

Memorandum



CITY OF DALLAS

DATE September 19, 2018

TO Honorable Members of the Quality of Life, Arts & Culture Committee: Sandy Greyson (Chair), Mark Clayton (Vice Chair), Rickey D. Callahan, Jennifer S. Gates, Scott Griggs, B. Adam McGough, Omar Narvaez

SUBJECT The North Texas Clean Air Network

On Monday, September 24, 2018, you will be briefed on the North Texas Clean Air Network. The briefing materials are attached for your review.

Please feel free to contact me if you have any questions or concerns.

A handwritten signature in blue ink, appearing to read 'Joey Zapata'.

Joey Zapata
Assistant City Manager

c: T.C. Broadnax, City Manager
Chris Caso, City Attorney (I)
Craig Kinton, City Auditor
Billerae Johnson, City Secretary
Preston Robinson, Administrative Judge
Kimberly Bizzor Tolbert, Chief of Staff to the City Manager

Majed A. Al-Ghafry, Assistant City Manager
Jon Fortune, Assistant City Manager
Nadia Chandler Hardy, Assistant City Manager and Chief Resilience Officer
M. Elizabeth Reich, Chief Financial Officer
Directors and Assistant Directors

North Texas Clean Air Network



August 27, 2018

DFW Air Research Consortium (ARC)

UTD, UTA, TCU, UNT, UNTHSC

Our lungs are the largest pathway for exposure to toxins



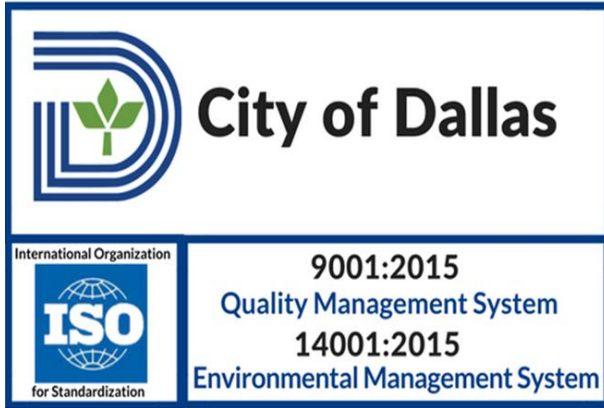
We consume an average of 200 gallons of water every year

We consume an average of 2 million gallons of air every year



Food in your stomach

Ingredients must be listed

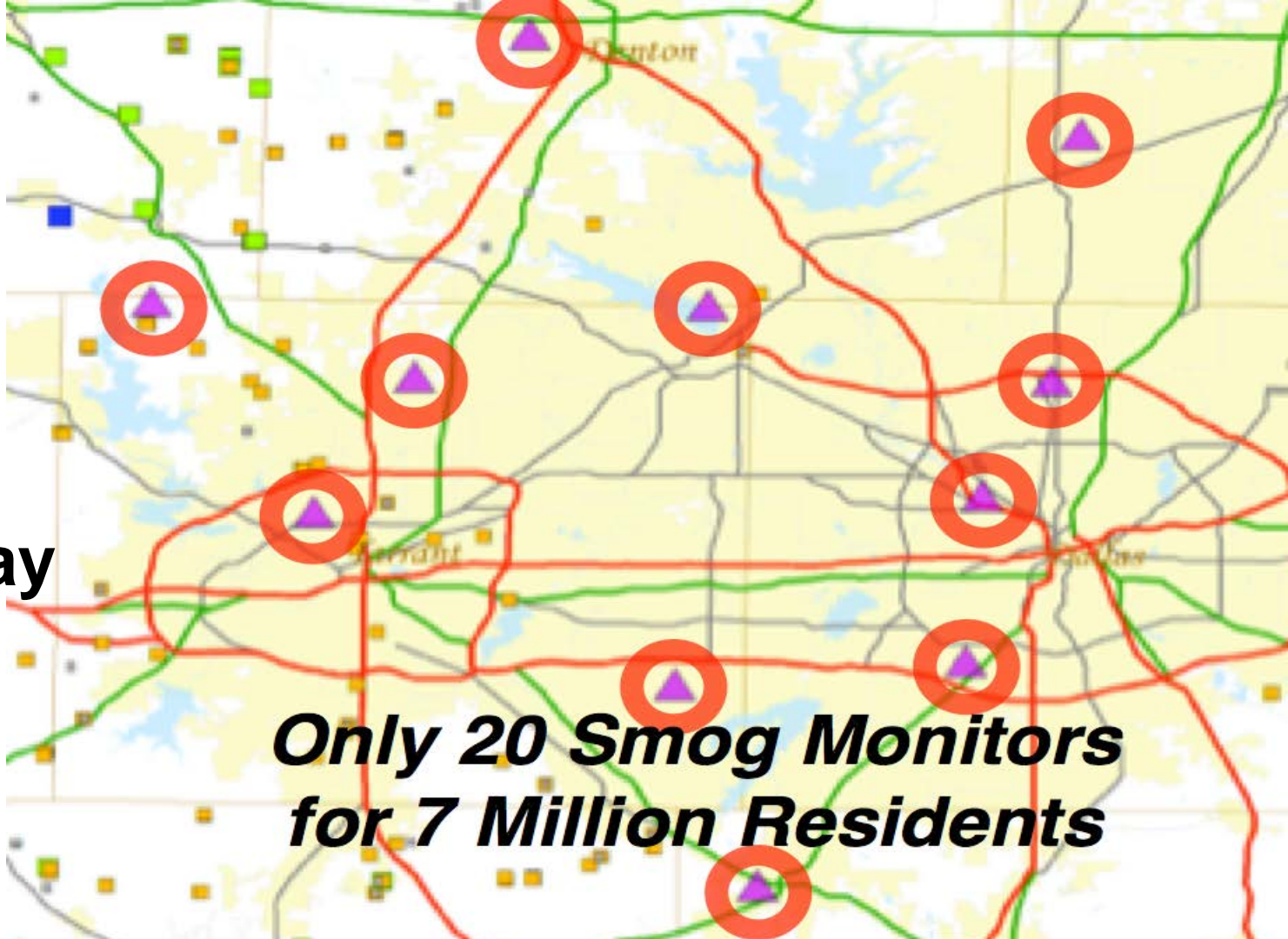


Water from your tap

Certified by Water Department

Air in your lungs ?.....

DFW air pollution monitoring has been driven by conformity and highway funding, *not* public health...



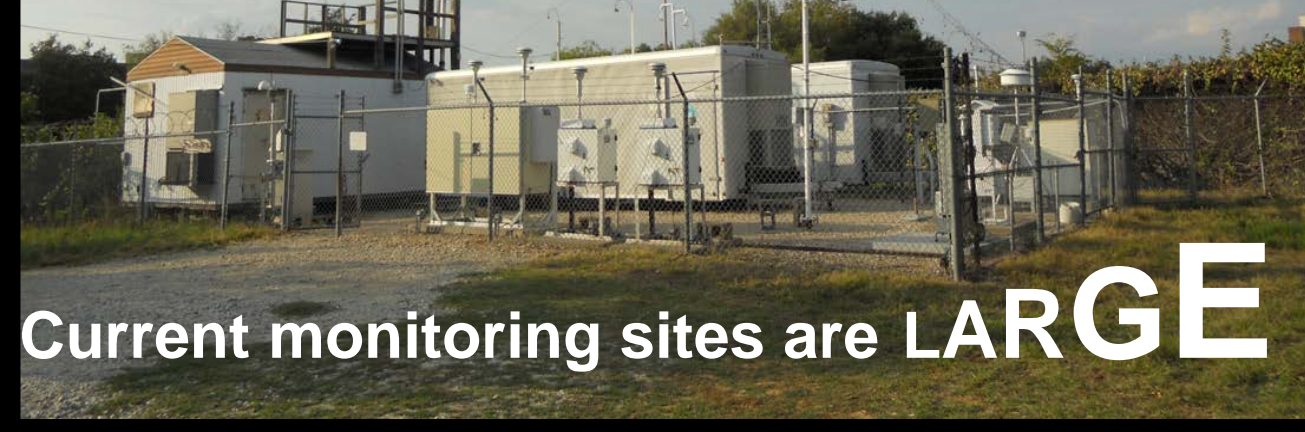
***Only 20 Smog Monitors
for 7 Million Residents***

Dallas County is almost as big as the state of Rhode Island, and has seven times the population, but it has only one EPA - certified PM monitor.

R.I has three.

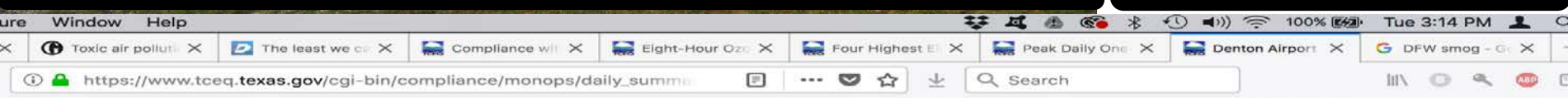


**Only one
Particulate Matter Monitor
for all of Dallas County**



Current monitors are expensive: \$500,000 to \$1 million

Current monitoring sites are LARGE



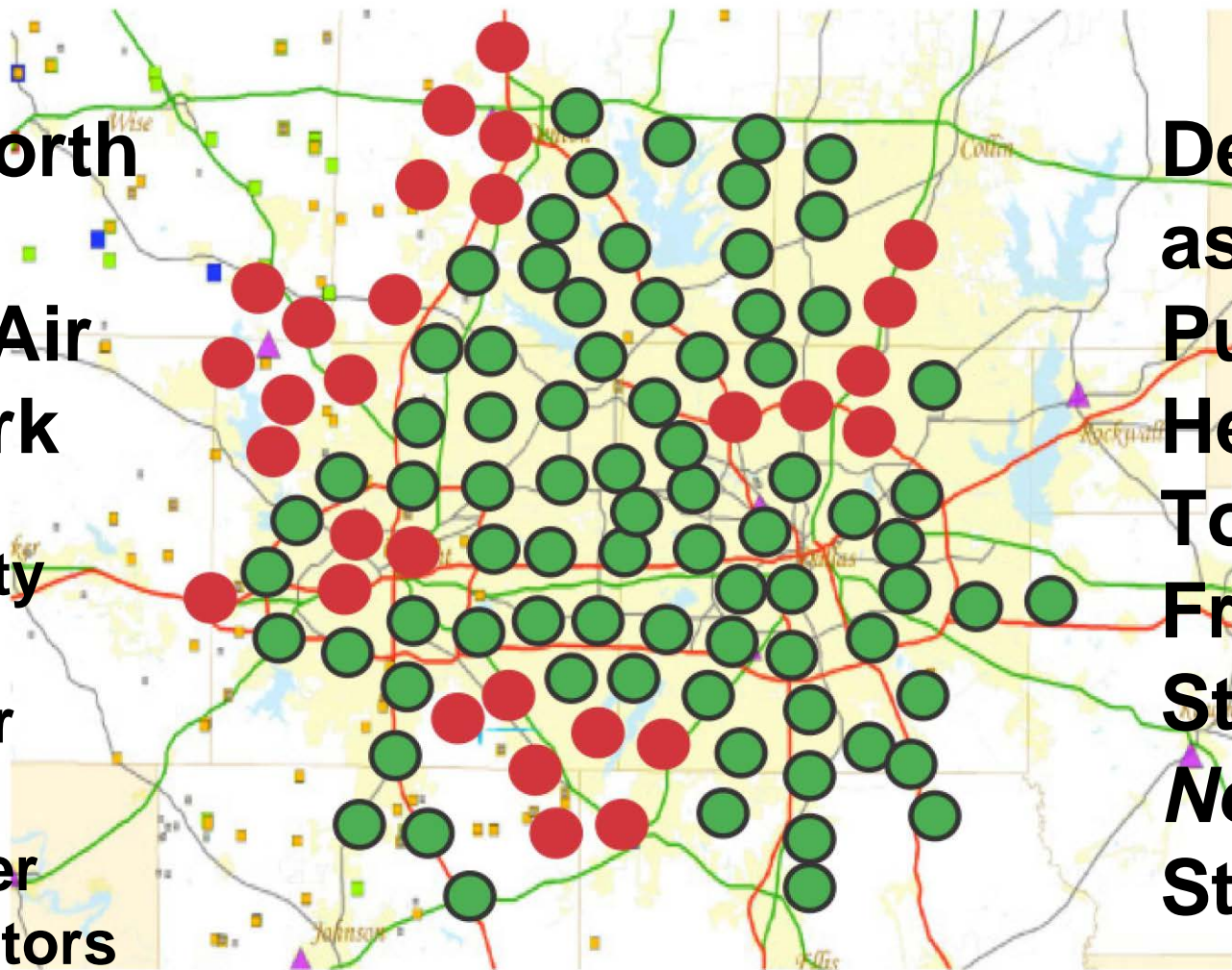
Current. monitors. are. often. hours. behind. real. time....

