



## CfMD

Center for Metropolitan Density

### Mission Statement

UTA's Center for Metropolitan Density (CfMD) research program will demonstrate that greater density, including suburban scale, produces the most economically productive, fiscally efficient, environmentally,

### Benefits of Density

Benefits are not well defined in terms of economic advantage. Hence, CfMD will establish by convening topical symposia, and consultation with industry partners. A fact-based understanding of benefits of density should demonstrate the following:

- Better use of valuable land with embedded environmental efficiencies
- Density generates greater choices in transportation options
- Proximity of people and interactions foster social and cultural innovation
- High density Workplaces improve economic productivity
- Density of Investment promotes Fiscal efficiency and higher Tax Ratables
- Urban and suburban density enhances workplace and residential choices



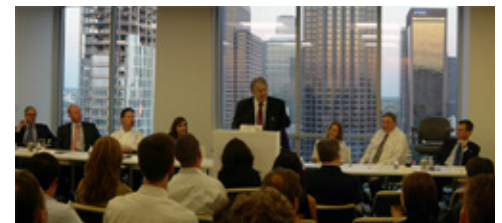
### CHANGING DEMOGRAPHICS Pgs. 4-5

Substantial increase in Hispanic populations will have broad impact on urban and suburban development, and generate new development opportunities from this unique cultural and economic cohort.



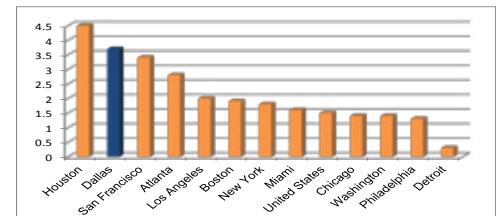
### ADVANCED DESIGN STUDIOS Pgs. 10-15

Co-sponsored by CfMD, the UTA Advanced Design Studio explores high density solutions for underutilized urban and suburban districts creating value and generating revenues.



### ROUNDTABLES Pgs. 6-8

Third anniversary of the CfMD Roundtable Series which convenes industry experts to debate the consequences of density, such as financing issues and opportunities, design trends, and civic impact.



### INDUSTRY CLUSTERS Pgs. 16-17

Concentrated distinctive competencies within Industry Clusters are vital for any region's economic strength, requiring CfMD to more fully explore and quantify performance and depth of these Clusters.

# Directors Statement



**MICHAEL P. BUCKLEY**  
*Director*  
Center for Metropolitan Density  
University of Texas at Arlington

Director Buckley brings private sector credentials to C'MD research, with significant experience in strategic planning, repositioning of urban districts, and mixed-use projects. Academic experience includes building core courses for graduate real estate programs at MIT, Columbia University, and UTA, where he heads the CfMD Advanced Design Studio.

Member of the Pension Real Estate Association, Commercial Real Estate Finance Council, and Real Estate Roundtable, Buckley is a recognized speaker and convener of discussions which focus industry viewpoints within an academic structure.



**DONALD F. GATZKE**  
*Dean*  
School of Architecture  
University of Texas at Arlington

Professor Gatzke is Dean of the UTA School of Architecture, one of the largest architectural schools in the nation. Former Dean at Tulane University, he served on NEA's Mayor's Institute and was also a member of the Vieux Carré Commission and Mayoral appointee to the New Orleans Urban Masterplan.

An early co-founder of Vision North Texas, where cities and agencies develop shared goals for managing growth, Dean Gatzke serves on the executive committees of Dallas AIA, on the board of the Dallas Architectural Forum, and President-Elect of Fort Worth AIA.



**TANER R. OZDIL**  
*Associate Director for Research*  
Center for Metropolitan Density  
University of Texas at Arlington

UTA Assistant Professor of Landscape Architecture, Taner Ozdil brings extensive academic and practical experience, including graduate-level teaching, formerly with the Dallas Urban Solutions Center for Texas A&M, and at UTA recently Mixed-Use Case Studies for Vision North Texas.

Professor Ozdil utilizes GIS to analyze urban patterns to identify development issues and potentials. He holds a Ph.D in Urban and Regional Science Texas A&M, is the author of numerous papers and the book 'The Economic Value of Urban Design' published by Verlag Munich.

## Research Premises

The UTA Center for Metropolitan Density (C'MD) objective is to encourage high density development by promoting research and analysis of both benefits and critical success factors for urban and suburban high density development. In consultation with the C'MD Advisory Board, the Center for Metropolitan Density will test the following premises:

### Density of Investment:

Establish that higher density workplaces makes sense, given shifts in capital sources such as pension and private equity funds.

### Valuation Rates:

Prove that more dense developments are more valuable and stable over time.

### Density as the Cradle of Innovation:

Demonstrate that new ideas and artistic invention are sponsored in higher density environments.

### Workplace Density:

Show that higher density Workplaces provide better career choices and efficiency.

### Density Design Potentials:

Creates richer Civic spaces and better use of Landscape Open space.



## Public Private Partnerships

Public-Private Partnership are not well known in newer metropolitan areas, yet they demand research attention as land assembly and infrastructure are needed to offset lower suburban land costs.

Process Map above illustrates methodology for FW 8th Ave District shown on Page 15, where stakeholders such as neighborhoods, city, and railroad companies share project visioning; a Special Purpose Entity facilitates public investment, and solicits Master Developer; and TIF proceeds pay for infrastructure by leveraging increased real estate taxes.

The PPP Process bottom line includes--- inducing development; increasing Tax proceeds; and creating permanent jobs.

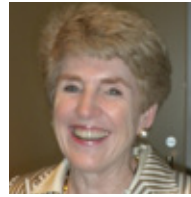


## CfMD Advisory Board Spring Meeting



CfMD Advisory Board, composed of real estate developers, legal, finance, and design professionals gathered in a work session co-sponsored by Haynes and Boone LLP, to discuss economic recovery and issues of metropolitan growth and sustainability.

CfMD Director Michael Buckley, UTA School of Architecture Dean Donald Gatzke, and CfMD Associate Director for Research Taner Ozdil presented recent research efforts as well continuing initiatives for industry outreach. CfMD Advisory Board members provided their own views on current market circumstances and on new research directions, given the region's expected growth.



**LUCY BILLINGSLEY**  
*Billingsley Company*

*Identified evolving trend for bifurcated downtown Dallas and the need for CfMD to address innovative solutions for improving the workforce environment*



**RALPH HEINS**  
*Primera Companies*

*Profiled emerging trend in underutilized industrial warehouse areas which could be the focus of a future CfMD Advanced Studio to reconfigure excess land into mixed-use developments*



**ANN SAEGERT**  
*Haynes and Boone, LLP*

*Observed that corporate users occupy a good percentage of office space and that CfMD Research on new methods of tenant financing might be more applicable to corporate real estate.*

## Industry Outreach Presentations & Speeches

In addition to our Roundtable Series CfMD believes that an active program of Industry Outreach, with speeches to real estate organizations best suits our research platform and provides topical feedback. Presentations by CfMD Director Michael Buckley have included:

- **The Real Estate Council, Ft Worth**---keynote address
- **CoreNet** --- Corporate retreat keynote at Harvard and UPENN
- **Texas Society of Architects**---Annual convention session
- **BOMA** --Dallas and Ft. Worth chapters
- **DFWI Plan 2023**--- Chairman Plan 2023 Education Committee
- **FW Business Press** --Profile article on CfMD Objectives and research initiatives
- **D Magazine** ---Dallas leadership group for better cities
- **NAIOP** --Panel organized for the annual convention
- **ICSC Hispanic Series** --International Council of Shopping Centers series in San Antonio, Mexico City and El Paso
- **PREA**--- Pension Real Estate Assoc Development Affinity Group presentations at Boston, LA, and DC sessions



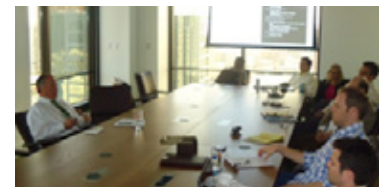
UTA students at ICSC El Paso Hispanic Conference, L to R, **Carlos Mirelles, Roberto Nunez, Clarissa Guevara, Armando Garcia**, El Paso City Manager **Joyce Wilson**, and **Victor Mozquera**



**Michael Dalton**, Goldman Sachs, left and **Peter McKee**, Andrews Kurth, right, discussing financing environment with UTA students



CfMD Director **Michael Buckley**, left, Fort Worth **Mayor Betsy Price**, middle, and FW Library Foundation President **Betsy Pepper**, right, following keynote speech on the future of urban libraries.



Advisory Board Member **David Parham**, Baker McKenzie, discusses bankruptcy impacts.



CfMD Advisory Board member **John Walsh** of TIG USA lectures on project feasibility and delivery.

