

Memorandum



CITY OF DALLAS

DATE March 24, 2017

Honorable Members of the Quality of Life & Environment Committee: Sandy Greyson
TO (Chair), Tiffinni A. Young (Vice Chair), Rickey D. Callahan, Mark Clayton, Philip T.
Kingston, B. Adam McGough

SUBJECT **Resilient Dallas Update**

On Monday, March 27, 2017, the Committee will be briefed on the 100 Resilient Cities Program, progress made to-date, and the launch of Phase II of the process. The briefing materials are attached for your review.

Please feel free to contact me if you have any questions or would like additional information.

A handwritten signature in black ink that reads "Theresa O'Donnell".

Theresa O'Donnell
Chief Resilience Officer
214.670.3309

c: T.C. Broadnax, City Manager
Larry Casto, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Kimberly Bizzor Tolbert, Chief of Staff to the City Manager
Majed A. Al-Ghafry, Assistant City Manager

Mark McDaniel, Assistant City Manager
Eric D. Campbell, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
~~Joey Zapata, Assistant City Manager~~
M. Elizabeth Reich, Chief Financial Officer
Alan E. Sims, Interim Chief of Community Services
Directors and Assistant Directors

Resilient Dallas Update

Quality of Life & Environment

March 27, 2017

Theresa O'Donnell
Chief Resilience Officer
City of Dallas

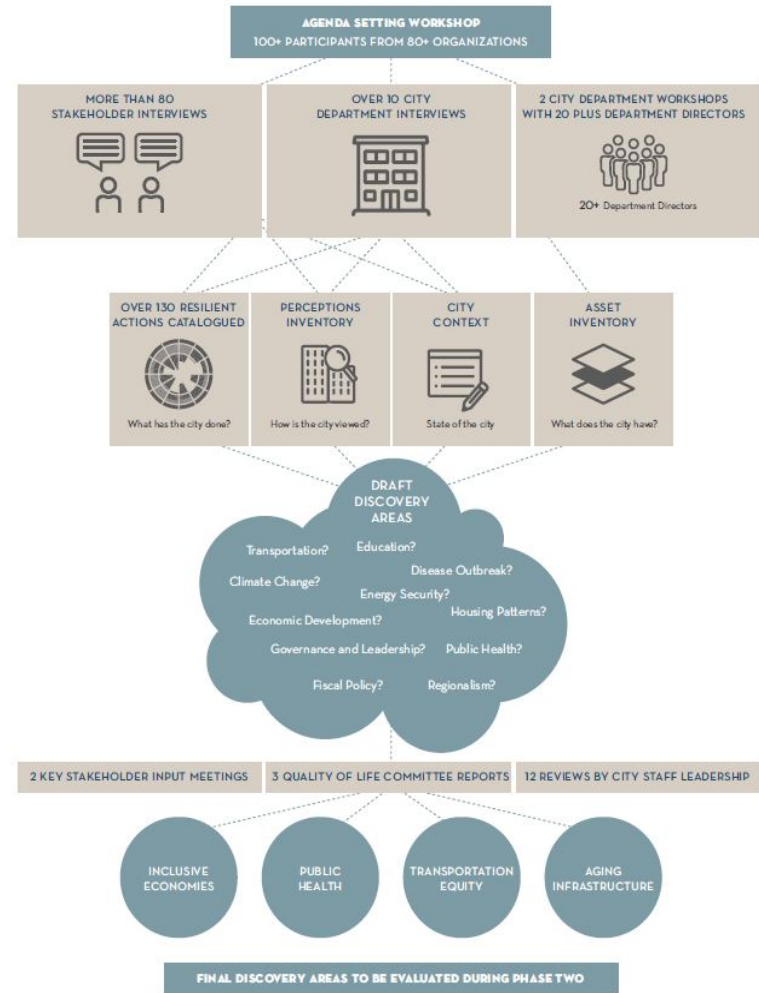
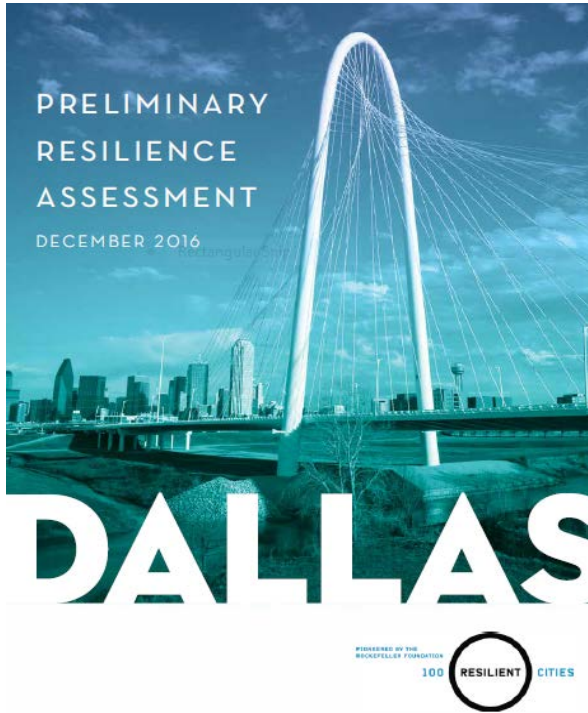


Presentation Overview

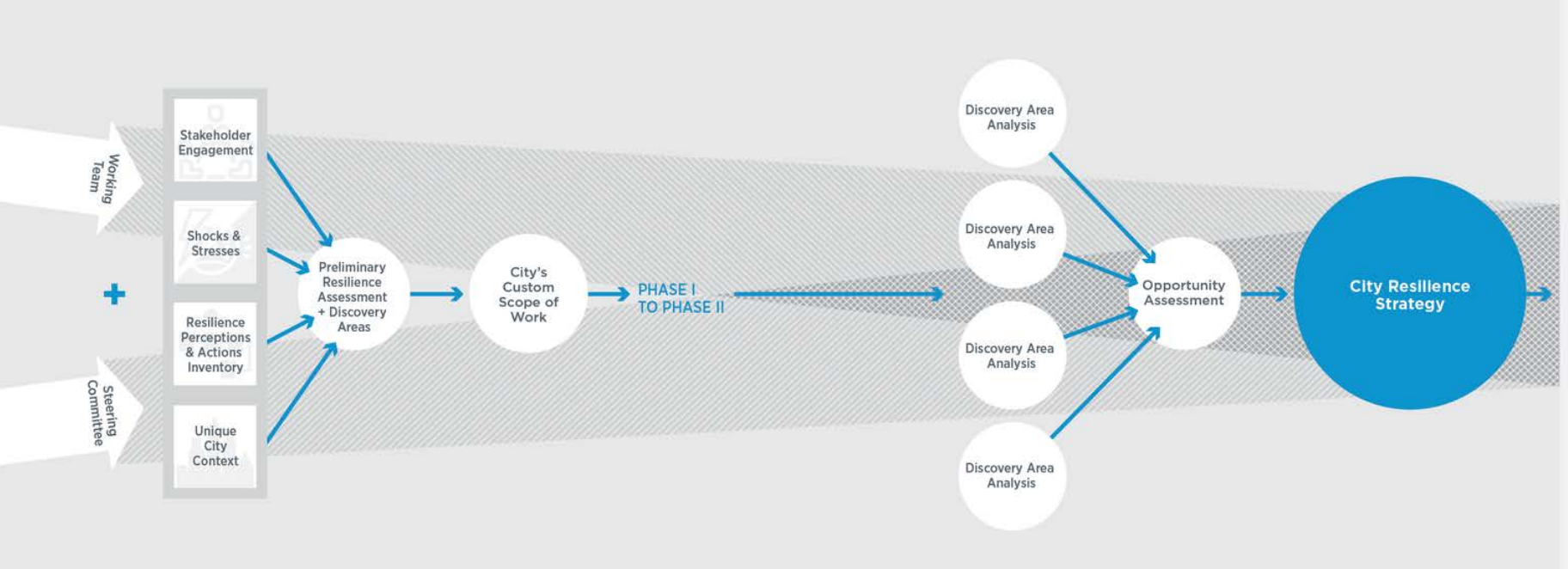
- Brief Quality of Life Committee on the Resilience work completed in Phase I
- Review the Discovery Area research and analysis that will be conducted during Phase II
- Discuss next steps and opportunities for stakeholder engagement

Background

Phase I Complete



Resilience Strategy Process



Dallas Identified 4 Discovery Areas

- Harnessing the power of the robust North Central Texas economy to be more inclusive and create economic resilience for Dallas residents
- Exploring opportunities to improve Public Health outcomes and decrease health disparity
- Assessing the infrastructure in Dallas neighborhoods and understanding the impacts of climate change on the natural and built environment
- Preparing for a 21st century Urban Mobility by leveraging the region's transportation investment to expand mobility options, build mobility infrastructure, and improve transportation equity

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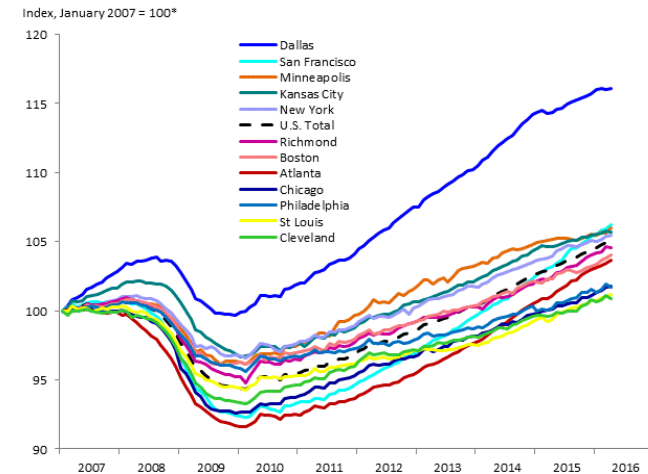


Discovery Area- Inclusive Economy

Understand how the robust North Central Texas economy could expand to become more inclusive and provide market-driven opportunities to residents who have been excluded from the traditional labor force.



Payroll Employment by Federal Reserve District



*Monthly, seasonally adjusted.

Last data entry April 2016.

SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Inclusive Economy

Diagnostic Questions, Partners, and Tasks

Who are the people in Dallas who are impoverished, disconnected from the traditional labor force, struggling financially, and most vulnerable to financial/economic risk?

What is the current state of service provision to vulnerable populations and what are the gaps of service provision?

Partners - Manchester Bidwell, Fourth Economy, AECOM, Staff

Stakeholders – Workforce Solutions Greater Dallas, DCCCD, United Way, DISD

Deliverables -

- Community profile

- Needs assessment

- Statistical analysis of economically vulnerable populations

- Analysis that describes the major factors/socioeconomic characteristics associated with lack of access to mainstream labor market

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Inclusive Economy

Diagnostic Questions, Partners, and Tasks

What are the barriers and impediments that prevent some Dallas residents from finding and maintaining living wage employment?