The table below contains hourly averages for all the pollutants and meteorological conditions measured at Denton Airport South C56/A163/X157 for **Tuesday, May 29, 2018**. All times shown are in CST.

Parameter Measured	Morning												Afternoon				Parameter Measured	POC
	Mid	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	Noon	1:00	2:00	3:00		
NOy	14.5	23.6	22.7	12.5	16.3	29.9	17.0	19.8	15.7	5.5	3.2	4.6	5.7	FEW	NA	NA	NOy	2 MDL
Nitric Oxide	0.0	0.7	2.9	0.2	0.6	8.1	4.7	5.5	2.6	0.3	0.1	0.0	0.0	FEW	NA	NA	Nitric Oxide	1 MDL
	0.4	3.1	6.7	0.1	0.7	11.2	4.2	5.4	2.7	0.5	0.2	0.2	0.2	FEW	NA	NA		2 MDL
Nitrogen Dioxide	10.7	12.7	15.7	12.7	15.3	18.9	13.7	15.8	13.4	5.3	3.0	4.0	4.1	FEW	NA	NA	Nitrogen Dioxide	1 R MDL
Oxides of Nitrogen	10.8	13.5	18.8	13.0	16.1	27.2	18.5	21.4	16.2	5.7	3.2	4.0	4.2	FEW	NA	NA	Oxides of Nitrogen	1 MDL
Ozone	14	7	14	12	4	4	9	18	37	55	62	74	84	FEW	NA	NA	Ozone	1 R MDL

The North Texas Clean Air Network

Reliability
With:
- Smaller
- Faster
- Cheaper
Air Monitors



Designed
as a
Public
Health
Tool
From the
Start...
*Not a
Study*



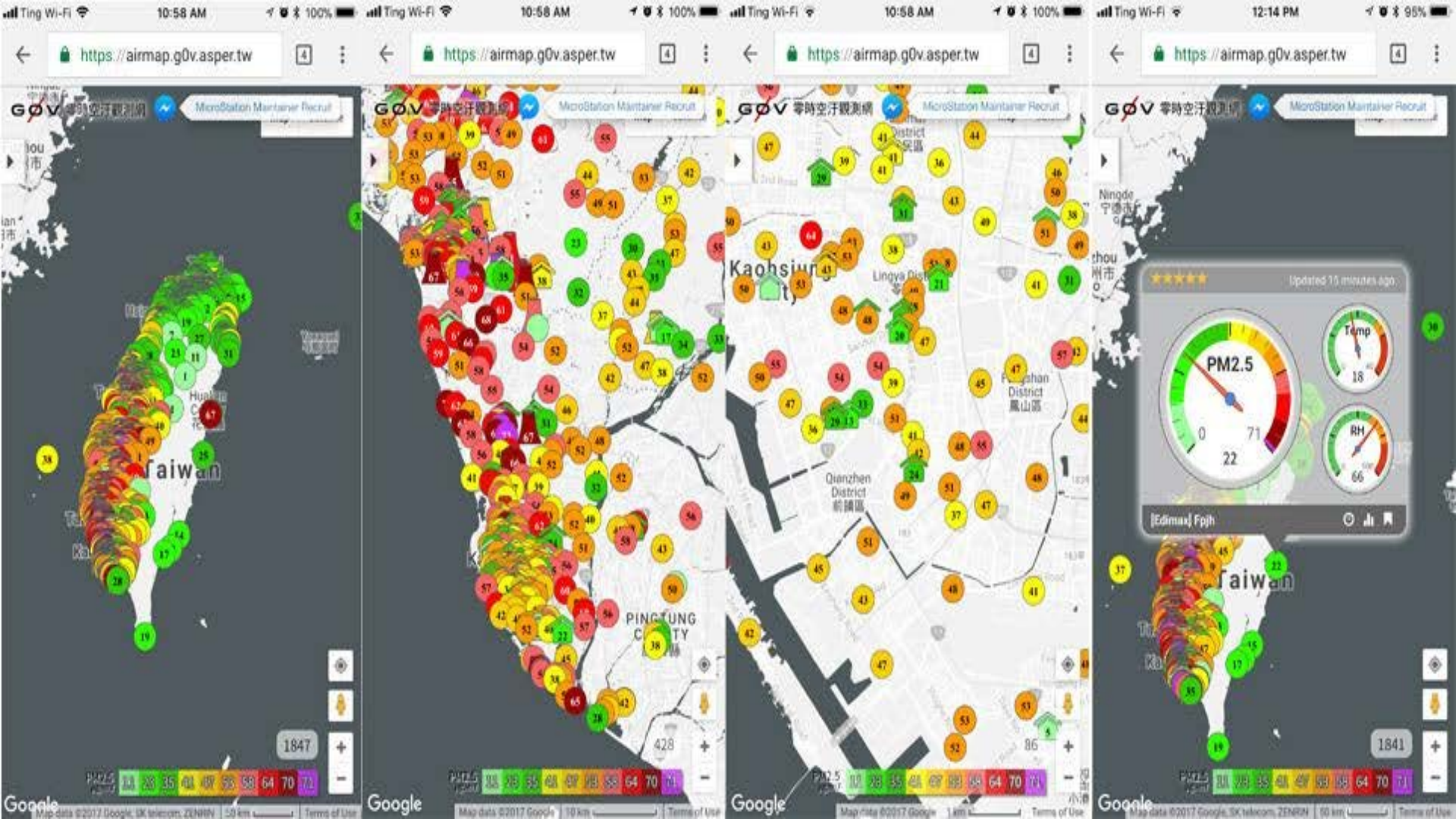
SMALLER

	PurpleAir (PA-I-Indoor)	Optical	PM _{1.0} , PM _{2.5} & PM ₁₀	~\$180	PM _{2.5} : R ² ~ 0.75 PM ₁₀ : R ² ~ 0.36 to 0.46
	PurpleAir (PA-II)	Optical	PM _{1.0} , PM _{2.5} & PM ₁₀	~\$200	PM _{1.0} : R ² ~ 0.96 to 0.98 PM _{2.5} : R ² ~ 0.93 to 0.97 PM ₁₀ : R ² ~ 0.66 to 0.70
	Sensortec (MicroPEM)	Optical	PM _{2.5}	~\$2,000	R ² ~ 0.65 to 0.90
	SainSmart (Pure Morning P3)	Optical	PM _{2.5}	~\$170	R ² ~ 0.73

CHEAPER



FASTER



10:58 AM

10:58 AM

10:58 AM

12:14 PM

https://airmap.g0v.asper.tw

https://airmap.g0v.asper.tw

https://airmap.g0v.asper.tw

https://airmap.g0v.asper.tw

G0V 即時空汙監測網 MicroStation Maintainer Recruit

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Weather widget showing PM2.5, Temperature (18), and Relative Humidity (66). Updated 15 minutes ago. [Edimax] Fpjh

500 sensors

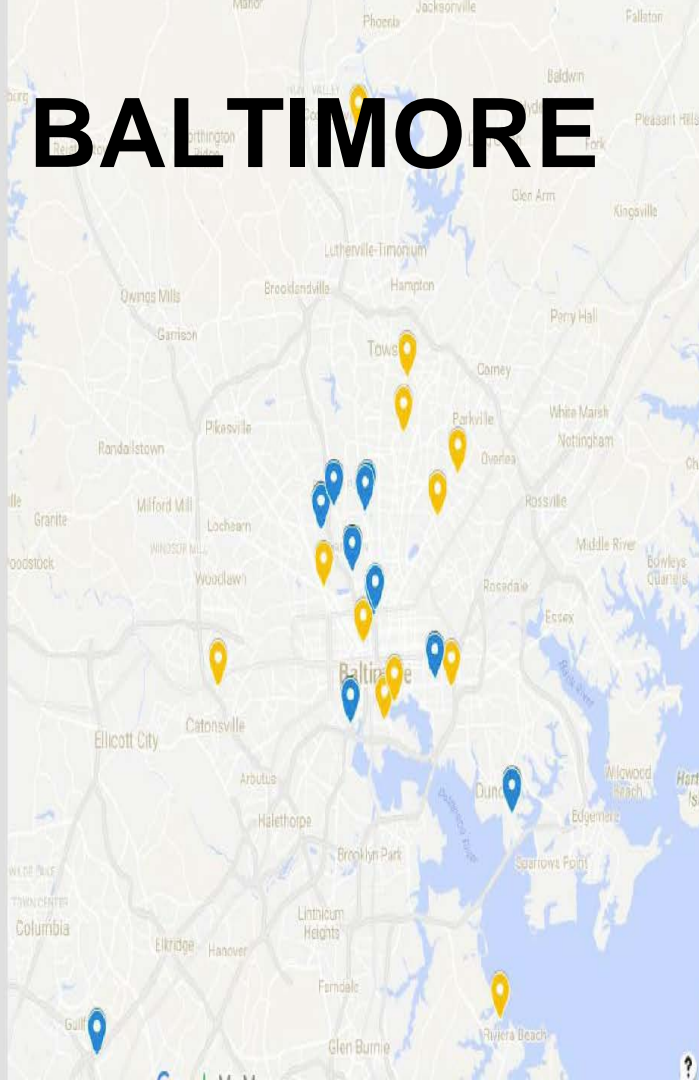
200 Air Quality

300 Temperature/
Humidity

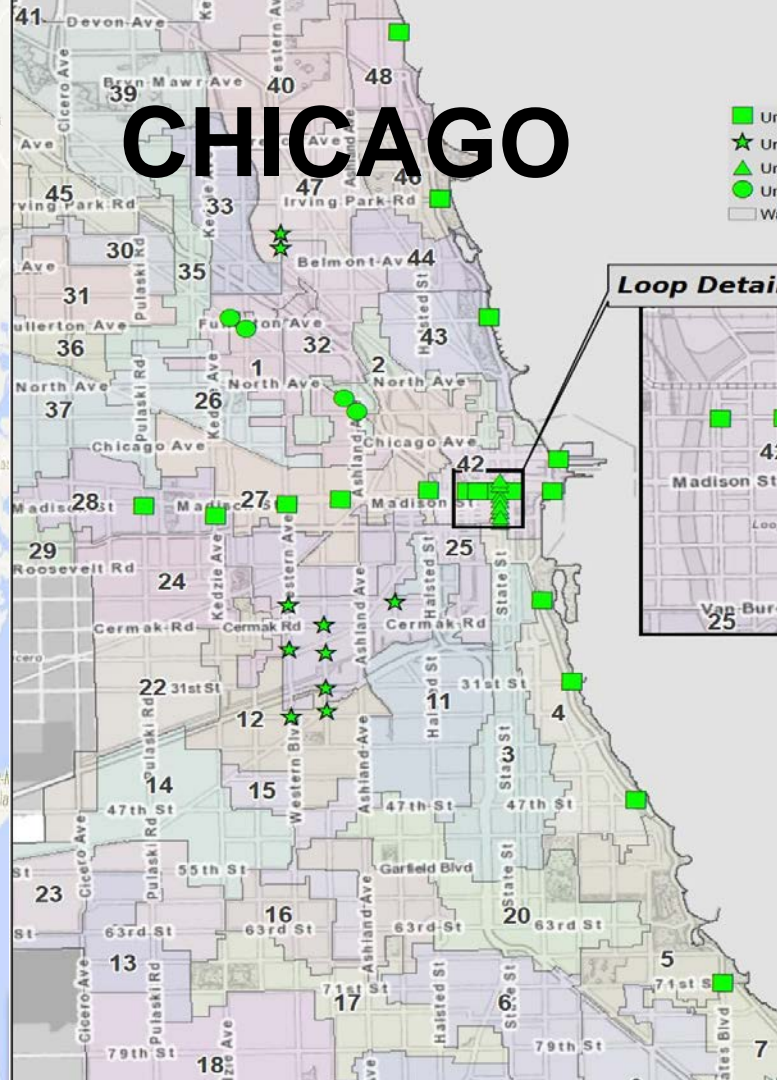
Locations

-  Current
-  Planned for spring

BALTIMORE



CHICAGO

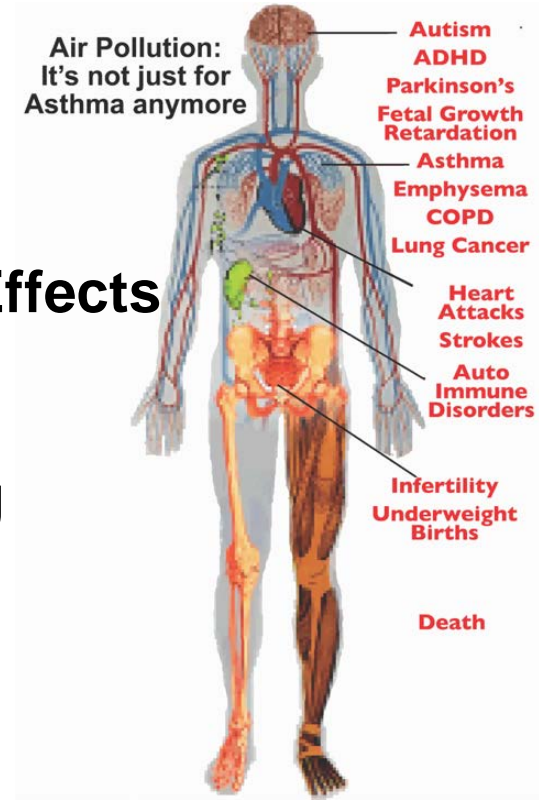


Why **P**articulate **M**atter?

