

Comprehensive Environmental and Climate Action Plan

Task 1: Plan Review Technical Memorandum

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DRAFT v.2

For: City of Dallas

Prepared by: AECOM and City of Dallas - Office of Environmental Quality & Sustainability

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Overview

This technical memorandum summarizes the baseline of existing environmental and climate-related actions in the City of Dallas. Its purpose is to help to identify gaps in existing programs, and therefore the areas of focus for the Comprehensive Environmental and Climate Action Plan (CECAP).

It should be read in combination with the accompanying excel spreadsheet that documents over 400 actions, recording the sector it is related to, the plan document it came from, the department or organization responsible, the scale, whether an equity component is included, date of publication and current known status. Actions (which include initiatives, policies, and projects) may be in varying stages of implementation (complete, in progress or just proposed through a plan with no current progress). Status of each action will be updated through consultation with city staff and implementation partners. Action status will also help with sector prioritization.

Actions are taken from the existing planning documents listed in Appendix B and are organized by the seven sectors the CECAP may cover - Transportation, Buildings and Energy, Solid Waste, Water and Waste Water, Parks and Open Space, and Urban Agriculture. There is an additional section which summarizes the current understanding of climate vulnerability for the city's various assets. The action collection and gap analysis methodology is included in Appendix A. Appendix C lists plans that should be included in the action inventory, but have not been reviewed yet, either because they are still in development or have not yet been provided.

Each sector summary below starts with an articulation of why the sector is important, and then highlights key actions that are already part of existing plans or strategies. Note this is NOT a list of recommended actions, but things that the City (or partners) that are doing part of existing plans or studies. For some as yet uncompleted actions, the CECAP may provide any opportunity for implementation. Note that this summary is not exhaustive (see the excel inventory for the complete list).

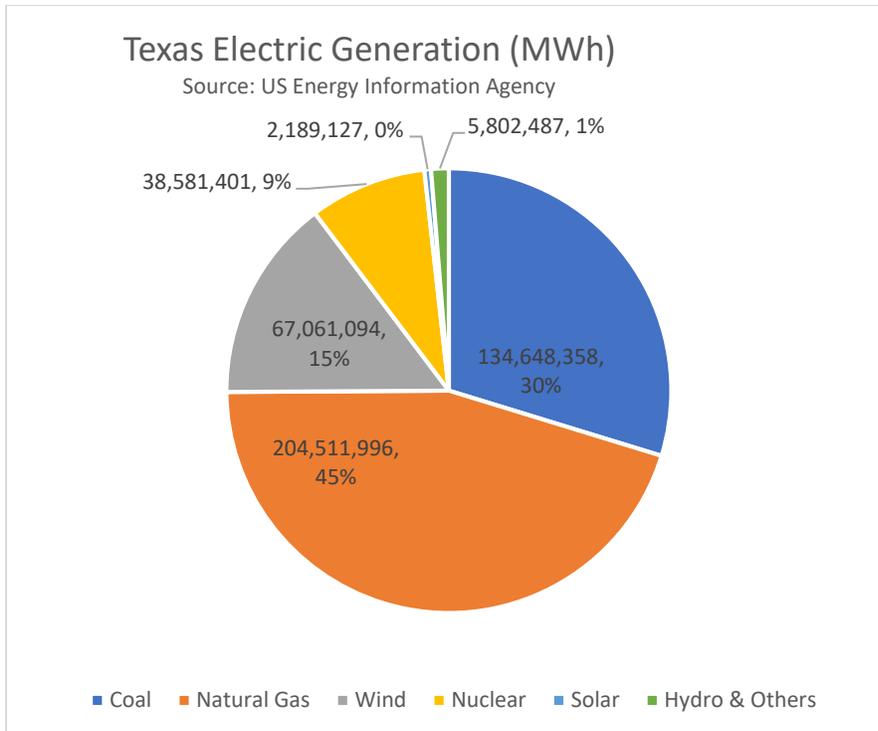
The summary ends with a very short, preliminary, list of gaps / potential opportunities. This list is short as the purpose of this memo is to document the current baseline, and the opportunities will be refined and expanded as the project progresses in collaboration with stakeholders and the public. Note that a general recommendation across all sectors is the need for targets and performance metrics to be able to monitor progress for the future CECAP.

Sector Summaries

Buildings and Energy

Why it matters?

