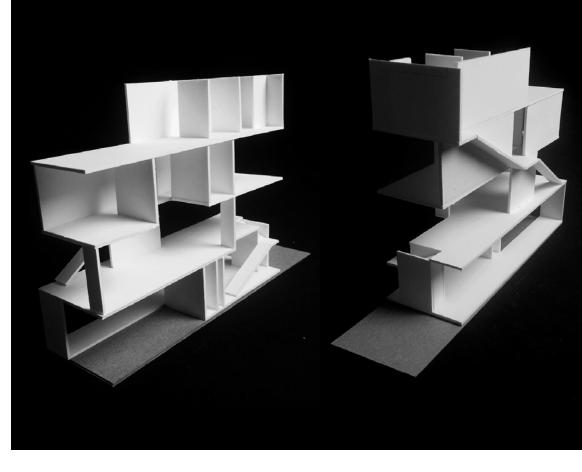
human perception and experience informs physical and phenomenological spatial possibilities

systematic aggregation of units provides a method of control and differentiation for emerging forms and spaces



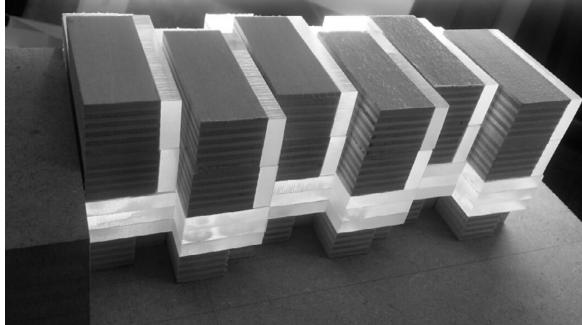


hypothetical project site with potential row house and apartment aggregation



Density & Diversity

Prototypical row houses and apartments for a hypothetical site offer comparative study of unit density and diversity. Students begin by assembling living spaces of a generic functional program into a basic row house and apply spatial operations to develop a second prototype that accommodates a specific user type (family, live/work couple, etc.) The two prototypes are aggregated into a row of 6 houses and analyzed alongside the design of an 18-unit low-rise apartment building for the same site.



ROWHOUSE PROTOTYPE 1 ASSEMBLAGE ROWHOUSE PROTOTYPE 2 ASSEMBLAGE **UNIT AGGREGATION** LEVEL 4 LONGITUDINAL SECTION LONGITUDINAL SECTION VALLEY ACCESS DIAGRAM

CIRCULATION DIAGRAM

ORGANIZATION DIAGRAM

ORGANIZATION DIAGRAM

CIRCULATION DIAGRAM

AGGREGATION DIAGRAM

BUILDING USAGE DIAGRAM

ROWHOUSES

PROTOTYPE 1

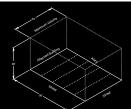
3-bedroom, 2.5 bathroom rowhouse 1,950 SF (exculding garage/carport) unit size: unit # / density: 2 rowhouses / 14.3 units per acre

PROTOTYPE 2

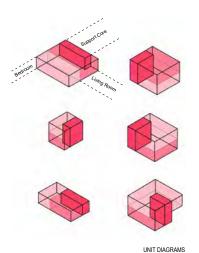
3-bedroom, 2.5 bathroom rowhouse 2,070 SF (exculding garage/carport) 4 rowhouses / 28.6 units per acre family with children

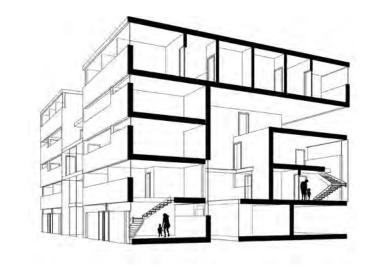
HOUSING TYPOLOGY:

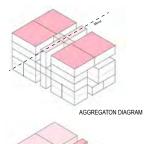
AN ITERATIVE, INFORMAL DESIGN METHODOLOGY