What resources are available to the City and its partners to improve service provision to vulnerable populations?

Deliverables -

Analysis of barriers and impediments for vulnerable populations in Dallas

Workshop with impacted community members to discuss barriers, solutions, and how resources can be leveraged to provide coordinated services and referrals

Discovery Area- Healthy Communities

How can Dallas make a meaningful contribution to improving public health outcomes for Dallas' vulnerable residents?



Healthy Communities

Diagnostic Questions, Partners, and Tasks

What are the economic, physical, and social determinants of health that contribute to traumatic environmental stress in Dallas' neighborhoods of concentrated poverty, and what are the barriers and impediments that make it difficult for residents to receive adequate health care services?

Partners - Children's Health, Dallas Health and Wellness Alliance, George Washington University, Perkins + Will, HHS, and Staff

Stakeholders - DFW Hospital Council, Dallas County Medical Society, Dallas County Health, Parkland Hospital, UT Southwestern, NCTTRAC, American Heart Association, American Red Cross
Deliverables -

Convene Stakeholder workshop to identify barriers and impediments

Building Community Resilience Report issued by George Washington University

Healthy Communities

Diagnostic Questions, Partners, and Tasks

What role can Dallas Fire and Rescue play to improve public health outcomes and increase health literacy in communities with a high risk of health care disparity?

Partners - Children's Health, Dallas Health and Wellness Alliance, George Washington University, Perkins + Will, HHS, and Staff

Stakeholders - DFW Hospital Council, Dallas County Medical Society, Dallas County Health, Parkland Hospital, UT Southwestern, NCTTRAC, American Heart Association, American Red Cross, Children's Health

Deliverables -

Research best practice models and determine which programs, operational strategies, and public education/curriculum models are the most appropriate and effective for Dallas

Identify top goals and priorities to make Dallas Fire Rescue a leading edge community paramedicine program



Discovery Area- Community Infrastructure

Assessing the adequacy of infrastructure in Dallas neighborhoods and explore the impacts of climate change on the natural and built environment, with a focus on risks to vulnerable populations.



Community Infrastructure

Diagnostic Questions, Partners, and Tasks

What is the 21st century standard for basic infrastructure in Dallas neighborhoods?

Partners - ESRI, Trust for Public Lands, AECOM, Staff

Stakeholders – Utility Providers, AIR, Habitat for Humanity, Dallas Innovation Alliance, Staff

Deliverables -

- Neighborhood infrastructure baseline definition

- Measurable metrics to define standards

- Data Web Portal

- Neighborhood Infrastructure Heatmap

Community Infrastructure

Diagnostic Questions, Partners, and Tasks

Web-based portal for GIS mapping analysis

Build upon the infrastructure heatmap by layering on demographic/economic data, social determinants of health, transportation infrastructure and other datasets

<p>Vulnerable populations Demographics Socio-economic data Jobs and income</p>	<p>Infrastructure in disinvested neighborhoods Street conditions Sub-standard water, sewer, sidewalks, street lights Flood plain, drainage and storm sewers</p>
<p>Health/risk factors Availability of health services Food deserts – healthy food and pharmacies Incidence of chronic disease Parks and open space EMS runs</p>	<p>Transportation/Mobility Public transit – routes, frequency, timing</p> <p>Asset mapping of services Libraries, rec centers, churches, non-profit and philanthropic services</p>

Community Infrastructure

Diagnostic Questions, Partners, and Tasks

How can investing in infrastructure systems targeted to Dallas' low and moderate income communities unlock development potential and new employment opportunities for vulnerable populations?

How can city and other governmental resources be prioritized and strategically deployed to serve as catalysts for private investment and development?

Partners - AECOM, Staff

Stakeholders – Utility Providers, AIR, Habitat for Humanity, Dallas Innovation Alliance, Staff

Deliverables -

Benefit/Cost Analysis comparing current economic trends in South and West Dallas with existing levels of investment versus a full funding scenario which bring these neighborhoods up to a 21st Century Standard

Summary report demonstrating the potential employment, land value, and tax revenue implication of investing in a modern, sustainable, and resilient infrastructure system in South and West Dallas

Recommended economic development incentive programs, regulatory policies and models for public-private partnerships

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Community Infrastructure

Diagnostic Questions, Partners, and Tasks

How do extreme weather events affect Dallas' natural resources and critical infrastructure?

Partners – AIR, AECOM, Staff

Stakeholders – Trust for Public Land, Texas Trees, AIA, Utility Providers, Transportation Agencies, Texas Nature Conservancy, Trinity Trust Foundation, Earth Day Texas, Other NGOs and Community Groups

Deliverables -

Catastrophe risk modeling results and associated city fiscal impacts

Discovery Area- Transportation Equity

How can the City better leverage transportation investment in order to strengthen access to economic opportunities and improve the quality of life in Dallas' low and moderate income neighborhoods?



Transportation Equity

Diagnostic Questions, Partners, and Tasks

What is the current state of transportation equity; and what are the policy impediments, funding constraints, and organizational structures and challenges that impact transportation equity for Dallas residents?

What priority projects and policies could Dallas' transit providers implement to provide transit dependent populations with improved access to employment, education, healthcare, and basic retail services while also balancing the need to attract new riders?

Partners - University of Texas at Arlington, AECOM, Staff

Stakeholders – DART, NCTCOG, City Staff, Users of the Bus and Paratransit System

Deliverables -

Comprehensive policy analysis and quantitative study of transportation metrics including; transportation affordability, job accessibility by mode, transit coverage, transit quality, and accessibility

Prioritized list of recommendations to improve bus coverage and accessibility to vulnerable populations and strategies for solving last mile transportation issues

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Next Steps

- Submit scope of work to 100 RC Governance Committee
- Finalize and convene steering committee and stakeholder groups for each Discovery Area
- Begin the diagnostic work, research and analysis for each Discovery Area that will inform and build our Strategy and recommendations



Resilient Dallas Update

Quality of Life & Environment

March 27, 2017

Theresa O'Donnell
Chief Resilience Officer
City of Dallas



PRELIMINARY
RESILIENCE
ASSESSMENT

DECEMBER 2016

DALLAS

PIONEERED BY THE
ROCKEFELLER FOUNDATION

100 RESILIENT CITIES



BIG DALLAS THANK YOU!

THANK YOU TO 100 RESILIENT CITIES, PIONEERED BY THE ROCKEFELLER FOUNDATION

Dallas is honored to be selected as one of only 100 cities around the world to participate in the prestigious 100 Resilient Cities (100RC) program, pioneered by the Rockefeller Foundation. This innovative program is dedicated to helping cities become resilient to the environmental, social, and economic challenges that are a growing part of the 21st century. Dallas has become a member in a global network of the world's most distinguished cities to share information, explore cutting edge ideas, and lead resilient change for 21st century cities.

ACCRA ADDIS ABABA AMMAN ATHENS ATLANTA BANGALORE BANGKOK BARCELONA BELFAST BELGRADE BERKELEY BOSTON BOULDER BRISTOL BUENOS AIRES BYBLOS CALGARY CALI CAN THO CAPE TOWN CHENNAI CHICAGO CHRISTCHURCH COLIMA DA NANG DAKAR **DALLAS** DEYANG DURBAN EL PASO ENUGU GLASGOW GREATER MANCHESTER GREATER MIAMI AND THE BEACHES GUADALAJARA METROPOLITAN AREA HAIYAN HONOLULU HUANGSHI JAIPUR JAKARTA JUAREZ KIGALI KYOTO LAGOS LISBON LONDON LOS ANGELES LOUISVILLE LUXOR MANDALAY MEDELLÍN MELAKA MELBOURNE MEXICO CITY MILAN MINNEAPOLIS MONTEVIDEO MONTREAL NAIROBI NASHVILLE NEW ORLEANS NEW YORK CITY NORFOLK OAKLAND PANAMA CITY PARIS PAYNESVILLE PITTSBURGH PORTO ALEGRE PUNE QUITO RAMALLAH RIO DE JANEIRO ROME ROTTERDAM SALVADOR SAN FRANCISCO SAN JUAN SANTA FE SANTIAGO DE LOS CABALLEROS SANTIAGO, METROPOLITAN REGION SEATTLE SEMARANG SEOUL SINGAPORE ST. LOUIS SURAT SYDNEY TBILISI TEL AVIV THE HAGUE THESSALONIKI TORONTO TOYAMA TULSA VANCOUVER VEJLE WASHINGTON, DC WELLINGTON CITY YIWU



For 50 years, people around the world saw our city through the lens of the John F. Kennedy assassination. Through that tragedy, modern day Dallas was born, a great city. Those of us who love this city always knew there was so much more to Dallas than that awful day in 1963.

In recent decades, Dallas has grown to become one of the great American cities, a place where an increasingly diverse mix of people come to live, work, and prosper. Despite all our progress, terror struck Dallas on July 7, 2016. The soul of our city was pierced, as a deeply disturbed gunman killed four Dallas Police officers and a transit officer. It was the worst attack on law enforcement in our city's history and the worst in the country since 9/11. In the days that followed, we launched an intensive investigation

and searched a massive crime scene. We watched a heartfelt memorial grow at DPD Headquarters as hundreds of police officers traveled from across the country to pay their respects and show support for our officers. We were embraced by the entire nation.

In moments of self-doubt, I have asked myself, "why Dallas?" Upon reflection, I discovered the truth. Dallas is strong and resilient. Over the past decade, we have set a high standard for community policing by building strong bonds with our residents and community leaders.

Nevertheless, this is a complex and emotionally charged time in America's history, and we cannot shy away from the fact that we as a city, as a state and as a nation are divided and struggling with racial issues that threaten our peace of mind, our physical security, and our prosperity. This is the eminent challenge of our day.

Dallas faces difficult work ahead. Can we as a community come to truly and deeply understand the pain and suffering that racial discrimination has created through history? Can we talk honestly about the disparity that impoverishes cities today and work to build a society that genuinely gives all residents the opportunity for happy, healthy, and prosperous lives? I believe we can.

This is Dallas' chance to lead and build a new model of community, for our city and for our country. To do this, we must start by building unity. Saint Paul said, "In the end, three things remain: faith, hope and love." We will need all three as we move forward. Faith in each other, hope and belief that tomorrow holds a brighter future for all our residents, and love for one another, knowing that our differences could make us stronger.

Mike Rawlings
Dallas Mayor

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EXECUTIVE SUMMARY

BIG THINGS HAPPEN HERE

BUILDING A RESILIENT FUTURE

Travel the world and everywhere people know Texas. Texans are enthusiastically confident, optimistic, and admittedly unrealistic in their exuberant conviction to Dallas embodies this Texas ethos and was built through visionary leadership, bold ambition, and big ideas. Our maxim is, **"BIG THINGS HAPPEN HERE!"**

A look at Dallas' history reveals that big visions, big dreams, and a big heart has propelled Dallas to become the 9th largest city in America, and one of the most prosperous regions in the world.