All sectors of the Dallas economy, including manufacturing, commercial activity and the residential sector rely on electricity and natural gas. Average electricity consumption per home in Texas is 26% higher than the national average (due to air conditioning load), but similar to the amount used in neighboring states. While the City of Dallas purchases 100% green electricity for its own buildings (through renewable energy credits), according to the US Energy Information Agency, the electricity grid for Texas is primarily fueled by either natural gas and coal (75%). It should be noted, that the third largest percentage of electricity generated in Texas is wind power, 15% of the 452 million Megawatt hours generated. Solar accounts for approximately 0.5%. The energy sector contributes to 64% of community-scale GHG emissions for the City of Dallas¹.



Key Initiatives Identified in Existing City Plans by Theme

The actions identified focus on energy conservation measures, sustainable technologies and new construction standards.

Energy conservation

- Building energy initiatives to increase energy efficiency include setting temperature standards with standardized control systems, encourage preventative maintenance, and undertake energy conservation projects, HVAC and lighting upgrades, load shedding and co-generation for City owned and operated buildings
- Form an Energy Management Committee to assist in coordination of electric procurement, contracting, and monitoring for City owned and operated buildings.
- Compliance with Environmental Management Plan energy issues, communicate building standards, develop behavioral initiatives (training and publications) and track annual department projects and results for City owned and operated buildings.
- Oncor sponsors several programs throughout its service territory, including home weatherization programs, business energy efficiency improvements, and load management.

Energy generation

- City shall promote the adoption of alternate technologies such as wind energy, bio-gas, geothermal, solar thermal water heating, and solar photovoltaic through its continued demand for power from these sources, as well as encouraging the broader community to demand power from these alternative resources.
- Oncor encourages the development of solar energy through its incentive program.

New construction standards

- Mandate a comprehensive green building standard for all new construction (in place since 2003).
- Initiatives to promote adoption of globally recognized standards such as LEED Platinum, Gold, Silver certification for city buildings (required) and ENERGY STAR rating for commercial and residential buildings.

Preliminary Gaps and Opportunities Identified

- Actions to address private sector buildings (beyond incentives offered through Oncor’s program for energy conservation activities), such as benchmarking ordinance, energy disclosure, conservation ordinance requirements.
- Collaboration with State / others over how to increase renewables portion of state electricity grid mix

Transportation and Land use

Why it matters?

The cost of congestion at the regional level from loss of productive hours due to increase in travel time owing to congestion has reached an estimated \$12.1 billion in 2018² and despite having the longest light rail system in the nation, unsustainable land development patterns promote 76.8% of Dallas residents to drive to work alone³. Additionally, 1.78% of the workforce in Dallas, TX have "super commutes" in excess of 90 minutes⁴. In 2016, the most common method of travel for workers in was drive alone (76.8%), followed by those who carpool (11.1%) and those who telework (4.87%). Other modes include public transit (3.8%), walk (1.9%) and cycle (0.3%)⁵. According to Urban Footprint⁶, only 18.7% of residents are within a 10-minute walk of a transit stop, and racially diverse neighborhoods have access to 17 times the number of jobs (40,000+) within a 30-minute public transit commute as majority –Black neighborhoods (~2500).

The transportation sector, which includes on-road, railway, and aviation (basic+ level emissions) transportation, contributes to 34% of community-scale GHG emissions for the City of Dallas⁷.

Key Initiatives Identified in Existing City Plans by Theme

Active transportation

- Initiatives promoting the increased use of active transportation in the city include education and outreach programs for biking and bike safety, incentives for using active transportation options, bike-share programs, the development of complete streets to encourage multi-modal transportation, safe route to school programs for K-12 students, and development of trail connections.

Public transit

- Recommendations to improve all public transit access and services, specifically, the expansion of express bus and light rail services.
- Evaluate the potential for implementing BRT services.
- Expand and improve paratransit services.

Transport demand management (TDM)

- Initiatives to reduce VMTs include the development of a regional TDM plan, encourage carpooling and vanpooling through regional rideshare programs, the implementation of interim and permanent High Occupancy Vehicle (HOV) lanes, promoting alternate modes of travel, and promoting park-and-ride facilities.

Fuel use/mix

- Reduce vehicular pollution through programs that fund mechanisms for clean fleets, mandating lower emission construction vehicles, implementing and enforcing idling restrictions, developing vehicle repair and replacement assistance programs, and incentivizing the transition from fossil fuel to electric vehicles.
- Increase enforcement of emissions-related offenses through a regional emissions enforcement program.
- Initiatives targeted at freight and heavy-duty vehicles, such as truck lane restrictions and freight efficiency outreach program.