Intersection of Cost and Accuracy

Association with a Variety of Serious Health Effects

PM “Hot Spots” Are More Localized Than Smog



**MARTIN MARIETTA
BATCH PLANT**

**TAMKO
ROOFING
MATERIALS
PLANT**

**UNION
PACIFIC
SWITCH
YARD**

**Particulate Matter
pollution tracks
closely with
Environmental Justice
burdens**

“For PM those in poverty had 1.35 times higher burden than did the overall population, and non-Whites had 1.28 times higher burden. Blacks, specifically, had 1.54 times higher burden than did the overall population”

- EPA researchers April 2018

LOOP 12



SOME BENEFITS TO PUBLIC HEALTH

Monitoring presence discourages bad actors

Coordinating stoplight timing to reduce pollution

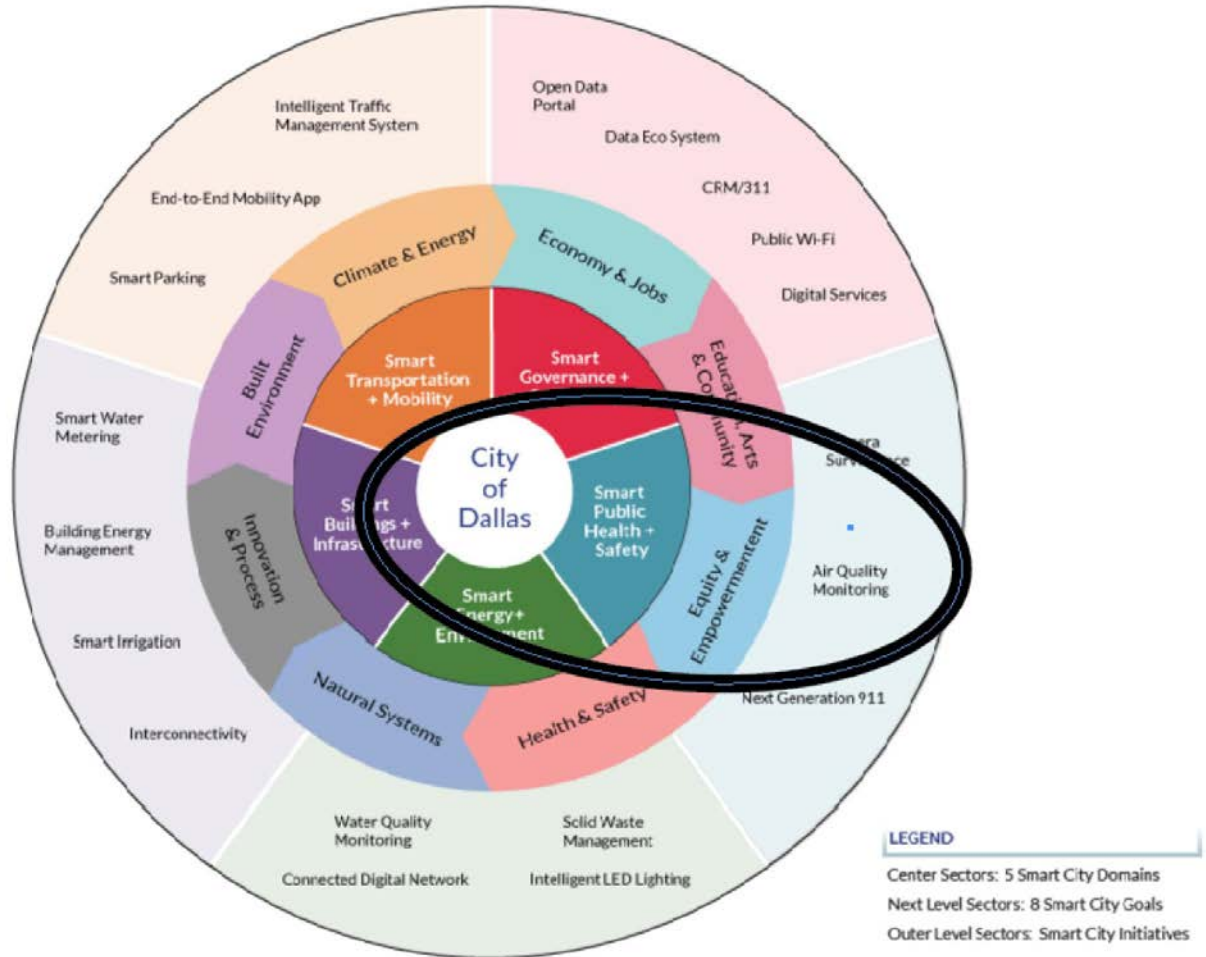
Tracking accidents and incidents & providing warnings

Correlating school absenteeism/Prevention

Correlating COPD, Asthma, heart attacks, strokes/Prevention

**Identifying hotspots and
mapping pollution burdens and disparities**

Dallas Has Already Identified “Smart” Air Monitoring As a Goal

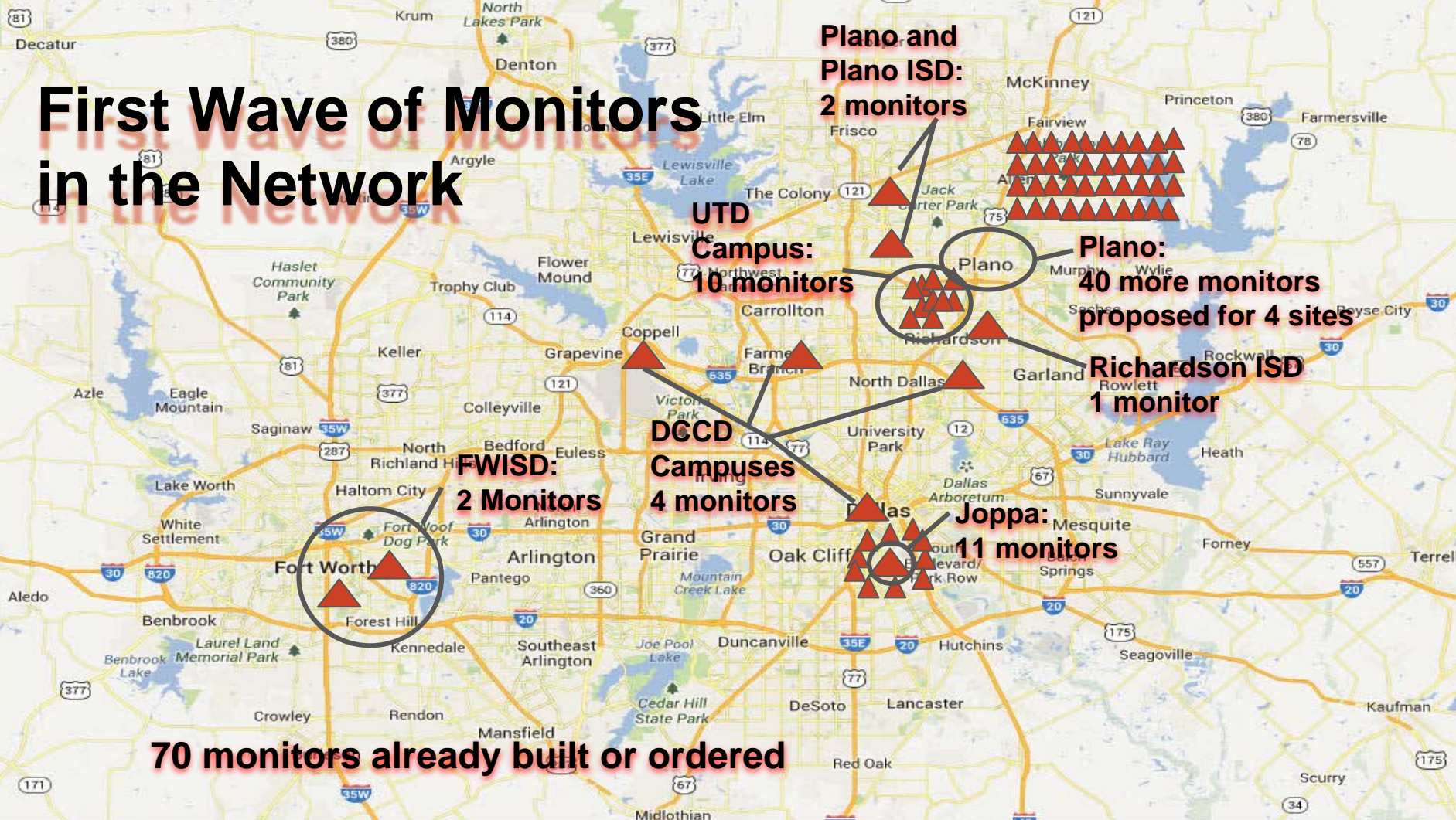


December 11th, 2017 Sunshine Recycling fire in West Dallas



DFD stated it showed-up with its Haz-Mat unit and tested the air. It didn't. Two employees from the TCEQ office in Ft. Worth did - **three hours after it started**. They stayed an hour...and then left. The fire burned for 20 more hours

First Wave of Monitors in the Network



70 monitors already built or ordered

Creating the Network

National Science Foundation Grant Proposal

UTD
UNTHSC
FWISD
Plano
Downwinders
Livable Arlington
Mansfield Gas
Well Awareness



“Clean Air Brain Trust” Working Group

Comm. Daniel
CM Greyson
Dr. David Lary
Yarcus Lewis
James McQuire
Jim Schermbeck
Terry Welch
Marcella Olsen



Founding Documents

Local Government Corporation

Articles of Incorporation

By Laws



Dallas County District Attorney Vetting

DFW Air Network Mission

1. Provide the best, most up-to-date factual information about local air quality by supervising the implementation and maintenance of a **publicly accessible, secure, and scientifically credible** regional air sensor network providing simultaneous real time air quality information from multiple locations within member or contracted jurisdictions via the World Wide Web.
2. Provide **fact-based public education** resources on local air quality.
3. Support **scientific research** on local air quality by local colleges, universities, hospitals and schools.
4. Work with regulatory agencies and entities to **further local clean air goals**.

Who Serves on the Network Board?

1. **Dallas City Council** Member
2. **Dallas Office of Environmental Quality** representative
3. **City of Dallas Public Advocate** representative
4. **Dallas Commissioners Court** member
5. **Parkland Health and Hospital** representative
6. **Dallas County** Public Advocate representative
7. **Dallas County Medical Society** representative
8. **Plano Sustainability & Environmental Education Division** representative
9. **Plano Public Advocate** representative
10. **Dallas Independent School District** representative

These are the initial members. Every city, county and hospital district that joins is eligible to appoint a representative to the Network Board.

UTD is an International Hub for Environmental Sensing Technology

Labs on Campus

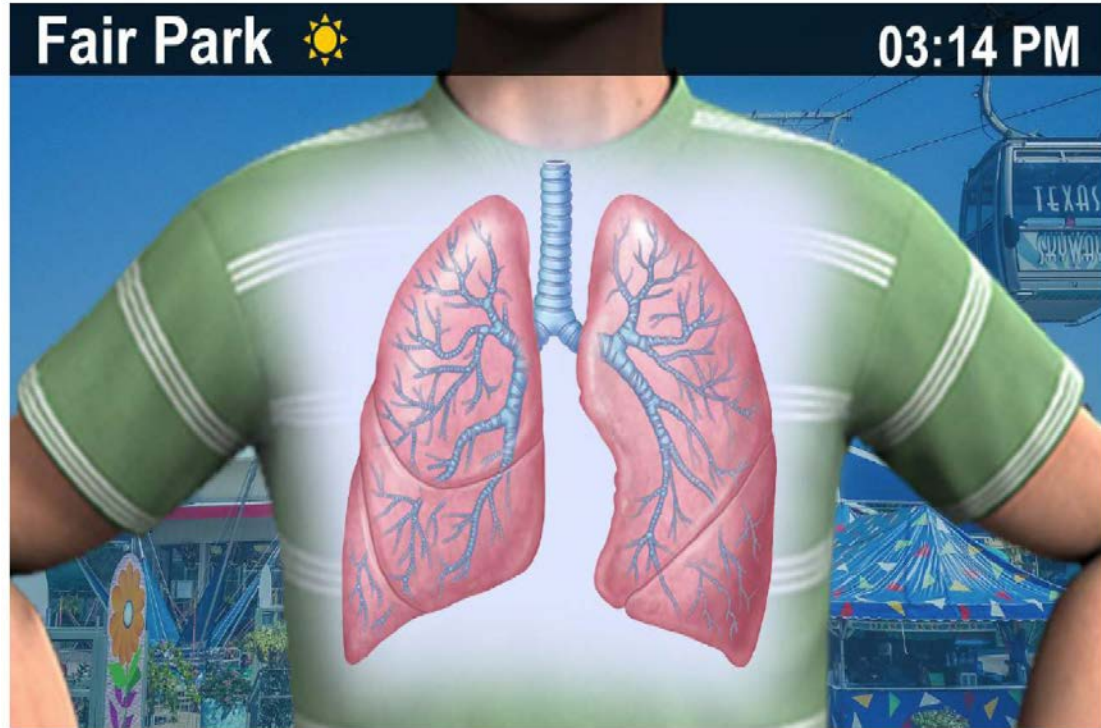
Research on Campus

National Science Foundation Grant Brought
Us Together to Design Network from hardware
to software. This expertise **is free**.