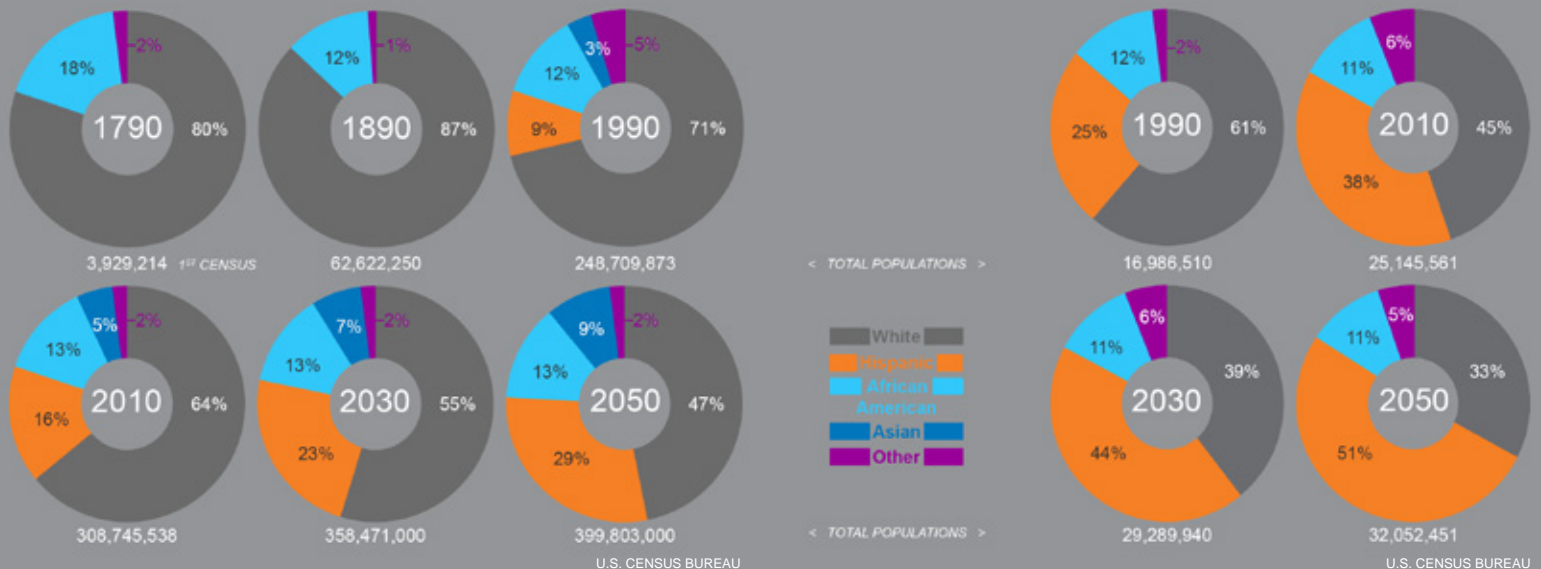
# Demographics

## Exploring a Changing Population Landscape

### Population Growth

### United States

### Texas



## Hispanic Population Concentration

Two-thirds of all Hispanics live in just 5 states...



As the charts above, and map at left illustrate, population throughout the nation will shift from a White majority to a minority, with the largest future increase in the Hispanic population.

Some states and cities will experience faster Hispanic growth than others. Many of these are urban areas with a unique development opportunity to accommodate significant growth within this unique cultural cohort.

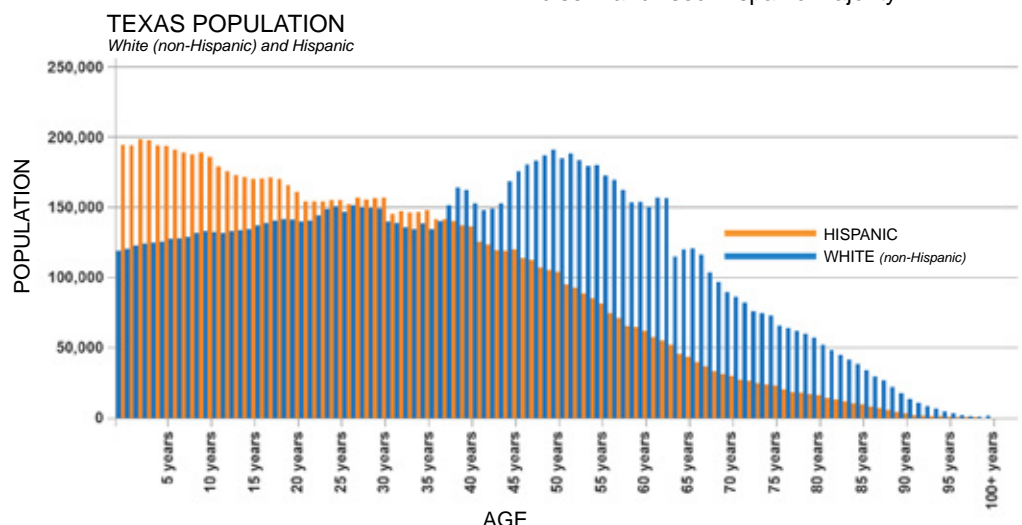
Expecting significant expansion in Residential, Office and Retail demand due to the unprecedented Hispanic growth, a large challenge remains to achieve better education, skills acquisition, and income generating abilities, forestalling a disenfranchised Hispanic majority.

## The Looming Age Disparity

Due to the fast growing cohort, the Hispanic population in Texas will have a deep impact on the state's economic future.

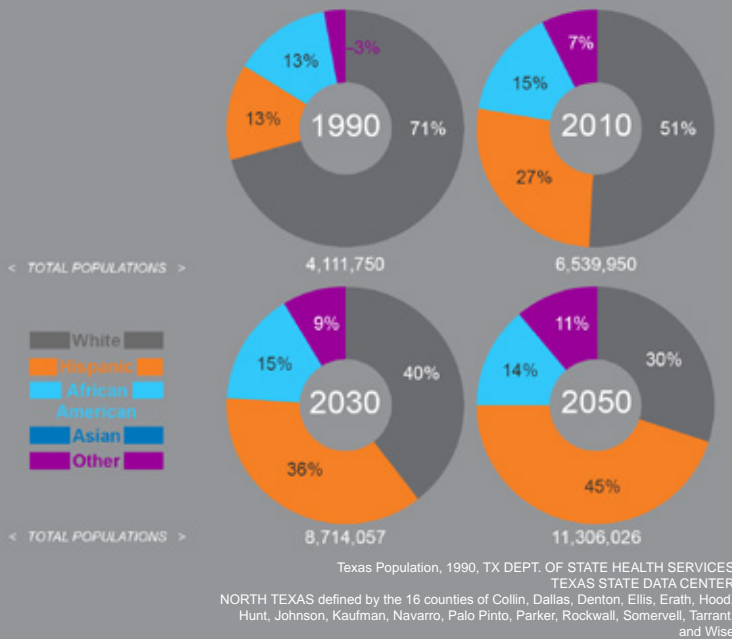
But age will also be a key factor, as the Hispanic population is vastly younger than the white majority.

As the chart at left illustrates, the majority of Hispanics are under the age of 40, while a large proportion of the White population is over 40 years old.





## North Texas



## U.S. Census Defined Populations

Inaugural U.S. Census was held in 1790, 14 years after the birth of the nation. This Census illustrates an overwhelming White majority. Fast-forward to latest 2010 Census to see the White majority still exists, but is 20% smaller than the original 1790s survey.

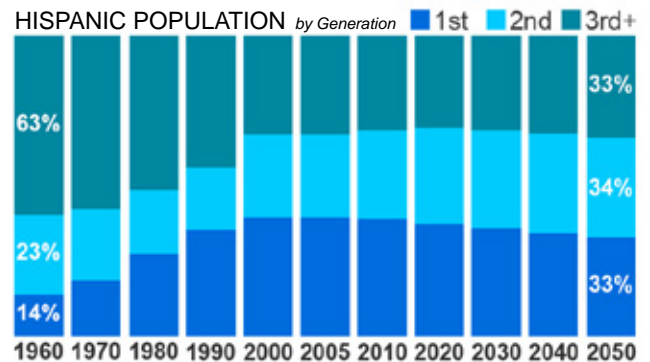
Projections for future decades show a continuing majority shift with far-reaching impacts on urban development at both national and state levels. This is an evolution to a White minority, with significant growth in Asian, Black and particularly Hispanic populations.

In many respects the nation is backfilling on original Colonial grounds, with the added impetus of recent in-migration from Mexico and Asia. This Hispanic population shift will affect political, economic and development landscapes, and is a topic for CfMD dedicated research.

## An Emerging Native Generation

Hispanic Demographics now show a transition in generations. No longer dominated by foreign-born immigrants, the Hispanic population is now a majority of native-born. This is a new force for urban growth, as foreign-born immigrants settled in older neighborhoods near city centers, mimicking their homeland way of life, while native-born generations move to the suburbs in search of the "American Dream".

These new generations have given birth to the term "Drive to Qualify" wherein the household head drives out further from the city center to find an affordable mortgage. But a return to more walkable and livable communities could have strong appeal to the Hispanic population. Given open space amenities and enhanced educational options especially for children, this new cohort could have a significant impact if even a small percentage choose an urban lifestyle.