Land use

- Coordinate public incentives and investments to support transit-oriented development projects.
- Provide improved accessibility to transit and jobs for increasing population.
- Develop strategies to protect rural land use and reduce suburban sprawl.

Preliminary Gaps and Opportunities Identified

- Impact of TNC's on air quality and mode split.
- Impact of scooters and e-bikes.

Water and Wastewater

Why it matters?

Between 2020 and 2070, Dallas' existing water reserves are expected to decrease due to sedimentation and increased evaporation of reservoirs. This is a result of anticipated temperature increases⁸. Since 2001, the city's broad-based water efficiency measures have saved approximately 316 BG (billion gallons) or 62 million gallons per day (MGD). The city's gallons per capita-daily (GPCD) has been reduced by 26%. Annual surveys indicate that customer awareness of the watering ordinance has increased from 60% to 76% and that customers' positive water conservation behaviors are up from 46% to more than 71%. The city removed a total of 38,947 cubic yards of debris and floatables from sumps, storm sewers, levee maintenance, trash racks, creeks, and retention/detention basins. A total of 91,872 gallons of debris was removed from stormwater interceptors⁹. Waste water and solid waste contributes to 1% of community-scale GHG emissions for the City of Dallas¹⁰.

Key Initiatives identified in Existing City Plans by theme

The actions identified focus on water supply, water conservation, water quality, wastewater treatment, and stormwater management.

Water supply

- Operations and maintenance of infrastructure include leak detection and repair, accurate supply source metering, and monitoring / record management of water deliveries, sales, and losses.
- Implement a long-term maintenance plan to provide continued use of resources in a sustainable manner.
- Expand and explore other technologies (e.g. desalination) and other water sources to augment existing supply

Water conservation

- Conservation programs targeted at industrial, commercial and institutional facilities include free efficiency surveys, industry specific programs and rebate programs to increase efficiency.
- Conservation programs targeted at residential buildings include rebate and repair programs to increase efficiency.
- Initiatives aimed at reducing water used for landscaping purposes include mandating water-conscious landscape design requirements through an ordinance, free irrigation system inspections, and public education through water-conscious landscape events.
- Retrofitting city-owned facilities with water conservation measures.
- Public education and outreach events to promote conservation.

Water quality

- Initiatives aimed at managing and reducing potential sources of pollutants such as pesticides, animal fecal matter, litter, run-off from construction sites, run-off from industrial and high-risk sites, and hazardous and non-hazardous spills.
- Programs for monitoring and screening industrial runoff are targeted to meet standards of bacterial presence.

Stormwater

- Implement nonstructural actions for flooding such as emergency response, public awareness/education, flood forecasting, and warning systems.
- Implement structural solutions for monitoring and control of floods.
- Incorporate and promote the use of low impact development (LID) and green infrastructure controls including, but not limited to, green roofs, rain harvesting systems, retention ponds, riparian buffer systems, permeable pavement, bio-swales, and constructed wetlands in public and private sector projects.
- Structural upgradations recommended for the interior levees to expand capacity to accommodate 100-year storms.
- Participate in city and regional implementation of integrated Stormwater Management (iSWM) master planning process for new and redevelopment projects in both public and private sector. Expand existing city iSWM program to apply to sites greater than one acre in size.

Wastewater treatment

- Monitor waste water treatment plants for compliance.
- Expand capacity and operation based on new peak flow to accommodate the projected increased wet-weather flows.

Preliminary Gaps and Opportunities Identified

- Water and energy nexus in supply and treatment.

Solid Waste

Why it matters?

The City of Dallas owns and operates one of the largest municipal solid waste landfills in Texas. In 2017, a total of 1.8 million tons of municipal solid waste (MSW) were disposed of at the landfill. Currently, the site has an estimated 32 years of remaining capacity at current rates of disposal. In 2017, a total of 57,618 tons of materials were collected from the residential program. The City's 2018 Sanitation Budget showed that the residential diversion rate for 2018 was projected at 20%, compared to a 2020 goal of 40%^{11,12}.

The landfill has a landfill gas management plan to recover methane. Methane from the landfill is collected and processed according to pipeline quality standards. In 2017, 4 billion cubic feet of gas were processed with 2.0 million cubic feet of gas being distributed off-site. This is of importance since methane gas has a higher global warming potential than CO₂ emissions.