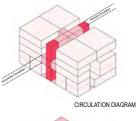


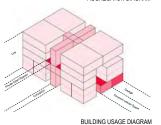
unit type: unit # / density (4) 3-bedroom, (6) 2-bedroom, (8) 1-bedroom 1,100 SF, 800 SF, 600 SF 18 apartments / 128.6 units per acre

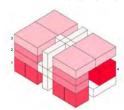


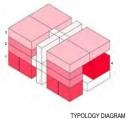


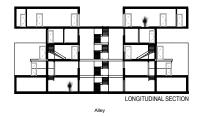


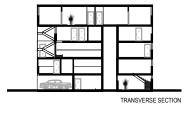


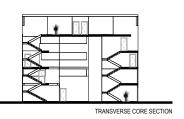


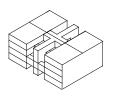


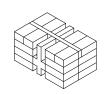




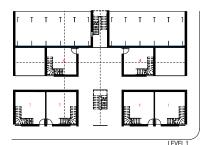


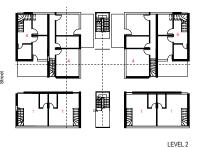


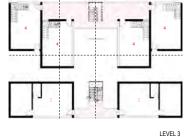


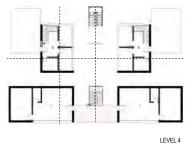


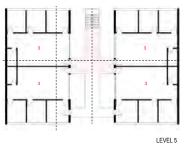




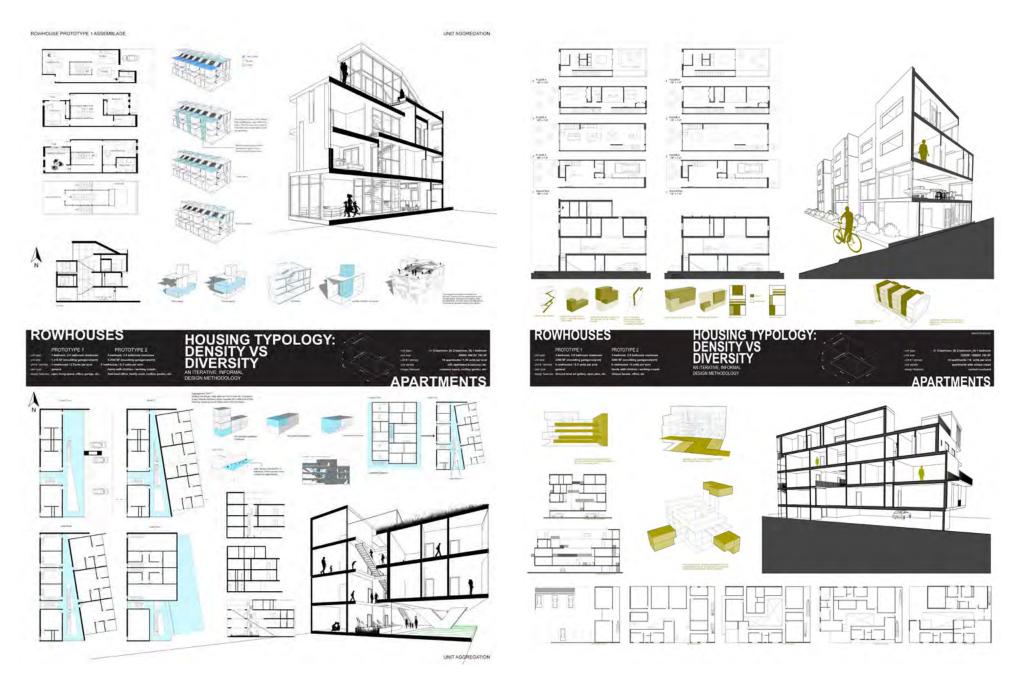








UNIT AGGREGATION



comparative study of row house and apartment building types

row houses rely on efficient vertical circulation and narrow space utilization but maintain high degree of privacy and spatial autonomy

apartment building configuration is predicated by horizontal and vertical access and spatial modularity with a variety of shared spaces and resources



Urban Housing Blocks

Students combine row houses and apartments from Density & Diversity study in small groups and compose a **complete urban housing block** that responds to the specific urban conditions of a hypothetical neighborhood. Exterior facades and outdoor spaces are adapted to corresponding **site orientation and adjacencies** and coordinated among all groups in order to present a coherent proposal for an **urban housing community**.



