

# UTA CENTER FOR METROPOLITAN DENSITY CfMD RESEARCH JOURNAL

Funded by gifts from Stratford Land and Billingsley Company



2015 Vol 4



## INTRODUCTION & MISSION STATEMENT

The UTA Center for Metropolitan Density (CfMD) research supports the premise that greater Density produces the most Economically Productive, Fiscally Efficient, Environmentally Sustainable, and Culturally-Supportive environments.

### BENEFITS OF DENSITY

UTA CfMD believes that the benefits of greater density are:

#### Economic Productivity

Density of Investment promotes Fiscal Efficiency and Higher Tax Rates

#### Value Creation

Dense Development optimizes efficiency of expensive infrastructure such as Public Transportation

#### Business Processes

Workplace Density provides Improved Productivity and Efficiency; and a readily accessible Talent Pool.

#### Social and Cultural Benefits

Closer Proximity fosters Social Interaction, which supports greater Retail offerings and Cultural Variety

#### Environmental Sustainability

Density requires less Land and can use existing infrastructure, reducing dependency on Natural Resources

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Utilizing slurry wall to add land area for residential and entertainment.





**NAN ELLIN, FOUNDDING DEAN**  
**CAPPA**  
**UTA College of Architecture, Planning and Public Affairs**



At UTA, Dr. Ellin is overseeing the integration of the School of Architecture and the School of Urban and Public Affairs into the new College of Architecture, Planning and Public Affairs (CAPPA). This unified college interweaves the unique gifts and expertise of each person and profession to co-create urban, ecological, and social fabrics that unleash the inherent potential of places and communities in the DFW region and beyond.

"DFW, like many Metropolitan areas in the Southwest, faces unprecedented growth and swiftly changing demographics. At UTA CAPPA, we have a unique opportunity to explore higher density solutions to provide better places for all people since we now have these disciplines combined in a structure that will encourage cross-collaboration. When you bring architecture, urban planning and public affairs together, the synergies are tremendous." - Dean Ellin



**MICHAEL P. BUCKLEY, FAIA**  
**DIRECTOR**  
**Center for Metropolitan Density**  
**University of Texas at Arlington**

CfMD's research efforts focus on best practices to develop multi component urban projects, such as this Journal's article on Public Private Partnerships, and on Designed Open Space to create value. Our Scenarios are Feasibility-tested with Market Support and achievement of Investment Returns. For Cities, these Scenarios are also sound Fiscal contributors over the long term, and more valuable investments with better economic efficiency and environmental sustainability.

"We believe the rapid urbanization in Metropolitan areas deserves dedicated research and fact-based comparisons, along with alternative development Scenarios to afford the best urban residential, workplace, and cultural choices. We seek higher density solutions which contribute to more livable, walkable, and more sustainable settlement patterns, as shown in the city revitalization Scenarios in this Journal. " -CfMD Director Buckley

*UTA CfMD Advisory Board features industry leader views on market trends, research strategies for solutions to manage growth, infrastructure, and industry clusters as critical success factors for urban development. We asked selected CfMD Advisory Board Members to comment on the impact of higher densities. See back cover for a list of all CfMD Advisory Board Members.*



**PHILLIP WIGGINS, PRESIDENT**  
**Stratford Land Company**

"Our business model creates value by positioning land to its highest and best use. We seek to add value through envisioning, planning, entitlement and pre-development work. As higher densities are tied to prospects for jobs and population increases, we are sponsoring this research Journal issue as we believe UTA CfMD is a unique resource to debate solutions for metropolitan growth."



**RALPH HEINS, PRESIDENT/CEO**  
**Primera Companies**

As owners of a DFW Region private Industrial portfolio, we see a shift in Demographics to favor higher density Live/Work options. Older industrial warehouse land may well be aggregated as new high density mixed-use sites. Hence we have a continuing interest in UTA CfMD's Research and Vision Planning for conversion of land uses to new urban formats, matching lifestyle trends."



**MYRIAM CAMARGO, FAIA**  
**Partner, CaCo Architecture**

"As one of the principals charged with the organizing efforts to create the Vision North Texas Plan, which took a new look at the impact of continued growth in the region, we recognized most communities raised issues of Density, Architectural Scale and Community Image, whose solution are sure to be critical success factors."



**DAVID LEININGER, CFO**  
**Dallas Area Rapid Transit**

"With the longest trackage of any Metropolitan Transit system, DART is committed to increasing ridership with Transit Oriented Development and increased density at Metropolitan Nodes where road/rail/live/work intersect with utility infrastructure. DART is also committed to the Urban Core and will create new rail lines in the near term to offer more transportation choices for the Next Generation Workforce "



**NEAL SLEEPER, PRINCIPAL**  
**CityPlace Company**

"Our firm was one of the original developers of Uptown, and we are well aware of the length of time in product design and financing constraints required for creating an urban setting. We sponsored the Advanced Design Studio to explore Interim short-term uses on our sites reserved for higher density. We also endorse CfMD Vision Plans which could provide a roadmap to responsible growth."



**JOHN WALSH III, PRINCIPAL**  
**TIG Realty**

"As a former UTA undergraduate, and adjunct Faculty for the UTA Property Turnaround & Repositioning certificate program, I am pleased to lend support to UTA CfMD's research initiatives and vision Planning explorations. We know that Metropolitan regions are dynamic markets which can foster experimentation in Live/Work designs which can create more urbane environments."

**Dallas Center Core Comparisons**

**1952**

CBD region's Center; preferred address for Corp / Professional Offices; Host to Specialty Retail and major Department Stores; Rail primarily freight; Focus of local Avenues + Streets.



**1987**

Suburban Office and Residential expansion; Retail and Dept Stores migrate; CBD feeds major Highways; Re-use of older Offices for Residential; Rail consolidated.



**2012**

CBD enveloped by Freeways; Focus of DART Lines; Uptown Residential explodes and CBD follows trend; Uptown Offices command higher rents; CBD supports restaurants and retail.



**2016 CfMD Research Topic**  
**Densifying Existing Urban/Suburban Nodes**

Metropolitan growth, changing Demographics and Workplace preferences, are influences on our Advanced Design Studio which focuses on higher densities.

- CBD's are evolving as new Live/Work/Learn environments and offer more walkable and secure opportunities offering new lifestyles for users seeking more urbane environments.
- Urban Nodes, characterized by confluence of road networks, telecom and utility infrastructure, exist in both urban and suburban settings, from low to high Densities.
- Expanding these Nodes with retail, offices, hotels, and residential, can contain sprawl, enhancing Industry Clusters.
- Increasing density at existing Nodes optimizes growth while preserving open space and community character by maximizing road networks and concentrated infrastructure.

**Seeking Research Sponsors**

Node expansion concentrates assets as long-term investments; creates opportunities for creative Retail and Foodservice due to population density; and landscaped open space can brand Nodes as unique special Districts. UTA CfMD proposes to focus 2016 research on potential Node locations and growth potentials in the DFW Metro Region, and is seeking Sponsors to support this strategy.





Special Development Entities

Long used to implement complex projects which extend over several political and economic cycles, Special Entities are formed with authority for issuing bonds, land acquisition, execute infrastructure improvements, and for design and implementation reviews. Regional Airport authorities, Toll Roads are some examples. In commercial real estate , Tax Increment Finance (TIF ) Boards, and Building Improvement Districts (BIDs) are other examples.

Vision Plan implementation may require a single entity, a Master Development Corp, with institutional and private sector support to withstand market/ political cycles and with delegated authority to issue Tax Increment Bonds for funding Parcel acquisition, Infrastructure ,and Streetscape improvements. The subsidy is from Incremental City Tax revenues which would otherwise not be produced--hence cost the general Public nothing more, just a portion of the future increment which is eventually paid-off , giving the City full tax proceeds and the benefit of higher property values.