Key Initiatives Identified in Existing City Plans by Theme

Waste Management

- Zero Waste Management Plan adopted in 2013.
- Current residential recycling program collects paper, metals, glass, cardboard/OCC, and plastics.
- Multi-family Recycling Ordinance which goes into effect for all multi-family properties with 8 or more units, and all haulers collecting and transporting recyclable materials within the Dallas City limits on January 1, 2020.
- Encourage commercial sector initiatives targeting all generator sectors for commercial haulers to provide recycling services, mandatory separation of recyclables and compostable waste, increase take back programs, and separate collection of organics,
- Promote upcycling by developing a Resource Recovery Park at the landfill.

- Contracted for the construction and operation of a material recovery facility (MRF) which is now processing the City's residential recyclable materials stream, along with recyclables from other communities.
- Develop a construction and demolition debris (C&D) ordinance and provide C&D technical assistance, targeting roll-off and self-haul generators.
- Public outreach and education through social marketing campaign and technical assistance.

Litter and Dumping

- Sponsor (individuals, neighborhood associations, or businesses) for maintenance of rights-of-ways and neighborhoods.
- Increase enforcement of anti-dumping regulations through structural changes (fence) and staffing dedicated security officers.
- Assess cost of hiring contractors for litter clean up and abate homeless encampments.
- Public outreach and education through social marketing campaigns, targeted lectures, and multi-lingual marketing material.

Preliminary Gaps and Opportunities Identified

Given the time required to invest in either major capital projects for waste reduction, recycling, composting or other technology that can assist in achieving 40%, it is anticipated that the City will not meet its goal for 2020.

- No large-scale construction & demolition waste material recovery facility.
- Incorporate recycling education into DISD curriculums
- Expand Resource Recovery Park to include composting and a reuse shop

Parks and Open Space

Why it matters?

Open spaces such as parks and urban forests deliver ecosystem services including carbon sequestration, flood mitigation, and cooling. Ecosystem health provides benefits to urban and migrating species in the form of habitat protection and biodiversity. Ecosystem health, in turn, protects human health by providing benefits such as opportunities for activity that reduce stress, the risk of disease, and increases overall mental and physical wellness.

60% of Dallas residents have access to a park within a half-mile walk of their homes. This is a relatively low index of park accessibility, especially when compared to peer cities such as Chicago (97%), Seattle (94%) and Denver (84%).¹³ In Dallas, there are 388 parks totaling 27,038 acres, plus the roughly 6000-acre Great Trinity Forest. However, these green spaces are not evenly distributed and approximately 40% of residents live in 'park deserts'¹⁴. Dallas can achieve significant cooling benefits by preserving and expanding the urban forest, in combination with increased use of cool materials can substantially reduce the urban heat island effects, resulting in warm season heat mortality by more than 20%¹⁵.

Key Initiatives Identified in Existing City Plans by Theme

Urban Forestry

- Programs to restore and protect the Trinity Forest.

Stormwater Management and Flooding

- Green and grey infrastructure investments including new construction or improvements to levees and lakes, and the creation of wetlands, and removing channels.

Natural Resource Protection

- Identify, protect and restore open space by updating or creating tools that can assess environmentally sensitive areas for acquisition through purchase, and development regulation.

- Outreach and educational programs that support sustainable land management, climate tolerant landscaping practices, and natural habitat rehabilitation.
- Provide access to parks and open spaces for recreational purposes through the update of the Parks masterplan. Strategies include the dedication of parks and trails in conjunction with infill or redevelopment, and partnerships with conservation organization to promote accessibility to private open space.

Active and Public Transportation

- Provision of transportation infrastructure that enables equitable access to natural amenities including parks and open space.
- Facilitate walkable access to recreational opportunities through programs and partnerships, and the implementation of the trails masterplan.

Extreme Heat

- Initiatives for tree planting programs in vulnerable neighborhoods

Other

- Preserve existing parks and develop new urban parks, with a focus on neighborhoods underserved by park access through purchasing, public-private partnerships, developing a new masterplan, and utilizing flood protection areas.

Preliminary Gaps and Opportunities Identified

- Creation of parks in underserved communities.

Food and Urban Agriculture

Why it matters?

'Food production accounts for 11% of GHG emissions, rising to 30% when food distribution and land use are included'¹⁶. Cities can influence several aspects of food systems, including production, distribution, waste, and procurement¹⁷. Global temperature rise coupled with increased demand for food pose significant risks to food security. Almost 20% of the Dallas County population faces food insecurity and lacks needed fruits and vegetables in their diet. Barriers to healthy food in Dallas include access as well as affordability. Food deserts are defined as low-income areas with low access to vehicles, and no grocers within one mile. Approximately 36% of Dallas residents, mostly distributed across Dallas' Southern and Western neighborhoods live in census tracts defined as food deserts (2011-2015)¹⁸. For a family at 80% of the City's median household income (\$35,025), food costs for the low-cost food plan are almost 30% of their annual budget¹⁹.