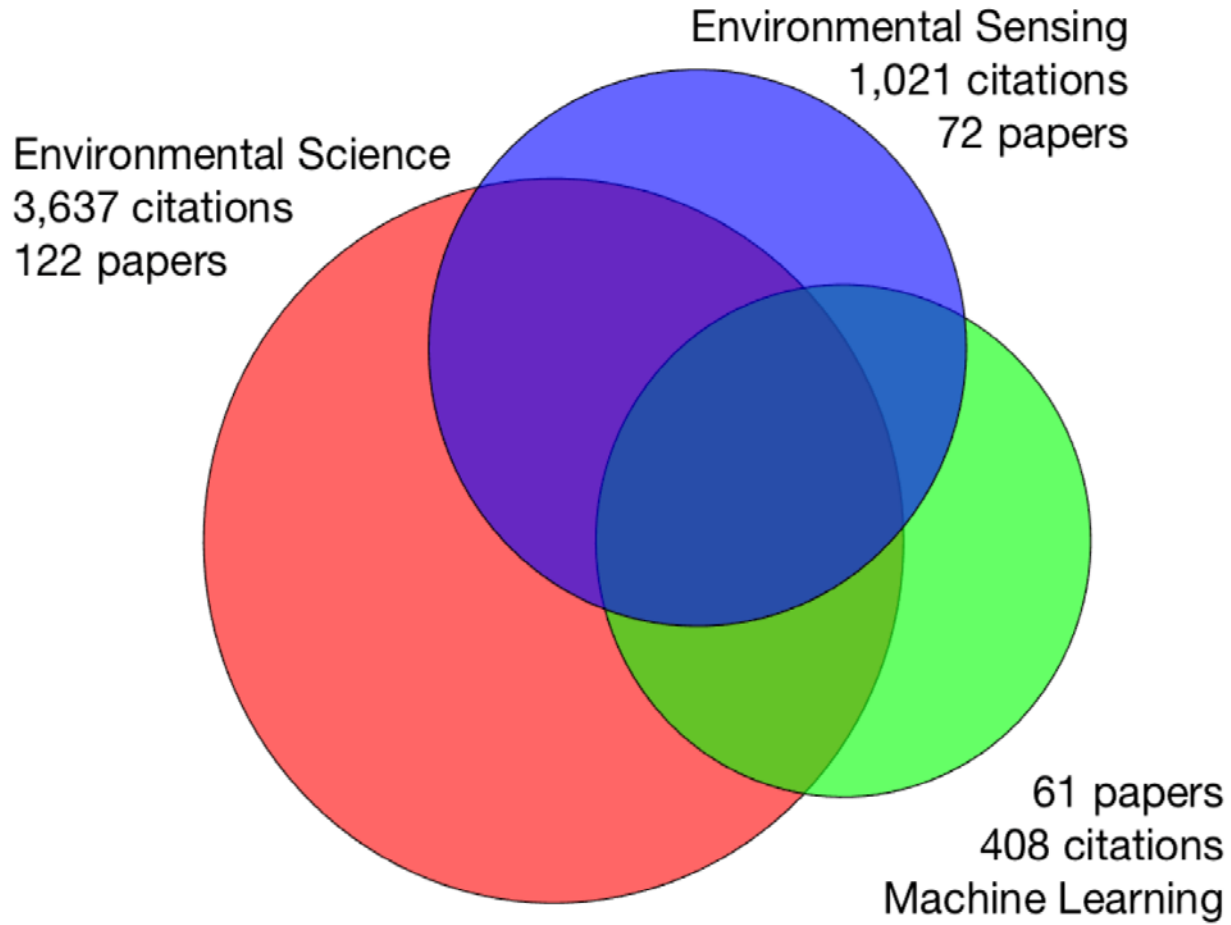
The involvement of UTD and the Air Research Consortium insures this isn't just a network of sensors, ***but a whole network of local researchers and public health specialists.***

It's a living laboratory for continually improving both hardware and software, capable of delivering high-level research while being a premier public health tool.



The design of the Network is the culmination of 20 years of experience researching, deploying, and building environmental sensors

Focus Areas



Key Concepts Driving The Network

Accuracy: We build our own monitors and have advanced calibration

Value: Research capacity and scale allows costs to be cut

Accessibility: Open Source on one end, public display on the other

Transparency: Public meetings, Consortium feedback

Collaboration: Combines universities, governments, and citizens

Portability and Scalability: Replication in a variety of locales is key

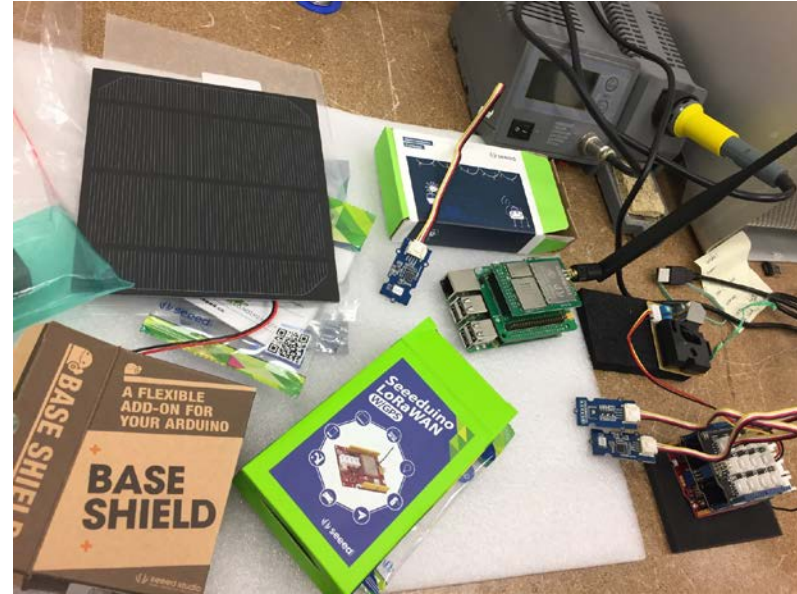
We Build Our Own Monitors



1st Generation

2015 EDX grant =
20 monitors
based on
Argonne National
Laboratory
Design.
Assembled @UTD
Hard wire connections

10 @UTD campus
10 in DFW region



2nd Generation

Assembled @UTD

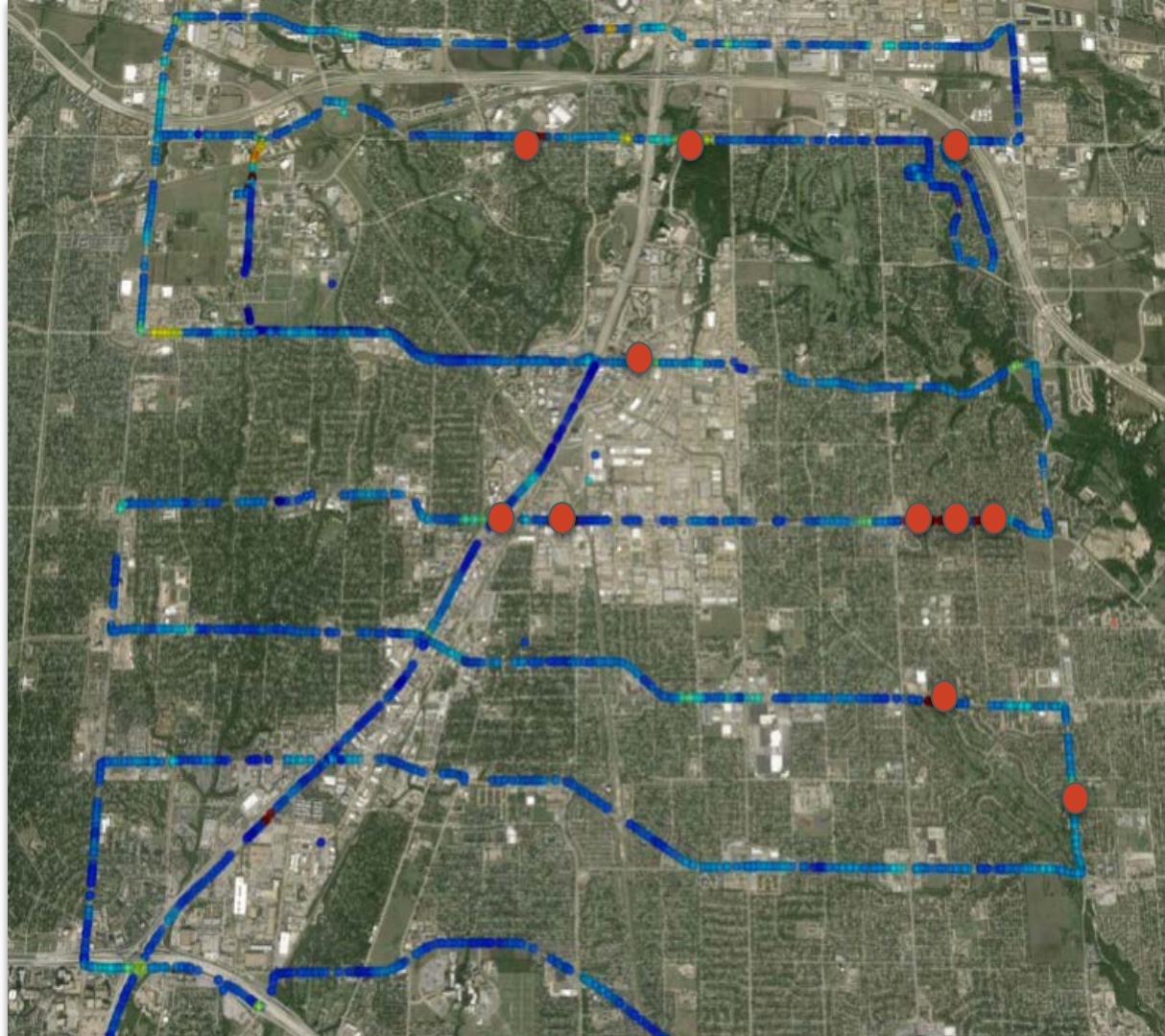
Solar-Powered

40 bought for Plano parks
10 bought for Joppa

Collection of
Data....