Public/ Private Partnerships work best when market rate development is not feasible due to land cost or infrastructure hurdles, particularly compared to comparable suburban opportunities. Thus both sides, Civic / Public, and Private Developer /Financier, gain equal benefit without adding any new Fiscal burden to citizens .

Flexibility & Reliability

The Dev Corp's inclusive advocacy, executive authority, and consistent decision reliability, is very important to the private sector. Reliability and capacity to issue infrastructure bonds mitigates risks for financing and builds public belief in the Vision Plan. The Public/Private format offers an approachable organization for civic groups, architects, engineers, and planners who support the goals of the Vision Plan and can see that long-term implementation is achievable. Finally, the proven reliability of special- purpose entities is recognized by Institutional Finance as similar difficult projects in other cities have become secure investment zones today.

Master Dev. Corp. Competitive Advantage

Continuity	Single point of Contact thru Economic/Political Cycles
Authority	Issue Bonds + Acquire Sites + Design Improvements
Clarity	Vision Plan + Stakeholder Consensus + Design Guidelines
Implementation	Bond Financing + Bid/Award Infrastructure
Governance	Independent Board + Civic/City Agencies + Exec Director



Baltimore Inner Harbor Corporation

Deteriorated Inner Harbor adjacent Baltimore CBD; prompted corporate and civic leaders to acquire parcels, and issue Infrastructure Bonds; Resulting in a two-decade transformation into one of the most visited waterfronts in the nation, With new Hotels, Offices, Retail and Restaurants extending the City workplace core.



Battery Park City Authority

Formed to implement a Lower Manhattan Live/Work District with fill from adjacent World Trade Center; issued bonds based on future tax revenues; high urban design standards and governance through market cycles resulted in fully paid-off bonds with new annual revenue distribution available for cultural/educational uses.



Pennsylvania Ave. Dev. Corp.

Organized to revitalize Pennsylvania Ave from the US Capitol to the White House; Created Master Plan, sold parcels to Developers subject to serious design reviews; Completed over several DC Mayoral administrations; Resurrected real estate Values and Image quality; Now premiere location for Hotels, prestige Offices, Embassies, Museums, and high-end Residential.



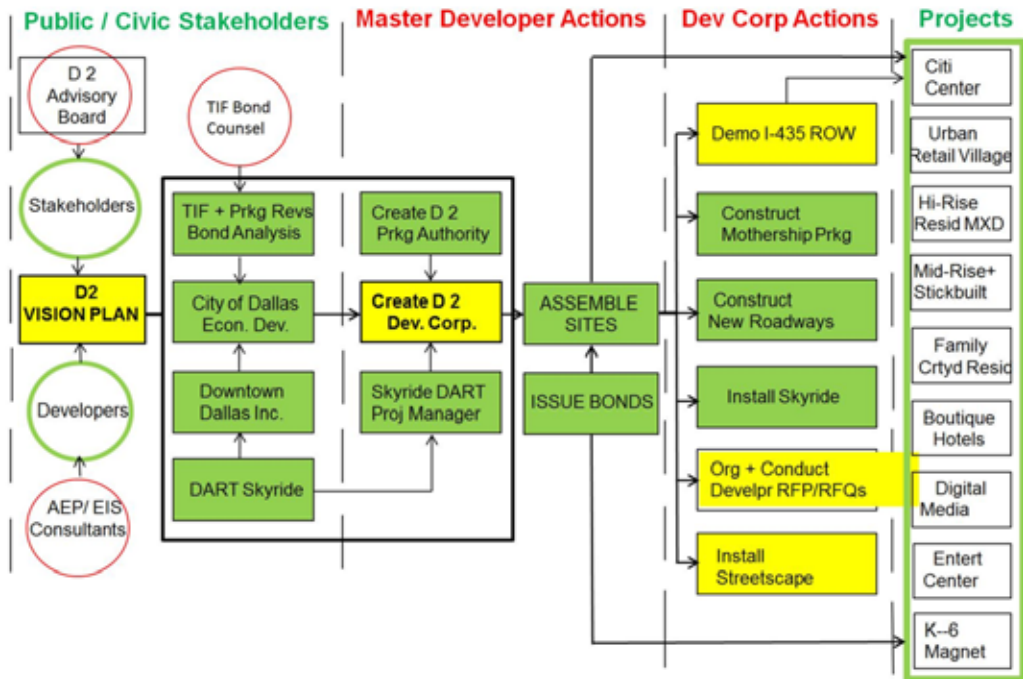
BIDS -- Bryant Park Restoration Corp

Building Improvement Distracts are another form of Public/Private partnering whereby land owners contribute extra tax assessments dedicated to restoration of premium property values, such as NYC's Bryant Park by Open Space management and extra security/ Maintenance well above what are normal City services. Bryant Park renovation increased overall Image and adjacent building Rents.

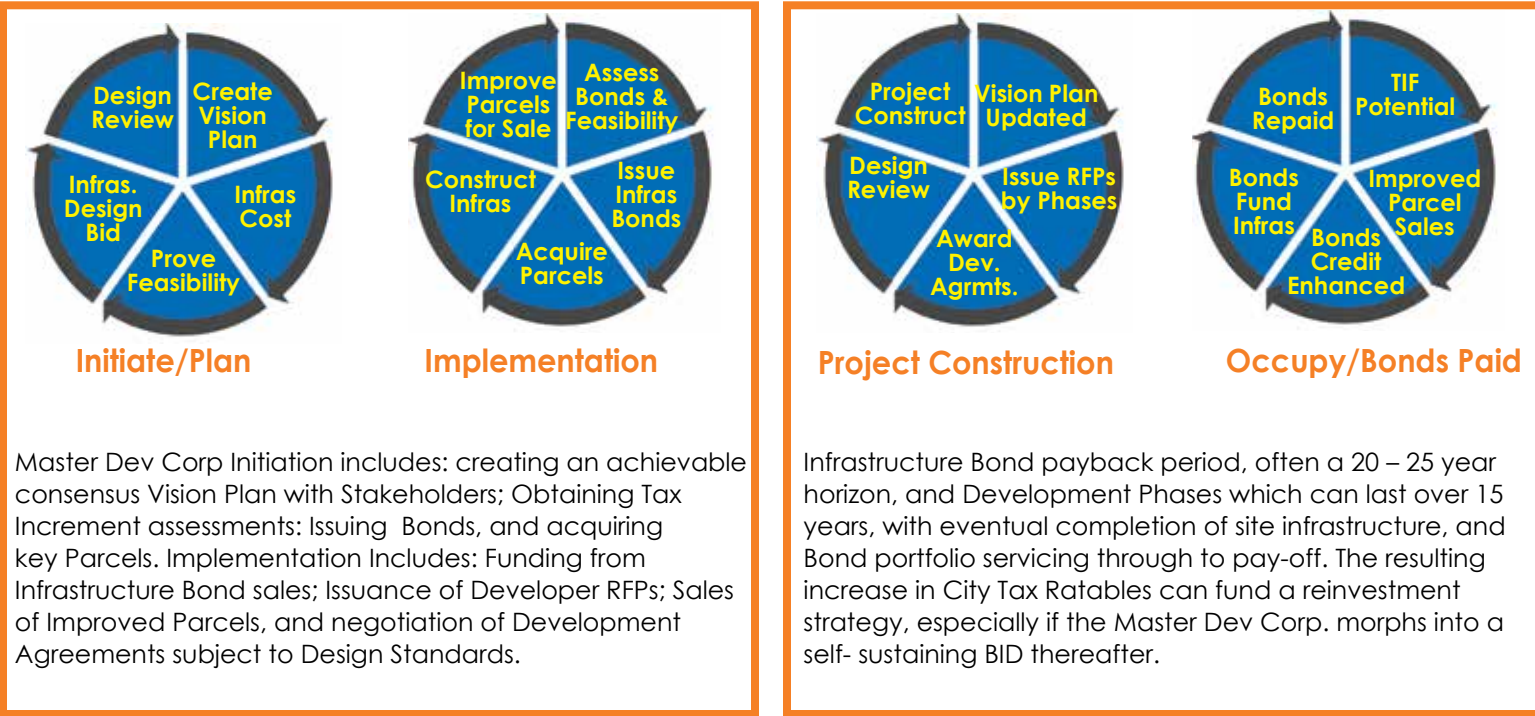
Master Dev. Corp. Process Map

Chart illustrates Process Map for a Master Dev Corp charged with the revitalization of an Urban District. Note stages for creation of a Vision Plan with Civic/ Public input and higher density to produce Tax Increment to fund Infrastructure and acquire Parcels.