Key Initiatives Identified in Existing City Plans by Theme

- In 2015, the City of Dallas enacted a Farmers market ordinance that allows for the sale of locally grown and produced food and alternative growing methods.
- The City of Dallas was awarded the USDA and EPA Local Food, Local Places technical assistance grant in 2016, and is meeting with local food groups.
- In 2015, the City provided Community Garden grants to qualifying groups of residents wishing to start or expands a community garden.
- The City has actively recruited grocery stores in USDA's defined food deserts.

Preliminary Gaps and Opportunities Identified

- No state of the community or comprehensive study on food systems and their impacts has been completed for Dallas.

Other Air Quality

Why it matters?

At a regional level, ten North Texas counties, including Dallas County, consistently fail to meet federal air quality standards for ground level ozone.²⁰ In 2018, Dallas was ranked 16th in the American Lung Association's 25 Most Ozone-Polluted Cities. The report estimates 159,749 cases of pediatric asthma, 432,736 cases of adult asthma, 273,449 cases of Chronic Obstructive Pulmonary Disease (COPD) and 4,058 of cardio vascular deceases.²¹ In the U.S., black children are twice as likely as white children to have asthma and with greater severity—experiencing higher-than- average rates of hospitalization, emergency room visits and deaths from asthma²², While not a direct correlation of air quality the Smart Growth for Dallas²³ health priorities map indicates health issues (including asthma) being concentrated primarily West and South Dallas.

Key Initiatives Identified in Existing City Plans by Theme

Note that many actions in other sectors (e.g. transportation) will also have positive impacts on air quality.

Public Health

- Partner with agencies to establish effective ways to link code-related housing and environmental conditions to asthma triggers and other chronic illnesses in areas of high incidence.
- Collaborative effort to monitor local air quality at Dallas Independent School District (DISD) schools with known high rates of asthma-related absenteeism and study the impacts of various interventions on air quality and student asthma-related absenteeism.

Air quality standards

- Provide technical assistance and analysis to attain and maintain National Ambient Air Quality Standards and reduce negative impacts of other air pollutants.
- The Clean Technology Revolving Loan Program offers recipients funds to offset the cost of technology improvements.

Public outreach/ education

- Implement projects to demonstrate the benefit and feasibility of potential measures for greater implementation.

Preliminary Gaps and Opportunities Identified

- Location specific initiatives (e.g. downtown)
- Programs targeted towards outdoor workers (e.g. landscapers, construction workers)

Climate Vulnerability and Resilience

Why it matters?

To date, the City of Dallas has not carried out a comprehensive climate change vulnerability assessment. Hazards that the city faces today, such as extreme heat, flooding, and severe thunderstorms, will likely increase as a result of climate change. Projections include a 5° F increase in average summer temperatures and increased intensity of precipitation events by 2050, and a 40% increase in severe thunderstorms by 2100. Actions that the City is taking to mitigate current risk will provide the most value in the future if they are designed to address future conditions. While a number of studies from other entities provide an initial understanding of the City's climate vulnerability, further analysis would be necessary to understand localized impacts, as well as to asses vulnerabilities to specific assets, such as critical infrastructure, or to disadvantaged populations that are less resilient to impacts.

This sector summary is organized differently than the other summaries because its topic spans multiple sectors. The following section summarizes climate projections, vulnerabilities identified, assets and locations assessed, and

recommendations, by climate stressor. Opportunities for further action are also identified. As many of the studies reviewed for this section were not produced by the City, actions they recommend have not been included in the plan review inventory. Some actions recommended by official City plans and studies that may also mitigate climate vulnerability are discussed in the other sector summaries (e.g. tree planting to address extreme heat under Parks and Open Space).

Extreme Heat

Climate Projections

- By 2050, 5° F increase in mean temperature for summer months.
- By 2050, August daily extremes could exceed 120° F – comparable to Phoenix today.

Assets Assessed

- Potential impacts to existing and planned roads, passenger rail, aviation facilities have been assessed by UT Arlington.

Spatial Mapping

- Regions of the City with Urban Heat Island and high imperviousness have been mapped by Smart Growth for Dallas, as well as the Dallas Urban Heat Island Management Study.
- Current wildfire risk has been mapped by the City of Dallas Community Wildfire Protection Plan.
- Climate projections across North Central Texas have been mapped by UT Arlington, but not at the city level. However, vulnerability of various transportation assets to current heat risk has been mapped across Dallas.