Through Space

The more sensors
the better,
especially with
PM pollution

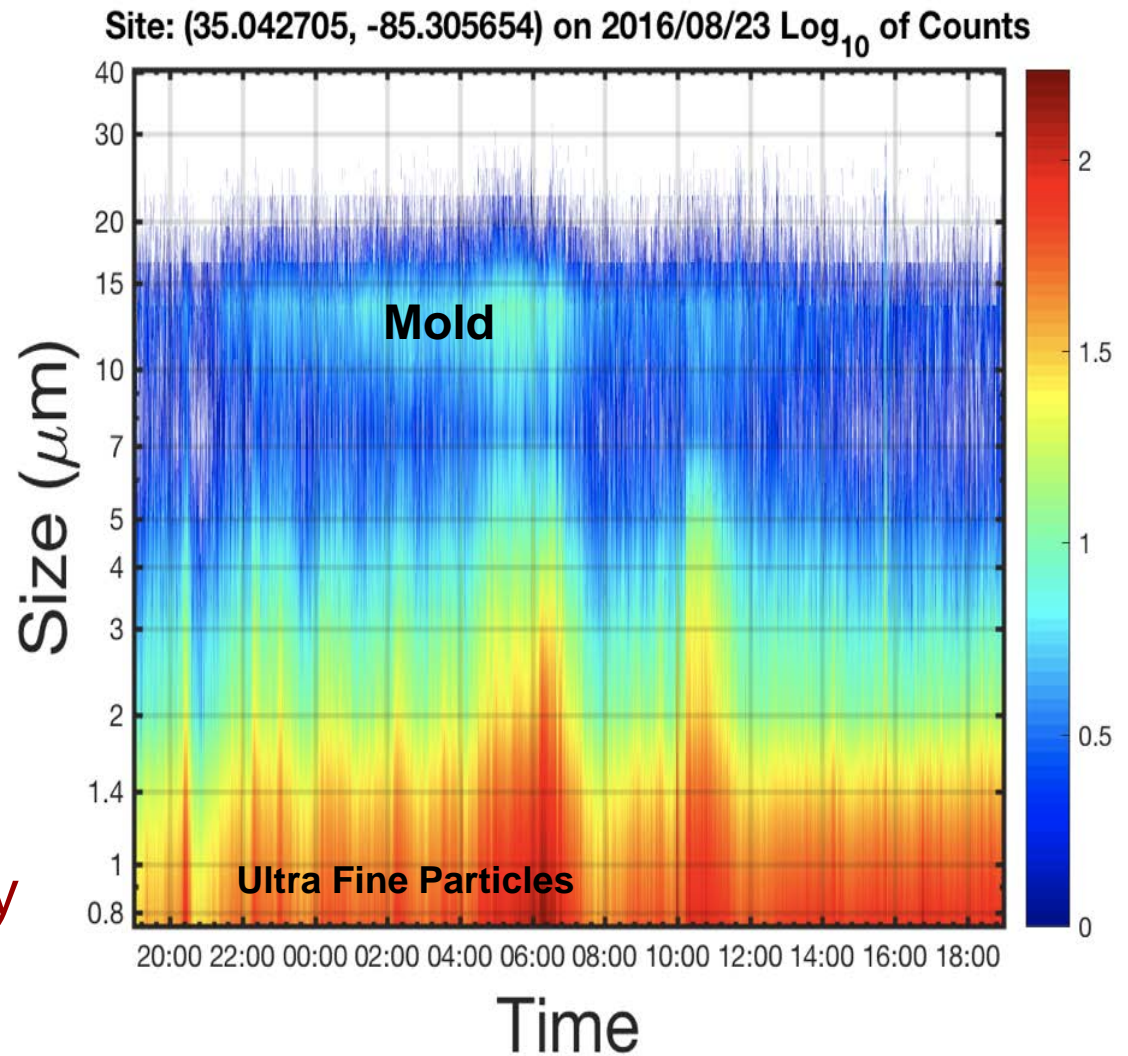


Collection of Data.....

Through Time

Hour averages can
hide a lot of variability.

Rapidity in sampling is
important not just to the
user, but to the accuracy
of the information.



The Importance of Calibration & How the Network Improves It

1. Pre-deployment Calibration

Before being deployed sensors are placed in a calibration chamber for several days together with an EPA certified reference instrument. This ensures their initial reliability.



2. Co-Location Calibration



3. Machine Learning:

Calibrating in Real Time

Legend



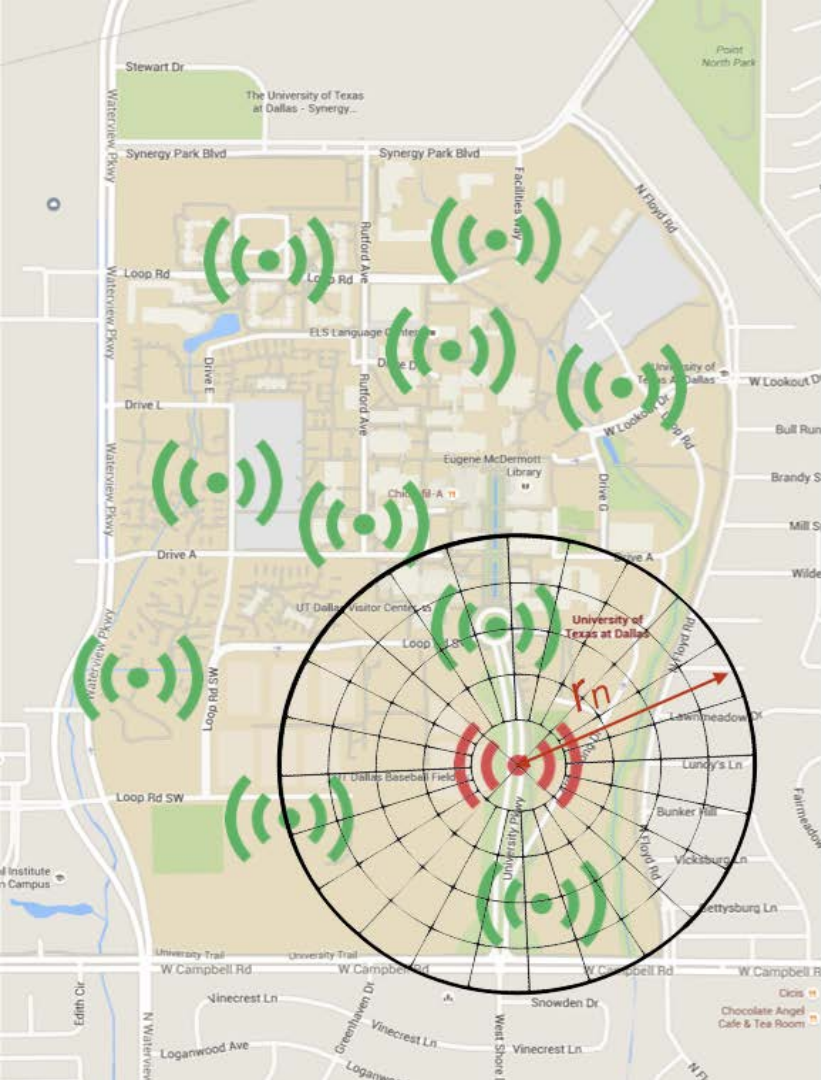
IoT Sensor



Mobile Reference Sensor



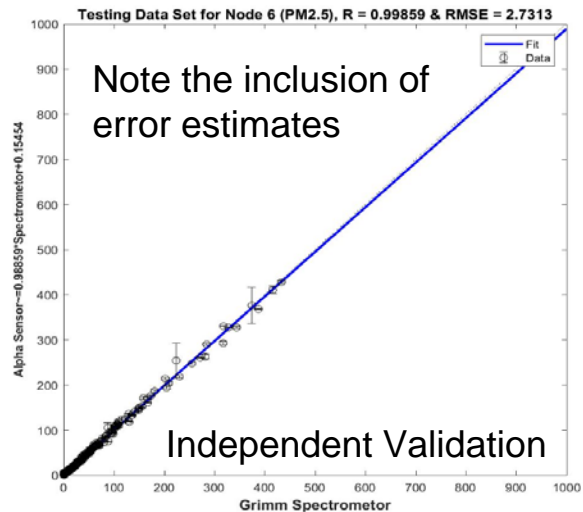
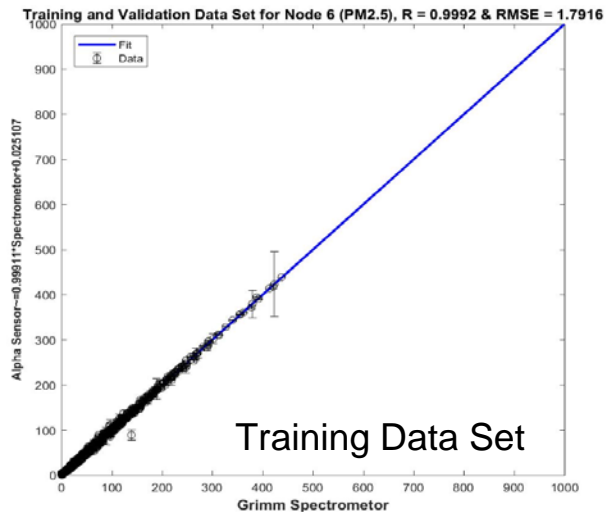
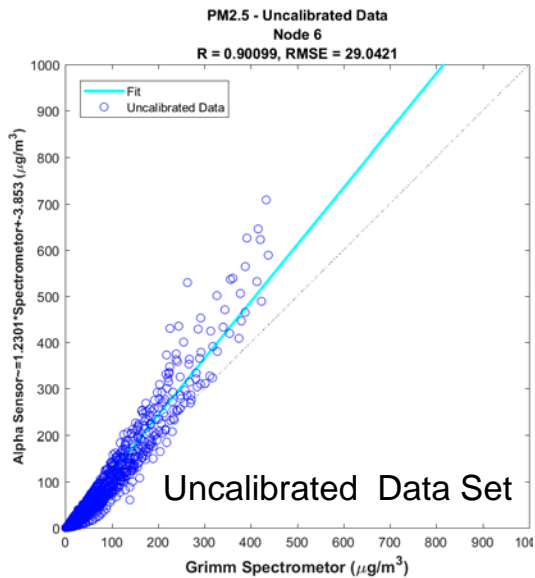
Neighborhood Radius



We use techniques developed over a decade to provide real-time calibration in the field *after* deployment.

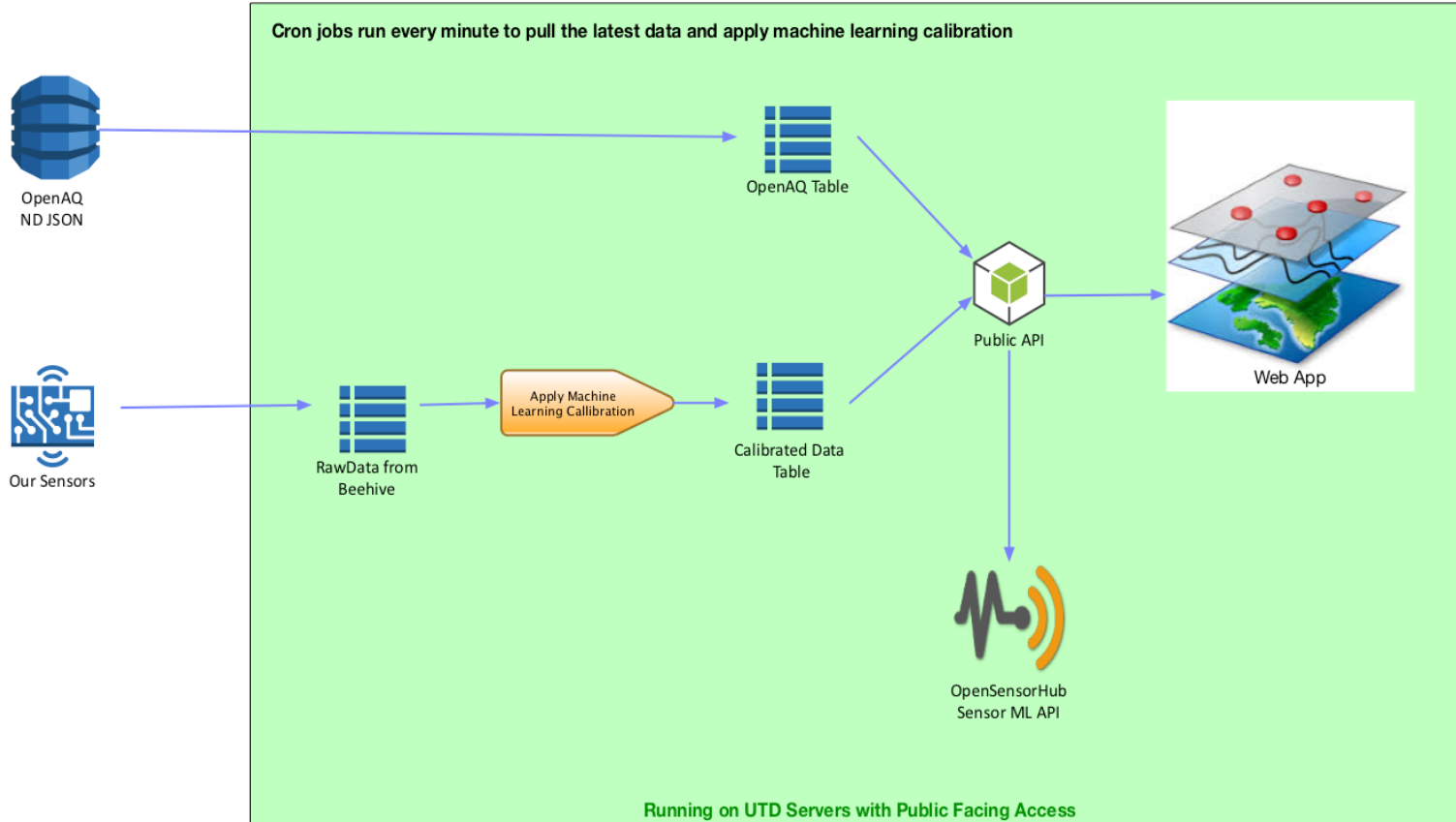
Machine Learning Calibration: Big Pay-Off

Regression Analysis with the Predicted Errors (PM2.5) for Node 6 (Updated)