The Dev Corp is accessible, and transparent, with experienced Senior Management and a representative Public/Private Board. to maintain organization's goals over protracted political and economic cycles.



Organization Life Cycle and Key Activities





Sponsored by HKS Inc., the CfMD Roundtable Series is held in their new learning center in downtown Dallas. Co-sponsors included ULI North Texas r, and Dallas AIA for specific sessions. Now in our 5th year, these strategic discussions are conducted off-campus featuring industry experts from a variety of disciplines. The Roundtables test topics in high density development, finance, product design, and provide industry feedback for CfMD research.

Stakeholders

Roundtable focused on Stakeholders with vested interest in Dallas central core to grow, as both a Workplace, Living and Learning environment. Specific viewpoints ranged from End Users such as architectural and law firm tenants to Stakeholders like regional transportation and economic development agencies.

- Knowledge workers increasingly look to the Dallas core as an enticing workplace Environment with a genuine Urban image.
- The nexus of the DART transportation system downtown makes for easy commute for many professional firms.
- Freeway debate focused on whether high-speed access to downtown is as important as the quality of circulation within the core. Many agreed that Traffic is like a Gas, expanding to fill any space provided.
- Some claimed Dallas CBD surrounded by "Traffic sewers" fueling debate "Streets versus Roads" and methods to slow inter-regional traffic.

Developers & Designers

- Roundtable focused on development policies and design prototypes to create high density live/ work / learn /play environments.
- Downtown is separated: West End from Victory; Central core from South Dallas and Trinity; Scenarios could repair these connections.
  - Changing demographics with new residents seeking alternative lifestyles create new opportunities for experimentation with both Re4sidentail and Workplace formats.
  - Most Dallas CBD adaptive reuse buildings already transformed; new Residentail sites need to be assembled from underutilized parcels and more parking created.



DAN NOBLE  
HKS, Inc.



MARK GOODE  
Kimley Horn



ROBERT VOELKER  
Partner, Munsch Hardt



DAVID LEININGER  
DART



MARK LAMSTER  
Dallas Morning News  
UTA CAPPA Faculty



BETSEY DEL MONTE, FAIA  
Transform-Global



JOHN CRAWFORD  
Downtown Dallas, Inc.



KARL STUNDINS  
City of Dallas



DAN JEAKINS  
HKS, Inc.



NEAL SLEEPER  
Cityplace Company



TED HAMILTON  
Hamilton Properties



SHAWN TODD  
Todd Interests



KEVIN SLOAN  
KSloan Studio



Brokers & End Users

Panelists explored key drivers for Corporate and Professional End-Users who prefer Center City locations, what design trends may influence the corporate location decision, and what the Brokerage Industry learns from its client base, including these observations:

- Changing demographics and the 3 generation workforce means more younger knowledge workers want a more active and urban lifestyle.
- Millennials now outnumber Baby Boomers, adding to urban rental demand with later marriage and children.
- Corporates favor large floor plates which favors suburbia—but employees want interaction , walkability and better retail foodservice choices.
- Parking Ratios are much higher and less expensive in Suburban projects. Transit may eventually overcome this disadvantage in favor of Urban.

CfMD Outreach



Ft. Worth ISD Briefing

Advisory Board member Andy Taft, President FWI Inc, at far right above, previews CfMD scheme for special Learning institutions with FW ISD Trustees.



D Academy

For the past two years CfMD Director Buckley has presented urban DFW scenarios to a selected group of young professionals as part of D Magazine's Academy.



Pension Real Estate Assoc Washington DC

Director Buckley, who served as GSA Advisor for both projects, introduces Ramsey Meizser of Forest City, at middle above, to discuss the Yards, a Live/Work new district on the Anacostia riverfront. David Orowitz of the Trump Organization, at right above, to describe the \$275 Million repositioning of the Old Post Office on Pennsylvania Avenue into a Luxury Hotel.



Ft. Worth AIA Design Talk

At Left, Director Buckley shows CfMD Scenarios for expanding Ft Worth's CBD, on the Jones St Corridor; a strategy for a Mixed-Use 8th Ave: Concept for a SciCiti for FW ISD, and proposals for re-use of the Historic Texas & Pacific Warehouse.



HERB WEITZMAN  
The Weitzman Group



STEVE MODORY  
Champion Partners



RAY NUNEZ  
Greyhound Corp



JEFF STAUBCH  
JonesLangLasalle



RICHMOND  
COLLINSWORTH  
Bradford Commercial



DAVID LEININGER  
EVP/CEO DART



DAVID MAYER  
HKS, Inc.



RALPH HEINS  
Primera Companies



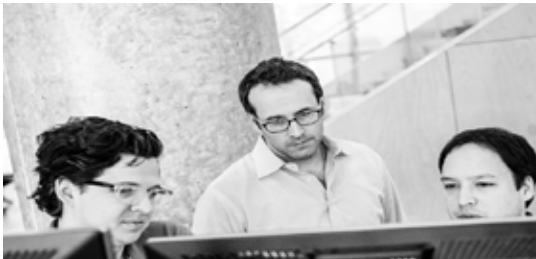
Studio Objectives

UTA Advanced Design Studio students learn to test Designs with Feasibility methodology including Cash Flow Models, to achieve given Investment Return rates. Solutions are sought to create significant Tax Increment to offset Project Infrastructure costs and parcel acquisition.



Studio Sponsors

UTA Advanced Design Studio was held off-campus over the past 3 years at HKS Inc. enabling presentations by HKS specialists and hosting the Roundtable Series. Sponsors L to R- Dan Noble, HKS CEO; Studio Co- Heads David Williamson,



HKS Specialists

As CfMD Studio resources, HKS Specialists were guest speakers such as Heath May at center above, i Director HKS LINE (Laboratory for INTensive Exploration ) for design, research and advancing architecture with evolving technology.



Presentation Juries

Studio MXD/Residential and Office / Workforce scenarios, are reviewed by outside expert Juries of Developers, City Agencies, Designers and Financiers for industry feedback.

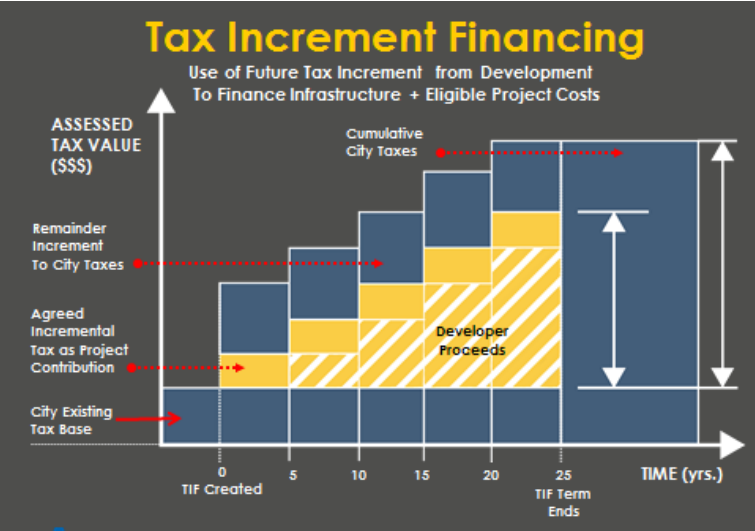
Design Cycle

Studio Design Process shown at right, is focused on density and value creation, creating highest Tax Increment Revenues, Jobs, and Architectural quality.