Vulnerability and Risk

- Urban Heat Island effect exacerbates vulnerability to increased temperature from climate change. 50% of heat related deaths during the 2011 heat wave in Dallas can be attributed to the urban heat island.
- Urban Heat Island effect is the strongest downtown, along the I-35 corridor in the northeast, and between the Trinity River Greenbelt and I-30.
- Transportation vulnerabilities include: heat-induced stress on bridges and railroads, air conditioning problems in public transport vehicles, and heat-related accidents by failure of individual vehicles and heat-related stress.
- Increased risk of fires in forested areas and wooded neighborhoods. Note that wildfire threat is currently low most areas of the City, including the Great Trinity Forest. Wildfire risk is moderate in the Cedar Ridge Preserve in the southwest and high in the forested region between Lavon Lake and Lake Ray Hubbard in the northeast.

Recommended Actions in Studies/Plans

- Tree planting and preservation is the most effective adaptation strategy to lessen heat exposure. A combination of urban greening and cool roof strategies could greatly reduce the daytime hotspots over Downtown and the I-35 industrial corridor.
- In highly impervious areas or where opportunities for tree planting are limited, adopt policies promoting the resurfacing of roofing and surface paving to cool, high-albedo coatings and materials to lessen solar absorption and heat in highly impervious zones where the opportunities for tree planting are limited or cost-prohibitive.

Preliminary Opportunities Identified

- Leverage Smart Growth Dallas data to develop mapping of the urban heat island effect to identify specific regions of the City that have the greatest vulnerability to extreme heat.
- Assess impacts on electricity demand for cooling (increased demand during heat waves can cause blackouts)

- Assess potential impacts on disadvantaged populations. The Smart Growth for Dallas Equity Priority Areas have substantial overlap with Cooling Priority Areas, meaning that disadvantaged populations are disproportionately impacted by the Urban Heat Island.
- Put in place heat monitoring equipment to better track UHI effect.

Storms, Precipitation, and Flooding

Climate Projections

- By 2050, periods of low precipitation will be disrupted by single storm events stronger in intensity than what is experienced currently.
- By 2100, there will be as many as 40% more days with severe thunderstorms per year.

Assets Assessed

- Potential impacts to existing and planned roads, passenger rail, aviation facilities have been assessed by UT Arlington.

Spatial Mapping

- FEMA Flood Insurance Rate Maps delineate the current 100-Year and 500-Year floodplains.
- Precipitation projections across North Central Texas have been mapped by UT Arlington, but not at the city level. However, vulnerability of various transportation assets to current flooding has been mapped across Dallas.

Vulnerability and Risk

- Heightened risk of disruption to basic City functions by high wind speed and hail damage.
- Increased flood risk in low-lying areas adjacent to the floodplain.
- Droughts could exacerbate extreme heat and the urban heat island.
- Projected proportion of economic expected losses from natural disasters: 58% from severe thunderstorms and 38% from flooding (AIR study).

Recommended Initiatives in Studies/Plans

- Priority areas for green infrastructure interventions to reduce stormwater runoff are downtown, along the I-35 corridor, and between the Trinity River Greenbelt and I-30.
- Floodway and Stormwater Management Actions summarized in Water & Wastewater and Parks & Open Space sector summaries

Preliminary Opportunities Identified

- Ensure planning and design of major floodway projects in Dallas accounts for changes in flood risk due to climate change. Currently, some portions of the Dallas Floodway Project will raise levees to withstand 800-year flood.
- Assess location and number of households, jobs, and structures at risk from current and future flooding.
- Understanding of vulnerability of other critical assets such as energy distribution and transmission, emergency services etc.

Tornadoes

Note that a comprehensive evaluation of tornado risk and recommended actions is covered by the Dallas County LHMP and is unlikely to be expanded on in the CECAP.

Climate Projections

- The impact of climate change on tornado frequency and intensity is currently unclear. However, temperature extremes that create conditions for tornadoes are projected to become more frequent.

Assets Assessed

- Studies on tornado risk in Dallas have focused on quantifying the dollar value of potential damaged to property.

Spatial Mapping

- Tornado damage paths are highly unpredictable and localized differences in risk are impossible to determine. However, paths from historic events can be used to estimate damages (see below).