1st generation foreign born, 2nd generation U.S.-born with at least one immigrant parent; 3rd generation has both U.S.-born parents

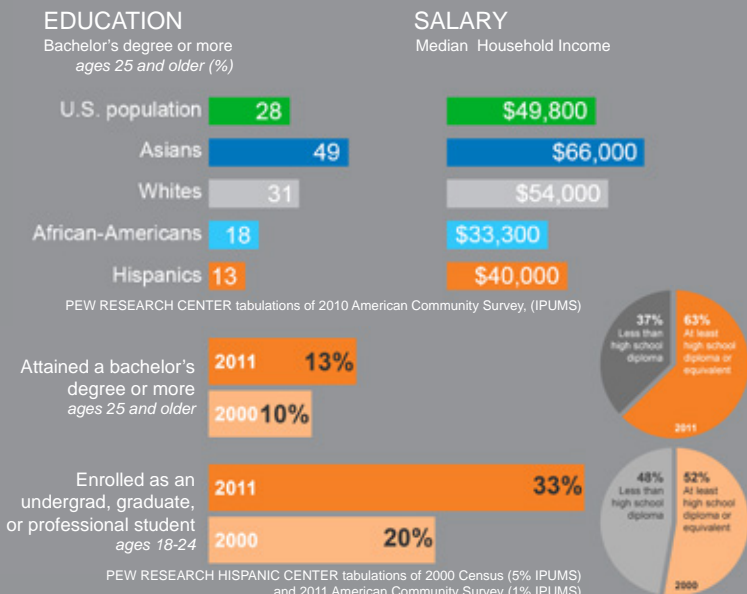
2008 PEW RESEARCH CENTER

## Overcoming Educational and Income Disparities

The Hispanic population is one of the fastest emerging cohorts in the nation's immigration-driven history. The potential positive impact of this cohort may be de-railed with educational and income disparities between Hispanics and other major groups. Charts at left show the national average for education attainment is triple the rate for Hispanics. The gap is even wider when compared to select groups such as Asian and Whites, and translates to lesser earning power.

When compared to the 2000 Census, we see an increase in the high school completion rate, but this is due to an even larger increase in enrollment. Clearly there remain factors which hold Hispanic completion rates lower, and these must be addressed, as Texas is now 19% Hispanic and growing rapidly, hence this disparity will become even more over the coming years.

Without a properly educated workforce, Texas stands to lose jobs in industries that require higher education and skill sets. We are challenged to match the looming Hispanic population with educational resources to ensure a strong economic future.





# 3rd Annual CfMD Roundtable Series

This three-year old series of strategic discussions are conducted off-campus, in a Roundtable format, featuring industry experts from a variety of disciplines. Objective is to test topics in high density development, finance, product design, and to provide industry feedback for CfMD research.

Roundtables have been supported by organizations such as Texas Capital Bank, Haynes and Boone LLP, Ernst & Young LLP, Dallas AIA, the Dallas Architectural Forum and the Urban Land Institute.

Solicitation of private sector viewpoints are fundamental to the philosophy of the UTA CfMD. We believe that development is initiated by the private sector, supported by private equity and institutional financing, while facilitated by cities and agencies. Therefore multiple viewpoints should inform our research investigations.



Central Dallas is predominantly high-density office space, but the workforce now has ex-urban options. Central Dallas has two distinct zones--- one adjacent Woodall Rogers Park including Uptown and the Arts District ---and the other Central Dallas where rents are not as secure, nor the pedestrian experience as pleasant.

- City economic incentives create a level playing field.
- DART headquartered downtown with self-interest in success of urban core, and have a possible interest in future facilities.
- Ex-urban areas have improved Office offerings, hence Central Dallas must create new residential and retail amenities.
- 20-year-old study of downtown Office showed the same amount existing today---thus Central Dallas did not maintain its fair share.
- Capital is available thru private equity and financial institutions. However Risk /Return profile for the 980 acre Dallas CBD is not the same as North Dallas and Uptown.
- Central Dallas enjoys terrific access ringed by highways, but South Dallas urban issues affect workforce image and occupancy.
- Need emphasis on Mixed-Use connectivity with street retail to enliven pedestrian experience.
- Downtown residential has increased substantially and has caused a restaurant revival. As Retail infill progresses, people will recognize improved appearance and security
- Parking is a cost issue and City Parking Authority needed to offset development costs--yet no consensus on how to fund.
- Bold new idea is extension of the Katy Trail as a linear park in right-of-way of freeways—an iconic concept with branding potential.
- Density of investment in Central Dallas makes for a more favorable environment for Pension Funds and Foreign Investors.

## Strategic Discussion on the future of Central Dallas

*Co-sponsored by Haynes and Boone LLP*



L to R: **Richard Martin**, Haynes and Boone LLP; **Ted Hamilton**, Hamilton Properties; **Mark Wolf**, JHP Architects; **David Leininger**, DART; **Karl Stundins**, City of Dallas



L to R: **Rob Delph**, Texas Capital Bank; **Michael Buckley**, UTA CfMD; **Elizabeth Malone**, HFF LP



L to R: **Steve Kennedy**, E2M Partners; **Jack Gosnell**, UCR; **John Ruggieri**, RTKL; **Lucilo Pena**, Billingsley Co.; **Dan Olsen**, KeyBank Real Estate Capital

## The Most Demanding Consequence of High Density: Rightsizing the Parking Garage

Co-sponsors UTA CfMD and Dallas AIA

High-density Residential, Office, and Mixed-Use typically requires structured parking and this extra cost frequently biases development in favor of suburban low-cost land. How can the benefits of higher density developments-- which result in increased productivity, job generation, creation of value, and civic tax rates--- be encouraged by rightsizing the Parking component?

Industry experts detailed best practices and emerging trends, particularly in Europe, for automated parking systems with better information on availability, card payment systems, and new technologies were identified as possible cost reducers. Panelists agreed that a tax-exempt authority should create parking garages as the best possible solution to encourage higher density Mixed-Use.



**MARK GOODE**  
Principal  
Kimley- Horn Engineers



**MARC ROBERTSON**  
Director Beck  
Preconstruction Svcs.



**NEAL SLEEPER**  
President  
Cityplace

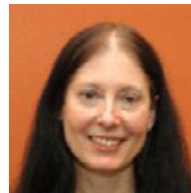


**EVAN BEATTIE**  
Principal  
Good Farrell Fulton

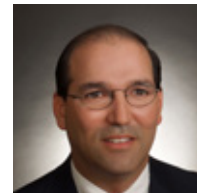
## Dallas Architectural Forum High Density Live/Work Environments

Invited by the Forum to present current research and urban design principles, with a reaction Panel to add their own independent take views, this debate featured developers, urban designers, architects, and financiers to explore design prototypes, density performance measures, and future development products, including key issues:

- Changing Societal Perceptions of Density and proving Economic Benefits
- Maximizing both Public and Personal Open Space
- Increasing Retail / Cultural offerings, and Educational options
- Demonstrating Workplace Density advantages to facilitate productivity/innovation
- Creating Mixed-Use Districts with new Family Residential options
- Public-Private Partnering to aid front-end Site Acquisition and Parking investments



**KAREN WALZ**  
Principal  
Strategic Community Solutions



**DAVID CASTILLA**  
President  
GenCap Partners



**JOSEPH PITCHFORD**  
Principal Crescent Real Estate Equities



**JAVIER SANCHEZ**  
President  
JSA Mexico City



**KEVIN SLOAN**  
Principal  
Kevin Sloan Studio

## New Live/Work High Density Solutions

Co-Sponsored by AIA Dallas and ULI District Council

Panelists debated higher densities for urban and In-fill sites, and closed with views on future experimentation in urban formats and expanded Suburban Clusters, with observations:

- In-Fill close to urban cores well-served by Infrastructure, are seen as risky. Cities must reduce the risk to facilitate solutions.
- High Density Residential design has not changed significantly. Prototype designs/layouts are expected. Will renters/buyers accept smaller interior spaces for more exterior features?
- Workplace Density supports Productivity. Yet urban sites deter corporate users. Must convince Cities to assist in Land-banking.
- Keeping young Families in high density districts could be solved with Charter and Magnet schools.
- Specialty Retail and Food-service choices within walkable secure Districts are seen as essential Live/Work amenities.
- Fiscal benefits include new Tax Ratables. Cities should help front investment, with promise of increased Tax proceeds
- Dallas CBD has survived two decades of suburban competition. Now a concentration of Arts/Parks will change perceptions.



**WILLIAM L. Burgin**  
Partner  
Brook Partners



**VITETTA LIL**  
Executive Director  
Dallas Arts District



**J. MARK WOLF**  
Vice President  
JHP Architects



**BRENT BROWN**  
Director  
City Design Studio



**RICHIE BUTLER**  
Principal  
City View



**LARRY GOOD**  
Principal  
Good Fulton Farrell



# CfMD Roundtables Series



AIA Dallas and ULI North Texas co-hosted sess

## Woodall Rodgers Corridor: Catalyst For Urban Reinvestment

Co-Sponsors: AIA Dallas and ULI North Texas District Council

The Dallas CBD has a new "Corridor of Investment" that combines public Arts related institutions with exciting Residential and Workplace options, and dramatic new Open Space. The Clyde Warren Park will have a powerful impact on perceptions of Dallas and will unify the Uptown/ Downtown. More importantly, the Park will create address value for at least six high density buildings, creating a genuine sense of place, and substantial new real estate value. Panel of End Users, Designers, Developers, Restaurateurs and Cultural Administrators, co-sponsored by AIA Dallas, and ULI, took part in a swiftly- moderated debate to explore these topics:

- This new Urban District is energized by the arts and will enhance adjacent property values.
- The concentration of Arts/Cultural/Park offerings will draw regionally and build a new visitor base.
- These amenities will contribute to new commercial development potentials in adjoining blocks.
- Arts combined with new Workplace/Living/Retail opportunities will create a new sense of the urbane.



