

CONVERGENCE OF INTENSITY [Ci] or How to Purposely Shrink a City

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intense: adj. 1 of extreme force, degree, or ngth: intense concentration

intensive: adj. 1 very thorough or vigorous 5 denoting a property measured in terms of intensity rather than extent.

intensity: n. 2 [chiefly Physics] the measurable amount of a property.

intent: n. 1 intention or purpose. adj. 1 determined to do. – attentively occupied with 2 showing earnest and eager attention.

converge: v. 1 come together from different directions so as eventually to meet. – come from different directions and meet at. OED, 11th Edition

BACKGROUND

Cities are dynamic artifacts: they exist in a state of constant change. Shrinkage as an urban phenomenon has existed in the continuum of cities for millennia. Imperial Rome shrank from a peak of 1 million citizens to less than 100,000 by the Middle Ages. The British cities which led the Industrial Revolution – Glasgow, Liverpool and Manchester – peaked in population by 1900 and have been declining since (Rybczynski + Linneman, 1997). In the last decade, the concept of urban shrinkage has been reinterpreted in concert with the reality

of a globalized social, economic and environmental context for urbanized regions. Two contemporary cities have often been paired [to the point of cliché] to describe the phenomenon of urban shrinkage: Detroit and New Orleans [NOLA]. Shrinkage has occurred, infamously, in Detroit over 50 years of slow attrition and in New Orleans via swift trauma over the course of a weekend. Globally, other post industrial cities have shrunk through failures of long trusted patriarchal structures, and the complex combinations of social, economic and environmental forces.

The phenomenon of the Post Industrial city was identified over thirty years ago (Perloff, 1980). Such cities are defined in economic and market terms – “the post-industrial city is...a continuation of the industrial city...a city in which traditional industry maintains a significant but decreasing share of economic activity, replaced as an engine of economic growth by the production of various types of services” (Shaw, 2001). The phenomenon of shrinkage, more often identified as a “problem” or “syndrome” as though a disease – is generally defined as “cities with population of 100,000 or more that have undergone population losses of greater than 10 percent in the last five decades (Wolf-Powers, 2007). The phenomenon was formalized by the well funded German Federal Cultural Foundation’s “Shrinking Cities Project” [www.shrinkingcities.com], a project and traveling exhibition that claimed “classic urban design and city

planning has come up against its limits" (Oswalt, 2004). The Shrinking Cities project engaged architects, academics and artists to provide perspectives on shrinkage. Featuring four cities - Detroit, Ivanovo, Manchester / Liverpool and Halle / Leipzig - each described an example of a specific strain of depopulation, with its own industrial *raison d'être*, and parallel strains of social unrest and cultural traditions forged from its deindustrializing crucible.

While Detroit and NOLA - two proud yet wounded cities whose patriarchal structures have failed them - portray dramatic examples of the shrinking cities phenomenon [both experienced over 50% reduction of population], they share an urban condition with 370 other cities, largely in the western, developed world. Even so, an entire creative industry has emerged around a morbid fascination with the two cities. Detroit is predictably rendered in all the "usual suspects" of its globalized image: aerial views of abandoned auto factories and neighborhoods, the '67 riots/civil insurrection, deteriorating infrastructure, decaying landscapes and resilient citizens, all cued to a techno soundtrack. The results are formally compelling yet sentimental. A superficial, and image-based knowledge of place, no matter how well intentioned, is evident, and ultimately, it is only the images of devastation that endure. Over almost two decades, beginning with Camillo Vergara's now infamous photographs documenting, over time, the empty skyscrapers of downtown and deteriorating neighborhoods, a slew of designers have descended, motivated by the so called "blank slate" of Detroit's vast abandoned geography. Numerous architectural and urban design

studios and charrettes have studied Detroit from Ann Arbor, LA, even Oslo, Norway. The influx will culminate [one hopes] with Time, Inc.'s year long scrutiny: Assignment Detroit (Carr, 2009).

Post-Katrina NOLA's traumatic shrinkage has been similarly portrayed in the media, and received even greater response from the design community. NOLA has received massive amounts of funding in support of design initiatives- in FY 2003 alone, the US federal government has provided \$3.1 million in funding for urban planning University partnerships (<http://www.oup.org/>). A Google Search of "exhibitions on post-Katrina NOLA yielded 10,500,000 hits, including the United States Pavilion at the Venice Biennale, After the Flood: Building on Higher Ground. Since the art and design disciplines are not "first responders" after disaster, the author acknowledges the genuine human desire to contribute after such urban trauma. Indeed, the authors have personally participated in several such initiatives, including the AIA RUDC NOLA Charrette, Operation Comeback Field Inspections for the National Trust for Historic Preservation, a Detroit University based NOLA Field Studio, and Neighbors Helping Neighbors through the Ontario federal college system.

Despite all the attention of domestic and international intellectuals, unfortunately, precious few of the efforts result in truly relevant recommendations to prompt improvement in the urban and human condition. The nature of the attention, the ubiquitous streaming video and photography of deteriorated, abandoned landscapes, all of which document a moment in time for each shrinking



FIG 1: Globalized images: Detroit and NOLA as portrayed by the international media, art + design communities

city and produces, intended or not, a numbing affect, for both residents and the world that might offer productive input and assistance. Residents of Detroit have become so numbed, a local website developed "Assignment Detroit: The Drinking Game" as an understandably sarcastic reaction to the perennial media obsession with the city (<http://dyspathy.com/>).