Vulnerability and Risk

- Since 1984, Dallas County has experienced 5 tornados with a Fujita score of 3 or higher (severe to devastating damage).
- In a study that simulated the damage paths of the 1999 Oklahoma City “Moore” Tornado Storm over Dallas, of the 55 total path scenarios tested, 44 had more than \$1.5 Billion (2019 dollars) of estimated appraisal-based property in their path. Twelve of the paths had more than \$7 Billion (2019 dollars). The number of housing units and commercial structures impacted exceeded 10,000 in 44 of the 55 path scenarios.

Recommended Initiatives in Studies/Plans

- Actions to address tornado risk are detailed in the Dallas County Local Hazard Mitigation Plan.
- Preliminary Opportunities Identified
 - Monitor advances in climate change that expand understanding of projected impacts on tornado frequency and intensity.
 - Assess potential impact of tornados on assets other than property value, such as disadvantaged populations, critical infrastructure, transportation infrastructure, ecosystems, and natural assets.

Appendix

A. Gap Analysis Methodology

Headings	Options
Sector	Multiple Buildings + Energy Food Security + Urban Agriculture Parks/Open Space/ Forests Solid Waste Transportation + Land Use Water/Wastewater Other
Themes	Air Quality Active + Public Transportation Energy conservation/efficiency Extreme Heat Food access Food waste/composting Litter & dumping Natural resource protection Recycling Renewable energy Stormwater management/flooding Urban forestry Wastewater treatment Water conservation / supply Other
Source Document	
Summary of Action	
All Specified Targets	
Gaps Identified	
Status	Adopted Completed In development No progress On going Unknown
Progress	
Scale	Citywide Neighborhood Regional
Source Year	
Action Type	Assessment Convening Data collection Incentive Infrastructure Ordinance Planning document Program/initiative Public education/communication Purchasing Standards Tax
Equity Component, if yes how?	

B. List of Plans Reviewed

Plan Name	Date	Plan Author
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Plan Name	Date	Plan Author
Buildings and Energy		
- Sustainable Development & Construction: Green Building Ordinance	2017	City of Dallas
- 2018 Energy Efficiency Plan and Report	2018	Oncor Electric Delivery Company LLC.
Food Security and Urban Agriculture		
- Healthy Food Dallas Presentation	2017	Economic Development Committee, City of Dallas
Parks / Open Space / Forest		
- Dallas Park & Recreation Comprehensive Plan	2016	City of Dallas
- Trail Network Plan Update	2009	City of Dallas
- Great Trinity Forest Management Plan	2015	City of Dallas, Trinity River Corridor
Solid Waste		
- Local Solid Waste Management Plan "Zero Waste Plan"	2013	
- Litter and Illegal Dumping Assessment	2018	
Transportation & Land Use		
- Downtown Dallas 360 Plan	2017	Downtown Dallas Inc., City of Dallas
- Mobility 2045: Metropolitan Transportation Plan	2018	NCTCOG
- Dallas Bike Plan	2011	City of Dallas, NCTCOG
- Complete Streets	2017	City of Dallas
- 2030 Transit System Plan		Dallas Area Rapid Transit
Water / Wastewater		
- Water Conservation Five-Year Work Plan	2016	City of Dallas – Water Utilities
- Interim Bacteria Reduction Plan (TMDLs)	2012	City of Dallas – Trinity Watershed Department
- City of Dallas, MS4 Stormwater Management Plan	2019	City of Dallas
- 2014 Dallas Long Range Water Supply Plan to 2070 and Beyond	2015	City of Dallas – Dallas Water Utilities
- Wastewater Treatment Facilities Strategic Plan	2010	City of Dallas – Dallas Water Utilities
Multiple		
- Resilient Dallas	2018	City of Dallas
- Neighborhood Revitalization Plan for Dallas	2015	City of Dallas
- ForwardDallas	2006	City of Dallas
- Building a Cool, Clean and Resilient Dallas	2018	The Nature Conservancy – Texas
- Balanced Vision Plan AND Environmental Impact Statement	2014	City of Dallas – Trinity Watershed Department
Climate Vulnerability Assessment Review		
- Climate Change/Extreme Weather Vulnerability and Risk Assessment for Transportation Infrastructure in Dallas and Tarrant Counties	2015	University of Texas at Arlington for the North Central Texas Council of Governments
- Dallas Urban Heat Island Management Study	2017	Urban Climate Lab of the Georgia Institute of Technology for the Texas Trees Foundation
- Smart Growth for Dallas	2018	Trust for Public Land
- City of Dallas Risk Assessment Case Study	2015	Air Worldwide
- The Tornado Damage Risk Assessment: Predicting the Impact of a Big Outbreak in Dallas-Fort Worth, TX	2000	National Weather Service and North Central Texas Council of Governments
- City of Dallas Community Wildfire Protection Plan	2015	City of Dallas and Texas A&M Forest Service
- Dallas County Local Hazard Mitigation Plan	2015	County of Dallas