**KEITH CARGILL**  
President  
Texas Capital Bank



**JOHN SUGHRUE**  
President  
Brook Partners



**LINDA OWEN**  
Woodall Rodgers  
Park Foundation



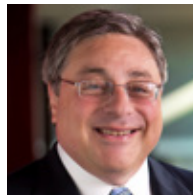
**STEPHAN PYLES**  
Owner  
Pyles



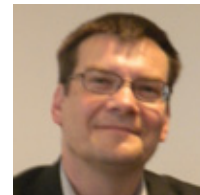
**PATRICIA GIBSON**  
President  
Hunt Realty



**DONALD GATZKE**  
Dean  
UTA School of  
Architecture



**MARK WEINSTEIN**  
President  
AT&T Performing  
Arts Center



**DAVID ZATOPEK**  
President  
AIA Dallas



**MICHAEL BUCKLEY**  
Director  
UTA CfMD



## Landscape Urbanism

Co-sponsored by UTA CfMD and AIA Dallas

Emerging field of large scale Landscape Design enabled by CAD and GIS serves as platform for Urban Design and Planning / Design decisions. Benefits include Regional-scale Sustainability and new open space amenities which can create new development opportunities with these benefits:

- Landscape can maximize value of long-lasting high-density assets.
- Environmentally responsible with better water use, solar awareness
- Value Chain includes improved societal benefits, and property values.
- Impacts Cultural Habits and addresses lifestyle expectations.



**TANER OZDIL**  
Assoc. Director  
UTA CfMD



**KEVIN SLOAN**  
Principal  
Kevin Sloan Studio



**TARY ARTERBURN**  
Principal  
Studio Outside



**DON RAINES**  
Associate  
WRT Design



## International Cities Area / Density Comparison

At same scale, seven international Cities are compared, illustrating the large area occupied by DFW compared to densities in other cities. While some are older denser cities, such as Mumbai, others such as São Paulo, are relatively new and their Metropolitan areas as young as DFW.

London was the first Western city to eclipse one Million, and now has over 8 Million, with density of 13,400 people per square mile— huge contrast to DFW's 6.4 Million with a density of only 4,500 people per square mile.

Mexico City was the first urban city of the new world as Spain's colonial capitol---now with over 8.8 Million and density of 13,400. This is more than twice DFW's population within an urban area less than a third.

The newest urban mega-city is Sao Paulo has over 11.3 Million—almost double DFW ---but with a Density of 19,200 people per square mile ---almost five times that of DFW.

Research is needed on measures of the Gross Metropolitan Product, as well as development patterns over time, as some cities grew over a long period, such as Tokyo, and Mumbai, while others in are relatively new such as New York City. São Paulo joins the ranks of the newest and hence is a more appropriate comparison to DFW. However Density differences are clearly apparent.

Expected growth in the next 30 years at the same growth pace means DFW would be twice the area it is today, which many believe to be unsustainable. Accommodating growth by expanding within existing urban nodes is entirely possible given DFW's low density.

Optimal density and growth are open to debate in this period of rapid urbanization. Better knowledge of industry clusters, drivers for corporate expansion, and technology to manage urban growth has particular importance. CfMD claims that regions must know more about business enterprise formation, estimates of residential demand, and effective policies to encourage high density at nodes now serviced by transportation, infrastructure, and existing high density investments.

Sources:  
American Cities "<http://www.census.gov/#/>"; Mumbai "<http://censusindia.gov.in/>"; Tokyo "<http://www.soumu.go.jp/english/>"; London "[ons.gov.uk](http://ons.gov.uk/)"; Mexico City "<http://www.inegi.org.mx/>"; Shanghai "<http://www.stats.gov.cn/english/>"; Sao Paulo "<http://ibge.gov.br/>"

Density Shown is in Persons per Sq Mile



**DFW Metro, Texas**  
Pop: 6.4 million  
Density: 4,571  
Area: 1,400 sqm



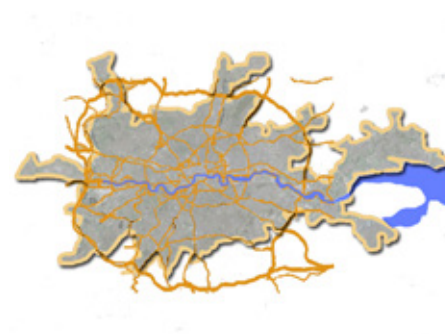
**Mexico City, Mexico**  
Pop: 8.85 Million  
Density: 13,482  
Area: 573 sqm



**New York, New York**  
Pop: 8.25 Million  
Density: 27,550  
Area: 302.6 sqm



**Tokyo, Japan**  
Pop: 13.19 million  
Density: 15,620  
Area: 844 sqm



**London, England**  
Pop: 8.17 Million  
Density: 13,482  
Area: 606 sqm



**Mumbai, India**  
Pop: 12.35 Million  
Density: 53,000  
Area: 233 sqm



**Shanghai, China**  
Pop: 7.1 Million  
Density: 9,400  
Area: 752 sqm



**Sao Paulo, Brazil**  
Pop: 11.3 million  
Density: 19,200  
Area: 588 sqm



# CfMD Advanced Design Studio

## Exploring High Density Solutions



Studio tests proposals to balance concept with Market Support and Financial Feasibility

### Studio Objectives

The UTA Advanced Design Studio is an intensive, fast-paced “Supercourse” focused on higher densities to generate residential choices, new office workspace concepts, retail, and cultural uses.

Solutions create significant Tax Increment to offset infrastructure costs. Project scenarios featured real sites in DFW Metroplex, San Juan and New York City, requiring UTA Grad students to identify Niche Market Support, and to demonstrate Financial Feasibility.



**J. Mark Wolf**  
CfMD Advisory Board  
Principal  
JHP Architects

As Adjunct Faculty at UTA Architecture, Mark Wolf directed a graduate studio focused on Framework Planning which has now evolved into the Advanced Design Studio. *“This Studio effort matches the CfMD’s mission exploring Metropolitan areas, and demonstrating Density’s triple bottom line of increased tax revenues, more sustainable developments, and higher real estate values.”*

## Fort Worth Jones Street Corridor Vision Plan



### Exsiting Fort Worth Jones Street

Aerial shows Convention Center flanked by vacant lots and the historic Santa Fe Station. Development requires no relocations but needs innovative Mixed-Use solutions and Vision Plan implementation.



Morris + Nors + Beck

### Proposed Vision Plan

Scenario shows new FW City Hall facing Geotech Center, a Oil & Gas industry think-tank; expansion of FW Convention Center and adjacent Hotel; Mixed-Use Residential ; Childcare Center; and innovative learning including a STEM High School and Digital Arts Academy.



Morris + Nors + Beck

### Wesleyan Square

Park frames historic Santa Fe Station, City Hall , Geotech Center , Law School and Childcare Discovery Center



Justin Lowery

### Hi-Rise Residential at former City Hall



Jon Beck

### Texas Wesleyan/A&M Law School

Expansion of Law School facilities shown atop exiting Wesleyan building facing new urban square



Matthew Morris

### New Fort Worth City Hall

Private Build-to-Suit tower with off-set core for Office flexibility; Public Council Chambers front new Wesleyan Square



## FW South Jones St Framework Plan

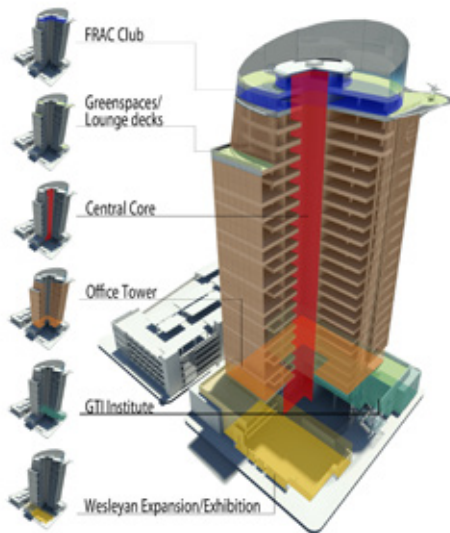
Uses are distributed over nine-block currently vacant area, unified by special streetscape retail /café/open space amenities and served by four new Parking garages and Streetcar loop connecting New City Hall / Wesleyan Sq to existing TexRail Station and expanded FW Convention Center.