What has energized this success? Simply the Dallas ethos –

BOLD ACTION IN PURSUIT OF A BIG IDEA

Over her 150 year history, Dallas has never shied from a challenge. To prepare for our next 150 years, Dallas embraces the concept of resilience.

What is urban resilience?

The capacity of individuals, institutions, businesses, and systems to anticipate, adapt, and recover from the social, economic, and physical challenges that are a growing part of the 21st century.

SAID ANOTHER WAY, IT'S PURE DALLAS GRIT!



BIG D

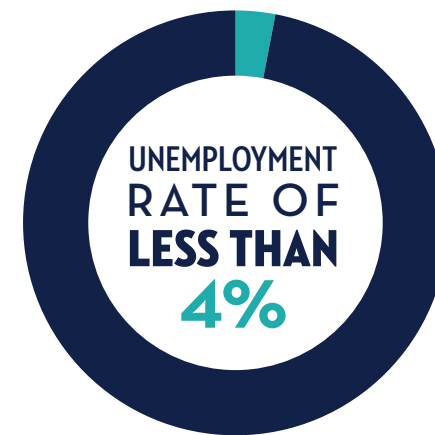
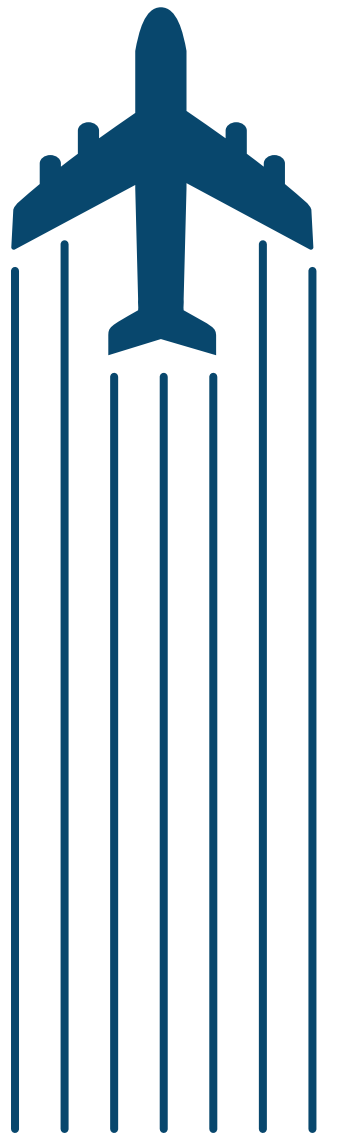
Dallas is the largest city and economic powerhouse that fuels the robust North Central Texas region. The heartbeat of this prosperity is Downtown Dallas. Downtown Dallas is the Tiffany address for finance, real estate, insurance, banking, and silk-stocking law firms housed in distinctive Class A office buildings of celebrated architectural design.

Downtown Dallas is the residential destination of choice for Millennials and new immigrants who are willing to work hard and gamble on an innovative business venture; or Boomers eager to enjoy an enriched quality of life in the center of art, culture, and fine dining. Downtown Dallas embodies the soul of the region with the largest contiguous arts district in the country, a renowned collection of prestigious buildings, and the heart of an expansive, regional multi-modal transportation system.

With all of these competitive advantages, Dallas' resilience should be unquestioned. However, stakeholder interviews, supported by research and analysis, reveal several worrying trends that could compromise Dallas' ability to lead in the future unless bold action is taken to change the trajectory.

DALLAS FACTS

DFW IS THE
3RD
BUSIEST
AIRPORT



232
DAYS OF
SUNSHINE

5TH
LARGEST
METRO
ECONOMY

21 FORTUNE 500
COMPANIES
41 FORTUNE 1000 COMPANIES

4TH LARGEST METRO AREA
IN U.S. BY POPULATION



LONGEST LIGHT RAIL SYSTEM IN THE U.S.


REGION OF OVER
7 MILLION RESIDENTS
EXPECTED TO GROW TO
10 MILLION BY 2040



HOME OF THE
DALLAS COWBOYS,
DALLAS MAVERICKS,
DALLAS STARS, AND
THE TEXAS RANGERS

Dallas has a long history of transformative ideas that underpin our resilient future

GO BIG OR GO HOME

1855
A group of European artists and musicians established a utopian community on the west bank of the Trinity River, known as La Reunion.

1881
Dallas Water Utilities founded.

1889
Electric street cars began operation.



1913
Although the smallest of 4 cities vying for the location of the Eleventh Federal Reserve District headquarters, a persuasive business case and clever strategy was developed by George Dealy (publisher of the Dallas Morning News) and other prominent business leaders that helped secure the decision to award Dallas the 11th District Federal Reserve Bank and establishing Dallas as a burgeoning center of banking and finance.

1930
Trinity River levees constructed to create a riverfront industrial district.

1943
University of Texas Southwestern Medical School was founded.



1957
Trammel Crow and John Stemmons opened the precursor to Dallas Market Center, the largest wholesale trade complex in the world.



1962
As a young employee of IBM, Ross Perot envisioned a new model of data processing services but his idea was dismissed by his bosses. In 1962, he founded EDS and within 22 short years, Perot sold a controlling interest to General Motors for \$2.4 billion dollars.

1963
Resigning in frustration after being passed over for a promotion (that went to a man she had trained), Mary Kay Ash founded Mary Kay Cosmetics along with her son Richard. This \$5,000 dollar investment has become the 6th largest direct sales company in the world with an estimated annual net sales of over \$2.9 billion dollars.



1969
Roger Staubach signs with the Dallas Cowboys and together with Coach Tom Landry they marshal an unprecedented period of success and popularity for the football team that became known as America's Team.



1973
Dallas and Fort Worth collaborate to build D-FW Airport. At almost 30 square miles, D-FW Airport is larger than Manhattan Island, is the 3rd busiest for freight, and 10th busiest for passenger travel.

1980
Comer Cottrell moves Pro-Line Corp to Dallas to become one of the most successful black-owned businesses in the United States. Mr. Cottrell sold Pro-Line in 2000 for \$80 million dollars.



Dallas becomes the 7th largest city in the US.



1999
Mark Cuban's Broadcast.com is acquired by Yahoo for \$5.7 billion dollars.

2014
CDC Confirms Ebola Virus in Dallas.

Drought Contingency Plan is adopted by the City.



1990
Telecom explodes as Dallas becomes known as the Silicon Prairie.

The Dallas Morning News
1885
First publication of the Dallas Morning News.



1928
Dallas purchases 167 acres for \$325,000 to develop Love Field as a municipal airport.



1936
Dallas was chosen as the site of the Texas Centennial Exposition. In the spirit of the City Beautiful movement the city invested \$25 million in creating Fair Park with fifty new buildings, plazas, esplanades, fountains, ponds, sculptures, and art works.



1951
Four Dallas businessmen, Cecil H. Green, J. Erik Jonsson, Eugene McDermott, and Patrick E. Haggerty founded Texas Instruments. Just 7 years later, Jack Kilby invented the integrated circuit for which he was awarded the Nobel Prize in Physics. This early success was followed by a number of revolutionary advancements in electronics and microcomputers. Today, Texas Instruments has become a global analog and digital semiconductor IC design and manufacturing company valued at \$59 billion.

1959
Dallas adopts a Long Range Water Supply Plan (This plan is continually updated in 1975, 1989, 2000, 2005, and 2014 as supply and need in the region change).

1963
John F. Kennedy was assassinated in Dallas.



1964
Dallas leads the world in the number of million-dollar oil companies.



Mariano Martinez invented the frozen Margarita.



1978
Dallas the first episode aired of the well-known television show that revolved around a wealthy Texas family that went on to become one of the longest running prime time dramas.



1983
Dallas Voters approve Dallas Area Rapid Transit (DART).

1995
Torrential rains and severe hailstone caused flash floods resulting in 16 deaths.

2006
Flood waters flood Baylor Hospital, over 60 businesses reported property damage, and Interstate 30 was shut down.

2015
New 2.8 million-square-foot Parkland Hospital campus opens.



1870
Sarah Horton Cockrell, Dallas' first millionaire, installs an iron suspension bridge over the Trinity river.

OUR CHALLENGES

BOLD ACTIONS IN PURSUIT OF BIG IDEAS

Notwithstanding the wealth, prosperity, and vigor that has successfully propelled Dallas and the North Central Texas region over the past half century, many Dallasites live on the edge of economic failure. Census numbers indicate that over 39% of Dallas residents are poor or struggling financially. Stakeholder interviews, workshop participants, and survey respondents agree that Dallas' biggest threat is not the devastation of a tornado, flood, or other natural disaster. Nor is it the tragedy of a horrific event such as the July 7th attack on the Dallas Police Department. Rather, it is the economic vulnerability of Dallas' poor who struggle to provide for themselves and their families. Through research, analysis, and consultation with experts and residents, we have selected four Discovery Areas that will be examined in the Resilient Strategy.

Big Heart for Opportunity – Economic Equity

The ubiquitous concern among Dallas leaders is the quality of education available to Dallas school children and our ability to prepare young people for college and the 21st century economy. As the income disparity gap widens in conjunction with inadequate educational attainment, corporate leaders ask whether Dallas will be capable of supplying a future workforce to nourish the insatiable appetite of the robust North Central Texas economy.

Today, many low-skill adults and disconnected youth lack the necessary training and skills to be successful in the traditional labor force. Dallas must build partnerships and support efforts to establish career pathways for these individuals so they can be positioned to take advantage of the growing demand for middle-skill jobs in expanding economic sectors like health-care and information technology. Through these partnerships, Dallas can harness the strength and momentum of the North Central Texas economy to create economic resilience for all Dallas residents.

Big Healing for a Strained Healthcare System – Health Communities

Healthcare is a \$52 billion dollar a year industry that provides almost 600,000 jobs throughout the region, yet not all residents have access to this wealth of care. Dallas has one of the highest rates of uninsured in the country, almost double the national average. For the first time in history, poor children growing up in high-risk neighborhoods have lifespans predicted to be shorter than their parents. Advancements in tele-medicine and virtual care offer big promise to improve public health outcomes for Dallas residents. Dallas must pioneer partnerships to ensure all our residents will lead healthy, resilient lives.

DALLAS HAS NEVER ALLOWED HER DESTINY TO BE CONSTRAINED BY CHALLENGES.