12 blocks, 2 boulevards, a park, a school and a store amidst local and collector street



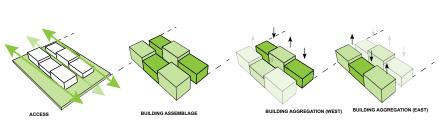






collaborative groups assemble individual block strategies into a coordinated approach for the neighborhood





SITE VICINITY MAP



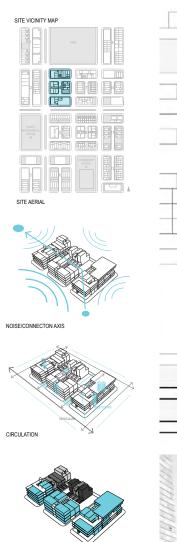


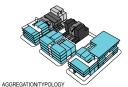
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BLOCK 9: PARKFRONT residences adjacent to large public spaces have the ability to extend the landscape beyond existing boundaries by integrating shared green space in adjacent surfaces



BLOCK 4: CORNER PLAZA









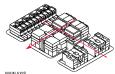


BLOCK 8: INNERSPACE

transitions in functional program intensity and unit density (live/work, multifamily, single family) help mediate contrasting urban edges (boulevard vs. school)









VEHICULAR CIRCULATION / PARKING



SOUND POLLUTION / SIGHTLINES







Hybrid Housing

Explorations in **low-rise hybrid housing** propose an **alternative typological approach** for the redevelopment of 80 parcels of row houses recently demolished as part of urban renewal efforts in the Tivoly community of the Coldstream Homestead Montebello Neighborhood in Baltimore City. Design strategy aims to **maintain pre-existing density** despite the pressure of surplus vacancy and focuses instead on the **reconfiguration of space** and introduction **diverse types of private and communal residential experiences** that utilize successful features developed during the comparative part of the design process.



PUBLIC/PRIVATE CONNECTION

three-bedroom family units in a multifamily cluster are accessed through a protected inner courtyard that provides shared playspace

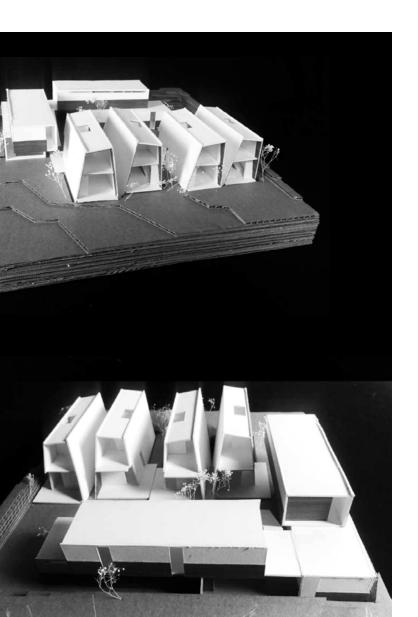
continuous interactive structure extends from the courtyard and wraps the exterior of the building to support continuous activity and common experience between public and private





FORMAL TRANSFORMATION

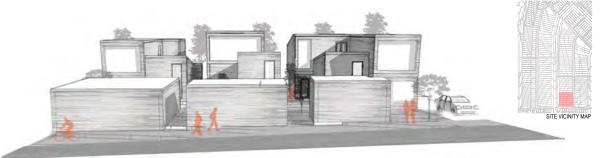
repurposed shipping containers provide a modular approach to a mixed unit-type compound that reinterprets the uniform streetscape into a series of undulating volumes that provide porosity to the street and lead to a shared semipublic outdoor space deep into the site