This morbid fascination conceals a barely hidden agenda that Detroit and NOLA are expected to remain frozen in time — a devastated palette ripe for creation. What is needed is original and unsentimental commentary on imbalanced and unsustainable development and its social, environmental and economic impacts. In cities such as NOLA and Detroit, citizens want and expect fresh perspective that is contrary to and may point a way out of their current urban and regional condition. If the intent of such art and design interventions is to displace "classic" approaches, then surely, proposed interventions would address the issues facing the citizens of the city: housing, mobility, employment and providing for and raising children in a challenged economic climate and making recommendations which elegantly address the basics of self-determination, food production, and economic and environmental sustainability in the urban context. (Principal Author, 2007).

A THEORETICAL APPROACH

Urbanists are interested in the future of urban form.

Fundamentally, cities should be the most desirable location for human habitation: beautiful, equitable and sustainable. The city and more to the point – the shrinking city – is an antithesis of this desirable urban condition – but no less a complex and ever changing entity. Attempts to describe the current and envision the future condition and form of the shrinking city lie along a wide spectrum. Most adopt a 20th century, capitalist notion of growth and regeneration: promoting growth as "good", inevitable, and accommodated and assimilated through technology. That growth will provide something – form, program, policy - to fill in the gaps of the post industrial city. Rollin Stanley, defined this at the 2005 UC Berkeley Conference on shrinking cities as "the dogma of growth" (Allweil, 2007).

Much has been published in the post-modern era extolling the theoretical, conceptual and practical virtues of inherent urban density. Urbanists began the argument in the 1960s with incisive criticism of modernism and its impact on the physical and social fabric of North American cities (Jacobs 1961). After languishing during decades of unabated urban sprawl, a revived focus on the center city praised Manhattan's grid, resultant density at the scale of the block, and the desirable "culture of congestion" that it has generated (Koolhaas 1978). Contemporary urbanists have focused on the complexity of the city and have promoted density [especially in cities experiencing exponential growth] as a way to address contemporary global ecological and quality of life challenges (Maas 2005, 2007).

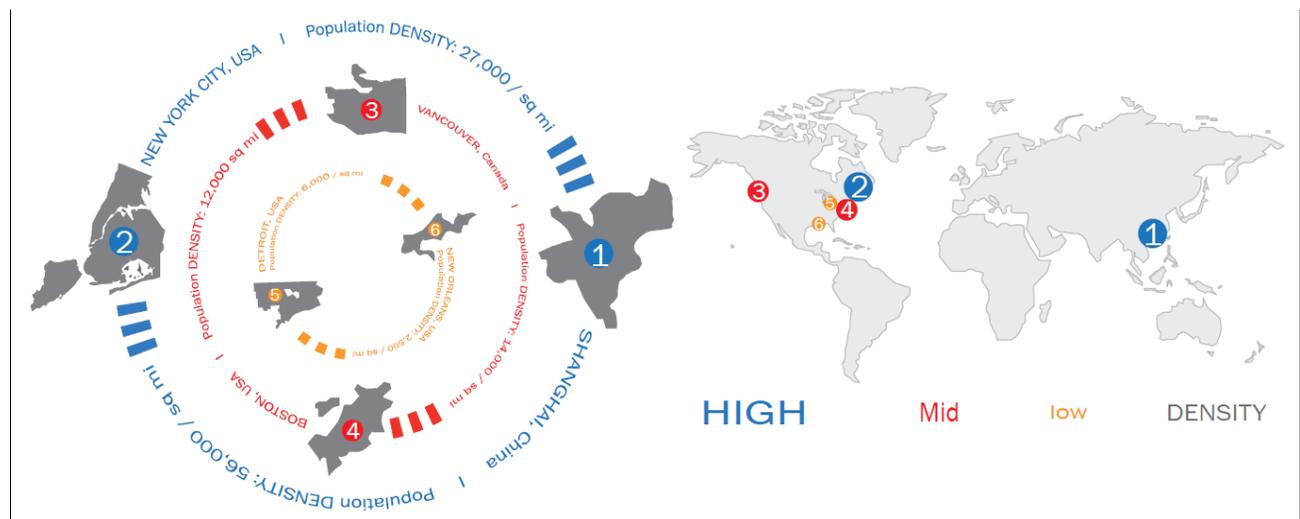


FIG 2: A spectrum of urban Density: population densities of: LD [low density]: Regional Detroit, MI, USA and New Orleans, LA, USA MD [mid Density]: Boston, MA, USA and Vancouver, CA HD [High Density]: Shanghai, China and New York City, NY, USA

More mainstream endorsements from industry and professional groups identify density as a viable alternative to sprawl, generating increased livability and sustainability in urban areas (McCown 2003). However, the majority of these theoreticians and practitioners have focused solely on the built environment, subsuming other metrics. Some have addressed the social aspect of density, noting the importance of documenting and integrating cultural and quality of life issues (Cruz, 2007) and concluding that “conceiving the city in terms of form is neither necessary nor sufficient to achieve the goals ascribed to the compact city. Instead, conceiving the city in terms of process holds more promise in attaining the elusive goal of a sustainable city” (Neuman, 2005).