Big Home in Hometown Dallas – Community Infrastructure

Dallas is a city of neighborhoods. Neighborhoods are the fertile gardens of rich social life. They nurture human bonds and encourage us to care about our neighbors. They inspire friendships, foster

social cohesiveness, and strengthen civic engagement. Resilient neighborhoods lift up families and build strong community leaders. Neighborhoods in the southern reaches of Dallas have experienced decades of disinvestment and decline. Children cannot safely play outside, schools do not adequately prepare students for careers, and business cannot germinate and thrive. These neighborhoods no longer seed opportunity; they have failed their residents. As Dallas prepares for the next bond program, we must rebuild these pockets of despair to become neighborhoods of enduring value and re-instill pride in our hometown.

Big Change for a Transportation System that Moves – Urban Mobility

Dallas was designed for the automobile and transportation infrastructure is the backbone of our city. However, 21st century urban mobility will be constructed on mobility access, not lane miles. A superior transportation system will be one that provides convenient, affordable access to all aspects of urban living - employment, education, health care, shopping and services, and recreation and entertainment. Today, many of Dallas' poorest residents lack access to good jobs, good schools, healthy food, and basic services. Dallas should seize the opportunity of rapidly changing technology to improve transportation equity for all Dallas residents.



INTRODUCTION

THE 100 RESILIENT CITIES PROGRAM

Dallas was selected as one of only 100 cities around the world to participate in the prestigious 100 Resilient Cities (100RC) program, pioneered by the Rockefeller Foundation. This innovative program is dedicated to helping cities around the world become resilient to the environmental, social and economic challenges that are a growing part of the 21st century. Dallas has become a member in a global network of the world's most distinguished cities to share information and develop best practices for cutting edge 21st century cities.



Dallas has begun the initial work on what resilience means for our city today and in the future. The following section presents some of the research, data, and findings that guided the development of Dallas' four Discovery Areas - economy, healthcare, infrastructure, and mobility. The complete research reprint is provided in the supplement to this Preliminary Resilience Assessment.

Resilient cities demonstrate seven qualities that allow them to withstand, respond to, and adapt more quickly to shocks and stresses.

- 1 **Reflective:** using past experiences to inform future decisions
- 2 **Resourceful:** recognizing alternative ways to use resources
- 3 **Robust:** well-conceived, constructed, and managed systems
- 4 **Redundant:** additional capacity purposely created to accommodate disruption
- 5 **Flexible:** willingness and ability to adopt alternative strategies in response to changing circumstances
- 6 **Inclusive:** prioritize broad consultation to create a sense of shared ownership in decision making
- 7 **Integrated:** bring together a range of distinct systems and institutions

BIG SOLUTIONS FOR BIG CHALLENGES

THE DALLAS RESILIENCE PROCESS

OVERVIEW OF 100RC STRATEGY PROCESS

The 100 Resilient Cities program has provided a well-documented and field-tested strategy guidance manual to shepherd cities through the process of creating a robust resilience strategy. This guidance manual details step-by-step processes and timeframes, introduces and explains new analytic tools, and provides templates, case studies, and practical examples that are transferable to cities all across the globe. Dallas has methodically adhered to the processes and utilized the analytic tools outlined in the Strategy Guidance Manual.

This Preliminary Resilience Assessment presents the completion of Phase One of the Strategy Development Process and documents the data collection, analysis, review, and findings of this holistic scan of the city's current state of resilience. This Preliminary Resilience Assessment serves as a summary of the work undertaken during Phase One.

Through desktop research, stakeholder interviews and workshops, and consultation with subject matter experts, the Dallas Office of Resilience has:

- Identified, and catalogued significant past, present, and future actions that contribute towards the sound functioning of Dallas services
- Assessed the condition and sensitivity of Dallas' physical assets to multiple shocks and stresses
- Discussed and analyzed how future demographic and economic scenarios could change this outlook

THE CITY RESILIENCE FRAMEWORK AND THE RESILIENCE LENS

The City Resilience Framework (CRF) developed by the Rockefeller Foundation provides a framework and common vernacular to understand the array of interdependent dimensions of a city and the drivers that contribute to its resilience.

The CRF categorizes a city into its basic social, physical, and economic systems. These city building blocks are defined as the "essential dimensions" of urban resilience: Leadership and Strategy, Health and Well-being, Infrastructure and Environment, and Economy and Society. Each of these four essential dimensions are further broken down into subsets or "drivers." This organizing framework is used as a basis for inquiry, analysis, and review to assess and understand the strengths and gaps within a city.



Dallas Civic Leadership

Along with a wealth of economic, physical, and environmental resources, Dallas profits from an abundance of residents and businesses, professional and technical experts, philanthropic foundations and social service providers, as well as academic institutions, all of whom are committed to effectual civic involvement. The Dallas Resilience process relies heavily on extensive community participation and meaningful stakeholder engagement. Input was gathered through a variety of ways that acknowledge and respect the similarities as well as the notable differences inherent in Dallas' economically and socially diverse population.

This resilience process integrates the insight and wisdom gained through many forms of participation and uses that knowledge to understand trends and conditions identified by surveys, desktop research, and other analytic tools. It was also critical that "ground truth" obtained through interviews and listening sessions validate research findings and general assumptions. The comprehensive perspective gained through the resilience process is also used to identify gaps that would normally go unobserved by more traditional research methods. The extensive involvement by Dallasites served to strengthen knowledge-building for this process while also attaining genuine community support and trust building.

Leadership and Strategy

North Central Texas Council of Governments
 Communities Foundation of Texas
 Greater Dallas Planning Council
 American Planning Association
 American Institute of Architects
 North Texas Commission
 Dallas Youth Commission
 Dallas Innovation Alliance
 Dallas Citizens Council
 Dallas Women's Foundation
 Downtown Dallas Incorporated
 Mayor's Taskforce on Homelessness
 Mayor's Taskforce on Poverty

Economy and Society

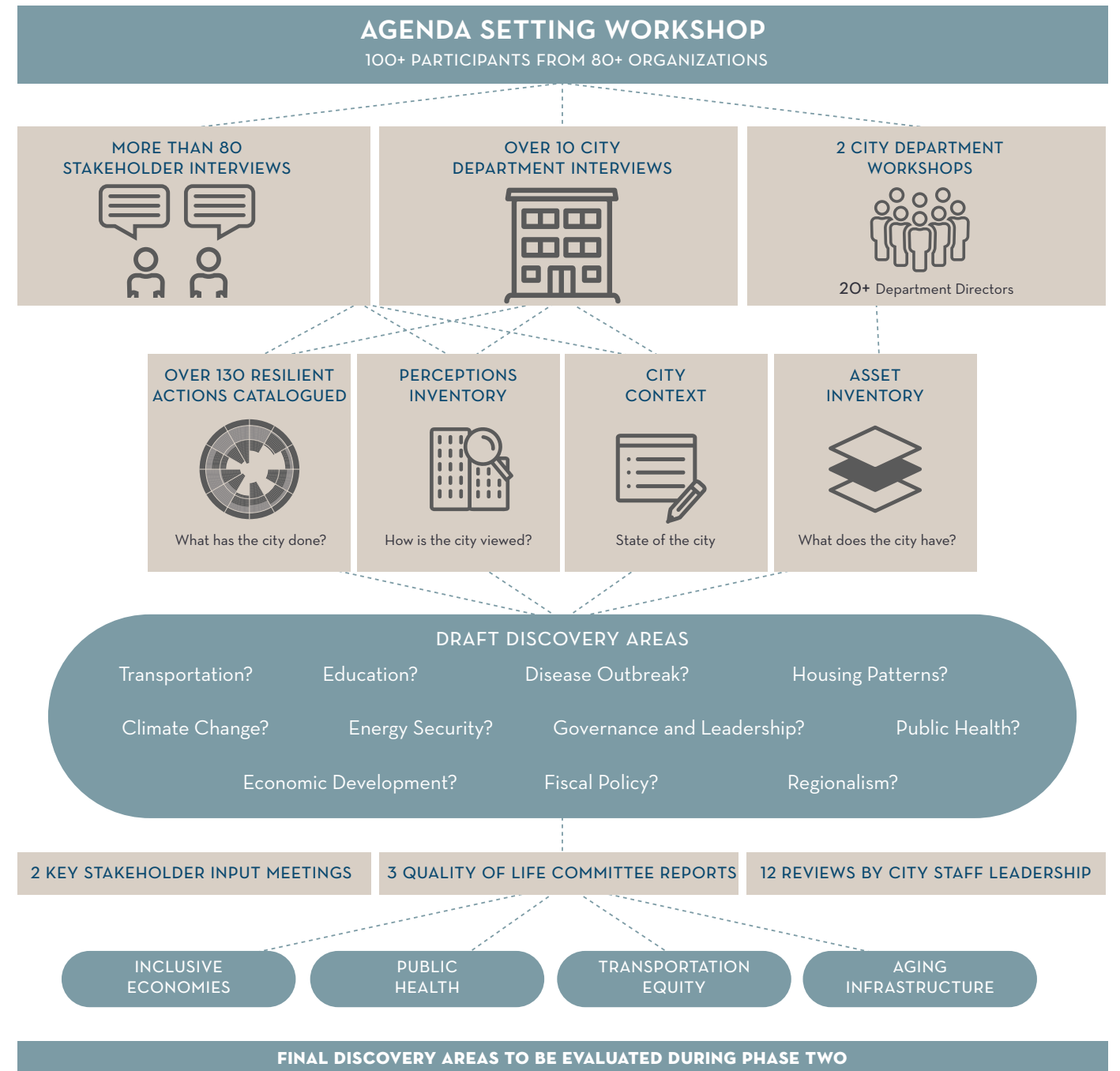
Dallas Federal Reserve Bank
 Greater Dallas Regional Chamber
 Oak Cliff Chamber
 Paul Quinn College
 Mayor's LGBT Task Force
 Revitalize South Dallas Coalition
 SMU Hunt Institute
 SMU New Cities Institute
 SMU Embrey Human Rights
 Society of American Military Engineers
 South Fair CDC
 Harvard Government Performance Lab
 Dallas County Community College
 University of North Texas
 University of Texas at Arlington
 University of Texas at Austin
 Toyota Mobility Foundation
 LH Holdings, Inc.