TIF Financing

Diagram below illustrates TIFF Financing generated by higher densities to fund infrastructure and streetscape costs.

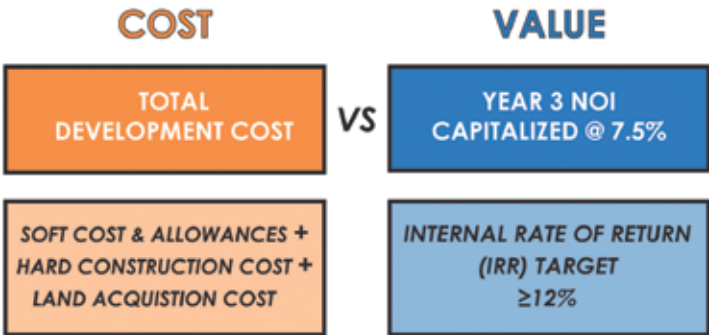


Feasibility Testing

UTA Students, most with no prior financial experience, now prove Financial Feasibility with our templates which arrayed Hard Costs based on Unit Cost comparables, Revenues based on market rates , and Soft Costs to calculate Total Development Cost.

Discounted Cash Flow (DCF) templates then establish Net Operating Income. A quick Feasibility Test Capitalizes Yr 3 NOI, which should be larger or equal to the Total Development Cost. The DCF Template also generates an Internal Rate of Return (IRR) as investment return metric.

While architects traditionally manage projects by controlling project costs, our methodology illustrates the advantages of managing both Design and Financial Performance by creating Investment Value.



The 1-345 Removal Debate

Downtown Dallas is ringed by freeways, and public discussion has focused on removal of I-345 to expand the urban core, reconnecting to Deep Ellum historic entertainment district and to the expanding Baylor Medical Center.

Challenge: Reuse I-345 Corridor at No Public Cost

D Magazine, Dallas AIA Columns Magazine, and Civic groups have debated the benefits for urban living with removal of the freeway. Our Scenarios show alternatives for thru traffic, Infrastructure costs offset by increased density and new TIF generated, and Residential and modern Workplace choices. Thus each Scenario covers Infrastructure at no new cost to the Public. modern Workplace choices. Thus each Scenario covers Infrastructure at no new cost to the Public.

Scenario Comparisons --Costs/Density

Chart below compares the three Scenarios and resulting density of land uses, generation of Tax Increment allocated to Infrastructure, and new Jobs and Residents produced.

SCENARIO Comparisons	Boulevard	Central Park	Tunnel
Office Parcels SF	488,423	1,861,636	835,000
Office Devel SF	1,851,275	2,500,000	3,811,000
Hotel Parcels	91,835	428,310	518,000
Hotel SF	179,800	539,122	337,500
Resid Parcels SF	1,871,267	2,989,021	4,260,600
Residential SF	3,571,621	7,968,808	12,920,582
Resid Units	3,888	7,472	11,361
Residential SF Incl Retail	290,850	450,000	550,000
Retail Village Parcel	296,000	300,000	400,000
Urb Retail Devel	371,273	507,959	600,000
EntertainCntr Parcel	112,999	230,614	379,000
Entertainment Center SF	206,676	368,873	614,000
Parcels SF	3,120,533	5,809,581	6,392,600
Development Area	6,471,495	12,334,762	18,833,082
Avg Dev Cost @ \$240 pSF	1,553,158,800	2,960,342,880	4,519,939,680
Parking Spaces	14,000	18,000	21,000
Garage SF	5,950,000	7,650,000	8,925,000
Garage \$ Cost	147,000,000	189,000,000	220,500,000
Less Mothership Garages	(16,800,000)	(16,800,000)	(16,800,000)
Grand Total \$ Dev	\$ 1,683,358,800	\$ 3,132,542,880	\$ 4,723,639,680
Fulltime Jobs Created	8977	13492	19780
Support Multiplier@1.10	9875	14841	21758
Total Jobs Created	18852	28333	41538
TIF \$ Capitalized	\$ 100,405,425	\$ 258,256,203	\$ 318,539,261
New Residents	4,860	9,340	14,201

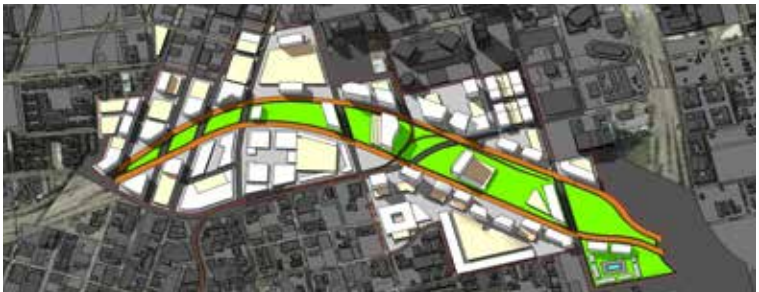


Freeway Barrier

Dallas CBD cut off-rom Deep Ellum by I-435 Freeway

Three Alternative Scenarios

The CfMD Advanced Design Studio analyzed three alternative layouts to continue thru traffic and provide local access. All involve demolition of existing I-345 freeway, ROW re-use, vacant parcel acquisitions, and high density MXD.



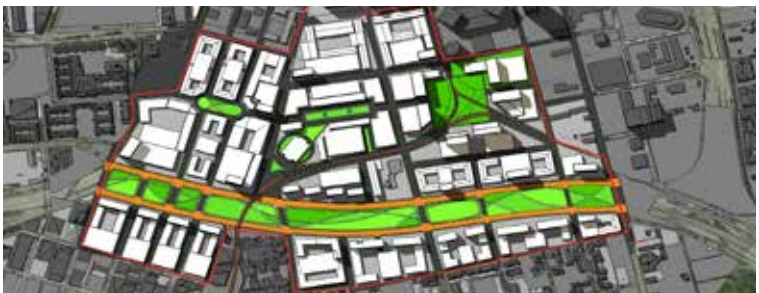
Boulevard Scenario

Least expensive Scenario utilizes Boulevards on either side of the existing freeway, with subsequent demolition and Park replacement. Excess right-of-way reclaimed for high density MXD with the acquisition of vacant or underutilized sites.



Center Park Scenario

Mid-range cost Scenario features Roundabout connections, a reconfigured Cesar Chavez Boulevard with a new Boulevard to the East. Significant parcels acquired for high density MXD development will offset Infrastructure costs.



Park-Covered Tunnel

Most expensive Scenario offers By-Pass with Park-covered Tunnel as focus; significant underutilized parcels acquired for high density Live/Work, Family Courtyard Residential, SkyRide transit loop, and DART-focused Citi Center Square.



# Park-Covered Tunnel Scenario

## Thru Traffic By-Pass



### A New Urban District

Park-Covered Tunnel enables

- I-345 Traffic By-Pass
- Higher density on Exess Parcels to monetize cost of the Deck Park.
- Provides loop for SkyRide people mover
- Expands Dallas Center Core
- Variety of Residential and Workplace choices
- Transit-Oriented CitiCenter, Media Forum and Urban Square

### Urban Retail Village

Urban Retail Village features Micro Lofts atop Street-oriented Lifestyle Retail and Cafes. Located between High Density Residential and Transit- oriented Citi Square.

The Urban Retail Village offers a landscaped Boulevard lined with Specialty Retail supported by four corner Anchors, a Mercado for fresh foods, a Cooking School with Video facilities, and Catering Hall.

### Urban Entertainment Center

Reconnecting with Deep Ellum and its eclectic collection of bars and restaurants, a new Urban Entertainment Center will offer a live Music Venue with Video broadcast, Interactive Sports Bars, Art Cinemas, Nightclubs, and a Boutique Hotel.