Cities are not static artifacts – they exist in a state of constant change, and along a spectrum of urban density, growth, and contraction. For purposes of contrast, we highlight the extremes of current urban theory – the low density Landscape Urbanism approach and the Hyper-Density approach.

Unlimited Vacuum?

Proponents of landscape urbanism are pessimists in their approach to the shrinking city. Examining “the context of global capital, post Fordist models of production, and informal labor relations,” Landscape urbanism asserts that “urbanization continues to decrease the density of North American settlements” (Waldheim 2006). With landscape as their principal “building block”, they offer a vision which utilizes abandonment and decay as the primary assets of the shrinking city, making proposals for interventions that recommend large swathes be left fallow or turned over to natural forces. There is little recognition of existing residents and their daily activities, with the exception of “residual human use” such as the training of firefighters. (Waldheim, 2001). Similarly, the concept of “dross...emerges as a consequence of current rapid horizontal urbanization” and “accumulates in the wake of the socio- and spatio-economic processes of deindustrialization, post-Fordism, and technological innovation” (Berger, 2006). Again, the wasteland of the shrinking city becomes the valued asset, advocating the “designer to consider working in the margins rather than at the center.” This approach is also supported by economists, who have defined the emerging post-industrial trans-national econo-

my as “spatially dispersed, yet globally integrated.” (Sassen, 1991)
Unlimited Capacity?

Proponents of hyper-density are optimists in their approach to the shrinking city. They promote the city as a place of unlimited development or “capacity”, calling for “a new...city that continues to serve all demands while incorporating all desire. A city that increases our capacities within the current mass, as well as in the currently underused spaces”. Further, “it will lead to a new programmatic ‘skin’ around the globe that probably will not only extend only horizontally but upwards and downwards as well.” (Maas 2006). This notion of endless carpet of density across the globe – land, sky and sea – replicates the 20th century notion that growth is inevitable. That the city is about “the promotion of “consumerism and optimism over protectionism and pessimism” (Maas 2006). Unlike Landscape Urbanism, the hyper density approach relates to mid- and high-density cities, particularly those with explosive economic and population growth such as the major cities of the BRIC [Brazil, Russia, India, and China] nations.

Limited Intersections [the new geography]

The author proposes an alternative theoretical approach which is neither optimistic nor pessimistic, but ethical. Convergence of Intensity [Ci] is a value based approach which meditates the two ends of the density spectrum. Ci proposes specific criteria for the “re-sizing” of the post-industrial|shrinking city, arguing that balanced, sustainable, dense and urbane development is still possible.

The author’s previous design research defined value densification as “a focus on investment and development in neighborhoods and districts where inhabitation, infrastructure, cultural and employment assets [and value] are in evidence” (Principal Author, 2006- 2009). A resultant project in collaboration with two regional Detroit communities – the Value Densification Community Mapping Project [VDCmp] – was developed to explore how aspects of the post-industrial city can be understood, communicated and leveraged in service of equity and sustainability and to use technology to reveal data about the city in order to convince community, political and economic leadership to embrace densification. The project focused on the creation

of a unique multivariable digital interface that incorporates and merges components of several 4D visualization softwares to model physical and social density and value in three dimensions. The digital interface is currently in use, empowering the community through asset identification and creation of an accessible tool to assist in envisioning its environmental, social and economic future.

Value densification was conceived from an analysis of Detroit's development and spatial legacy and guided by a broader interpretation of value. In support of a design studio, the author has documented the growth and decline of Detroit's industrial spatial logic over 150 years, and the associated social, economic and environmental investment. This study revealed that while large swaths of abandonment existed, geographic foci could be identified through proximity to continued [expanded] "places of making" (Principal Author, 2006) and a broad and diverse interpretation of value that results from the investigation that subsumes the economic and elevates human [inhabitation], cultural [place] and infrastructure [ecosystem] value (Principal Author, 1991).

Expanding on the value densification methodology and interface, the author proposes Ci to further investigate the implications for urban form, contending that shrinkage should be purposeful. Detroit or New Orleans should abandon the restrictive nostalgia of their expansive [and unsustainable] urban geographies and embrace the forces of intensity. In this way, the negative stigmatism of shrinkage might come to be viewed as a valued and sustainable approach in contrast to the explosive, unchecked, ecosystem shattering growth being experienced in the cities of the BRIC nations. These cities should proactively identify and design for the "coming together" of population, energy, capacity, investment, blue, green + gray infrastructure and existing built form into a spatial convergence. The author defines this purposeful phenomenon of "re-sizing" the city based upon broadly defined density metrics as a convergence of densities [intensity] intensive convergence or a convergence of intensity [Ci].

The fundamental question in "re-sizing" the shrinking city is: where and how will we sustainably redevelop [densify] and support resident populations with infrastructure, services and investment?

Since answers to this essential question have been

dominated by capricious political, market, and/or social forces, the consistent description and application of metrics [criteria] are essential. Certainly, NOLA has experience with proposals of "concentrating investment in more populated parts of the city" (Luescher, Shetty, 2009). The Wallace Roberts & Todd [WRT] plan proposed rebuilding New Orleans as an archipelago of connected neighborhoods. WRT argued that the city should "shrink the footprint" by strategically rebuilding neighborhoods most likely to have a critical mass of returning residents. The plan met with citizen protest, and was ultimately abandoned. The state of Louisiana and the city went on to produce additional, competing plans (Saffron, 2006).