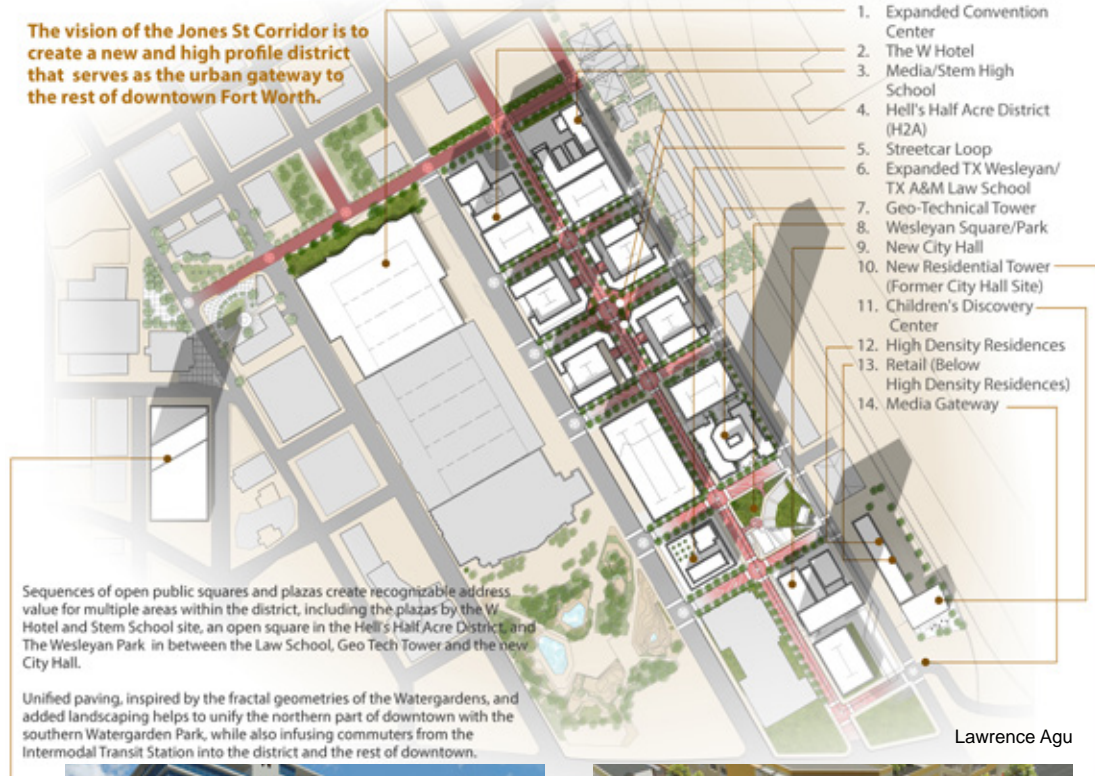
Morris + Nors + Beck + Perkins + Holt + Lengen + Agu + Gonzales + Hall + Gryczynski + Lowery + Ford

*The UTA Advanced Studio is an academic exercise, and solutions do not imply consensus with Stakeholders or Property Owners.*

Exploded view below, shows Geotech Research Center at base of oil & gas Office Tower crowned by the Frac Club.



The vision of the Jones St Corridor is to create a new and high profile district that serves as the urban gateway to the rest of downtown Fort Worth.



Sequences of open public squares and plazas create recognizable address value for multiple areas within the district, including the plazas by the W Hotel and Stem School site, an open square in the Hell's Half Acre District, and The Wesleyan Park in between the Law School, Geo Tech Tower and the new City Hall.

Unified paving, inspired by the fractal geometries of the Watergardens, and added landscaping helps to unify the northern part of downtown with the southern Watergarden Park, while also infusing commuters from the Intermodal Transit Station into the district and the rest of downtown.

Lawrence Agu



### Geotech Center

Research Institute at base of Office Tower oriented to Oil & Gas companies capitalizes on FW energy cluster and faces new square

Bryan Nors



### Hotel

Convention Hotel Adjacent expanded FWCC; features Entertainment Venue

Brad Lengen



### STEM + Digital Arts Academy

Innovative magnet schools for science and digital arts share site and parking garage

Beth Hall



### Mixed-Use Residential

Self-parked Apartments above Artisan Studios and Ethnic Street of Cafes

Jack Gryczynski



### Childcare Center

Extended Daycare hours to serve Workforce combines play with Discovery Center

Kristin Gonzales



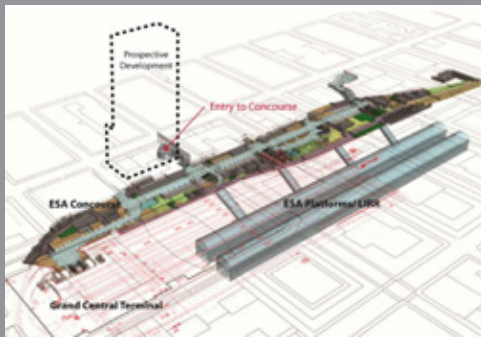
# CfMD Advanced Design Studio

## Exploring High-Density Prototype Solutions

### MTA Tower

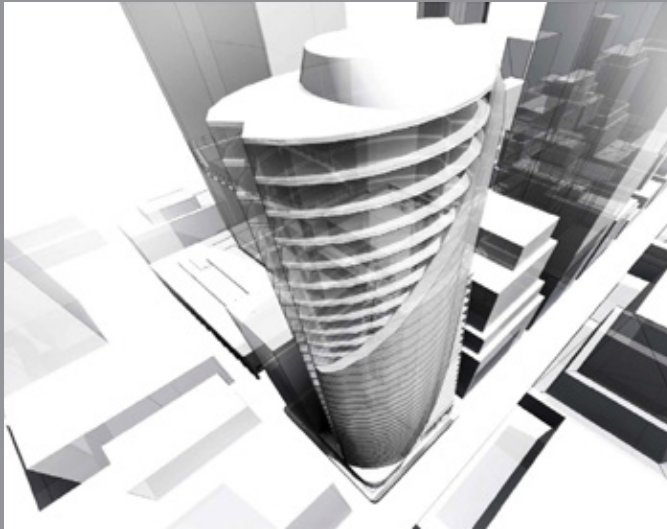
#### Transit Density Bonus

Extending of Long Island Railroad into Grand Central Terminal provides opportunity for a FAR zoning bonus, enabling a 45 story Office Tower, if a new connection from Concourse to Madison Avenue is created. Features are: multilevel retail extending below to the LIRR Concourse: Business Club above Mezzanine offers leasing advantage to multi-tenant Tower Offices. Project demonstrates feasibility with conservative financing and lease-up assumptions.



#### Office Core Design

CfMD Advisory Board member Don Powell of BOKA-Powell lectured UTA Grad Students on best practices for Hi-Rise Core efficiency and planning dimensions.



Charles Rutter + Kevin Turk + Grant Hamilton



#### Spiral Tower

Concept shifts from rectangular multi-level Retail from Concourse to Grade double-height Anchor Store and Lobby. Mezzanine and Business Club as base for oval shaped Tower creating 360 views from high rise floors.

### San Juan Harbor Privatizing Three Sites



#### Asset Shift to Create Revenues and Jobs

- 1) Moving Tourism agency to Iconic new Headquarters on vacant harbor-front site;
- 2) Re-positioning Hacienda State Treasury into Family Hotel / Casino; and 3) Converting Historic La Princesa to luxury Boutique hotel.



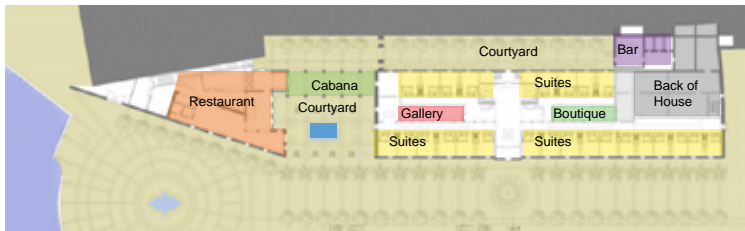
Jesus Bahena + Adolfo Flores

#### Tourism Company Headquarters

Iconic Office image with terraced Retail / Restaurants fronting San Juan Harbor; features Visitor Orientations and Events on terraces overlooking Tour Boat docks.



Tourism Company Alternate Adam Stanford



Jamie Wallace + Carlos Sierra

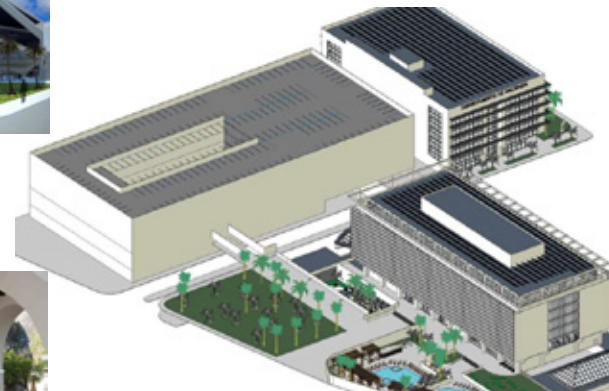
#### La Princesa Hotel Conversion

Former Tourism offices in historic prison artfully modified to Luxury Boutique Hotel with theme Courtyard Restaurant, Suite clusters for corporate meetings and unique spaces for catered events to create significant new sales revenues and private jobs.