Re-Branding Dallas as an innovative entertainment center, large-scale Media Boards with interactive features mark the entrance to Deep Ellum from the downtown core.



Kharrol Amissah-Aidoo

**Scenario of high density Office and Residential, with Community Retail and custom designed Streetscape to build a new Urban District.**

**New Parks and Citi Square create “Address Value” for new Family Residential and Workplace options. New District offers efficient Transit connections and a walkable expansion of the Dallas urban Core.**



Jenna Gates



Ruben Resendiz



Pamela Ward

### Family High Density + Courtyard Residential

Located on ten sites directly facing the landscaped Park deck, Family-oriented Residential ranges from high-rise 2-3 bedroom units to low-rise stacked Townhomes, offering a variety of Residential choice. Landscaped courtyards feature recreational and leisure amenities, significant pre-school Childcare facilities, and adjacency to the Park provides Open space for Families.



Johnny Limones



Wang Yan

### K – 5 Magnet School

Located on the Park deck with lightweight structure, the merit-based K – 5 Magnet School is a key feature for the Family Courtyard Residential and surrounding neighborhoods.

Open space and the concentration of Urban Families is a natural combination for this innovative educational offering.



### Park Themed Landscapes

Park features special Theme zones such as Earth ,Air, Fire and Water. Landscapes express these basic elements, as the above sketch illustrates the Water theme.

The park serves as “Value Address” and a proven urban amenity for high density Residential.

### SkyRide People Mover

Elevated SkyRide monorail with automated tandem vehicles operates with short headways on a loop through the Park and Citi Center, connectig the Office core, Arts District, Convention Center and in the near future, the Houston/DFW Fast Train Terminal.



Lizardo Meza



Johnny Limones

### Citi Center and Urban Square

At the crossing of two DART lines and the SkyRide loop, the CitiCenter Squire, lined with Cafés and Retail is the focus for a new Workplace expansion of the Dallas Office Core. High-rise Office and Boutique Hotel enjoy the Citi Square address premium and transit options.

The signature high-rise Office Buildings offer large floor plates with ground-floor Retail and a Boutique Hotel. These frame the intersection of two DART lines and a special Media Forum to create a large European-style Square. The elevated SkyRide people mover loops the CitiSquare, connecting Transit to Dallas' existing Office Core, and Civic/ Cultural institutions.

CitiSquare will be one of the largest public Open Spaces in Dallas. Animated by Transit choices, the high density envelope created by the Office and Hotel, and Urban Square with sidewalk Cafés.

### Interactive Media Forum

Citi Center features a semi-enclosed Interactive Media Forum. Large scale Digital Displays show information, world news, local events, online opinion poll, and interactive Artline with access from Plaza kiosks and mobile devices.

The Media Forum could become a venue for performances, political events, and displays of new products and technology. Media Forum will be a major attraction, representing an urbane counterpoint to the Arts District and Tunnel Park.

### Scenario Summary

Chart on left shows total Scenario Development of \$4.7 Billion generating \$318.5 Million of Tax Increment to pay for Infrastructure.

TUNNEL BY-PASS SCENARIO	
Total Dev Area SF (Off / Res / Retail etc)	18,833,082
Total Cost ( @avg \$245/ SF)	\$ 4,529,999,680
Parking Garages Cost (19,400 spaces)	\$ 203,700,000
Grand Total Project Dev Costs	\$ 4,723,639,680
Capitalized TIF from Projects	\$ 318,539,261
Residents	14,201
Jobs FTE (Incl Vendor Multiplier)	41,538

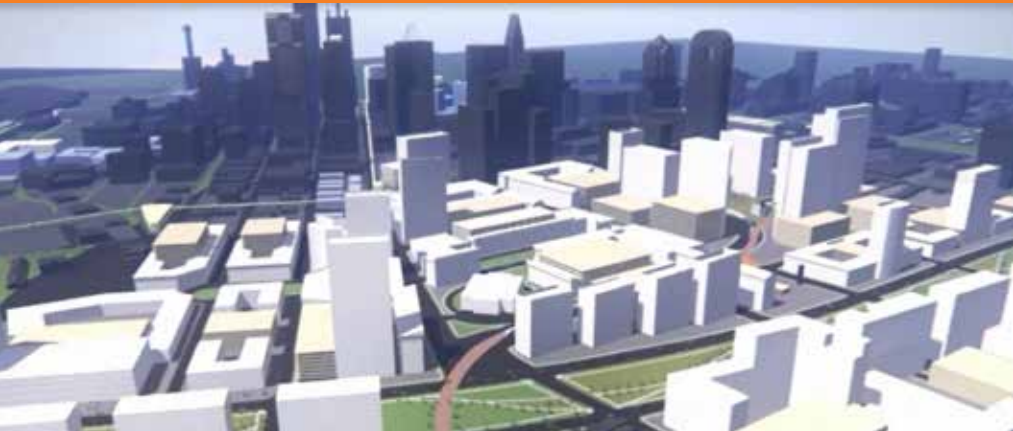


I-345 Tunnel By-Pass  
Scenario Benefits

**Economic Development War Chest**  
City Tax NPV (over 60 yrs) to \$1.3 Billion  
TIF pays Infrastructure to \$318.5M  
Cumulative City Tax (60 yrs) to \$7.3 Billion.

**Expands Workplace and Regional Impact**  
High value Workplace and increased Residential choices Re-branded Urban experience captures DFW fair share.

**Live/Work/Learn District**  
Produces 41,500 Employees and Vendor Jobs Walkable Neighborhoods with Parks, Retail and Cafes Residential MXD creates 14,200 new Residents as a Voter Block.



Public Infrastructure Costs

All Scenarios carry \$318 Million Infrastructure burden for new Roadways and Parks. We assume no significant TXDOT contribution as Scenarios eliminate a State-owned freeway. Hence, Infrastructure Costs must cover Demo, ROW Parcel purchases, Streetscapes, Roadways and funding of a new "Master DevCorp" for long term implementation over several Political / Economic cycles.

Tax Increment Finance funds Infrastructure, particularly for Park-Covered Tunnel, which is the only Scenario that permits thru-traffic, featuring a Park Cover as "Address Value" for high density Residential and creates the largest TIF. ROW and Parcels purchased by the "Master DevCorp" are later sold to developers at increased prices based on the created environment. Each Scenario passed Feasibility tests using market rate Capitalization and Discount rates, and IRR targets.

Infrastructure Sunk Costs	Area	Stkhldrs	Soft Costs	DevCorp	Hard	Hard Cost	Sub Totals
	sf	Apprvls	6% AEP	at 1% Hard	Cst/sf	\$	\$
DevCorp Pting /ROW Acquis		175000		1000000			1175000
Parcel Acquis Legal/Brokers				4000000			4000000
Ongoing DevCorpCost 15 ys		175000		15000000			15175000
I-435 ROW Demo	2700000		162000	540000	20	54000000	57402020
New Major Streets	1002859		1203430.8	10028.59	30	30085770	32302118
Exist Sts Realign/Repair	544970		435976	217988	20	10899400	12098354
Open Space/Plazas/Parks	1236328	175000	2596288.8	865430	35	43271480	48144561
Streetscape	1220000		1464000	366000	30	36600000	39650030
Temp Signalization	820000		492000	164000	20	16400000	17876020
Perm Signal/Striping	820000		328000	164000	20	16400000	17712020
Utility Relocations	1200000		600000	300000	25	30000000	32100025
New Utility Master Lines	1200000		1080000	360000	30	36000000	38640030
Infrastructure Costs		525,000	8,361,696	22,987,446		219,656,650	316,275,179



Tunnel By-Pass - 145 Acres			
Infrastructure Base Costs			316,275,179
Tunnel Excavation			47,416,108
Tunnel Cover + Landscape			95,000,000
ROW + Parcel Acquis	6,321,600sf	\$55/sf	410,904,000
SkyRide Extension			40,000,000
Total Public Costs			909,595,287
DevCorp Parcel Sales		\$95/sf	(600,552,000)
Proj TIF Contribution			(318,539,261)
Offset to Tot Dev Cost			(919,091,261)
Net Reserve (Contingency)			9,495,974

Infrastructure Pay-Back

Chart above shows Infrastructure Costs recovered by new TIF, and Parcel sales from the Public/ Private DevCorp.