Both Detroit and NOLA provide the basis for investigation and intervention – initially Detroit, with its stubborn defiance of normally reliable market forces. Both have high [sustainable] ground in their original urban form and settlement patterns, concentrations of population, and growing political will to "shrink". Detroit might have grown [densified] within its "high" ground – within the Grand Boulevard – the city limits until 1927 when it sprawled, through annexation, to its present 140 square mile unsustainable form. NOLA might have stayed tight to the levies – its high ground, perhaps the effects of Katrina would have been mitigated. Both cities have concentrations of population – though these criteria alone – as evidenced by the reception given WRT's plan – has proven unsuccessful as a basis for purposeful shrinkage.

In response, the author asserts that a new urban eco-system is required, one that leverages the assets and the complex combinations of social, economic and environmental forces of the shrinking city, while increasing flexibility and reducing susceptibility to their mercurial nature. Ci identifies and purposely weights an expanded set of criteria for shrinkage:

population - shrinking cities such as Detroit and NOLA are often characterized by significant population loss. However, both cities have neighborhoods that are characterized by stable, even growing populations. Concentrations of inhabitation serve as a foundation criterion.

capacity – here defined specifically related to built form and density – both existing and potential. In

particular, we refer to the “as of right” zoning build out envelopes – the density that market forces would generate in a growing city. Given the economic context of shrinking cities, often these conventional approaches to development are ignored in favor of densities that attract public and foundation sector subsidy.

energy – defined as “embodied energy” both in terms of civic ethic and built form. This is energy transformed into intent. Shrinking cities have layers of organizational energy – largely in the non-governmental [NGO] sector. Citizens, failed by both the public and private sectors, have increasingly turned to self reliance as a means of stabilization and regeneration. Shrinking cities generally have a legacy of both built and narrative heritage. Such energy assets are both formal – those designated by some governmental authority; and informal – those deemed significant by the citizens of the community [we make no value judgment about the primacy of either typology]. Concentrations of these diverse resources become the third criterion.

blue, green + gray [infrastructure] – shrinking cities are rich with physical and technological infrastructure that supported manufacturing and movement of goods and services and the associated human settlement. This infrastructure defines the natural and built ecosystem of the city. We employ an expansive interpretation of infrastructure as “blue, green and gray”: green infrastructure describes both natural flora and fauna and their related habitats and also man-made landscape and greenway networks and the increasing emphasis and presence of criteria-rated buildings and neighborhoods. Blue infrastructure describes the watersheds, floodplains, wetlands, hydrology, etc. Gray infrastructure is entirely man-made, including highways, roads, rails, digital technology, etc. along with the environmental impacts generated by such.

investment – in both Detroit and NOLA, there exists a highly subsidized development economy. Detroit is literally “upside down” with market forces, with every project built over the last decade having received some sort of development subsidy – tax abatement, public or foundation investment. LISC has invested millions in Detroit (LISC, 2009), and the federal government billions (HUD, 2009) In NOLA, both leveraging private sector investment. These phenomena array themselves spatially.

Concentrations of unconventional investment become the fifth criterion.

The convergence of these criteria forms an intersection and identifies the new geography for design intervention. Ci takes value densification to the next level – modeling the specific opportunities and employing urban design rationale to make formal recommendations based on these criteria to guide the future of urban form. Ci will lead to decisions about priorities around concentration of investment and development. This strategy implies a very different urban form than the post industrial/shrinking city has taken in the twentieth century, but perhaps a more sustainable state. A primary intent of this approach is to empower communities to take advantage of the shrinking cities phenomenon. Detroit and NOLA are not simply susceptible to continuing degenerative forces associated with them. Additionally, the Ci approach may prompt a new way of interpreting, illustrating and leveraging distinctly urban assets and, in doing so, positively influence future urban form.

A CONTEXTUAL DESIGN PROCESS

The context of the authors’ design research is Detroit, Michigan, USA. Specifically, we have worked in Southwest Detroit, a 12,450 acre, 19.45 square mile neighborhood located on the Detroit River, the international border with Canada and at the junc-

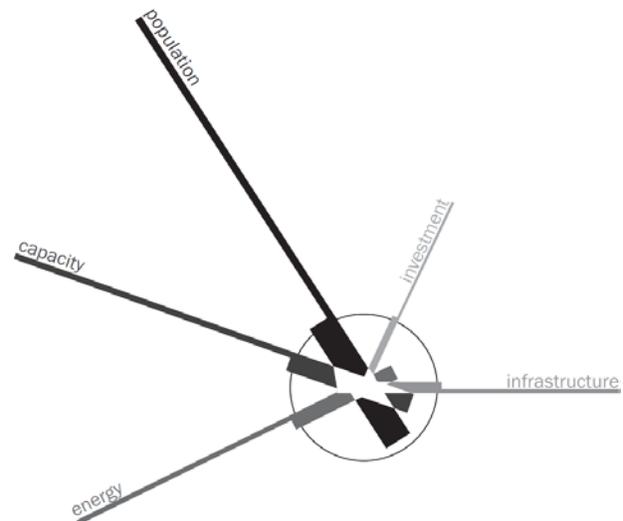


FIG 3: The new geography: Convergence of Intensity [Ci] – this diagram illustrates the primary metrics [criteria] implying a “coming together” of densities [intensities] into a spatial convergence.