#### Hacienda-State Treasury Converted to Family Hotel/Casino

State Treasury offices transformed to Family Hotel / Casino with existing garage addition to support new Build-to-Suit State Treasury on vacant site, maximizing Privatization.



Andre Crabbe



## Garland - Repurposing Vacant Shopping Center



### Suburban Challenge

Many First-Tier suburbs have obsolete shopping centers at freeway gateways with superb access, but shrinking retail tenancy.

Photo above shows typical situation--- with shopping area too small for today's larger merchandisers, yet site big enough for a new Residential / Retail high-density Village.

Key challenge is developing Streetscape and Parking solutions for required higher densities, and creating landscaped open spaces to "brand" a walkable community.



Kristin Perkins + Jon Beck + Jessica Holt + James Lengen + Bryan Nors

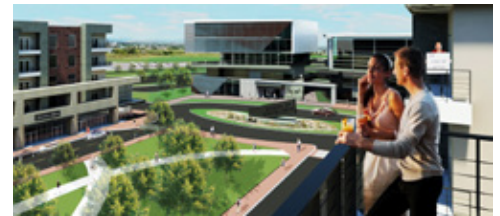
### Centerline Crossing: A Village Center

Interlinked sequences feature new Boulevard and Parks supporting Retail / Cafes with Residential above, At far left, Learning Lab for skilled technicians with Residential Boulevard and Street Retail, terminates in an Events Park as focus for Mini-Anchors and Restaurants.



### Street Retail

Residential on top of Specialty Boutiques and Cafés and teaser parking to extend shopping/dining experience.



### Loft Residential and Learning Lab

Boulevard Loft Residential ends in Commons Park as setting for tech skills Lab and freeway-fronting limited-service Hotel

## West Dallas Creating a New District

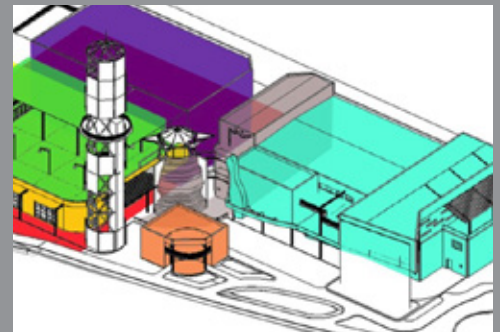


Off-Center Site with obsolete industrial/commercial requires Up-Zoning to create Live / Work District that can attract regional visitors. Challenge to create "Urban Village," and Tax Increment Financing for Streetscape and Community uses.



### Urban Village Plan

Streetscape marks new District; Workforce Residential atop Ethnic Market and Cafes; Townhomes buffer existing neighborhood; links to Sports Pavillion and Trinity River.



### Extreme Sports Pavilion

Above and Below, Extreme Sports showcase close to Trinity River; features: Zip Line, BMX track, Outdoor Sports equipment demonstrations.



### On Site Orientation

Site Co-owner Butch McGregor orients UTA Studio to West Dallas land holdings, long term goals, and current challenges for higher density development.



Jessica Holt + Dan Ford + Bryan Nors + Jack Gryczynski



# CfMD Advanced Design Studio

## Exploring High-Density Prototype Solutions

### Texas & Pacific Reuse of Historic Warehouse



#### Existing Abandoned Property

T&P Warehouse adjacent downtown Fort Worth, a long vacant 500,000 SF historic landmark, could be reused as a unique destination such as Residential with rooftop gardens, and Hotel facilities.

One scheme utilized significant Investment Tax Credits by preserving architectural elements, creating a Family and Convention-oriented Hotel with rooftop plunge pool and garage with gardens and superb Highway identity. All projects passed Feasibility Tests with 10 year Discounted Cash Flow analyses, and estimates of Tax Increment Finance generated.



Armando Garcia + Aaron Trecartin

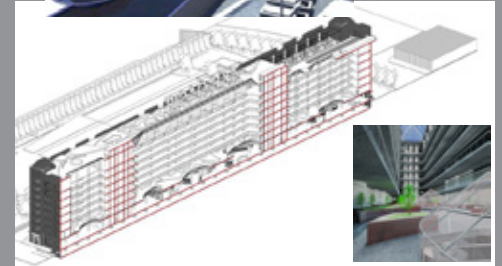
#### Events Center / Hotel / Residential

Demolition creates entry portal with Events Center spanning Hotel and Residential.



#### Hotel / Discovery Center / Residential

Three sections---Children's Discovery Center, Boutique Hotel and plunge pool; Urban Lofts with rooftop gardens



Nicki DeFreeze-Emery + Taylor Cell

#### Family & Convention - Oriented Hotel

Interior Courtyards, rooftop projecting glass-bottom Pool, Activity Center crowns garage.



Amy Jarvis + Maddie Hechler

Science Discovery Center showcases interactive digital and child-oriented technical display with extensive rooftop Fort Worth Aerospace Industry exhibit.

### Trinity Riverfront New Live/Work District



#### Existing Vacant Site

Off-center from Dallas CBD with Levee barrier on Trinity River; Challenge is to develop Density for attractive District, Skyline views and superb highway identity are key scenario drivers. TIF generated can offset site improvements, access to Trinity River, and pedestrian bridge. Matrix below shows Niche Market Support:

#### USE SYNERGY MATRIX

	Community Retail	Cultural Education	New Hotel	Residential Choices	Restaurants Ethnic/Cafe
CBD WORKFORCE	Green	Green	Green	Green	Green
LOCAL RESIDENTS	Green	Green	Green	Green	Green
CITY VISITORS	Green	Green	Green	Green	Green
CONVENTION ATTENDEES	Green	Green	Green	Green	Green
UNIVERSITY STUDENTS	Green	Green	Green	Green	Green



#### Park-Oriented Residential

Features views of Dallas skyline; Sketch left, shows Boulevard Townhomes leading to Sports Center with Rooftop Café adjoining Trinity River levee and pedestrian bridge.



#### Foodhall / Cooking School



#### Townhomes lead to River Activity Center

Jamie Wallace + Carlos Sierra + Anja Goodwin + Kelsey Liggett



#### Market-Rate Residential Blocks

Street-focused Retail with shared Clubhouse/ Pool / Childcare in wedge Park; Garages shielded; Site ends with Media Arts Academy located adjacent Trinity River pedestrian bridge; Boutique Hotel, located adjacent elevated freeway, targets Design District and Downtown.



Amelia Nguyen + Nicholas Rogers + Andre Crabbe + Chris Alfstad





## FW 8th Ave Creating a New Neighborhood

Mostly vacant eight-block area of Southside FW enabled by relocating existing freight rail to a new dual track commuter/freight line, creating substantial new sites fronting 8th Ave.

Challenges included creating a viable new walkable District providing critical mass of density to afford new Residential choices; Street-related Retail and Recreational amenities; new Commuter rail station, and widened Boulevard-landscaped 8th Ave as features.

Residential choices include Market Rate Apartments, Work Force Housing oriented to Southside Medical district, and Townhomes to buffer density with adjoining Ryan Place and Berkeley neighborhoods.

## Project Summary

### 68 Acres:

#### Residential

---Market Rate 1175 Units

---Workforce 198 Units

---Townhomes 160 Units

Specialty Retail 102,100 sf

Cafes+Restaurants 54,300 sf

Medical Office 186,800 sf

Training Labs 20,000 sf

**Total Bldg. Area: 1,852,291 sf**

## Project Costs

Constriction Costs \$254 Million

Soft Costs \$79 Million

Land Acquisition \$51 Million

**Total Dev Costs \$411.3 Million**

### UTA 8th Avenue Studio

Southside Village: Wallace + Goodwin +  
Crabbe + Stanford + Bahena + Liggett  
Garden Trail: Sierra + Young + Flores +  
Rogers + Nguyen + Alfstad

## Southside Village



## Project Features

- 1 Relocated Trackage**  
75' ROW Dual Commuter Tracks
- 2 New 8th Ave. Boulevard**  
Widened and Landscaped
- 3 Medical Offices**  
Doctors and Clinics
- 4 Training Labs**  
Medical Technicians
- 5 TEXRail Train Station**  
Child Care + Post Office
- 6 Market Rate Apartments**  
3-4 Story Stick Built
- 7 Workforce Housing**  
Medical Workers
- 8 Townhomes**  
Buffer to Neighborhood
- 9 Health Club**  
Fitness + Cardio Rehab
- 10 Street Retail**  
Specialty Retail / Cafes
- 11 Linear Park**  
Trackage screen
- 12 Dedicated Parks**  
Marking District Zones
- 13 Parking Garages**  
Shielded & Landscaped



## Tax Increment

**Total Taxes Created \$7.8M / yr**  
City Allocated Portion \$6.5M / yr  
8th Ave. TIF Portion \$1.3M / yr  
Cap @ 6% Less Exps= \$20.3M

## Tax Increment Uses

**\$20.3M Proceeds used for:**  
8th Ave Boulevard \$9.4M  
Project Onsite Parks \$6.6M  
Onsite Streetscape \$4.2M  
**Total \$20.3M**

## Capital Stack/Finance

GP Developer \$12.6 M  
LP Landowners \$30M  
LP Pension Fund \$81M  
**Total Equity \$123.6M**  
**Mortgage @ 70% LTV=\$287.7M**  
**Total Financed = \$411.3**  
**IRR=14.88%**

## Garden Trail



# Industry Clusters

## Industry Clusters Defined

Industry Clusters are vertically integrated enterprises targeted to specific markets with distinctive products and process competencies.