PERMEABILITY

flow and movement permeate through the site of a village-like duplex housing configuration with individual entries and shared semipublic throughway

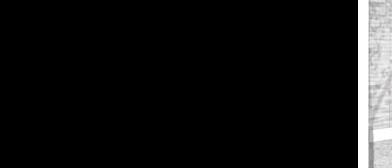


MISCELLANEOUS HOUSING

HOUSING TYPOLOGY: DENSITY VS DIVERSITY

AN ITERATIVE, INFORMAL DESIGN METHODOLOGY



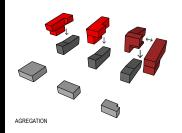


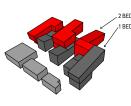




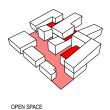


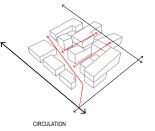
SECOND LEVEL PLAN (1"=40')

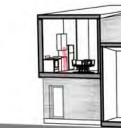


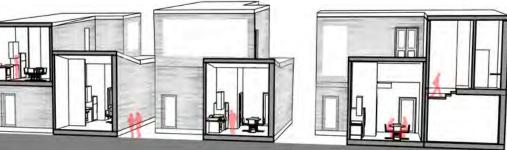


TYPOLOGY





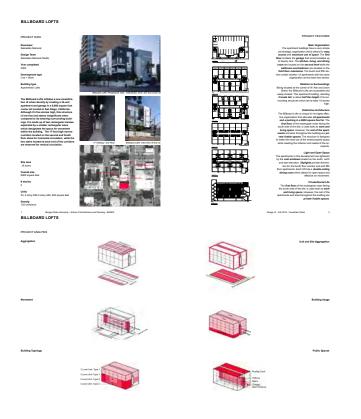






URBAN LANDSCAPE RECLAMATION

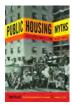
alternative reorganization of buildings allows for utilization of the entire site by bringing prominence to all edges and interstitial landscapes