C. List of Plans to still be reviewed

Plan Name	Date	Plan Author	Reason not reviewed
Interior East/West Dallas Drainage Plans	2012	Dallas Water Utilities	Plan Missing
Dallas Equity Indicators	2018	City of Dallas	Permission to download

Plan Name	Date	Plan Author	Reason not reviewed
Resilient Dallas Phase 1 Annex	TBC	City of Dallas	restricted Confirmation on whether this refers to the Preliminary Resilience Assessment
EBS Energy & Facilities Plan	TBC	EBS	In Development
SMP Strategic Mobility Plan	TBC	City of Dallas	In Development
Economic Development Plan	TBC	City of Dallas	In Development
Urban Agriculture Plan	TBC	City of Dallas	In Development
Forward Dallas Comprehensive Plan Update	TBC	City of Dallas	In Development – Update to begin November 2019

D. Green House Gas Emission Targets of Peer Cities

Peer City	Year Target Set	Baseline Year	Reduction Targets					Source Plan
			% Below Baseline Year Emissions					
			2020	2025	2030	2040	2050	
San Antonio	2019 (draft)	2016	-	-	41%	71%	100%	San Antonio Climate Ready (draft)
Denver	2018	2005	15%	30%	-	-	80%	Denver 80x50 Climate Action Plan
Phoenix	2018	2012	-	30%	-	-	80%	Phoenix City Council Resolution
Chicago	2008	1990	25%	-	-	-	80%	Chicago Climate Action Plan
Atlanta	2015	2009	20%	-	40%	-	-	Atlanta Climate Action Plan
Vancouver	2015	2007	33%	-	50%	-	80%	Vancouver Renewable City Strategy and Plan

Endnotes

¹ City of Dallas, 2015. 2015 Greenhouse Gas Emission Inventory.

² NCTCOG, 2018. Mobility 2045: The Metropolitan Transportation Plan for North Central Texas.

³ American Community Survey 5 year estimates. 2012-16.

⁴ https://datausa.io/profile/geo/dallas-tx/#category_transportation

⁵ https://datausa.io/profile/geo/dallas-tx/#category_transportation

⁶ Urban Footprint (network analysis using walking on streets and transit lines, population and jobs by census block from 2010 census).

⁷ City of Dallas, 2015. 2015 Greenhouse Gas Emission Inventory.

⁸ Dallas Water Utility, 2015. 2014 Dallas Long Range Water Supply Plan to 2070 and Beyond

⁹ City of Dallas, 2019. *City of Dallas, MS4 Stormwater Management Plan*

¹⁰ City of Dallas, 2015. *2015 Greenhouse Gas Emission Inventory*.

¹¹ City of Dallas, 2018. *City of Dallas Solid Waste Management Budget*.

¹² City of Dallas, 2013. *City of Dallas Local Solid Waste Management Plan: Zero Waste Plan*.

¹³ <https://parkscore.tpl.org/>

¹⁴ *Building a Cool Clean and Resilient Dallas*.

¹⁵ https://texasrees.blob.core.windows.net/static/Texas%20Trees%20UHI%20Study_Final_v4_title%20change.pdf

¹⁶ https://www.c40.org/networks/food_systems

¹⁷ *Food Systems Network Focus Areas that C40 is addressing through the EAT Initiative*
(https://www.c40.org/networks/food_systems)

¹⁸ US Census Bureau American Community Survey 2011-2015 5 Year Estimates. Food Desert includes any Census tract defined by USDA as a food desert at the LI/LA 1-Mile urban measure that is entirely or partially within the City of Dallas, excluding tracts located in the unpopulated area at Lake Ray Hubbard.

¹⁹ http://dallascityhall.com/government/Council%20Meeting%20Documents/eco_2_healthy-food-dallas_combined_032017.pdf

²⁰ *Attaining Federal Ozone Air Standards: The Role of Transportation Control Measures*

²¹ *State of the Air 2018*

²² Center for Disease Control and Prevention (CDC). (2017). *Asthma's Impact on the Nation in Children's Health. Beyond ABC's, Assessing the Well-being of North Texas Children*.

²³ *Smart Growth for Dallas Health Priorities Map, accessed 28 March 2019*
https://web.tplgis.org/dallassmartgrowth/pdfs/SmartGrowthDallas_PhaseII_HealthPriorities_34x44_20181024.pdf