Located in intensive workplace environments with concentrated talent pools, Industry Clusters have broad vendor support, and services depth.

Industry Clusters require complex networks of companies, employees, and specialists performing complex tasks. The resulting critical mass in skilled employment creates a talent pool that retains brainpower, and creates a Multiplier Effect with economic and social components, contributing to Gross Metropolitan Product.

Clusters overlap and support one another and are in effect an Economic Ecosystem exhibiting dynamic connectivity and interdependence.

Supporting existing Industry Clusters leads to emergence of Advanced Industry Clusters driven by higher technology and innovative management processes.

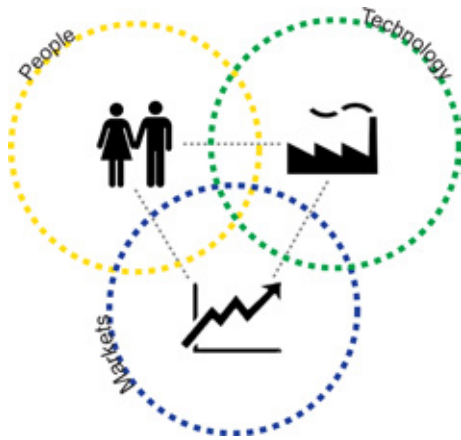


Existing Industry Clusters	Advanced Clusters
<b>Agriculture</b> Farming, Equipment, Ag. Chemicals	Chemical + Biological Engineering
<b>Food Processing</b> Packaging, Distribution	Advanced Nutrition Science
<b>Manufacturing</b> Heavy + Light Industrial + Prototyping	Precision Manufacturing, Robotics, Digital Fabrication
<b>Logistics</b> Distribution, Shipping, Air-Freight	Advanced Transit, Airlift Capacity
<b>Retail</b> Restaurants, Groceries, Shopping Centers	Internet Shopping, Interactive Media
<b>Automotive</b> Sales, Repair, Auto Supply	Hybrid/Electric, Specialized Electronics, Driverless Vehicles
<b>Aerospace/Defense</b> Research, Engineering, Manufacturing	Remote Sensing, Unmanned Vehicles, C3 Systems
<b>Information Technology</b> Computer Systems and Support	Cloud + Media Applications
<b>Communication</b> Hardware, Software, Satellite, Tower, Data	Wireless, Microsystems, Cloud Software
<b>Business Management</b> HR, PR, Marketing, Insurance	Social Media, Electronic Commerce, Digital Marketing
<b>Professional Services</b> Legal, Accounting, Architecture, Engineering	Advanced Institutions, Cloud Based Methodologies
<b>Finance &amp; Banking</b> Institutional Finance, Private Capital, Trading	Hyper Trading + Transactions, Consumer Clearing
<b>Real Estate</b> Developers / Agents / Property Mgmt.	Prefabrication, Systems Integration
<b>Home Decor</b> Furniture, Hardware, Paint, Appliances	Pre-built Components, Digital Systems + Equipment
<b>Cultural</b> Museums, Performance Halls	Cultural Districts, Online Institutions
<b>Hospitality/Tourism</b> Attractions, Sports Centers, Venues, Hotels	Interactive Entertainment, Electronic Booking Resources
<b>Education</b> Public, Private, Trade, Publishing	STEM/Charter, Digital Arts + Publishing, Online Education
<b>Healthcare</b> Hospitals, Medical Offices & Equipment	Bio-Tech Cluster, Advanced Equipment, Smart Hospitals
<b>Pharmaceutical</b> Research, Development, Sales	Bio-Science Cluster, Advanced Research Institutions
<b>Construction</b> Commercial / Residential / Infrastructure	Digital Fabrication CAD-enabled Automation

## Emerging Advanced Clusters

Chart above illustrates Existing Industry Clusters in no particular order. The right side shows Advanced Clusters which should emerge over the next decade. These rely on product and process innovation, new technologies, and will need a skilled workforce to germinate. Emerging Advanced Clusters will also require special incentives and a supportive economic/workforce environment.





## Cluster Synergy

Clusters support a vast network of skilled technicians, including vendors, professionals, and clerical services along with equipment suppliers and amenities for their employees, ranging from residential, educational, cultural and retail resources, and office / manufacturing space to support a diverse set of uses.

This Multiplier Effect is one of the most important hidden economic advantages for maintaining and enhancing these very important activities.

## Footloose Industries

Bio-Tech Applications
Digital Graphics & Interface Systems
Transaction Support Services
Medical Services Delivery
Sustainability Processes & Products
Logistics Support
Internet Intermediary Services
Alternative Energy Applications

## Footloose Clusters

Certain emerging Industry Clusters have no allegiance to any region, as America has witnessed an increasingly mobile Workforce, where employees seek lifestyle preferences.

Hence securing these “Footloose Industries” call for dedicated efforts to solicit, incentivize, and recruit, as they can significantly strengthen a region’s competitive position.

## The Research Challenge

Many Regions do not have accurate metrics for existing Industry Clusters or estimates of Gross Metropolitan Product, nor impact of their resulting Multiplier Effect.

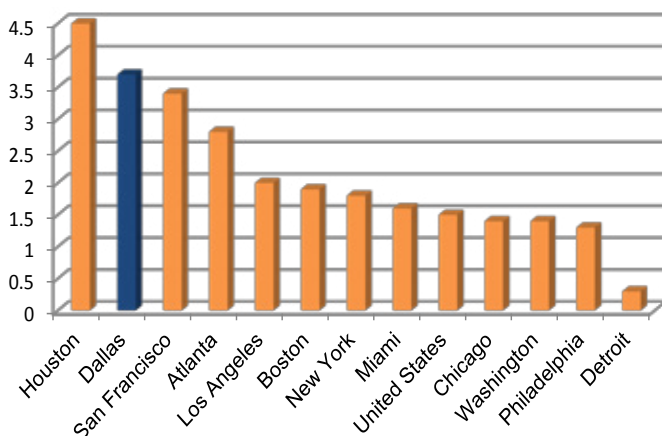
UTA CfMD believes additional research into quantifying and estimating performance of Industry Clusters is key to economic development. Given new technologies such as GIS, information can be used to make strategic decisions on Locations, Incentives, and Workforce to enhance Industry Clusters.



## Vision North Texas Industry Cluster Workshop

UTA CfMD organized work sessions for Vision North Texas. Prof. Buckley conducted discussion on enhancing / recruiting Industry Clusters. Prof. Ozdil led an overview of TOD research and transit opportunities.

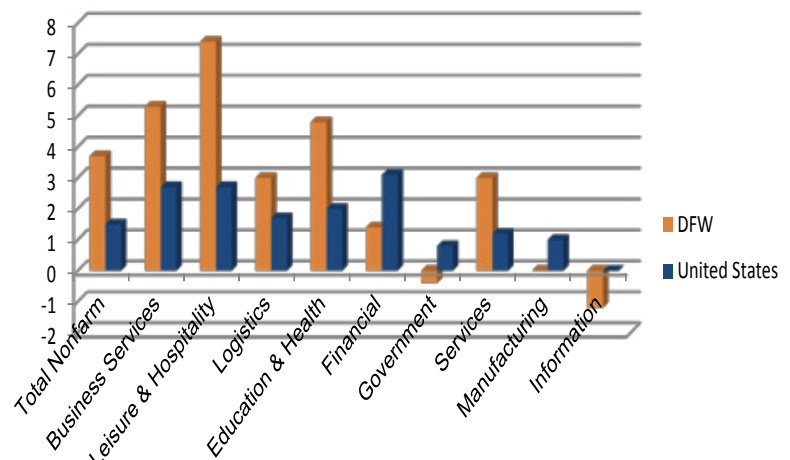
## Change in Employment by City



Source: BLS, 2013

DFW has become one of the fastest-growing job markets in the USA and now must enhance its existing and emerging Industry Clusters to maintain competitive edge.

## Change in Jobs by Industry DFW vs USA



Source: BLS, 2013

DFW’s economy has grown despite decreases in Government jobs. Categories such as Business Services, Leisure & Hospitality, and Education & Health are particularly strong.

# Urban Landscape Research

## Transit-Oriented Development and Landscape Architecture

Under the direction of CfMD Associate Director of Research, Taner Odzil, UTA Landscape Architecture program conducts Transit Oriented Development (TOD) research with a review of national and regional projects, literature, and policies.

The objective is to build a fact-based multidisciplinary understanding to assist in setting recommendations for TOD developments in the metropolitan region.

This approach to landscape architecture responds to changing regional socioeconomic and environmental dynamics and establish sustainable, and economically sound TOD practices.