ROWHOUSE PROFORMA				-			
LAND COST		s	50	\$	614,400	\$	614,400
SITE AREA (SF)	12,288				SUBTOTAL		TOTAL
PROJECT AREA (SF)	# UNITS		SF PER UNIT	1			24,000
ROWHOUSES - PREMIUM	5		2,400	•	12,000		
ROWHOUSES - STANDARD	5	ı	2,400		12,000		
HARD COST		_	COST PER SF	1			3 120 000
CONSTRUCTION - PREMIUM		\$	140.00	's	1,680,000		
CONSTRUCTION - STANDARD		\$	120.00	\$	1,440,000		
SOFT COST						\$	655,200
PROFESSIONAL FEES FINANCING			8% 10%		249,600 312,000		
DEVELOPMENT EXPENSES			3%		93,600		
			AVG COST PER SF	1			
TOTAL DEVELOPMENT COSTS]	\$	183.90			\$	4,413,600
	\$ PER SF		ALE COST PER UNIT			\$	5,880,000
ROWHOUSES - PREMIUM ROWHOUSES - STANDARD	\$ 265	s	636,000 540.000	\$	3,180,000 2,700,000	1	
MARKETING / SALES COMMISSION			6%	-	352 800		
TOTAL REVENUE	,		0.0	•		_	5.527.200
	J					\$	
PROFIT	1						1,113,600
APARTMENT PROFORMA						\$	
LAND COST		s	50	\$	921,600		921,600
LAND COST SITE AREA (SF)	18,432	s			921,600 SUBTOTAL		921,600 TOTAL
LAND COST SITE AREA (SF) PROJECT AREA (SF)	18,432 # UNITS	s	SF PER UNIT		SUBTOTAL		921,600
LAND COST SITE AREA (SF) PROJECT AREA (SF) 1 BEDROOM 2 BEDROOM	# UNITS 24 18	s	SF PER UNIT 700 1,000		SUBTOTAL 16,800 18,000		921,600 TOTAL
LAND COST SITE AREA (SF) PROJECT AREA (SF) 1 BEDROOM 2 BEDROOM 3 BEDROOM	# UNITS 24 18 12	s	SF PER UNIT		SUBTOTAL 16,800		921,600 TOTAL 49,200
LAND COST SITE AREA (SF) PROJECT AREA (SF) BECARCOOM SECROCOM 3 BEDROOM 3 BEDROOM HALIUWAYS + NITERIOR COMMON SPACES	# UNITS 24 18	s	SF PER UNIT 700 1,000		SUBTOTAL 16,800 18,000		921,600 TOTAL
LAND COST SITE AREA (SF) PROJECT AREA (SF) BECARCOOM SECROCOM 3 BEDROOM 3 BEDROOM HALIUWAYS + NITERIOR COMMON SPACES	# UNITS 24 18 12 8,974	S	SF PER UNIT 700 1,000		SUBTOTAL 16,800 18,000		921,600 TOTAL 49,200 8,974
LAND COST SITE AREA (SF) PROJECT AREA (SF) 1 EEDROOM 3 EEDROOM 1 ALLWAYS - INTERIOR COMMON SPACES PARKING - DECKS - PATIOS MARD COST	# UNITS 24 18 12 8,974		SF PER UNIT 700 1,000 1,200]	16,800 18,000 14,400		921,600 TOTAL 49,200 8,974
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LAND COST STE AREA (87) PROJECT AREA (87) FELERODOM SELENDOM	# UNITS 24 18 12 8,974 8,100	S S	SF PER UNIT 700 1,000 1,200 COST PER SF 100.00 100.00 30.00	s s s s s s	16,800 18,000 14,400 4,920,000 897,400 243,000	\$	921,500 TOTAL 49,200 8,974 8,100 6,060,400
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LAND COST SITE AREA (SP) FROLET FAEL (SP) FERENCOM SERVICION	# UNITS 24 18 12 8,974 8,100	\$ \$ \$ \$ \$	SF PER UNIT 700 1,000 1,200 1,200 COST PER SF 100,00 100,00 30,00 30,00 30,00 40 40 40 40 40 40 40 40 40 40 40 40 4	s s s s s s	\$UBTOTAL 16,800 18,000 14,400 4,920,000 897,400 243,000 484,832 606,040 181,812	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
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LAND COST SITE AMEA (SP) PROJECT AREA (SP) EEEROOM BEEROOM BE	# UNITS 244 18 122 8,974 8,100	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 700 1.000 1.200 1.200 1.200 1.200 1.00.00 1.00.00 100.00 30.	\$ \$ \$ \$ \$ \$ \$ \$ \$	\$UBTOTAL 16,800 18,000 14,400 4,920,000 897,400 243,000 484,832 666,040 181,812	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
LAND COST SITE AREA (SP) SITE AREA (SP) SERPICION SERVICION S	# UNITS 24 18 12 8,974 8,100 \$ 1,300 \$ 1,700	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 700 1,000 1,	5 5 5 5 5 5 5 5	\$UBTOTAL 16,8000 18,000 18,000 14,400 4,800,000 44,802 600,040 451,802 507,400 161,812 TOTAL RENT / VR 367,400 286,000	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
LAND COST SITE AREA (8P) PROJECT AREA (8P) ELECTROM	# UNITS 24 18 12 8,974 8,100 \$ 1,300 \$ 1,700	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 100 100 100 100 100 100 100 100 100 10	s s s s s s s s s s s s s s s s s s s	\$UBTOTAL 16,8000 18,000 18,000 14,400 4,500,0000 697,400 454,802 606,040 18,1812 TOTAL RENT / YR 377,400 285,000	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
LAND COST SITE AREA (SP) PROJECT EARLA (SP) FERENCOM SERROCOM SERROCOM SERROCOM HAND COST CONSTRUCTION. UNITS HAND COST CONSTRUCTION. UNITS FROM FROM HAND SERROCOM CONSTRUCTION. UNITS FROM FROM HAND SERROCOM CONSTRUCTION. UNITS FROM FROM HAND SERROCOM CONSTRUCTION. PARKING / GECHS / PATIOS OFFICIAL CONSTRUCTION. FROM HAND SERVICE FROM FROM HAND SERROCOM REAT FOR SERROCOM BERT BERT BERT BERT BERT BERT BERT BERT	# UNITS 24 18 12 8,974 8,100 \$ 1,300 \$ 1,700	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 1	s s s s s s s s s s s s s s s s s s s	\$UBTOTAL 16.8000 18.0000 14.400 4.920,0000 987.400 243,000 45.812 181.812 TOTAL RENT / YRY 374.400 387.200 285,000 2	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
LAND COST SITE AREA (8P) PROJECT AREA (8P) ELECTROM	# UNITS 24 24 24 24 24 24 24 24 24 24 24 24 24	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 100 100 100 100 100 100 100 100 100 10	s s s s s s s s s s s s s s s s s s s	\$UBTOTAL 16.8000 18.000 14.400 4.500.0000 897.400 245.000 18.1812 TOTAL RENT / YR 258.000 26.5000 28.2368.000 28.2368.000 28.2368.000 61.776	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958
LAND COST SITE AREA (SP) PROJECT EARLA (SP) FROLET EARLA (SP) FROLET EARLA (SP) FROEDOM SERENCOM SERENCOM MALLAWAYS - INTEROCH COMMON SPACES FARNING - DECKS - PATIOS CONSTRUCTION - NASTE - COMMON CONSTRUCTION - NASTE - SPACES FROEDOM FEE BRANCHIO FROEDOM FEE BRANCHIO BRAN	# UNITS 24 18 12 8,974 8,100 \$ 1,300 \$ 1,700	S S S S S S S S S S S S S S S S S S S	SF PER UNIT 100 100 100 100 100 100 100 100 100 10	s s s s s s s s s s s s s s s s s s s	\$UBTOTAL 16.8000 18.000 14.400 4.500.0000 897.400 245.000 18.1812 TOTAL RENT / YR 258.000 26.5000 28.2368.000 28.2368.000 28.2368.000 61.776	\$ \$	921,600 TOTAL 49,200 8,974 8,100 6,060,400 1,272,684 8,320,958 1,029,600