Infrastructure includes funding the DevCorp as Master Developer for public improvements, developer selection, and design review, all at no new cost to the public with a Net Reserve Contingency.



Trinity Park  
Tollway and Trinity Lake  
and linear park Poposed



Trinity Gateway

Vacant sites at Woodall Rogers and I-35E adjacent Dallas CBD could host a new Live/Work mixed use District with unique access to the Trinity River.



Trinity Gardens/Dallas Live: Slurry Wall Reclaims Land

Slurry Wall at Levee top reinforced with 3-level garage, supports development with direct views on Trinity Lake and open space. Slurry Wall reinforces earth Levee, stiffened by garages which enable high density development generating highest Tax Increment allocated to Infrastructure.

Aerial views show Trinity Gardens south side MXD Residential with pierced Luxury Tower facing the Trinity, and north side with Entertainment District including Hotel/Performance Venue fronting the Trinity and an X-Sports Center and twin MicroFlat prototype apartment buildings.

**TIF GENERATED**--30% new Taxes produced Capitalized at 5.5% yields \$68.5 Million to fund Infrastructure; 60% New Taxes to City.



**Slurry Wall Section**  
Shows reinforcing Garage with Residential Tower Hotel/Performance Venue + X-Sports

**Site Area**  
4,663,952 SF



Trinity Gateway

Scenarios include a 6 lane tollway inside the Levee with flyovers to Woodall



Levee Protection

The Trinity River floods regularly, sometimes within feet of the 30' earthen Levee which protects Dallas CBD.



Trinity Tech: As-Of Right with Levee Setback

Trinity Tech allows As-of-Right construction by respecting 150 foot setback from Levee top, creating landside open spaces for landscape trail and play areas. Family-oriented Residential MXD with extensive Street Retail south of Woodall Rogers also features Geotech Tower and Hotel fronting I-35E.

A new Learning District on the north site has STEM High School, College-Level Media Academy, and a prototype Digital Museum and interactive Science Plaza for public science-oriented events with pedestrian access to the landscaped Continental Bridge overlooking the Trinity

**TIF GENERATED**--30% of new Taxes produced Capitalized at 5.5% yields \$40.1 Million for Infrastructure; 60% New City Taxes.



**As-Of Right Section**  
150 ft Setback creates Trail serving GeoTech Tower + Hotel + Residential + Science Institutions

**Site Area**  
3,716,485 SF

Critical Success Factors

- Fund Public/Private Dev/Corp to manage multi-year program
- Create I-35E visibility and Trinity River Access as Live/Work/Play Zone
- Maximize TIF to fund Infrastructure from City Taxes that would otherwise never occur





Creating Tomorrow's Jobs Today



Rendering by Santos Catalán

Trinity Tech Project Summary

Chart shows \$327 Million Trinity Tech new District for 1,000 office workers; 2,000 Residents; 117,000 sf of advanced Learning/Cultural institutions; and \$40.1 million TIF Financing.

Trinity Tech Live/Work/Learn District

TRINITY TECH	Parcel	Bldg GBA		DevCost	Land	Prkng
Projects	Area SF	SF	Units	\$M	\$M	Spcs
Geotech /Office	129,000	280,000		128.5	16.4	800
Boutique Hotel	144,200	115,000	228	53	8	228
Townhomes	80,000	62,500	25	8	2.2	38
Retail/Mercado	60,000	40,000		6.5	1.7	160
Market Resid.	550,000	1,498,000	1,260	55	60	1,890
STEMHigh Schl	55,000	116,200		36	4	269
Media Academy	48,000	49,000		25.6	6	112
Digital Museum	13,500	29,000		14.5	1.5	182
Tot Projects	1,079,700	2,189,700	1,285	\$ 327.1	99.8	3679
Prkg Garages		1,526,785		\$ 38.5		
Dev Area/Cost		3,716,485		\$ 365.6		

Pro Forma by Adan Ramos

Trinity Tech is a Live/Work/LearnDistrict oriented to the skills and technology of tomorrow's Workforce. South portion features: Geo Tech Office, Hotel, Family Residential, K-6 Magnet and Daycare Playspace in the Levee setback, Retail and Cafe seating on streets.

North side has special Learning Institutions: STEM High School, College-level Media Academy, and Digital Arts Museum. Shared garage supports the three institutions and weekend activities at Science Plaza hosting STEM Robotic games; kiosks beta-testing Media Academy student work and Digital Museum Media Board--- branding Dallas CBD as oriented to Tomorrow's Work.



Site Plan by Santos Catalán



Rendering by Francisco Ibarra

Destination Entertainment + Extreme Sports Center

Southern section has Twin Office Towers facing I-35 and Residential MXD Boulevard terminated by high-profile Luxury Residential with views of Skyline and Trinity. Iconic tower has a dramatic Archway flanking pool decks and Restaurants.

North portion has highway visibility and direct access from Trinity Tollway. Entertainment District has Hotel with rooftop Infinity Pool/Bar and a new major live music venue "Dallas Live".

Trinity Gardens/Dallas Live Summary

4.4 Million sf worth \$716 Million has 1,600 Office workers; 2,140 units with over 3,200 Residents; 285 Hotel rooms and over 300K sf of Retail; generated \$68.5 million of TIF.



Site Plan by Alex Quintanilla

Gdns/DLive				Dev	Land	Prkng
Projects	Parcel SF	GBA SF	Units	Cost\$M	\$M	Spcs
Office 1+2	200,000	360,000		50	20	540
Office 2	100,000	180,000		50	10	540
Market Res	640,000	892,000	720	55	10	294
Luxury Res	395,000	640,000	570	260	30	1,002
Microflats	150,000	500,000	850	81	18	425
X-Sports	206,000	206,637		81	11	720
Hotel	100,000	190,000	285rms	139	33	290
Perf Venue	100,000	10,000				250
	1,891,000	2,978,637	2,140	\$ 716	\$ 132	4,061
Garages		1,685,315		\$ 46.5		
Tot Dev	107 acres	4,663,952		\$ 763		

Pro Forma by Adan Ramos



**GEOTECH INSTITUTE** Santos Catalan  
Energy industry think-tank hosts scholars and symposia. Oil & Gas firms and Startup Incubator occupy Office Tower.



**BOUTIQUE HOTEL** Michael McIntosh  
Highly visible from I-35, hosts Geotech events and visitors. Swim deck and rooftop SkyBar offer Skyline views.



**RESIDENTIAL** Sidney Carrasco  
MXD and Stacked Townhomes face landscaped Boulevard lined Specialty Retail and Cafes at Intersection Plazas.



**LUXURY RESIDENTIAL** Alex Quintanilla  
Iconic Archway, flanking Levee-top Restaurants and strong views of Dallas Skyline/Trinity River.



**THEME HOTEL** Heather Harris  
Theme Hotel + Dallas Live Performance Venue are sited atop shared Garage and enjoy superb Trinity River overlook.



**DALLAS LIVE** Heather Harris  
Dallas Live Venue hosts frequent performances, concerts and can serve as additional Convention venue.



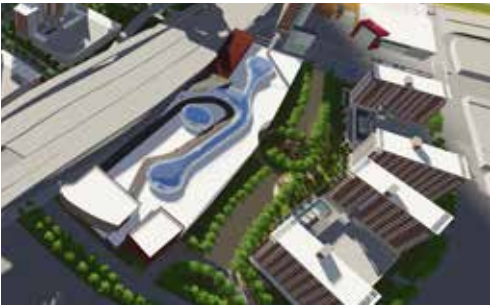
**STEM** Nick Oliver  
Merit-Based High School faces Science Plaza with parametric pre-cast facade and green roof with solar farm.