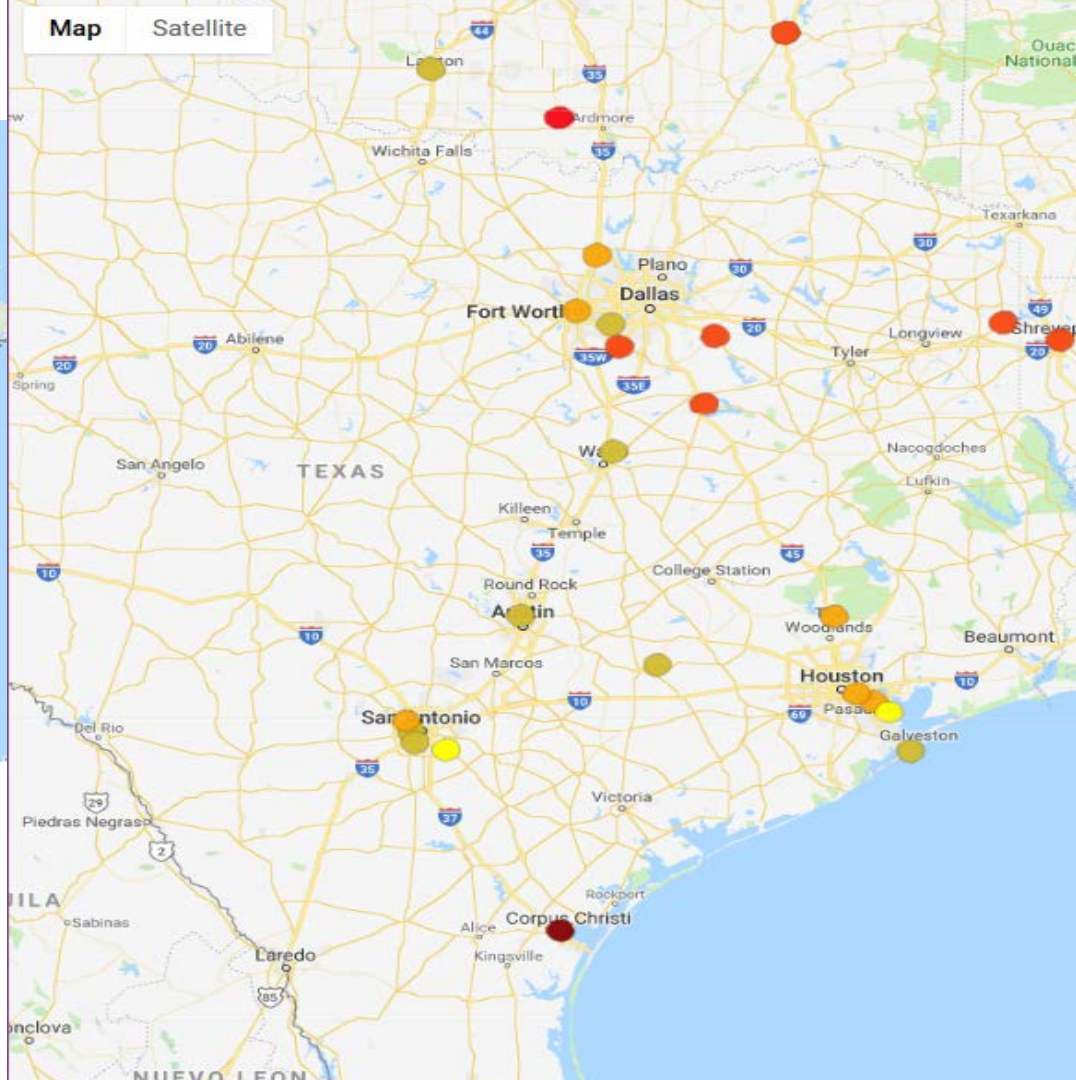
Collecting, Storing & Retrieving the Data

Open Data Portal/API and Transparency



UTD is providing the servers for this Data Portal for free.

Displaying The Data



Efficient Use of Funds

Pay-As-You-Go approach utilizing a combination of grants, donations, budgeted appropriations, and Network charges for buying and installing new monitors

Estimated 220 Node Network Costs for Installation and Operation for Two Years

		#	
Sensor Clusters	Primary Nodes measuring the Particulate Size Distributions (PM1, PM2.5, PM10), Temperature, Pressure and Humidity	Master node measuring particulate size distribution, temperature, pressure, humidity, GPS	\$ 5,000
	Secondary Nodes measuring Particulates, Temperature, Pressure and Humidity	10 solar powered particulate, temperature, pressure, humidity sensors with GPS deployed as a long-range wireless solution to create a low-power wide area network (LoRaWAN)	\$ 2,800
20 clusters of 10 sensors each		Initial installation cost per cluster	\$ 1,000
at \$14,200 per cluster		Cellular cost per cluster for year 1 if no wired network is available	\$ 648
= 200 monitors		Cellular cost per cluster for year 2 if no wired network is available	\$ 648
for		Replacement parts per cluster required each year to keep measuring gases (Particulate, Temperature, Pressure and Humidity measurements do NOT need any replacement parts).	\$ 1,552
\$284,0000		Replacement parts for year 2	\$ 1,552
		Annual Maintenance for year 1	\$ 500
		Annual Maintenance for year 2	\$ 500
Total for one cluster			\$ 14,200
Number of clusters		20	
Total for Network			\$284,000

For a DFW sensing network with 200 secondary nodes measuring Particulates, Temperature, Pressure and Humidity and 20 primary nodes measuring the Particulate Size Distributions Temperature, Pressure and Humidity. The secondary nodes are solar powered and use wireless communication.

Simulation courtesy of Jay Boris NRL

DFW's Network Can Benefit from Other UTD and Consortium Research Projects

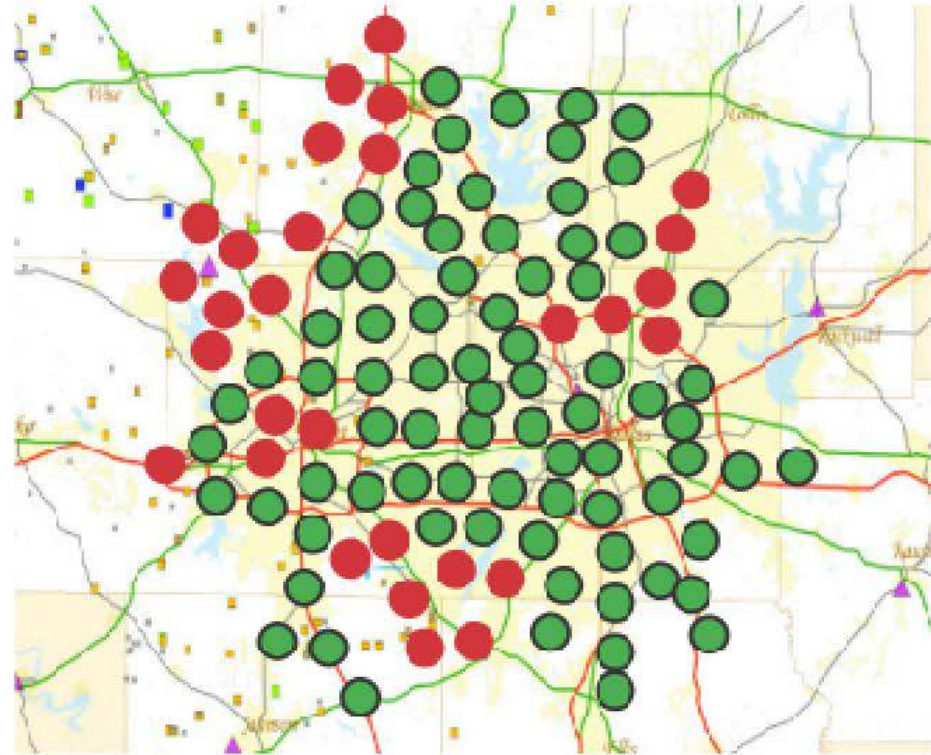
Source Location: Times Square
Elapsed Time: 6 Minutes



Dallas Can Turn This....



Into This





Dallas County Commissioner Dr. Theresa Daniel
Dr. Barbara Durso, Pediatrician, Environmental
Scientist, Parkland Oak West Health Center
Dr. Barry Lachman, Medical Director at Parkland
Community Health Plan
Ernest McMillan, Curator for Community Action at
Cara Mia Theatre, Dallas Peace and Justice Center
Libby Willis & Rita Vinson, former presidents,
FW League of Neighborhoods
City of Plano
Dallas Sierra Club
Downwinders at Risk
Environmental Integrity Project
Environment Texas
Inclusive Communities Project
Joppa Freedmen's Township Association
Liveable Arlington
Mansfield Gas Well Awareness
Sierra Club/Beyond Coal
Texas Campaign for the Environment

The North Texas Clean Air Network

**BYLAWS OF THE NORTH TEXAS CLEAN AIR NETWORK
LOCAL GOVERNMENT CORPORATION**

ARTICLE 1

Name, Offices, and Purposes

1.1 Name. The name of the corporation is the North Texas Clean Air Network Local Government Corporation (the “Corporation”).

1.2 Offices. The Corporation may have, in addition to its registered office, offices at such places as the Board of Directors may from time to time determine or as the activities of the Corporation may require.

1.3 Purposes. The Corporation shall be incorporated to aid and to act on behalf of the City of Dallas, City of Plano and Dallas County (the “Local Governments”) to accomplish their governmental purpose; namely to oversee the establishment and operation of a network of modern calibrated air quality sensors within member jurisdictions or in contracted jurisdictions, using such monitors to further advance understanding of local air quality, support local air quality education and research, and assist in responding to local public health threats caused by poor air quality.

a. The goals and purposes of the Corporation are as follows:

- i. Supervise the implementation and maintenance of a publicly accessible, secure and scientifically credible regional air sensor network providing simultaneous real time air quality information from multiple locations within member or contracted jurisdictions via the World Wide Web (the “Network”);
- ii. Provide the best, most up-to-date factual information about local air quality;
- iii. Provide fact-based public education resources on local air quality;
- iv. Support scientific research on local air quality by local colleges, universities, hospitals and schools;
- v. Work with regulatory agencies and entities to further local clean air goals;
- vi. Raise capital to support policy goals, as needed; and
- vii. Prepare annual written reports to the Local Governments detailing progress to date (including a description of projects undertaken that year, results of the projects and other information deemed pertinent by the Corporation for the public and the Local Governments) and goals for the future.

b. To accomplish said goals and purpose, the Corporation shall be authorized to:

- i. Contract with persons and with governmental, for-profit and non-profit entities for the procuring of services and supplies and the hiring of personnel;
- ii. Acquire and hold title to interests in real and personal property;
- iii. Accept funds and property appropriated by the Local Governments;
- iv. Apply for grants of funds, services, and things of value and accept awards of such grants;
- v. Accept donations of funds, services and things of value;
- vi. Issue bonds, notes, and other debt obligations as necessary for the accomplishment of the governmental purpose stated above, provided that the

Corporation shall not incur debt without the consent of the governing bodies of the Local Governments, as evidenced by approval of an ordinance, order or resolution; and

- viii. Engage in other lawful activities to accomplish the governmental purpose stated above.

ARTICLE 2

Board of Directors

2.1 Management. Subject to the Articles of Incorporation, management of the affairs of the Corporation shall be vested in the directors, who together constitute the Board of Directors (the “Board”). The qualifications of the directors, as well as the procedures for their appointment and removal, shall be prescribed by the Articles of Incorporation.

2.2 Annual Meetings. The Board shall hold an annual meeting for the purposes of electing officers and transacting any other business related to the Corporation.

2.3 Regular Meetings. In addition, the Board may conduct additional meetings at times and locations designated by the Board.

2.4 Special Meetings; Emergency Meetings. Special and emergency meetings of the Board shall be held whenever called by the Chair of the Board or by a majority of the directors who are serving duly appointed terms of office at the time the meeting is called.

The Secretary shall give notice of each meeting in person, by telephone, electronic transmission (*e.g.*, facsimile transmission, electronic mail, text message, or mail at least three (3) days before the meeting to each director. Notice of each emergency meeting shall also be given in the manner required under Chapter 551, Texas Government Code (the “Open Meetings Act”). For purpose of these Bylaws, an “emergency meeting” is a meeting of the Board to consider a circumstance that, in the absence of immediate action by the Board, may have a material, adverse impact upon the Corporation or the air quality of the participating cities or Dallas County. The person(s) calling the special or emergency meeting shall provide the Secretary of the Corporation with a statement of the reason(s) for the meeting, which statement shall be included in the notice of the meeting.

2.5 Compliance with Open Meetings Act. The Board shall meet in accordance with and post notice of each meeting of the Board in accordance with Chapter 551 of the Texas Government Code (the “Open Meetings Act”). Notice of each meeting shall be posted by the Dallas County Clerk at the same location or locations notice of Commissioners Court meetings is posted, by the City Secretary of the City of Dallas at the same location or locations notice of Dallas City Council meetings is posted, and by the City Secretary of the City of Plano at the same locations notice of Plano City Council meetings is posted. Additional notice of each meeting may be posted at one or more other locations according to the requirements of participating cities and counties.

2.6 Manner of Conducting Meetings. At the meetings of the Board, matters pertaining to the purposes of the Corporation shall be considered in such order as from time to time the Board may determine.