The use of landscape architecture and open space concepts to assist in setting responsible growth strategies surrounding transit stations reflects a multidisciplinary approach using UTA faculty and students from landscape architecture, planning, and engineering programs.

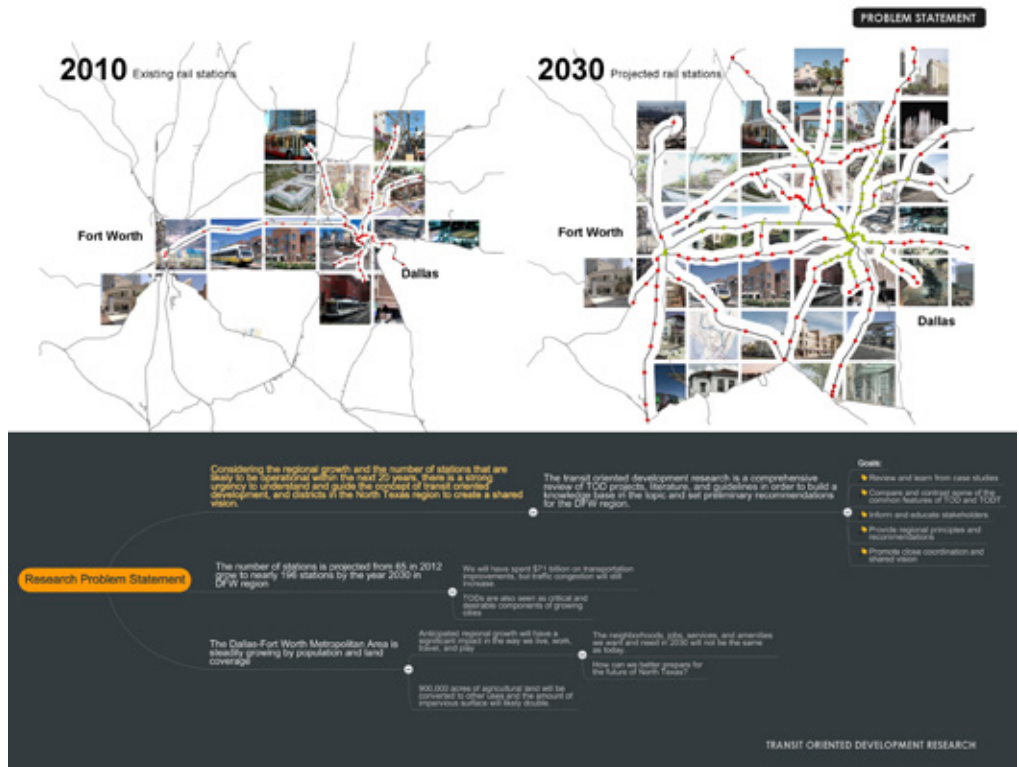
Research illustrates the stages between conceptualization of TOD projects as place making, and the methods by which they are built in the urban environment. Reviewing lessons learned from a number of TOD case studies in North America, research categorizes examples from small to large cities.

The final report promotes a shared regional resource for DFW communities and stakeholders by recommending a set of regional strategies and tools for planning and implementation of future TOD developments.

The research project recently received a merit award from the American Society of Landscape Architects Texas Chapter and was funded by the North Texas Council of Governments' University Partnership Program.



Yao Lin and T.R Ozdil





## MLK Transit Oriented District Vision:

The studio objective was to create a vision plan for an emerging MLK transit district located to the south of Fair Park in Dallas.

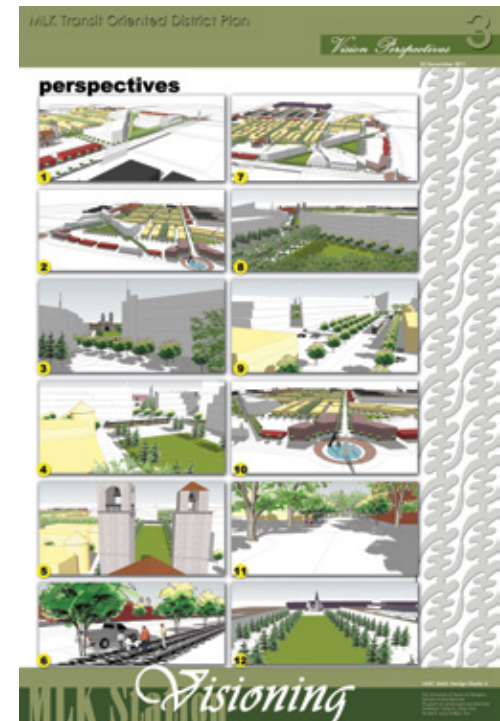
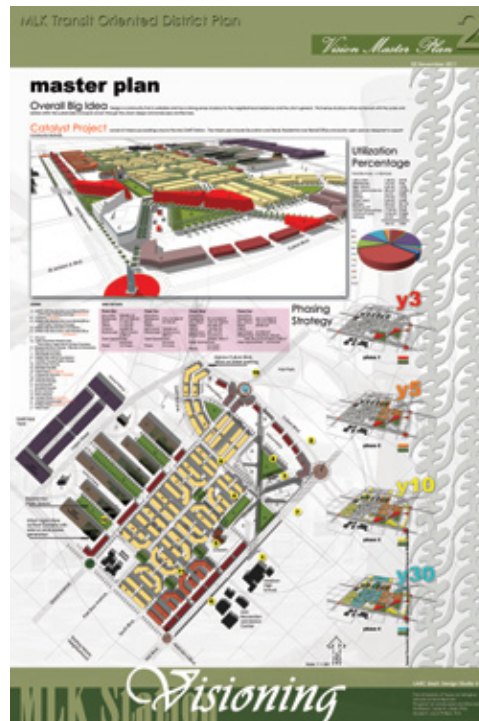
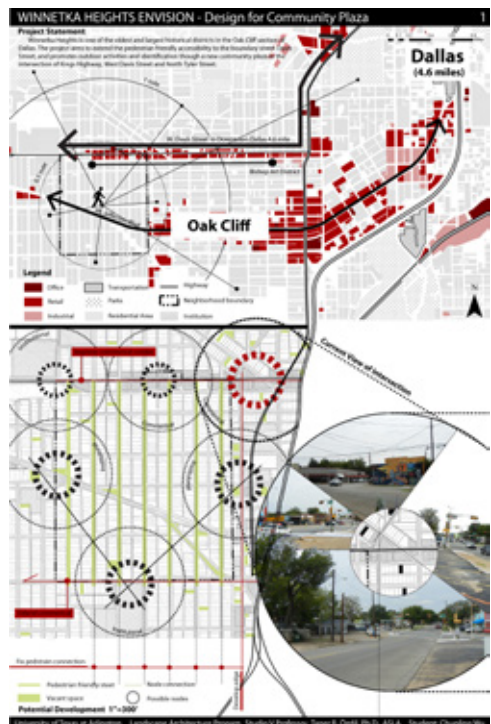
The project allowed students project partners to explore access and document the current condition of study areas within a half-mile radius of the DART station.

As response to the analysis student projects introduced open space design interventions and catalyst land uses to create a new urban planning framework for the district.

Studio was held in partnership with the Dallas City Design Studio and the UTA Graduate Design Studio in Landscape Architecture . Sample vision boards at right by Jack Phillips, UTA graduate student.

## Re-Envisioning Winnetka Heights:

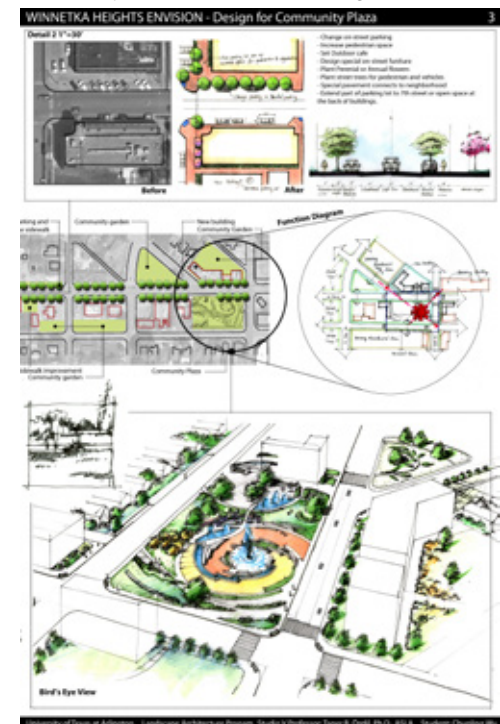
For a Dallas historic district the studio sent to explore and document both history and current conditions of Winnetka Heights within the context of North Oak Cliff.



After examining the district parameters, UTA student designers reimagined public spaces, parks, streetscape treatments as well as infill opportunities to accommodate a growing neighborhood.



The studio was run in partnership with the Winnetka Heights Neighborhood Association and the UTA Graduate design studio in Landscape Architecture . Sample vision boards by UTA Student Chuning Wu.





## Center for Metropolitan Density

## CfMD Advisory Board

Leading Industry Leaders provide guidance on research topics, assist in promoting research, and securing financial support.

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