Initiative[s]	Location[s]	Status
Investing in the Physical Environment Springwells Partners V 15 units Southwest Housing Solutions	(2 locations) 1. West Grand Blvd, North of Vernor 2. Behind Oddfellows Hall	Completed
Investing in the Physical Environment Springwells Partners II Southwest Housing Solutions 40 Units	Hubbard	Complete
Investing in the Physical Environment Oddfellows Hall 14,279 Sq Ft Southwest Detroit Business Association	W. Vernor and Lawndale (SW Corner)	Complete, Youth Arts and Dance Programming
Investing in the Physical Environment Phases of Homes at Ste. Anne's Bagley Housing Association 83 units + 200 rehabed units	Bagley's Area	Complete
Investing in the Physical Environment Springwells Townhomes Bridging Communities 24 units	Corner of Cahalan and Mullane streets	Complete
Investing in the Physical Environment North Corktown Phase I Greater Corktown CDC 29 units	North of Michigan and West of Trumbell	Complete
Investing in the Physical Environment Welcome Center and Mercado Mexicantown CDC 45,000 sq ft	Between Bagley and Vernor at I-75	Complete
Investing in the Physical Environment Vernor Scotten Partners Southwest Housing Solutions and LaSED 7,500 sq ft + 12 units	NW corner of Scotten and Vernor	Complete
Increasing Family Income and Wealth – Greater Detroit Centers for Working Families Southwest Housing Solutions SER Metro Detroit Jobs for Progress	 1920 25 th Street 9301 Michigan Avenue	
Stimulating Economic Activity Southwest Detroit Business Association Business Improvement District	Vernor from Clark to Springwells	
Livable, Safe, Healthy Environments Weiss Park Urban Neighborhood Initiatives	Need Weiss Park Address	Under construction
Livable, Safe, Healthy Environments Other Park Urban Neighborhood Initiatives	Layfayette Playlot Delray Playground	
Livable, Safe, Healthy Environments Community Safety Southwest Detroit Business Association	Springwells Vernor Area	
Stimulating Economic Activity Greater Corktown Workers Row House Project	6 th Street Near Porter [Holy Trinity]	Pre Development
Investing in the Physical Environment Southwest Housing Solutions	5716 Michigan Avenue	Pre Development
Livable, Safe, Healthy Environments Community Benefits Agreement Southwest Detroit Environmental Vision	Entire Investment Area	

TABLE 1: Highly subsidized development economy: \$30 million LISC foundation investment in Southwest Detroit, 2008.

tion of major highway and rail infrastructure. Southwest Detroit is characterized by new immigration and population growth, a cogent cultural heritage, large employment centers, rich “blue, green and gray” infrastructure and cultural and historic sites. Southwest Detroit enjoys a vibrant commercial base and is served by highly skilled advocacy and longstanding, effective community-based development organizations, 25 of which recently organized under the umbrella organization of the Southwest Detroit Development Collaborative [SDDC].

Since summer 2007, the author has collaborated with the SDDC supported by LISC and AIA funding. This collaboration produced a multivariable 4D digital interface with 135+ data layers which “mapped” diverse attributes of human, organizational, physical and economic metrics. We are currently focusing on utilizing the resultant digital interface to conduct analysis in support of future Urban Design studies. By using data layers to construct what we call “analysis layerings”, we prompted the community to identify additional layerings, and ultimately relevant and useful design work in support of community driven planning, design and development initiatives. This work has assisted in identifying unintended conflicts amongst various public and private development projects, and supporting specific initiatives as diverse as the placement of green infrastructure projects to marketing commercial corridors (Principal Author, 2009).

FORMAL [URBAN DESIGN] RECOMMENDATIONS

During summer of 2009, the authors initiated an initial application of the Ci theory via formal urban design recommendations. As an “example of architecture, urban design and related fields being part of the mix” [Luescher, Shetty, 2009] we applied the Ci theory and practice approach to resizing the shrinking city through a collaborative design process between the community and the academy. We engaged the community to identify potential Urban Design interventions and Development Opportunities. Table 2 describes the more than 23 initiatives that are being contemplated and implemented in Southwest Detroit. We then conducted a Ci analysis to identify the intersection of various density metrics from the 135+ data layers in the existing digital interface. Authors selected specific metrics, illustrated with 3D extrusions at