At all meetings of the Board the Chair shall preside, and in the absence of the Chair, the Vice Chair shall preside. In the absence of the Chair and the Vice Chair, an acting presiding officer shall be chosen by the Board from among the directors present.

The Secretary of the Corporation shall act as secretary of all meetings of the Board, but in the absence of the Secretary, the presiding officer may appoint any person to act as secretary of the meeting.

2.7 Quorum. A majority of the Board shall constitute a quorum. If at any meeting of the Board there is less than a quorum present, business of the Board shall not be conducted. The act of a majority of the directors present and voting at a meeting at which a quorum is in attendance shall constitute the act of the Board, unless the act of a greater number is required by law, by the Articles of Incorporation, or by these Bylaws.

2.8 Committees. The Board may, by resolution passed by a majority of the directors, designate three (3) or more directors to constitute an executive committee or other type of committee. The executive committee shall have and may exercise all of the authority of the Board in the management of the Corporation, except where action of the Board is specified by statute or these Bylaws. The executive committee shall act in the manner as provided in these Bylaws. Each other committee so designated shall keep regular minutes of the transactions of its meetings and shall cause such minutes to be recorded in books kept for that purpose in the office of the Corporation, and shall report the same to the Board from time to time. The executive committees shall give notice of any meeting in the manner required for a meeting of the Board.

2.9 Compensation. No part of the income or revenues of the Corporation shall ever be paid to or inure to the benefit of any director except for reimbursement of actual expenses incurred in connection with the business affairs of the Corporation, and no such reimbursement of expenses shall be made unless approved by the Board.

2.10 Duties. Directors shall discharge their duties in good faith, with ordinary care, and in a manner each director reasonably believes to be in the Corporation's best interests. In this context, "ordinary care" means the care that ordinarily prudent persons in similar positions would exercise under similar circumstances. In discharging their duties, directors may rely in good faith on information, opinions, reports, or analyses, including financial data, prepared or presented by persons reasonably appearing to be qualified in such matters. A director is not relying in good faith if he or she has knowledge that renders such reliance unwarranted or unreasonable. Directors are not deemed to have the duties of trustees of a trust with respect to the Corporation or with respect to property held or administered by the Corporation, including property subject to restrictions imposed by a donor or other transferor of the property.

ARTICLE 3 Officers

3.1 Titles and Term of Office. The officers of the Corporation shall be the President/Chair, the Vice President/Vice Chair, a Secretary, a Treasurer, and such other officers as the Board may from time to time elect or appoint as described in section 3.6 below. One person may hold the position of one or more offices for the Corporation except

Bylaws of the North Texas Clean Air Network Local Government Corporation – Page 3

that the Chair may not also hold the office of Secretary. Except as otherwise indicated in Sections 3.2 and 3.3 below, the term of office for each officer shall be one year commencing with the date of the meeting of the Board at which each such officer is elected. Officers may be re-elected.

3.2 President/Chair.

(a) In conformance with the Articles of Incorporation, from formation of the Corporation until September 30, 2019, there will be two Co-Presidents/ Co-Chairs of the Board, and on and after October 1, 2019 there will be one President/Chair. From formation of the Corporation until September 30, 2019, all references in these bylaws to the “Chair” or “President” shall refer to the Co-Chairs, and any action or authority of the “Chair” or “President” shall refer to the joint action and joint authority of the Co-Chairs.

(b) The Chair shall preside at all meetings of the Board. In furtherance of the purposes of the Corporation and subject to the limitations contained in the Articles of Incorporation, the Chair may, upon authorization by resolution of the Board, sign and execute all bonds, notes, deeds, conveyances, franchises, assignments, mortgages, contracts, and other instruments of any kind in the name of the Corporation.

3.3 Vice President/Vice Chair.

(a) On and after October 1, 2019, the Vice President/Vice Chair of the Board (“Vice Chair”) shall be selected as provided by the Articles of Incorporation.

(b) The Vice Chair shall perform the duties and exercise the powers of the Chair upon the Chair’s death, absence, disability, or resignation, or upon the Chair’s inability to perform the duties of his or her office. Any action taken by the Vice Chair in the performance of the duties of the Chair shall be conclusive evidence of the absence or inability to act of the Chair at the time such action was taken.

3.4 Secretary. The Board shall appoint the Secretary of the Corporation to keep the minutes of the meetings of the Board in one or more books provided for that purpose, see that all notices are duly given in accordance with the provisions of these Bylaws or as required by law, be custodian of the Corporation records, and in general perform all duties incident to the office of Secretary and such other duties as from time to time may be assigned by the Board or the Chair. The Secretary of the Corporation shall serve at the discretion of the Board, and may be removed as Secretary by the Board at any time, with or without cause.

3.5 Treasurer. The Board shall appoint the Treasurer of the Corporation, who shall have charge and custody of and be responsible for all funds and securities of the Corporation, receive and give receipts for monies due and payable to the Corporation for any source whatsoever, deposit all such monies in the name of the Corporation in such banks as shall be selected in accordance with the provisions of these Bylaws, and in general perform all duties incident to the office of Treasurer and such other duties as from time to time may be assigned by the Chair or by the Board. The Treasurer of the Corporation shall serve at the discretion of the Board, and may be removed as Treasurer by the Board at any time, with or without cause.

3.6 Other Officers. The Board may appoint other officers of the Corporation and other authorized representatives of the Corporation, who shall have the powers and duties as may be delegated by the Board. Such additional officers and authorized representatives shall serve at the discretion of the Board, and may be removed by the Board at any time, with or without cause.

ARTICLE 4

Contracts; Financial Matters; Seal

4.1 Fiscal Year. The fiscal year of the Corporation shall commence on October 1 and end on September 30 each year.

4.2 Contracts. The Board may authorize any officer or officers or agent or agents of the Corporation to enter into any contract or execute and deliver any instrument in the name of and on behalf of the Corporation, and such authority may be general or confined to specific instances.

4.3 Deposits. All funds of the Corporation shall be deposited to the credit of the Corporation in a state or national bank or other federally insured depository institution selected by the Board, subject to and in accordance with the requirements of Chapter 105, Texas Local Government Code and, as applicable, the Public Funds Investment Act, Chapter 2256, Texas Government Code.

4.4 Payment of Funds. All checks, drafts, or orders for the payment of money, notes, or other evidences of indebtedness issued in the name of the Corporation shall be signed by such officer or officers or agent or agents of the Corporation and in such manner as shall from time to time be determined by resolution of the Board. In the absence of such determination by the Board, such instruments shall be signed by the Secretary or Treasurer and countersigned by the Chair.

4.5 Audits. The Board shall cause to be maintained a proper and complete system of records and accounts of all transactions, business, and affairs of the Corporation. Within a reasonable time after the end of each fiscal year, the Board shall cause the preparation of a financial statement for the Corporation, which shall be audited by an independent certified public accountant or firm of independent certified public accountants retained by the Board for such purpose.

4.6 Books and Records. The Corporation shall keep correct and complete books and records of accounts and shall also keep minutes of the proceedings of its Board. All books and records may be inspected by representatives of participating cities and counties at any reasonable time.

4.7 Seal. The Board may but is not required to adopt a corporate seal in such form and to be used in such manner as may be approved by the Board.

ARTICLE 5 Withdrawal

5.1 Process for Withdrawal. A member city or county of the Corporation may withdraw from the Corporation by delivering at least ten (10) days' written notice of withdrawal to the Secretary.

5.2 No Interest in Assets/Dissolution. The withdrawing member shall have no right or interest in any real or personal property, records, or other assets of the Corporation. In the event that the Corporation is dissolved, then the title to assets shall be transferred to the remaining Local Governments that created the Corporation.

5.3 Removal of References to Withdrawing Party. The Corporation shall remove all references to the withdrawing member with respect to any action taken by the Corporation after the effective date of such withdrawal.

ARTICLE 6 General Provisions

6.1 Supremacy of Articles of Incorporation. These Bylaws are subject to and governed by the Articles of Incorporation.

6.2 Amendment. A proposal to alter, amend, or repeal these Bylaws may be made by the affirmative vote of a majority of the full Board at any meeting if notice of the proposed amendment is contained in the notice of said special meeting. However, any proposed change or amendment to the Bylaws must be approved by the City Councils and Commissioners Court of participating Network members.

6.3 Effective Date. These Bylaws shall be effective upon adoption by an affirmative vote of a majority of the directors at a meeting of the Board, provided that notice of the proposed adoption shall have been received by each director at least five (5) business days before the said meeting.

**ARTICLES OF INCORPORATION
OF
THE NORTH TEXAS CLEAN AIR NETWORK
LOCAL GOVERNMENT CORPORATION**

The undersigned natural persons, acting as incorporators of a corporation under the provisions of Subchapter D, Chapter 431, Texas Transportation Code (“Chapter 431”), Chapter 394, Texas Local Government Code (“Chapter 394”), and Chapter 22, Business Organizations Code (“Chapter 22”) do hereby adopt the following Articles of Incorporation for such corporation:

ARTICLE I

The name of the corporation is The North Texas Clean Air Network Local Government Corporation (the “Corporation”).

ARTICLE II

The Corporation is a public non-profit local government corporation.

ARTICLE III

The period of duration of the Corporation shall be perpetual.

ARTICLE IV

A. The Corporation is organized for the purpose of aiding, assisting, and acting on behalf of the City of Dallas, City of Plano, and Dallas County (collectively, the “Local Governments”) to accomplish their governmental purpose; namely to oversee the establishment and operation of a network of modern calibrated air quality sensors within member jurisdictions or in contracted jurisdictions, using such monitors to further advance understanding of local air quality, support local air quality education and research, and assist in responding to local public health threats caused by poor air quality.

B. The goals and purposes of the Corporation are as follows:

1. To supervise the implementation and maintenance of a publicly accessible, secure and scientifically credible regional air sensor network providing simultaneous real time air quality information from multiple locations within member or contracted jurisdictions via the World Wide Web;
2. To provide the best, most up-to-date factual information about local air quality;
3. To provide fact-based public education resources on local air quality;
4. To support scientific research on local air quality by local colleges, universities, hospitals and schools;
5. To work with regulatory agencies and entities to further local clean air goals;
6. To raise capital to support policy goals, as needed; and
7. To prepare annual written reports detailing progress to date and goals for the future.

- C. To accomplish said goals and purpose, the Corporation shall be authorized to:
1. Contract with persons, and with governmental, for-profit and non-profit entities for the procuring of services and supplies and the hiring of personnel;
 2. Acquire and hold title to and interests in real and personal property;
 3. Accept funds and property appropriated by the Local Governments and by other entities;
 4. Apply for grants of funds, services, and things of value and to accept awards of such grants;
 5. Accept donations of funds, services and things of value;
 6. Issue bonds, notes, and other debt obligations as necessary for the accomplishment of the governmental purpose stated above, provided that the Corporation shall not incur debt without the consent of the governing bodies of the Local Governments, as evidenced by approval of an ordinance, order or resolution; and
 7. Engage in other lawful activities to accomplish the governmental purpose stated above.
- D. The Corporation is formed pursuant to the provisions of Chapter 431 as it now or may hereafter be amended and in the manner specified by Chapter 394, which authorize the Corporation to assist and act on behalf of the Local Governments to accomplish any governmental purpose of the Local Governments and to engage in activities in the furtherance of the purposes for its creation.
- E. The Corporation shall have and exercise all of the rights, powers, privileges, authority, and functions given by the general laws of the State of Texas to non-profit corporations incorporated under Chapter 431, including, without limitation, the powers granted under Chapter 22.
- F. The Corporation is created as a local government corporation pursuant to Chapter 431 and shall be a governmental unit within the meaning of Subdivision (3), Section 101.001, Texas Civil Practice and Remedies Code. The operations of the Corporation are governmental and not proprietary functions for purposes of the Texas Tort Claims Act, Section 101.001 *et seq.*, Texas Civil Practice and Remedies Code.
- G. In the exercise of its powers, the Corporation may enter into any loan, lease, or other agreements as authorized by Chapter 431 that are necessary and appropriate to the fulfillment of the public purpose of the Corporation. In connection with the issuance of bonds or other debt instruments, the Corporation shall select bond counsel and financial advisors acceptable to the Local Governments.

ARTICLE V

The Corporation shall have no members and shall have no stock.

ARTICLE VI

A. All powers of the Corporation shall be vested in a Board of Directors (“Board”) consisting of the following eleven persons:

1. A current Dallas City Council Member;
2. A Dallas Office of Environmental Quality representative;
3. A City of Dallas Public Advocate representative;
4. A current Dallas County Commissioners Court member;
5. A Parkland Health and Hospital representative;
6. A Dallas County Public Advocate representative;
7. A Dallas County Medical Society representative;
8. A current City of Plano Council Member;
9. A Plano Sustainability & Environmental Education Division representative;
10. A Plano Public Advocate representative; and
11. A Dallas Independent School District representative.