Health and Wellbeing

Habitat for Humanity
 Commit Dallas
 CitySquare
 PCCI
 Children's Health and Wellness Alliance
 Dallas County
 Dallas Faces Race
 Friendship West Baptist Church
 North Texas Food Bank
 Neighbor Up
 The Senior Source
 UT Southwestern Medical District
 Dallas Housing Authority
 North Texas Fair Housing

Infrastructure and Environment

Oncor Electric
 Atmos Energy
 AT&T
 Dallas Area Rapid Transit
 Regional Transportation Council
 Regional Emergency Managers
 Texas Nature Conservancy
 Earth Day Dallas
 Trust for Public Lands
 Oak Cliff Conservation League
 Texas Trees
 Trinity Trust Foundation
 Texas Department of Transportation
 U.S. Environmental Protection Agency
 U.S. Green Building Council Texas



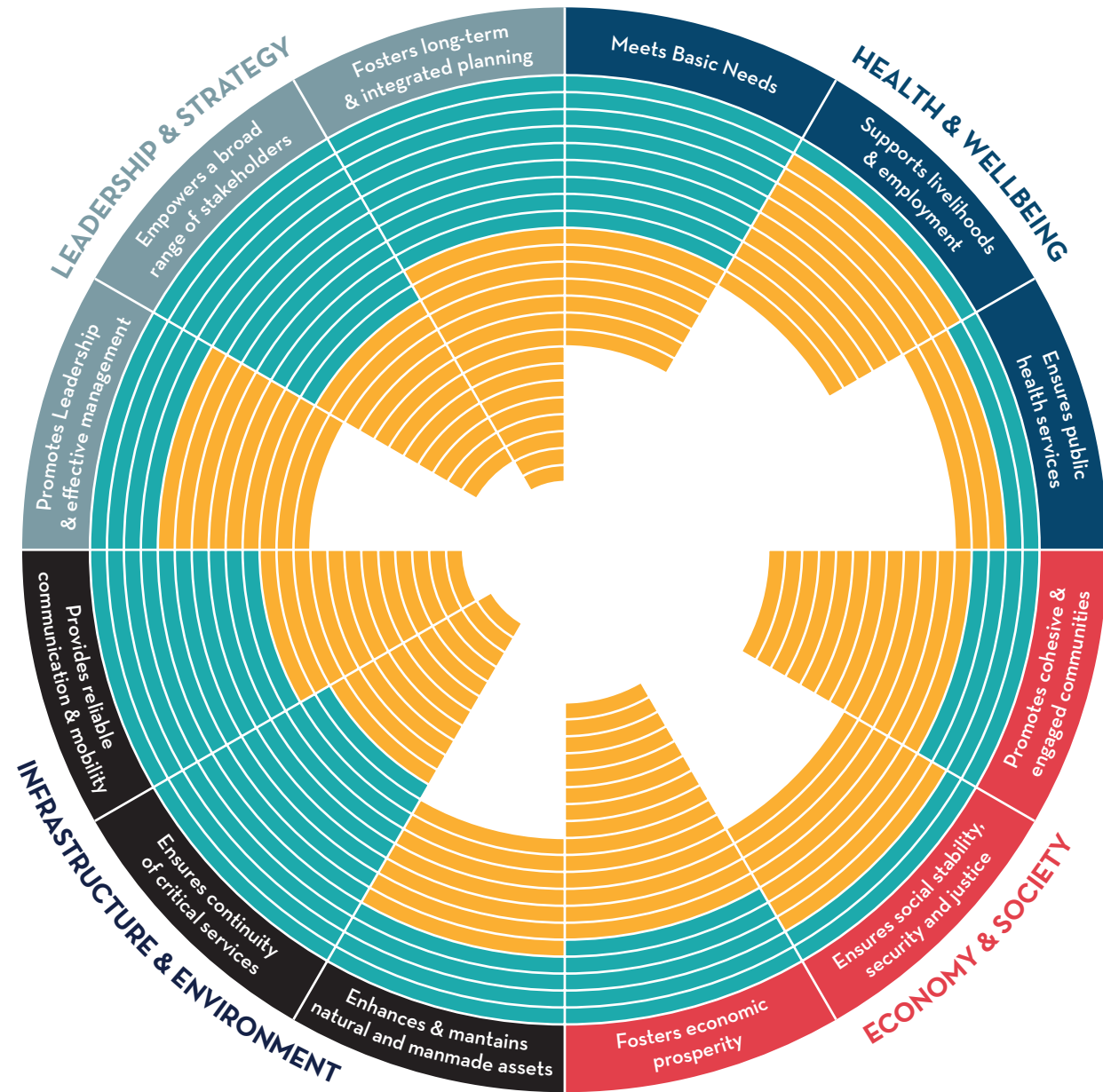
In October of 2015, the City of Dallas and 100RC hosted an Agenda-Setting Workshop for over 100 participants representing more than 80 organizations. These engaged stakeholders worked through several key exercises and dynamic discussions, that defined an early set of priorities and resilience issues setting the stage for the work to be completed in Phase I.

To further investigate and validate the results of the Agenda-Setting Workshop, staff undertook an intensive data collection effort combined with qualitative insight collected from stakeholder interviews with the public, non-profits, private enterprises, and government agencies. Data collected included a list of over 130 "resilient actions" already occurring within the city, an asset inventory, and broad background research on city government. Additionally, staff conducted a resilience perception exercise to identify the similarities and differences between citizen perception and city initiatives.

A deep examination of the data and insights revealed a series of trends that intersected multiple quadrants of the City Resilience Framework, helping formulate the early iterations of the Dallas Discovery Areas. Those early iterations were taken back to the public for vetting and further refinement in several stakeholder workshops. The synthesizing all of the data points and stakeholder input resulted in four distinct Discovery Areas for Dallas: Inclusive Economies, Public Health, Transportation Equity, and Aging Infrastructure. The Office of Resilience briefed the City's executive staff and Quality of Life committee multiple times at all key decision points throughout this year-long process.

SIGNIFICANT ACTIONS

This graphic represents a comprehensive list of actions and a baseline of city activity across the 12 drivers of resilience.



HEALTH & WELLBEING

HUD Voluntary Compliance Agreement
Analysis of Impediments
Housing Policies

Integrated Pipeline
Long Range Water Supply Plan
Region C Water Plan

ERCOT
North Texas Food Bank
Workforce Solutions

JP Morgan/Chase Skills Gap Study
Children's ABC Plan
Community Health Needs Assessment

LEADERSHIP & STRATEGY

CIS Strategic Plan
Neighborhood Plus
Imagine 2020

Downtown 360
Dallas Innovation Allegiance
Fair Park Task Force

ECONOMY & SOCIETY

Arts District Strategic Plan
City Cultural Plan
Dallas Ideas

DOORS
General Fund Budget
Enterprise Budgets

TIF Plan
Bold Program (CIP)
Grow South

INFRASTRUCTURE & ENVIRONMENT

D-2 Alignment
High Speed Rail
Complete Streets
City Map
DART 2040 Plan

Mobility Plan
DART DOA
Bike Plan
Smart Cities Initiative

Hazard Mitigation Plan
Dallas County Emergency Operations Plan
Localized Emergency Action Plan
Dallas County Emergency Operations Plan

Localized Emergency Action Plan
Continuity of Critical Services Plan
Stormwater Mill Peak
Sustainability Plan

■ Primary Objective ■ Secondary Objective

CHRONIC STRESS AND ACUTE SHOCK

A chronic stress weakens the fabric of a city and tears at its soul. The pernicious conditions of concentrated poverty and spreading blight, stubborn pockets of high unemployment and low educational attainment, or a lack of basic infrastructure and services coalesce to trap people in broken neighborhoods with little hope for economic advancement.

Acute shocks are sudden events or episodes that threaten a city, such as civil unrest and violence, extreme weather events, or disease outbreaks that require strong emergency planning, response, coordination and recovery efforts.

CHRONIC STRESSES of Dallas:

- Social equity/poverty
- Access to quality education
- Drought/climate change

ACUTE SHOCKS of Dallas:

- Extreme weather related events (flooding, heatwave, ice-storm)
- Infrastructure failure
- Civil unrest and violence



DISCOVERY AREAS

TO ADVANCE A RESILIENT DALLAS

Building from our strengths to solve big challenges

Notwithstanding the wealth, prosperity, and vigor that has successfully propelled Dallas and the North Central Texas region over the past half century, Dallas like all cities faces daunting challenges. Stakeholder interviews, workshop participants, and survey respondents agree that Dallas' biggest threat is not the devastation of a tornado, flood or other natural disaster. Nor is it the tragedy of a horrific event such as the ruthless attack on the Dallas Police Department on July 7th. Rather, it is the myriad and complex inter-related issues that confront Dallas' poor and vulnerable residents, who, despite their best efforts, struggle to provide for their families.

Dallas resilience is weakened and threatened by the sheer magnitude of our societal and economic equity challenges. These are not sustainable trends. The Mayor's Taskforce on Homelessness reports that Dallas now has 10,000 homeless individuals. Census numbers indicate that poverty has increased by 42 percent over the past 15 years, and now more than 39 percent of Dallas households struggle financially on the edge of economic collapse. The problems these residents grapple are numerous and intertwined: lack of skills or language barriers limit employment opportunities to only low paying jobs; lack of health insurance often leads to poor health and medical emergencies; lack of reliable transportation limits access to jobs, education, and even healthy food; and the substandard and dangerous conditions in Dallas' poorest neighborhoods limits residents' opportunity to lift themselves out of poverty.

While reversing the trajectory of the poverty trend line may appear to be an insurmountable challenge, Dallas has a long history of pursuing iconoclastic ideas and daring approaches to achieve results that elude the less ambitious. After all, the Dallas ethos is **Bold Action in Pursuit of a Big Idea.**

DALLAS HAS THE GRIT TO BUILD AN EQUITABLE 21ST CENTURY DALLAS.

Through research, analysis, and consultation with experts and residents, the Office of Resilience will examine four Discovery Areas to understand how these interdependent systems can be improved to ease the burden these residents bear and provide opportunities to build resilience for their families. ResilientDallas must now set a vision for building an equitable 21st century city.

1 DISCOVERY AREA – Economic Equity

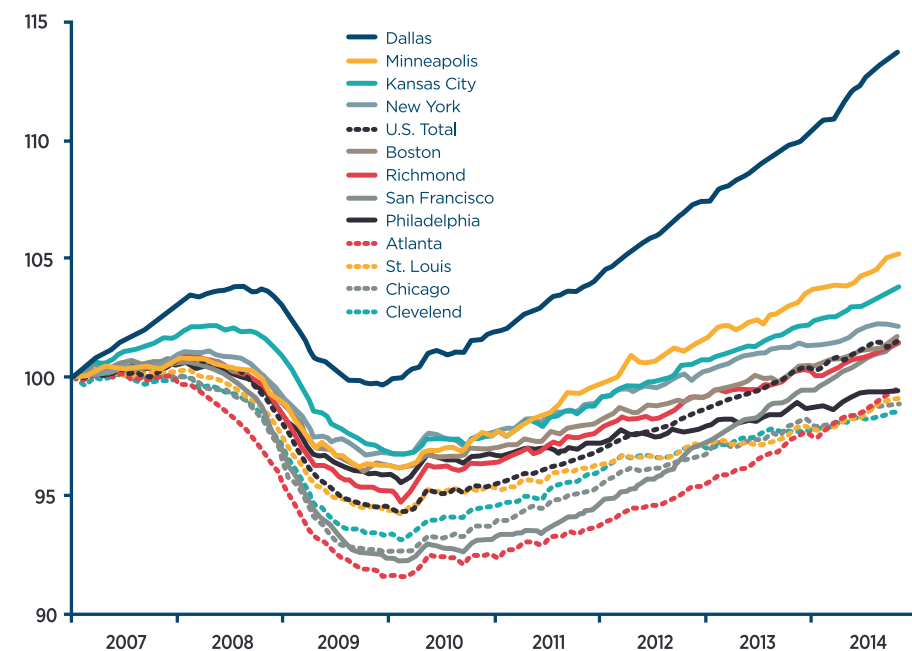
BACKGROUND

The U.S. economy has only recently begun to create new jobs to replace those lost in the Great Recession, and economists have branded this economic period: the "Jobless Recovery." Cities, industries, and individuals in many parts of the country continue to struggle to find an economic foothold and to regain the financial security they once had. Economic studies examine the plight of a dwindling middle class and warn that growing economic disparity portends an uncertain future for people and their families. Leading thinkers now ask whether the American Dream is still within reach for the average American family.