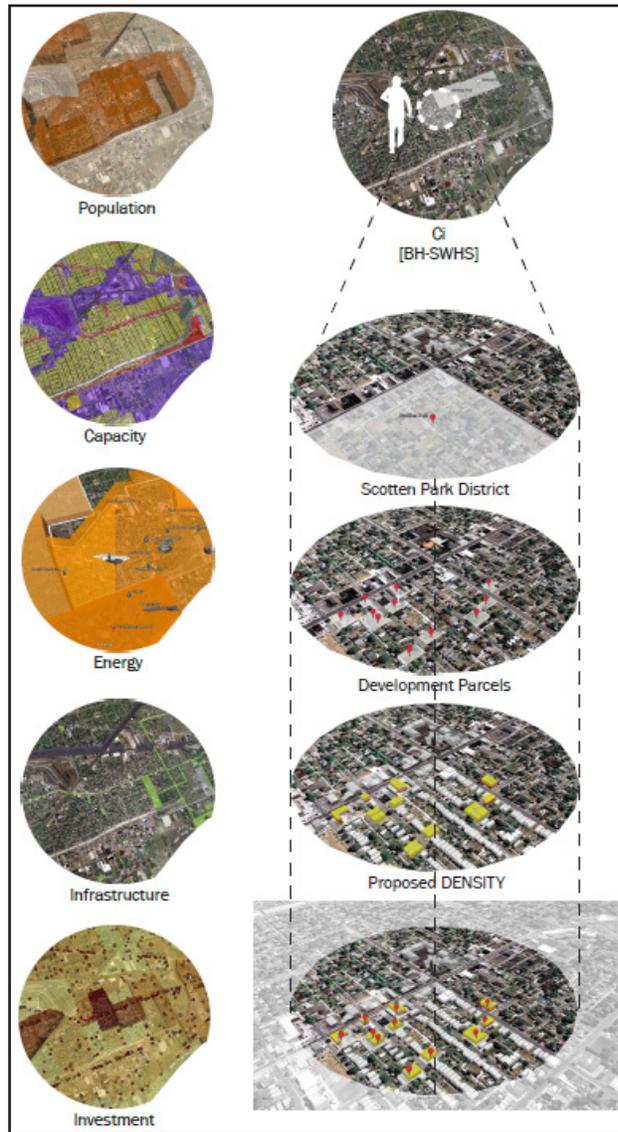


FIG. 4: Ci applied: Analysis Layering + Urban Design Rationale

the scale of the parcel or Census block group, to vividly portray density:

population [density by block group];

energy [geographic locations of SDDC organizations and formal + informal cultural assets];

capacity [“as of right” zoning envelopes by parcel];

infrastructure [geographic locations of neighborhood parks and greenways and proposed Rail Link]; and

AdHOC Committee: Design Opportunities

AdHOC Committee Member	Design Development Opportunities
GCDC	Temple Street: Model Streetscape Improvements - Alley and Sidewalks - Potential Urban Agriculture
	Infill Opportunities : Model Potential South Corktown Mixed-Use Infill Opportunities
	Tiger Stadium: Model Potential Development Opportunities
	Roosevelt Park + Michigan Central Station: Model Michigan Central Station and Roosevelt Park / Hotel Development Opportunity
UNI	Park Development Opportunities: Mark Twain Playlot, Bridgeview Park, Weiss Park [Redeveloped by City/ UNI], Phoenix Playground, Hams Playlot, Smith Park, Mil Reg Park, Williams / Ash 'Wedge' Park, Wingle Park [by City], Biencity Park [by city], Dingerman Park.
	Vacant Lots: Potential Parks [Woodmere]
	Woodmere Community Plan Development Opportunity
	Springdale Community Development Opportunities
SWHS/BH	Neighborhood Preservation Plan [Area #1]: MSHDA-approved Plan, Inexistence since 2003. Rehabilitation, Infill, Infrastructure.
	Projects: Hubbard Communities, Scotten Park [both housing: 80+ units], Clark Park: Lighting, Paths, Restrooms, Existing Residential Rehabilitation - Link Housing to Increase Income and Residents, etc.
	Neighborhood Preservation Plan [Area #2]: Proposed Plan Currently being Written with MSHDA. Similar Vacant Infill, Connect to Green
	Fewer Vacant Lots: Focus on Rehab - Need to "See" Effects of Improvements on Existing Housing.
	Vacancy Potential Infill
PCS	Greenway Connector: Delray Park to Forman Park [Rouge River].
	Delray Memorial Park: Redevelopment- Baseball, Soccer Field and Additional playgrounds
	New DRIC Replacement Housing
	Proposed Urban Forest Surrounding DRIC Site
	Fort Wayne Re-Development / Stabalization Plan
SDEV	Business Redevelopment: Possible Logistics, Relocating of Displaced Delray Businesses, Alternative Energy Generation [windpower, solar, etc.]
SDBA	Vernor Corridor [East + West]: Façade Improvement, Retail Infill, Retail Attraction, Greenway Development and Connection,
	Business Attraction / Retention.
MABA	Priority District #1+2: Kronk Development Plan, Housing Plan and Development, Historic Overlay District, Preservation of Boys and Girls Club, Clean and Green Zone, Firehouse Museum, Senate Theater Redevelopment

TABLE 2: Community Intent: Urban Design Interventions|Development Opportunities in Southwest Detroit

investment [business and employment density by block group].

The resultant analysis layering illustrates the new geography of convergence within ¼ mile of social, economic and environmental asset density in the Southwest Detroit neighborhood. Specifically, the convergence occurs in the Bagley Housing/Southwest Housing Solutions [BH/SWHS] neighborhood preservation plan area: a 1 acre area of Southwest Detroit. The community client selected one of BH/SWHS projects as a "beta test", since that organization, through Michigan State Housing Development Authority [MSHDA] subsidies, had built and were in the process of building, housing in this area.

In support of our work with BH/SWHS, we conducted an urban design study, including site visits and existing conditions documentation of the Scotten Park and Hubbard Communities study areas bounded by W. Vernor to the South, Toledo to the North, Junction to the West and 25th Street to the East. Informed by a digital model of existing built and proposed development for the study area, we identified all vacant parcels in the study area that

were realistic for future development.