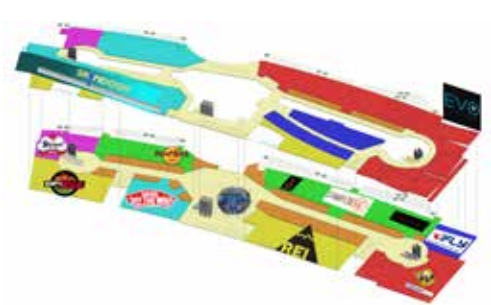
**MEDIA ACADEMY** Afia Afrin  
College-level training in applied Media Arts/Gaming and has Plaza Display to showcase Student work.



**DIGITAL MUSEUM** Cristina Herbert  
Addition to Arts District, new concept of Digital Museum features Media Board on Science Plaza+Trinity/Continental Access.



**ENTERTAINMENT + MICROFLATS**  
Aerial shows highway visibility for Cinema, X-Sports Center sharing promenade with Cafes and twin Micro-Flats.



**X-SPORTS CENTER** Alaa Alzaitoun  
Unique Regional Destination X-Sports offers Two Shopping/Event Floors + Rooftop Attractions.



**X-SPORTS CENTER** Angel Aguila  
X-Sports Center features Snowboard Ramp, Rooftop F1 Racing, Sports Retail, EVO Cinema, Theme Cafes / Bars.



# Trinity Gateway Scenario Comparisons

## Trinity Gardens/Dallas Live

Comparisons show use of Slurry Wall re-captures valuable land and building area, creating the highest Tax Increment. Additional sites facing Dallas' Union Station, could deploy the Slurry Wall concept, paid for by TIF created by density.



Site Plan by Alex Quintanilla



## Trinity Gardens/Dallas Live

Recaptured land and Levee top Residential + Hotel enjoy Skyline and Trinity views; Slurry Wall and shared Garage costs from TIF due to higher densities. See funding sources: See chart for TIF + Parcel Sales by Public/Private Dev Corp.

SOURCES		USES	TIF	DevCorp	Tot Proj
TIF Capitalized	\$M	for TIF + DevCorp	Alloc	Contrib	Alloc \$M
Twin Offices	23	Streets + Parks	8.0	15.0	23.0
Hotel + Venue	14.6	Toll Road Flyover	3.0	3.0	6.0
Resid + Retail	10	Slurry Wall	36.1	20.0	56.1
Luxury Resid	6.5	Levee Plazas	0.0	4.0	4.0
MicroFlats	6.6	Public Access	0.0	5.5	5.5
X-Sports Cntr	7	Shared Garage	20.6	10.5	31.1
Total TIF	\$ 67.7	Public Art/Media	0.0	2.0	2.0
DevCorp		BID OrgStartup	0.0	0.8	0.8
Land Cost	\$ 70	Public Art/Media	0.0	2.0	2.0
Land Value	\$ 152		\$ 68	\$ 62.8	\$ 130.5
Working Profit	\$ 81.5				
Project Contrib	\$ 62.8	(DevCorp Reserve)	\$18.7		

Pro Formas by Adan Ramos

## Trinity Tech

Corps of Engineers approval may favor As-of Right Scenario with Trail amenities in the Setback. Levee height requires 4 Floors to clear Trinity views , and 5-6 Floors to view Trinity Lake. Both Scenarios maximize TIF to fund Shared Garages/Plazas.



Site Plan by Santos Catalán



## Trinity Tech

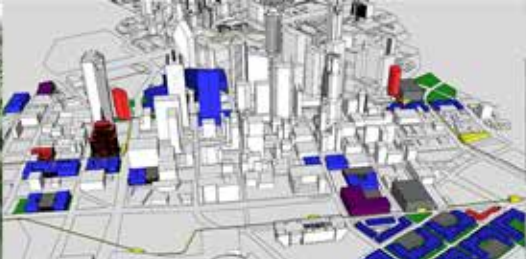
Brands site as new Live/Work/Learn District. Residential and Retail provide TIF funding for K-6 + Shared Garages +Interactive Science Plaza to showcase Learning. See below TIF& Parcel sale funding of Institutions + Interactive Science Plaza.

SOURCES		USES	TIF	DevCorp	Tot Proj
TIF Capitalized	\$M	for TIF + DevCorp	Alloc	Contrib	Alloc \$M
Geotech	11.5	Streets + Parks	16.0	3.0	19.0
Boutique Hotel	3.8	STEM+Acad Equip	6.0	6.0	12.0
Resid + Retail	16.2	Museum+ContBrdg	1.0	3.0	4.0
STEM	3.3	Interactive Plaza	2.0	2.0	4.0
Media Academy	2.6	Levee Trail	2.0	1.5	3.5
Digital Museum	2.7	Shared Garage	8.6	0.0	8.6
Total TIF	\$ 40.1	Public Art/Media	0.0	1.0	1.0
Dev Corp (SPE)		BID OrgStartup	0.0	0.8	0.8
Land Cost	\$ 70.0	K-6 + Childcare	4.5	2.5	7.0
Land Value	\$ 98.4		\$ 40.1	\$ 19.8	\$ 59.9
Working Profit	\$ 28.4				
DevCorp Contrib	\$ 16.8	(DevCorp Reserve)	\$8.6		

# Urban Design & Open Space as Value Creators



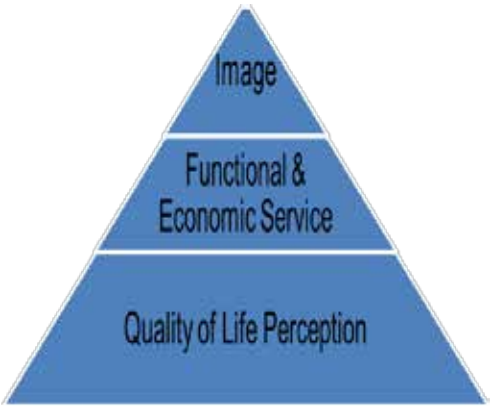
FWISD SciCity MXD Campus



Dallas Regen + Core Expansion



FW Jones St. Corridor Live/Work



## New Directions for Urban Design

The city is the ultimate expression of human achievement throughout history, have providing the locus for spiritual, civic and economic institutions. Commerce, culture, religion, and recreation are combined in in the intensity of city life.

With accelerated technology and globalization, the city is subject to new and intense pressures which shape infrastructure, supporting systems, and architectural expression. The crucible of new ideas, new governmental entities, and new commerce, enrich the city experience.

Evolving lifestyle preferences and cultural achievement add tension, continuously challenging the normal. Dynamically-managed and imaginatively designed Cities are powerful enablers of workforce, habitation, economic power, and fiscal health.

## City Excellence

City Image is the peak of a pyramid including Architectural Quality and Open space; a broad mid- level supports other attributes including Functional Services; and the broadest lowest level rests on the City's contribution to perceived Quality of Life. Cities who build a pyramid of Architectural Excellence that rests on a broad base of sustainable Quality of Life can best differentiate themselves and maintain competitive advantage.

## Conflicting Agendas

Agendas for developing the city of the future, when compared to the already built environment of the historic city, often have conflicts with design ideas that will not fit comfortably within the fabric of the old. Yet the memories contained within many structures and shapes of the historic city must be preserved.



Amy Jarvis & Maddie Heckler

## Ft Worth Texas & Pacific Warehouse

CfMD Studio Scenarios show tri-partite division of vacant 500K sf historic T&P Warehouse for Re-Use as Boutique Hotel, Children's Museum and Loft Residential.

It is said that "A city without fine older buildings is like a person without a Memory". Therefore the historic city must constantly look to save historical elements. These saved architectural fragments stand at as a valuable emotional trace of those who lived before.