Within this economic reality, North Central Texas appears to be one of the few places bucking the current trend. Enjoying an economic boom rivaled by few others, Texas' job creation is the envy of the nation.

PAYROLL EMPLOYMENT BY FEDERAL RESERVE DISTRICT

Index, January 2007 = 100*



* Monthly, seasonally adjusted.
Last data entry October 2014.
Sources: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Almost 9 million jobs were lost during the Great Recession and while this devastating decline in employment was shared across the country, the Dallas Federal Reserve District did not suffer the severity of loss that other parts of the country endured. As indicated by the chart above, the Dallas District led the turnaround beginning in late 2009, and continues to outpace the nation.

DALLAS IS THE LARGEST CITY IN NORTH CENTRAL TEXAS AND THE VIBRANT, URBAN CORE OF THIS THRIVING, PROSPEROUS REGION.

The North Central Texas population grew an eye-popping 35 percent between 2000 and 2014 and is projected to reach 10 million by 2040, overtaking Chicago as the nation's 3rd largest metro area. Per capita income soared by 46% during this same time period. DFW is consistently ranked as one of the top destinations for corporate relocations because of its central location, expansive transportation infrastructure, and low tax, business-friendly regulatory climate. Other trends driving this super-charged growth are the diversity and strength of the economy and the relatively low cost of living, especially in housing prices.

Amidst all of this prosperity, Dallas' economic resilience and stability should be unquestioned. **However, stakeholder interviews reveal a prevalent concern that several disturbing trends and indicators may compromise Dallas' ability to continue to lead the region in the future.**

The most predominant theme that surfaced during these interviews was the ubiquitous concern for the quality of education available to Dallas school children, and the ability of Dallas Independent School District (DISD) to prepare students for college and the 21st century economy. Inextricably linked to DISD's performance is the flight of Dallas' middle income families, of all races and ethnicities, to the surrounding suburbs.

This steady migration is fueled by young professionals, as they flock to Dallas to experience a hip, urban life-style; only to flee the urban core once they are married in search of quality education for their children and less expensive starter homes for their growing families. This unremitting exodus of middle income families has drained Dallas ISD of economic diversity, and left the school district with an urban poverty rate of 86%, higher than that of New York, Chicago, Los Angeles, Detroit, or Newark.

As educated, middle income families propagate these upstart communities, they pull the economic

center of the region further and further north as employers follow in pursuit of this abundant supply of talented, highly-skilled employees. The lack of affordable housing in these new communities, promoted by exclusionary zoning and land use practices, excludes the region's poor and low-skilled workforce, further disconnecting these residents from economic opportunity for themselves and quality schools for their children.

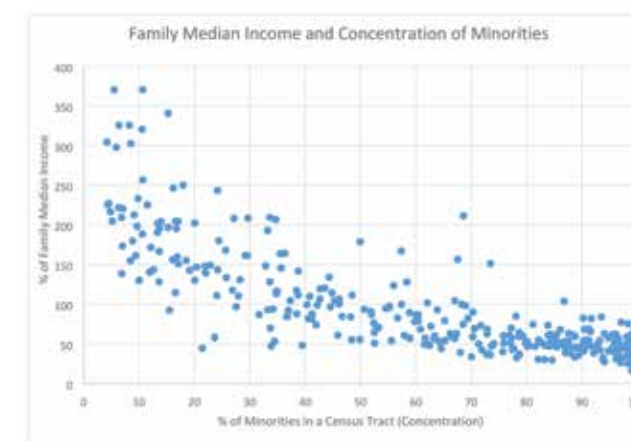
Dallas has over 1 million jobs and boasts an impressive jobs to household ratio of 2.5:1. This means that Dallas has well over 1 job for every person, of workforce age, who resides here. Yet today, Dallas doesn't have enough qualified residents to fill these jobs, and businesses must therefore import 625,000 people every day from the surrounding suburban cities to satisfy the employment demand. Dallas is dependent on the suburbs to supply labor talent for nearly two-thirds of its highest paying jobs. Many of Dallas' own residents lack the essential skills and education necessary for employment, and employers are finding it increasingly difficult to hire employees ready to work on day one. When interviewed, prominent voices convey their lack of faith in Dallas ISD's ability to slow or reverse this worrisome trend and lament the City's ability to produce a viable 21st century labor force.

Inter-related stakeholder concerns focused on educational attainment and workforce development for low-income workers. In recent months, Dallas thought-leaders have engaged in several significant community conversations about growing income disparity, the need for appropriate social and financial safety nets, and the immense need for financial education and improved financial literacy. Attendant reports have analyzed the precarious economic position of the working class who live "one paycheck away" despite laboring one or more full-time jobs. Estimates report that more than 39 percent of Dallas households are asset poor. These discussions and studies underscore the

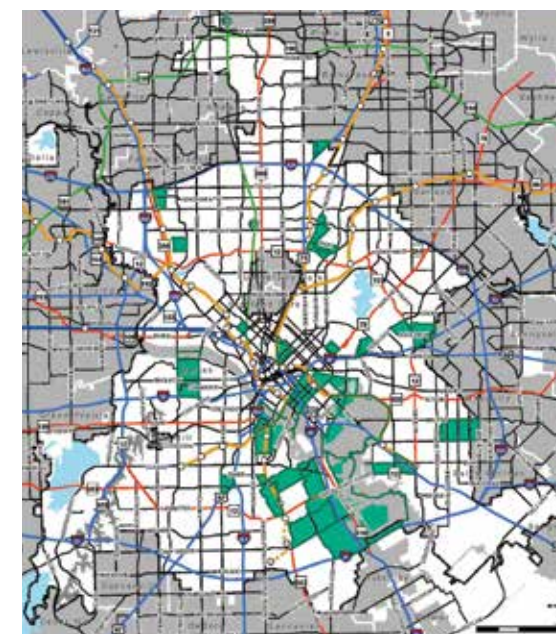
need for Dallas to examine and understand the current skills gap, identify impediments or barriers to participation to the traditional labor force, and discover potential solutions to assist workers struggling to provide a decent, financially viable quality of life for themselves and their families.

DESPITE THE REGION'S REMARKABLY LOW UNEMPLOYMENT RATE OF 3.7%, HIGH UNEMPLOYMENT STUBBORNLY PERSISTS IN MANY LOW INCOME DALLAS NEIGHBORHOODS.

Although poverty is a growing problem across the U.S., an examination of census data reveals that Dallas' rising poverty rate outpaces the nation, the state, and the region. From 2000 to 2014, the poverty rate in Dallas grew by 42%. Moreover, racial disparities are strongly correlated with financial circumstances. Very low income and low income census tracts represent those who earn below 30% and 50% of the area median income, respectively. Out of the 88 low and very low income tracts in Dallas, 85 are minority majority (over 50% minority). In contrast, of the 86 Census tracts where income is more than 120% of the area median income (i.e. high income families), only 6 tracts are minority majority. Dallas' income disparities clearly parallel her racial disparities.



In Dallas, as the concentration of minorities increases, the level of income falls dramatically. On the bottom right hand side of the graph, we can see that in census tracts where more than 70% of residents are minorities, families almost exclusively make less than the area median income. On the left hand side of the graph, we can see that when areas have less minorities, the family median income increases. In short, Dallas' neighborhoods are economically and racially segregated. [Data from City of Dallas Fair Housing Office]



Dallas Economic Development Research & Information Division

Legend HUD Dallas R/ECAP Area

Map Created: 2.2.2016 - COD_RECAPTCG
Source: R/ECAP Areas - HUD, 2016; Municipal Boundaries - NCTCOG, 2015; All other data - City of Dallas, 2016

In these HUD R/ECAP census tracts, life is startlingly different than in the more prosperous neighborhoods with quality schools, plentiful jobs, services, and amenities. Approximately 121,000 residents call these areas home, and a comparison of socio-economic indicators couldn't be more stark. On average, the unemployment rate is 13%, per capita income is \$12,500, and the average home value is \$95,800 as compared to the city-wide average home value of \$295,300.

A close examination of one particular neighborhood, Fair Park/South Dallas, reveals extremely disturbing indicators. Despite its close proximity to the Central Business District, Fair Park/South Dallas is an inner-city neighborhood that has been allowed to atrophy for decades. The residents have grappled with concentrated poverty for generations, and visible evidence of disinvestment and decline are prevalent. Census numbers register an incredulous 18.5% unemployment rate. When coupled with the number of people who have given up looking for work, the percentage of adults who are not in the labor force is a staggering 60%. The average per capita annual income South Dallas/ Fair Park residents is only \$12,500 and 43% of families with children live below the poverty line.

Educational attainment figures may explain some of this disparity. Twenty-seven percent of residents do not have a high school diploma, and less than 3% hold a bachelor's degree or higher. For the past three school years, Lincoln and Madison High Schools, both located in this area, reported lower percentages of seniors graduating college and career ready than other Dallas ISD high schools and the state.

These troubling trends hold bleak promise for the children of Dallas' poor and struggling families, and the condition of Dallas' most vulnerable neighborhoods present substantial challenges for our city. The pressing question for Dallas is whether she will overcome these disparities and remain the vibrant, urban core of North Central Texas or become the dying nucleus of an otherwise prosperous region.

Discovery Area:

Understand how the robust North Central Texas economy could expand to become more inclusive and provide market-driven opportunities to residents who have been excluded from the traditional labor force.

Potential Diagnostic Questions:

Who are the people in Dallas who are impoverished, disconnected from the traditional labor force, struggling financially, and are most vulnerable to financial/economic risk?

What are the barriers and impediments that prevent some Dallas residents from finding and maintaining living wage employment?

What is the current state of service provision to vulnerable populations and what are the gaps of service provision?

What resources are available to the City and its partners to better provide service to vulnerable populations?