Further evidence of Detroit’s highly subsidized development economy [MSHDA, etc.], our community client was not aware of the "as of right" zoning build out envelopes in the study area. We proposed to design and model the maximum density allowed under the current City of Detroit Zoning Ordinance. FIG 5 illustrates this MAX Zoning proposal, which is 55 units/acre – more than 6.5 times more dense, "as of right" than BH/SWHS’s MSHDA application.

We developed and applied an urban design rationale, utilizing urban design principles to guide our density recommendations:

1. As of Right Zoning – the study area contains two zoning districts: R2 + B4. Each allows a maximum height of 35’, with front and side setbacks from parcel lines based on existing built context.
2. Street Grid – three perimeter streets – W. Vernor, Junction, and Clark are four travel lanes each with widths that allow for more height and density – both formally and in terms of

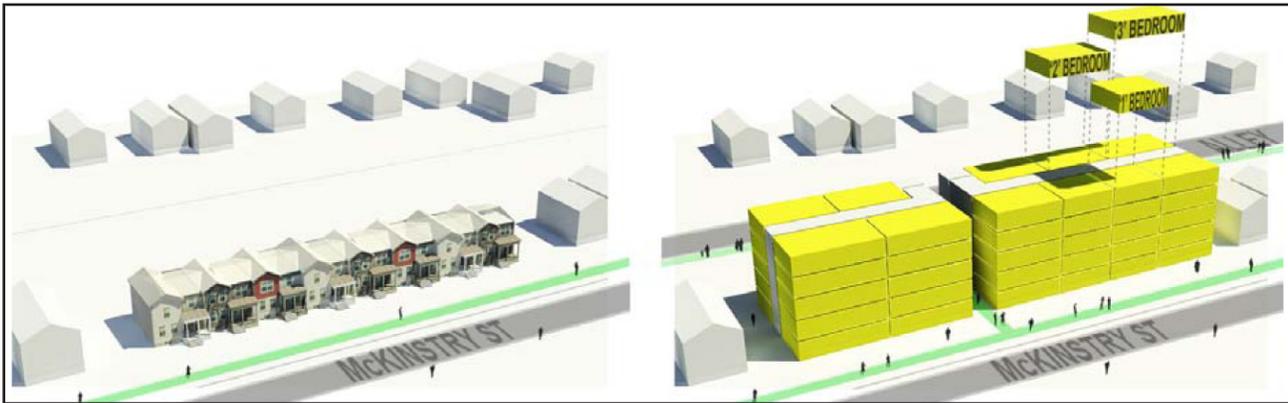


FIG. 5: min + MAX Zoning: BH/SWHS Scotten Park [8 units vs. 55 units/acre]

increased social density and pedestrian, motorized and non-motorized traffic. These perimeter streets also present the opportunity to continue the existing pattern of ground floor commercial. The Scotten Park study area has two sets of “one way pairs” with intermediate alleys. We targeted parcels on these “pairs” for increased residential density in keeping with the current pattern and character.

3. Circulation – proposed buildings are massed and sited to concentrate pedestrian traffic and entry along perimeter and residential street frontage and contain residential vehicular traffic and parking access via existing alleys.
4. Solar Orientation – the study area is ideally oriented with southern exposure. The proposed building massing reflects opportunities to maximize sunlight for residents and future green infrastructure.
5. Building Typology – two new typologies were recommended: Mixed Use [with Ground Floor, Commercial] and Apartment Residential in support of the MAX zoning scenario. Note that these higher density typologies are recommended for McKinstry and Uthes, and represent an alternative to BH/SWHS’s MSHDA application [e.g.: FIG 4 illustrates a proposed building yielding 55 units [15-3BR, 30-2BR, and 10-1BR] in comparison to 8-3BR townhouses on the same parcel]. For all typologies, 2+3 story buildings are assumed as “walk ups” and 4 or more story buildings include an elevator core.
6. Program – uses were driven by the community client and include residential and ground floor commercial [retail and services]. Opportunities for GF Commercial were identified on the three

perimeter streets. Higher density residential typologies were focused on interior parcels.

7. Public Realm – initial opportunities for green courtyards between and alongside residential buildings were identified.

The BH/SWHS Scotten Park Scenario 2: MAX Zoning, as of right, yielded an additional 30 development parcels. We designed and modeled 30 new residential buildings with 482,458 sf. of proposed residential density distributed among 488 total units [111 one bedroom units; 236 two bedroom units; and 141 three bedroom units] and 62,108 sf. of new commercial density in the study area. Refer to the TABLE 3, which details parcel number, street location, typology, stories, residential and commercial square footage and residential units.

This proposed density, if built, would essentially double the BH/SWHS real estate portfolio within walking distance of the convergence of densities illustrated in the Analysis Layering [FIG 4].

CONCLUSION/NEXT

Ci adds new theory to the discourse of re-sizing the shrinking city. Ci challenges extreme future visions for Detroit and NOLA – the pessimism of the low density approach of landscape urbanism and the optimism of the hyper-density proponents – and may provide a theoretical and practical way forward to a future, sustainable state.