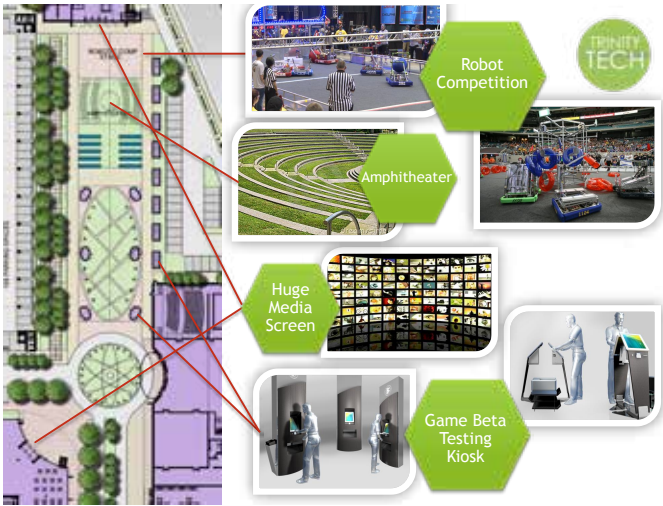
But new cities of the future must also respond to agenda to reshape forms and uses to dynamic new ways of doing business, providing new concept housing and workplace environments, bringing clarity to the human experience.

Thankfully, most cities and states have learned to incentivize the preservation of historic structures, recognizing the footprints, materials, and systems are obsolete and cannot easily be adapted to new uses. It is widely perceived that cities that have a blend of historic and new, that create streetscape environments that respect the context of older structures in relation to new, are admired by visitors, and cherished by their inhabitants. The political stress, the administrative burden of insuring this balance, maintaining the loose consensus between commercial development and historic preservation remain a continuing challenge, but an effort worth its cost.



Open Space as Value Creator

**Science Plaza**  
Three Science-oriented educational institutions share parking structure and a Science Plaza ,funded by TIF proceeds, featuring Amphitheater interactive Solar Kiosks, Robotic competitions and super-scale Media displays.



Examples: Open Space = Value

**Post Office Square Boston**  
Open Space creates “Address Value” as with the formation of a Public/Private Partnership of surrounding property owners for removal of an existing city garage, relocated underground below the same parcel, topped with an Urban Pocket Park, café, and fountain, increasing Image and Property Values.



**Vision Planning**  
Visioning compares existing to an imagined future. Vision Plans have a powerful impact on public impressions by contrasting Before/After Images with very seductive computer renderings and fly-bys,—defining a future more elaborately complex than the existing environment. The Vision Plan is a projection, allowing freedom of interpretation. This power of “suspended belief”, a recognized principle in cinema, where the observer fills perceptual gaps when necessary, also present in Vision Plans.

Urban Design generates fascination in the possible future, without challenging concepts with logistics or costs to achieve results. Thus it is crucial to show Economic Feasibility with market-derived Financing standards , and multiple political/economic cycles.



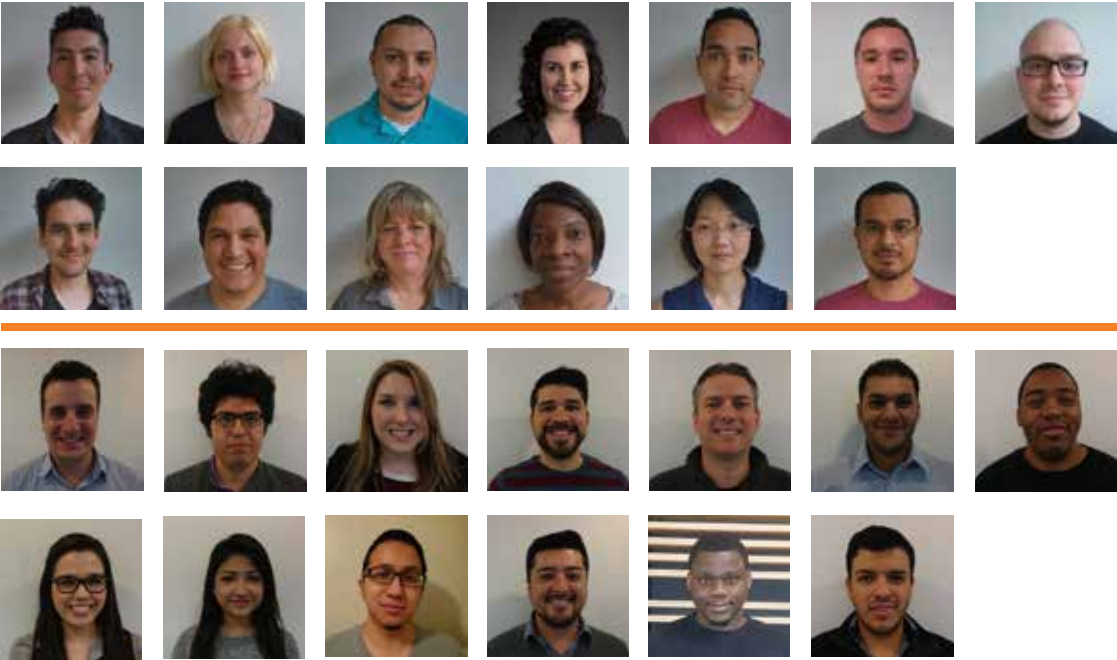
**Urban Design Triad**  
CfMD's Studio evaluates Design Concepts, Niche Market Support and Financial Feasibility ,

This Design Triad balances architecture with user demographics and financial feasibility to achieve investor returns.



**The Yards, Washington DC**  
On vacant 42 acre site, Three way Public/Private Partnership with GSA , and DC Government with developer Forest City, allowed PILOT payments to be allocated to public roads , streetscape, site utilities. and a 5.5 acre Anacostia Riverfront Parl. This Open Space transformed the pioneering location into a \$2 Billion Project for 2800 Residential units, 1.4 M sf Professional Offices , and 400K sf of Retail/Restaurants to create DC's first waterfront community.

UTA Grad Students with work Featured in this Journal



**Fall 2014**  
Lizardo Meza, Anastasiya Fender, Ruben Resendiz, Jena Gates, Johnny Limones, Chris Chrysler, Ed Green, Jason Fedors, Arturo Chavez, Pamela Ward, Kharrol Amisah-Aidoo, Wang Yan, Andres Reyna

**Spring 2015**  
Alex Quintanilla, Santos Catalan, Heather Harris, Adan Ramos, Nick Oliver, Alaa Alzaitoun, Duane Ford, Cristina Herbert, Afia Afrin, Sidney Carrasco, Francisco Ibarra, Michael McIntosh, Angel Aguilar

CfMD Research Publications



**RJ #1 2012**  
Roundtables --- Growth strategies for Density Survey with AIA/TREC/ULI Studio: Interim Uses on Vacant Sites Ercerpts --- Garland Strategies Plan

**RJ #2 2013**  
Roundtables --- Urban Core Future Density Survey with AIA/TREC/ULI Studio: FW CBD; NYC Hi-Rise TOD Strategic Industry Clusters

**RJ #3 2014**  
Roundtables: Development Trends; Fusion New Decision Platform; Tax increment Research; Studio: Dallas Regen: San Antonio Infill



**CfMD Articles**  
**Columns Magazine:** FW + Dallas Urban Infill Strategies; Assoc Dir Kevin Sloan on Open Space  
**D Magazine:** profile of CfMD Dir Buckley "The Pied Piper of Density"  
**PREA Journal** --- CfMD Students presen TIF Research at Affinity Group Co-Chaired by Dir Buckley  
**UTA Magazine** --- CfMD quotes on future Urban Live/Work Futuristic City.





2015 Vol 4

# UTA CENTER FOR METROPOLITAN DENSITY CfMD RESEARCH JOURNAL

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