2 DISCOVERY AREA – Healthy Communities

BACKGROUND

The jewel in the crown of Dallas' healthcare facilities is undeniably the U.T. Southwestern Medical District which ranks among the top academic medical centers in the world. Among the distinguished faculty at U.T. Southwestern are seven Nobel prize recipients, 19 members of the National Academy of Sciences, and 20 members of the Institute of Medicine. The expansive Medical District campus covers more than 1,000 acres and is home to five major medical institutions including Parkland Health and Hospital System, Children's Medical Center Dallas, UT Southwestern Zale Lipshy University Hospital, UT Southwestern William P. Clements Jr. University Hospital, and Texas Scottish Rite Hospital for Children. Adjacent to Interstate 35E, the Medical District has excellent highway access and is served by two light rail lines, a commuter rail line, and a transit center that accommodates stops from nine different bus routes. The five hospitals of the medical district employ a workforce of more than 29,000 people who provide care to 2.6 million patients visiting clinics and hospitals each year. As an employment center, the greater UT Southwestern medical district area is second only to Downtown Dallas with an aggregate workforce that tops 100,000 jobs.



Looking more broadly, healthcare comprises a \$52 billion industry and provides close to 600,000 jobs in the greater Dallas area. This booming economic sector has seen considerable growth over the past 15 years, yet Dallas still slightly lags the national average of 226 physicians for every 100,000 residents. While the more affluent areas of Dallas have a high concentration of primary care physicians and specialty health care providers, other parts of Dallas are health deserts.

Community Need Index of socio-economic risk factors for poor health

- Poverty
- Educational Attainment
- Racial/Ethnic minorities
- Limited English Proficiency
- Unemployment
- Lack of health insurance



Dallas County Community Health Needs Assessment 2016

Service/Provider Locations†
Primary Care Services

Total*	Service / Provider Type
22	OP Health Facility
2	OP Health - After Hours
9	OP Health - COPC
4	OP Health - Minute Clinic
32	OP Health - Urgent Care
3	OP Health - Seniors
1	OP Health - VA Services
3	OP Health - FQHC

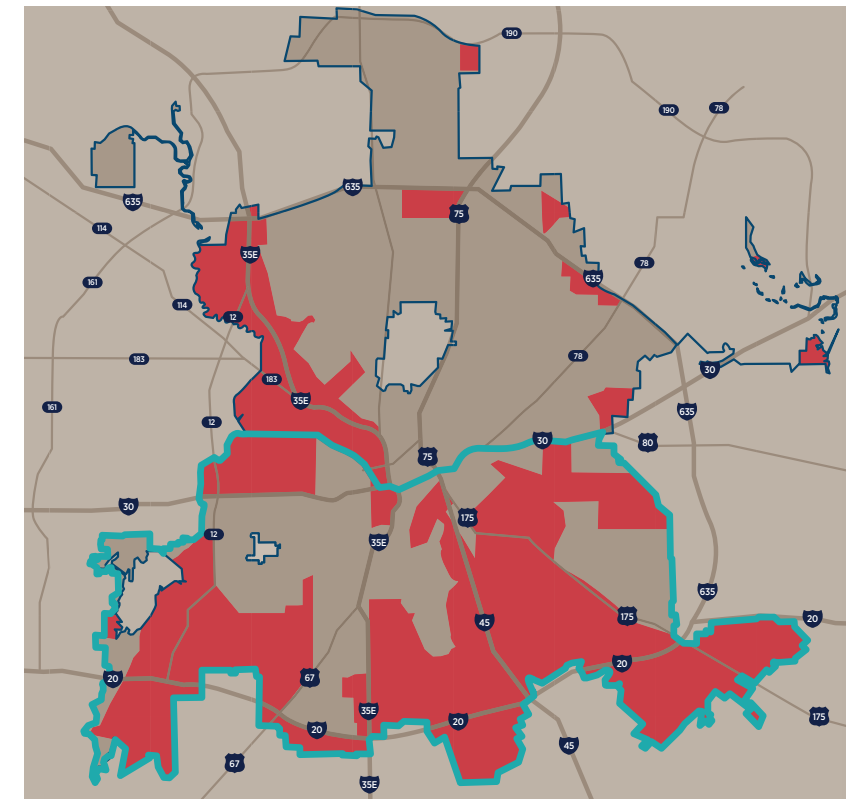
*Total in Dallas County
†Locations are approximate and based on street address.

POVERTY IS BOTH A CAUSE AND CONSEQUENCE OF POOR HEALTH.

The Community Need Index tool examines five socio-economic indicators that contribute to health disparity, or the differences in the health status of different groups of people. These socio-economic indicators are: income, culture/language, education, housing status, and insurance coverage. The Community Need Index uses these indicators to geographically locate and rank neighborhoods at risk for poor health.

As illustrated on the map above, disparity is pervasive in many parts of Dallas, and all but the most affluent neighborhoods are exposed to higher levels of risk than the national average. Not surprisingly, the most acute areas of concern overlap the areas of concentrated poverty making the residents who reside there particularly vulnerable to factors that contribute to poor health and a public health outbreak or incident.

Dallas Food Deserts 2016



■ USDA Food Desert (LI & LA 1 Mile) ■ City of Dallas □ Southern Sector

Dallas has one of the highest rates of uninsured in the country, almost double that of the national average. Of the largest 25 metro areas, Dallas ranks 23rd, trailed by Miami and Houston, for the percentage of residents without health insurance. A recent study undertaken by Parkland Hospital and Dallas County Health and Human Services reports that 38% of citizens in southern Dallas still do not have healthcare coverage. Lack of coverage combined with a dearth of primary care and specialty care providers practicing in these neighborhoods leave residents with limited opportunity to obtain adequate health care and optimize healthy living choices. This situation is further complicated when residents who either do not own a vehicle or who are not capable of driving lack adequate transportation to access health care service.

Although DART maintains an extensive bus fleet, anecdotal information suggests that current routes, the need for multiple transfers, service schedules, and safety concerns do not offer safe, efficient travel for transit dependent people to access health care services. Without safe, convenient, efficient transportation to healthcare services, residents often forego preventative healthcare or do not attend to the routine care necessary to maintain manageable diseases and disorders. The unfortunate effect of these three inter-related constraints – lack of healthcare coverage, absence of healthcare providers, and insufficient transportation access to healthcare services – often leave residents with no other option than to rely on ambulance service and emergency room visits as a primary provider for healthcare services.

Dallas Fire and Rescue operates a fleet of 43 ambulances with 1,200 trained paramedics. These highly trained health professionals make almost 203,000 runs a year and 69,000 transports to area hospital emergency rooms. The average cost of one ambulance run is \$1,575. For those patients that are uninsured, Medicaid only covers 21% of the cost of these services and Medicare only covers 32%. The costs of these services that are not reimbursed by either governmental program, or private insurance companies leaves the Dallas taxpayer absorbing millions of dollars in uncollected fees each year.

Parkland Hospital has analyzed the type of care provided during emergency room visits and determined that 60% of these visits are non-life threatening emergencies that could be treated in other settings at a much lower cost. The use of emergency room departments and ambulance transport for conditions that could have been suitably treated in primary care clinics or doctors' offices is not optimal health care for the patient, is not a prudent use of resources, or a judicious use of tax payer dollars.

Discovery Area:

How can Dallas make a meaningful contribution to improving public health outcomes for Dallas residents?

Diagnostic Questions

What is Dallas' vulnerability in healthcare disparity? Who are the residents that lack access to basic health care services?

What are the barriers and impediments that make it difficult for residents to receive adequate health care services?

What role can Dallas Fire and Rescue play to increase health literacy in communities with a high risk of health care disparity?

3 DISCOVERY AREA – Community Infrastructure

BACKGROUND

In preparation for the 2017 Dallas Bond Election it is widely understood that the City cannot adequately address all of the needs identified by elected officials, inventoried by staff, nor requested by Dallas citizens. The Public Works Department prepares and maintains a Needs Inventory that assesses the current condition of infrastructure and estimates the cost of repairing, upgrading, or replacing existing infrastructure, and providing new infrastructure in areas not previously served. The Needs Inventory captures a wide range of infrastructure such as roadways, sidewalks, traffic control devices, and street lights. It also includes buildings and facilities such as libraries, fire stations, and parks and recreation facilities.

Although Dallas is a relatively young city, our existing infrastructure is reaching the end of its useful life. In 2006, the Dallas voters approved the largest bond program in Dallas history at \$1.3 billion dollars. That significant investment made tremendous headway on improving basic infrastructure and addressing public services. Unfortunately, that progress was curtailed during the Great Recession when the City's tax base declined sharply and revenues for infrastructure investment were scarce. From 2008 until today, the City's investment in deferred maintenance and infrastructure has been limited to only a few critical needs. The 2012 bond program of \$642M focused almost exclusively on street repairs and flood protection. During this period, infrastructure has continued to deteriorate and deferred maintenance has compounded the needs of declining facilities.

Although the tax base has rebounded and now exceeds pre-recession levels, the estimates of unmet infrastructure needs currently run into the \$10s of billions of dollars. Given this staggering deficit, the City of Dallas must think differently about its approach to infrastructure provision, and apply a resilience lens to prioritize the most critical needs exploring co-benefit projects and leveraging the city's investment with innovative funding sources. Finally, Dallas must build equity into its decision-making processes.

Neighborhoods in the southern sector of Dallas have experienced decades of disinvestment and decline. Many neighborhoods don't have adequate basic infrastructure, such as curb and guttered streets, sidewalks, street lights, or fire hydrants spaced at appropriate distances to adequately fight fires. Many neighborhoods have been left gap-toothed by dozens of vacant lots and are blighted by abandoned, dangerous structures.

Numerous neighborhoods in the southern sector lack adequate cell phone coverage or basic internet service, a reality of life that would not be tolerated in more prosperous neighborhoods. This technology divide denies students the ability to make use of their school-issued tablets, conduct home-work research on the internet, or simply enjoy entertainment choices that their peers in other parts of the region take for granted. Adults are precluded from accessing on-line opportunities for skills advancement, training, job searches, or just communicating with family and friends.

The current disparity in the physical condition of Dallas' neighborhoods prompts the questions "What is the 21st century standard for Dallas neighborhoods?" and "Does Dallas have a solid understanding of the financial commitment necessary to build and maintain this 21st century standard?"

One of the forward-thinking questions 100 Resilient Cities asks cities to contemplate is, what aspects of resilience have not yet been addressed?

The impact of climate change on the man-made and natural infrastructure is clearly one of those gaps. Severe weather events and weather variability have strained the quality and capacity of the City's infrastructure. Unfortunately, Dallas has not yet begun to quantify those impacts nor undertaken the necessary modeling or predictive analytics to understand the impact or the future needs.