While we have been encouraged by the results of the initial design process and its resultant formal recommendations, our work to date has motivated

SWHS-BH Scotten Park Design Scenario no.2

Parcel	Street	Typology	Stories	Residential Sq. Feet	Commercial Sq. Feet	Residential Units			Total
						1 Bedroom	2 Bedroom	3 Bedroom	
1	Vernor + Clark	Mixed Use (Ground Floor Commercial)	4	15,824 sf.	5978 sf.	3	6	6	15
2	Clark	Mixed Use (Ground Floor Commercial)	3	12,864 sf.	4288 sf.	2	4	2	8
3	Clark	Single Residential	2	1,230 sf.	0	0	1	0	1
4	Clark	Apartment Residential	3	11,042 sf.	0	3	12	9	24
5	Clark	Duplex Residential	2	2,460 sf.	0	0	0	2	2
6	Clark	Single Residential	2	1,230 sf.	0	0	1	0	1
7	Clark + Toledo	Apartment Residential	3	13,080 sf.	0	3	6	3	12
8	McKinstry	Apartment Residential	5	26,040 sf.	0	0	10	10	20
9	McKinstry	Apartment Residential	5	41,230 sf.	0	10	20	5	35
10	McKinstry	Apartment Residential	3	10,368 sf.	0	0	3	6	9
11	Vernor	Mixed Use (Ground Floor Commercial)	3	5,390 sf.	2,695 sf.	4	2	0	6
12	McKinstry	Apartment Residential	5	24,820 sf.	0	10	25	10	45
13	McKinstry	Apartment Residential	5	10,812 sf.	0	5	20	15	40
14	Lansing	Duplex Residential	2	2,460 sf.	0	0	0	2	2
15	Lansing	Apartment Residential	3	20,601 sf.	0	6	6	6	18
16	Lansing + Vernor	Mixed Use (Ground Floor Commercial)	3	17,920 sf.	8,960 sf.	0	8	4	12
17	Vernor + Ferdinand	Mixed Use (Ground Floor Commercial)	4	8,004 sf.	2,668 sf.	0	0	6	6
18	Ferdinand	Apartment Residential	4	17,100 sf.	0	12	4	0	16
19	Ferdinand	Apartment Residential	4	17,100 sf.	0	12	4	0	16
20	Ferdinand	Apartment Residential	3	23,634 sf.	0	3	9	6	18
21	Ferdinand	Apartment Residential	3	20,202 sf.	0	6	9	3	18
22	Ferdinand	Apartment Residential	4	22,116 sf.	0	0	12	4	16
23	Vernor	Mixed Use (Ground Floor Commercial)	4	19,404 sf.	6,468 sf.	3	12	6	21
24	Morrell	Apartment Residential	3	18,000 sf.	0	0	18	15	33
25	Morrell + Toledo	Apartment Residential	4	30,544 sf.	0	20	12	0	32
26	Toledo	Single Residential	2	1,230 sf.	0	0	1	0	1
27	Toledo	Single Residential	2	1,230 sf.	0	0	1	0	1
28	Junction + Toledo	Mixed Use (Ground Floor Commercial)	4	43,416 sf.	14,472 sf.	3	15	12	30
29	Junction	Mixed Use (Ground Floor Commercial)	3	12,720 sf.	6,360 sf.	6	6	0	12
30	Junction	Mixed Use (Ground Floor Commercial)	4	30,387 sf.	10,129 sf.	0	9	9	18
				482,458 sf.	62,108 sf.	111	236	141	488

Value Densification Community Mapping Project, Lawrence Technological University, Final, 30 of July 2009

TABLE 3: Intent to become intensive: BH/SWHS MAX Zoning scenario

us to reflect upon, evaluate and enhance the Ci theoretical approach and design methodology. We plan to engage in this reflection while simultaneously continuing the collaborative design process between the community and the academy in Southwest Detroit to model the 20+ identified urban design and development opportunities using the Ci methodology. The authors are also investigating the use of parametric software to convert our “analysis layerings” into logic scripts in order to animate the convergence of densities at an urban scale in a more compelling manner. We are researching “Swarm and Flock Urbansim” (Leach, 2009) and refining the interface to visualize, illustrate, analyze, and convey design direction for future urban form at parcel scale.

In the Fall 2009 semester, the authors conducted a masters level seminar entitled DENSITY=GREEN: sustainable urbanism, density and spatial analysis. Participants researched, analyzed and visualized in 2D, 3D and/or 4D, parallel metrics that portray both the impacts and benefits of increased density in six cities representing the spectrum of urban density. This seminar also began to explore and expand upon the established methodologies for “carrying capacity” (McHarg, 1969; Meadows et al 1972) to define a “tipping point” to human habitation in the urban context – a level at which the new eco-system created through built and population densities begins to negatively impact the natural environment and ecological capacity of an urbanized region. To further our “tipping point” research, we have applied for grant funding to support the creation of both formal

and policy recommendations to encourage informed decision making and urban and architectural design around balancing the long term benefits and impacts of urban density. We hope to examine discreet sets of parallel or comparative metrics, including social, environmental, and economic to model the potentially positive and/or negative impacts of increased density, focusing on mixed use development, in three urbanized regions.

Detroit serves as the context for the first application of Ci, but authors believe that the design methodology is replicable and widely applicable to empower the purposeful shrinkage of other urbanized regions along the spectrum of urban density in cities across the globe.

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