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Up to row it a commonly presumed that policile housing is till to selfect the
underprinteged individuals of socially, however, this has not been the case in or
out of the United States. Foreign counties have shown that public housing can
be used as a strategy to inversee economic growth in solators that are becoming
to be used as a strategy to inversee economic growth in solators that are becoming
dusty and increase private savelys. Singapore used the method of state-missaged
subject to the solator of the solators of the so

As a result, unemployment decreased and gross domestic product increased steady. Over time the HBD credited a variety of units with various prices that gate millies the exportancy to signate their housing, and open up their mode to fession their contractions of th



Heathcott. "Myth #8: Public Housing Is Only for Poor People." Public Housing Myths: Perception Reality, and Social Policy. N.p.: n.p., n.d. N. pag. Print.



supplemental activities:

CONTEMPORARY HOUSING EXAMPLES CASE STUDY & ANALYSIS PHILADELPHIA LOW-RISE URBAN REDEVELOPMENT FIELD TRIP AND PROJECT TOURS FINANCIAL PROFORMA ANALYSIS OF ROW HOUSE AND APARTMENT DEVELOPMENT AFFORDABLE HOUSING READING AND DISCUSSION DESIGN FORUMS WITH PROFESSIONALS, ACADEMICS, CITY OFFICIALS AND COMMUNITY MEMBERS