An additional area of exploration that represents a prominent gap is the role technology will play in 21st century infrastructure. Whether it's embedding sensors in river levees, equipping street signals for driverless cars, building streets with photovoltaic concrete, or equipping fire fighters with drones that stream live video during search and rescue efforts, we must now begin to explore how to build a 21st century Dallas, rather than merely repairing and replacing a 20th century city.

Discovery Area:

Exploring the impacts of climate change on the natural and built environment, and assessing infrastructure in Dallas neighborhoods.

Diagnostic Questions:

What is the 21st century standard for basic infrastructure in Dallas neighborhoods?

How can investing in a modern, sustainable and resilient infrastructure system in South and West Dallas unlock the untapped development potential in these neighborhoods by making currently underutilized land resources ready for development?

What are the long-term financial commitments, funding mechanisms, and policies necessary to build and maintain a 21st century Neighborhood Standard?

How can city and other governmental resources be prioritized and strategically deployed to serve as catalysts for private investment and development?

How does climate change affect Dallas' significant natural resources and critical infrastructure including flood control systems and water resource supply?

4 DISCOVERY AREA – Urban Mobility

Dallas was designed for the automobile and transportation infrastructure is the backbone of our city. Dallas' growth exploded during the heyday of the private automobile, and the physical form of the city reflects the celebrity of the automobile. Decades of highway spending has exacerbated urban sprawl and resulted in an increase of congestion, a decline in air quality, an increase in impervious cover, storm-water runoff, heat island effect, and a deeply segregated population.

Mobility advocates critical of these negative impacts and call for drastic change. Although social attitudes and the traveling behaviors of millennials and boomers are beginning to shift, the vast majority of Texans still cherish their automobiles. While Dallas may not yet be at the critical inflection point to marshal a wholesale change to the current transportation system, prescient leaders realize now is the time to begin the public dialogue about Resilient Dallas' equitable mobility options.

What will define Dallas' 21st century transportation system?

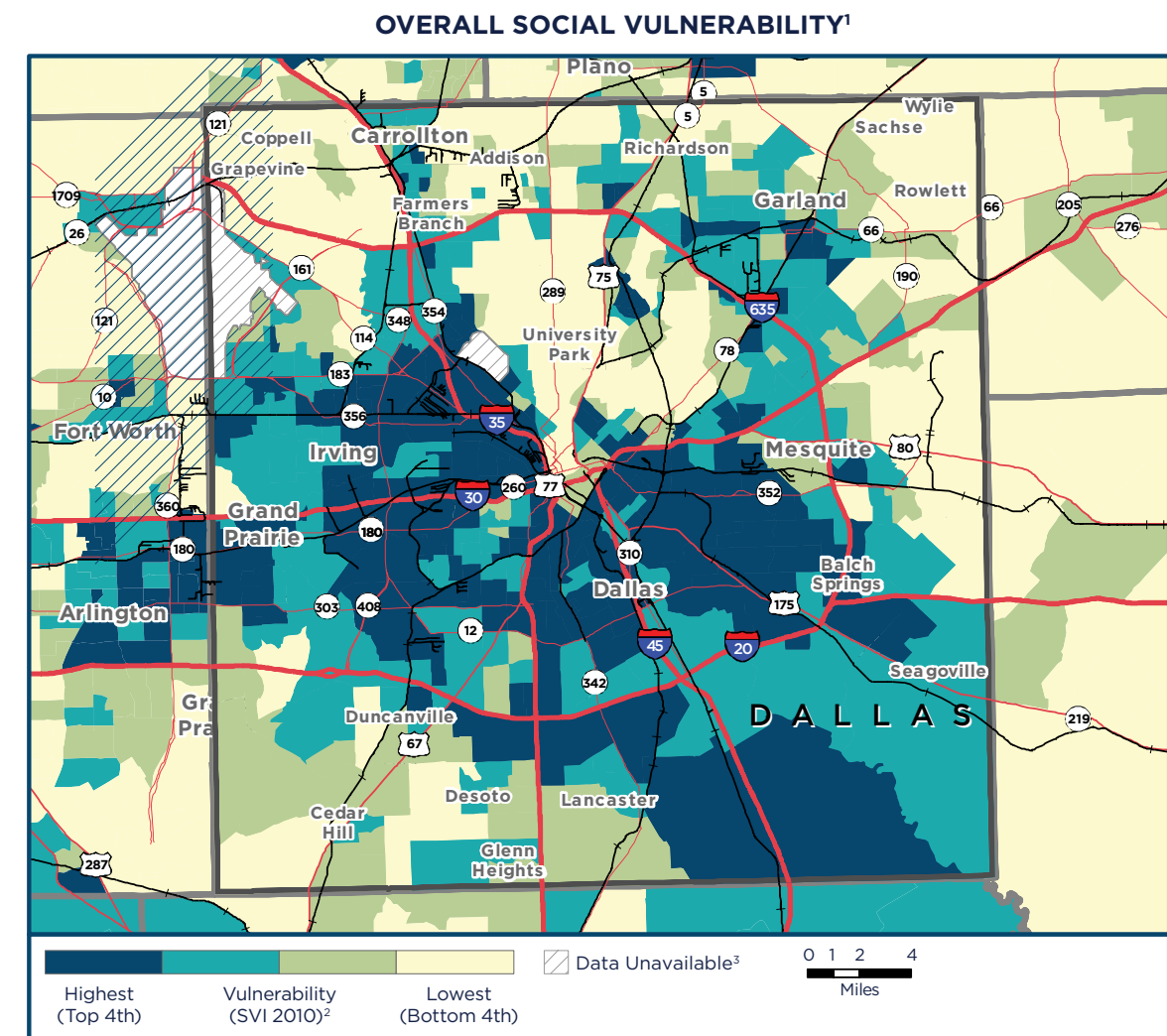
A superior transportation system must be one that provides convenient, affordable access to all aspects of urban living – employment, education, health care, shopping and services, recreation, and entertainment.

As a relatively young, post-war city, Dallas' auto-centric physical form and transportation network exemplifies a low-density separation of land uses, and disperses employment centers in all but a small portion of the city. This urban structure best serves middle and upper-income families who reside in amenity rich suburban communities and who can afford to own and operate multiple vehicles. Quality schools, plentiful shopping, and an abundance of services sustain these neighborhoods despite the inherent need to drive to each destination.

However, this suburban-style physical layout fails our residents in neighborhoods that lack basic services. In poor and low-income neighborhoods, access to jobs, food and retail goods, healthcare, and quality educational opportunities are a daily struggle for individuals and families who must also rely on public transit. Urban planners have recently begun to study the “desert effect” in poor and low income neighborhoods that lack services. As the illustration here indicates, planners now can reliably and accurately map social, physical, economic, and health disparity.

Leveraging our transportation investments to create transit equity, attain economic and social resilience for residents, and rethink mobility options for a 21st Century Dallas.

SOCIAL VULNERABILITY INDEX 2010 DALLAS COUNTY, TEXAS



Data Sources: ²ASTDR GRASP.

Notes: ¹Overall Social Vulnerability: All 14 variables. ³Census tracts with 0 population.

Projection: NAD 1983 Texas Statewide Mapping System.

Reference: Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011. 8(1).

Map data includes: Multi-unit, mobile homes, crowding, no vehicle, and group quarters.

After housing, transportation costs are the largest household expense for most American households. The cost of owning, operating, maintaining, and insuring a vehicle, when combined with housing costs, can easily exceed 50% of a low income family's budget. According to a study by the Metropolitan Research Center in 2015, only 28.3 percent of HUD assistance properties in the Dallas-Plano-Irving region were considered affordable when factoring in transportation costs. A study of commuting patterns in Dallas finds that our poorest residents, those who live predominately in the south, have the longest commute, typically to low paying jobs in the north.

A study by the Brookings Institute found that only 19% of jobs in the Dallas- Fort Worth-Arlington area are accessible in 90 minutes via public transit. Anecdotal information tells us that lack of reliable transportation is the main reason people lose their jobs. While this will necessitate the more obvious changes in transportation priorities and investments, it will also require a new approach to city building and urban design. Dallas must begin to embrace greater density and promote a balance and mix of land uses. Transportation engineers must reclaim portions of the public realm to accommodate the range of travel choices, commerce, and social interaction.

Streets must be physically redefined to safely accommodate pedestrians, cyclists, and public transit in addition to the private automobile. The gradual and successful transition of all these aspects will not only build a superior transportation system, it will build economic and social equity for people who today are denied opportunities available to their more affluent and mobile counterparts.

Discovery Area:

How can the City better leverage transportation investment?

Diagnostic Questions:

What is the current state of transportation equity in the Metroplex and what are the policy impediments, funding constraints, and organizational structures and challenges that impact transportation equity for Dallas residents?

How can transit networks be improved to ensure transit dependent populations have equitable and efficient access to employment, education, healthcare and basic retail services while also enticing choice riders?

Given expected technological advances in transportation, what would an equitable 21st century transportation system look like for Dallas?

NEXT STEPS

Phase II begins a deep dive into the preliminary findings surfaced during Phase I. Four multi-sector working groups, one devoted to each of the Discovery Areas, will be convened to conduct innovative diagnostic research and analysis on these complex and interdependent issues. A fifth group, the Steering Committee, will be composed of the chairs of the individual working groups in addition to key City of Dallas staff. This multi-disciplinary committee will be empaneled to guide and validate the work of the Discovery Area working groups while ensuring an integrated and comprehensive approach that identifies synergies across the Discovery Areas and leverages the resources of a broad range of diverse stakeholders.

Over the next several months, all five groups will work to develop new knowledge, strengthen partnerships, explore opportunities, and grapple with challenges that constrain Dallas' resilience today. This work will culminate in the development of a Resilience Strategy. Dallas' Resilience Strategy will be a visionary document as well as a tactical roadmap for building resilience. It will identify goals and actions for each of the Discovery Areas that aim for broadly equitable and inclusive outcomes designed to strengthen resilience for all Dallas residents.

Potential Partners

- Office of Economic Development, City of Dallas
- Federal Reserve Bank of Dallas
- Southern Methodist University
- Greater Dallas Regional Chamber
- Workforce Solutions of Greater Dallas
- JP Morgan Chase
- Dallas County Community College

Potential Partners

- City of Dallas Office of Emergency Management
- Dallas Police Department
- Dallas Fire and Rescue
- Dallas County Health and Human Services
- Texas Department of State Health Services
- Dallas Medical Operations Center
- Dallas Hospital District
- FEMA Region 6
- Texas Division of Emergency Management
- US Department of HHS

1 Economy

2 Public Health

Steering Committee

4 Infrastructure & Environment

2 Transportation

Potential Partners

- Dallas AIA
- USGBC Dallas
- University of Texas at Austin

Potential Partners

- Federal Reserve Bank of Dallas
- University of Texas at Arlington
- SMU
- Dallas Area Rapid Transit
- Regional Transportation Commission
- HUD
- Department of Transportation