B. Directors 1-3 (as numbered above) and their successors will be nominated by the Mayor of the City of Dallas (“Dallas Mayor”) and will be confirmed by the Dallas City Council. Directors 4-6 (as numbered above) and their successors will be nominated by the Dallas County Judge (“Dallas County Judge”) and confirmed by the Dallas County Commissioner’s Court. Directors 8-10 (as numbered above) and their successors will be nominated by the Mayor of the City of Plano (Plano Mayor”) and confirmed by the Plano City Council. Directors 7 and 11 (as numbered above) will be nominated by the Chair of the Board and confirmed by the Board.

ARTICLE VII

A. The initial Directors nominated by the Dallas Mayor, Plano Mayor, and County Judge are as follows. Approval of these Articles of Incorporation by the governing bodies of the Local Governments constitutes confirmation of such Directors.

	NAME	ADDRESS	AGENCY
1.	Sandy Greyson	1500 Marilla, Dallas, TX 75201	Dallas City Council Member
2.	James McQuire	1500 Marilla, Dallas, TX 75201	Director Dallas OEQ
3.	Dallas Public Advocate Rep.		
4.	Theresa Daniel	411 Elm Street, 2 nd Floor, Dallas, TX 75202	Dallas County Commissioner
5.	Parkland Health and Hospital Rep.		
6.	Dallas County Public Advocate Rep.		
7.	Dallas County Medical Society Rep.		
8.	Plano City Council Member		
9.	Plano S&EED Representative		
10.	Plano Public Advocate Rep.		

11. Dallas ISD Rep.

B. Directors shall serve staggered terms of three (3) years. Directors 1-6 shall serve terms which will end on September 30 of each even-numbered year. Directors 7-11 shall serve terms which will end on September 30 of each odd-numbered year. The initial terms of Directors 1-6 named above will end on September 30, 2020. The initial terms of Directors 7-11 named above will end on September 30, 2021. Thereafter, each Director shall serve a three-year term or until his or her successor is appointed, unless such Director has been appointed to fill an unexpired term, in which case the term of such Director shall expire on the expiration date of the term of the Director who he or she was appointed to replace. Initial Directors and succeeding Directors may serve up to three consecutive terms.

C. Director 4 shall serve as chair of the Board until September 30, 2019. Annually thereafter, a chair and vice chair shall be elected by majority vote of the entire Board.

D. Directors 1-9 may be removed from the Board by a resolution, City Ordinance, or Court Order as appropriate approved by a majority vote of its appointing Local Government if such Local Government finds that (i) that the Director has committed one or more of the acts or omissions described in Section 7.001(c) of the Business Organizations Code and described in Article XI, and XIV, below, or (ii) the Director is derelict in his or her duties by failing to attend four (4) consecutive meetings, including any combination of annual meetings, regular meetings, or special meetings, unless the Director can show good cause for the absences. "Good cause" shall be determined by the Board by majority vote of the entire Board.

E. Directors 10 and 11 may be removed from the Board by vote of the Board if the Board finds that (i) that the Director has committed one or more of the acts or omissions described in Section 7.001(c) of the Business Organizations Code and described in Article XI, and XIV, below, or (ii) the Director is derelict in his or her duties by failing to attend four (4) consecutive meetings, including any combination of annual meetings, regular meetings, or special meetings unless the Director can show good cause for the absences. "Good cause" shall be determined by the Board by majority vote of the entire Board.

F. All other matters pertaining to the internal affairs of the Corporation shall be governed by the Bylaws of the Corporation, so long as such Bylaws are not inconsistent with these Articles of Incorporation or the laws of the State of Texas.

ARTICLE VIII

The street address of the initial registered office of the Corporation is 1500 Marilla, 7DN, Dallas, TX 75201, which is within the city limits of the City of Dallas and the corporate limits of Dallas County, and the name of its initial registered agent at such address is T.C. Broadnax, City Manager.

ARTICLE IX

The names and addresses of the incorporators, each of whom is more than eighteen (18) years of age and a resident of the state of Texas, and three (3) of whom are residents of each Local Government are:

NAME ADDRESS

City of Dallas

Michael Rawlings 1500 Marilla, Dallas, TX 75201
Sandy Greyson 1500 Marilla, Dallas, TX 75201

City of Plano

Dallas County

Clay Jenkins 411 Elm St., Dallas TX 75202
Theresa Daniel 411 Elm St., 2nd Floor, Dallas TX 75202

ARTICLE X

Resolutions approving the form of these Articles of Incorporation have been adopted by the Dallas City Council on _____, by the Plano City Council on _____ and by the Dallas County Commissioners Court on _____.

ARTICLE XI

No Director shall be liable to the Corporation for monetary damages for an act or omission in the Director’s capacity as a Director, except for liability (i) for any breach of the Director’s duty of loyalty to the Corporation, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for any transaction from which the Director received an improper benefit, regardless of whether the benefit resulted from an act taken within the scope of the Director’s office, or (iv) for acts or omissions for which the liability of a Director is expressly provided by statute. Any repeal or amendment of this Article shall be prospective only, and shall not adversely affect any limitation on the personal liability of a Director existing at the time of such repeal or amendment. In addition to the circumstances in which a Director is not personally liable as set forth in the preceding sentences, a Director shall not be liable to the fullest extent permitted by any amendment to the Texas statutes hereafter enacted that further limits the liability of a Director.

ARTICLE XII

In accordance with the provisions of Section 501(c)(J) of the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code"), and regardless of any other provisions of these Articles of Incorporation or the laws of the State of Texas, the Corporation: (i) shall not permit any part of the net earnings of the Corporation to inure to the benefit of any private individual (except that reasonable compensation may be paid for personal services rendered to or for the Corporation in effecting one or more of its purposes); (ii) shall not direct any of its activities to attempting to influence legislation by propaganda or otherwise; (iii) shall not participate in or intervene in (including the publication or distribution of statements), any political campaign on behalf of (or in opposition to) any candidate for public office; and (iv) shall not attempt to influence the outcome of any election for public office or to carry on, directly or indirectly, any voter registration drives. Any income earned by the Corporation after payment of reasonable expenses, debt, other obligations, and such reserves as may be necessary as set forth in the authorizing documents related to the issuance of debt by the Corporation shall accrue to the Local Governments as mutually agreed to by the Local Governments. The Local Governments shall, at all times, have an unrestricted right to receive any income earned by the Corporation, exclusive of amounts needed to cover reasonable expenditures and reasonable reserves for future activities. Any income of the Corporation received by the Local Governments shall be deposited into such accounts or funds as determined by the respective governing bodies of the Local Governments. No part of the Corporation's income shall inure to the benefit of any private interests.

ARTICLE XIII

If the Corporation is a private foundation within the meaning of Section 509(a) of the Internal Revenue Code, the Corporation (a) shall distribute its income for each taxable year at such time and in such manner as not to become subject to the tax on undistributed income imposed by Section 4942 of the Internal Revenue Code; (b) shall not engage in any act of self-dealing as defined in Section 4941(d) of the Internal Revenue Code; (c) shall not retain any excess business holdings as defined in Section 4943(c) of the Internal Revenue Code; (d) shall not make any investments in such manner as to subject it to tax under Section 4944 of the Internal Revenue Code; and (e) shall not make any taxable expenditures as defined in Section 4945(d) of the Internal Revenue Code.

ARTICLE XIV

A. If the Board of Directors determines by resolution that the purposes for which the Corporation was formed have been substantially met and all obligations incurred by the Corporation have been fully paid or provision made for such payment, the Board shall execute a certificate of dissolution which states those facts and declares the Corporation dissolved in accordance with the applicable law then in existence.

B. Upon the dissolution of the Corporation, the title to all assets shall be transferred to the Local Governments that created the Corporation. The Board of Directors shall notify the Local Governments of such dissolution.

C. The Local Governments may at any withdraw from the Corporation in accordance with the Bylaws.

ARTICLE XV

The Corporation is a constituted authority and a public or governmental instrumentality within the meaning of the regulations of the United States Treasury Department and the rulings of the Internal Revenue Service prescribed and promulgated pursuant to Section 103 of the Internal Revenue Code. Although the Corporation is authorized to act on behalf of one or more governmental entities as provided in these Articles, the Corporation is not a political subdivision or political authority of the State of Texas within the meaning of the Constitution and laws of the State of Texas, including, without limitation, Article III, Section 52 of the Texas Constitution, and no agreement, bond, debt, or obligation of the Corporation shall be deemed to be the agreement, bond, debt, or obligation, or the lending of credit, or a grant of public money or thing of value, of or by the Local Governments or any other political subdivision or authority or agency of the State of Texas, or a pledge of the faith and credit of any of them. No action of the Corporation shall be an action of the Local Governments or their agents or employees, and neither these Articles nor any action by the Board or the Local Governments shall create a joint enterprise.

ARTICLE XVI

These Articles of Incorporation may be amended in either of the following manners: (i) the Board may file with the Local Governments an application in writing requesting permission to amend the Articles of Incorporation, specifying in the application the amendment proposed to be made, and the governing bodies of the Local Governments, after considering the application and each finding and determining that it is wise, expedient, necessary, or advisable that the proposed amendment be made, may authorize by resolution, City Ordinance or Court Order that the proposed amendment be made, and then the Board may amend the Articles of Incorporation by adopting the amendment by resolution at a meeting of the Board and filing the amendment with the Office of the Texas Secretary of State, or (ii) the Local Governments may jointly, at any time, alter or change the structure, organization, programs, activities, or duration of the Corporation, subject to any limitations on the impairment of contracts entered into by the Corporation, by adopting an amendment to the Articles of Incorporation of the Corporation and filing the amendment with the Office of the Texas Secretary of State.

ARTICLE XVII

These Articles of Incorporation shall be effective when fully executed and filed with the Office of the Texas Secretary of State. Each of the undersigned executes this instrument subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument and certifies under penalty of perjury that he and she is authorized to execute this instrument.

CITY OF DALLAS

Incorporator

Incorporator

Incorporator

CITY OF PLANO

Incorporator

Incorporator

Incorporator

DALLAS COUNTY

Incorporator

Incorporator

Incorporator

ACKNOWLEDGMENTS

CITY OF DALLAS

This instrument was acknowledged before me on this _____ day of _____ 2018, by Michael Rawlings, being sworn on his oath that he is an individual residing in the City of Dallas, Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____, 2018, by Sandy Greyson, being sworn on her oath that she is an individual residing in the City of Dallas, Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____ 2018, by James McQuire being sworn on his oath that he is an individual residing in Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

DALLAS COUNTY

This instrument was acknowledged before me on this _____ day of _____ 2018, by Theresa Daniel, being sworn on her oath that she is an individual residing in Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____ 2018, by Clay Jenkins, being sworn on his oath that he is an individual residing in Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____ 2017 by _____ Daniel, being sworn on his/her oath that he/she is an individual residing in Dallas County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

CITY OF PLANO

This instrument was acknowledged before me on this _____ day of _____, 2018, by Yarkis Lewis, being sworn on his oath that he is an individual residing in the City of Plano, Collin County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____, 2018, by _____, being sworn on his/her oath that he/she is an individual residing in the City of Plano, Collin County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

This instrument was acknowledged before me on this _____ day of _____, 2018, by _____, being sworn on his/her oath that he/she is an individual residing in the City of Plano, Collin County, Texas.

Given under my hand and seal of office this ____ day of _____, 2018.

Notary Public
State of Texas

**INTERLOCAL AGREEMENT REGARDING THE NORTH TEXAS
CLEAN AIR NETWORK**

This **INTERLOCAL AGREEMENT REGARDING THE NORTH TEXAS CLEAN AIR NETWORK** (“Agreement”) is entered into as of the Effective Date as defined herein by and among **DALLAS COUNTY, TEXAS** (“the County”), the **CITY OF DALLAS, TEXAS** (“Dallas”), and the **CITY OF PLANO, TEXAS** (“Plano”), all of whom are Texas local governmental entities operating under the authority of their respective governing bodies (hereinafter sometimes referred to collectively as “the Local Governments”) and the **NORTH TEXAS CLEAN AIR NETWORK, INC.** (“NTCAN”), a Texas non-profit local government corporation (the Local Governments and NTCAN hereafter referred to as the “Parties” or individually as a “Party”).

RECITALS:

WHEREAS, the Local Governments are all political subdivisions within the State of Texas engaged in the provision of governmental services for the benefit of its citizens; and

WHEREAS, NTCAN is a Texas local government corporation organized by the Local Governments pursuant to Subchapter D of Chapter 431 of the Texas Transportation Code to assist the Local Governments in the performance of their governmental functions to promote the common good and general welfare of the Local Governments, including without limitation, overseeing the establishment and operation of modern calibrated air quality sensors within the jurisdictions of the Local Governments, using such monitors to further advance understanding of local air quality, support local air quality education and research, and assist in responding to local public health threats caused by poor air quality; and

WHEREAS, the Interlocal Cooperation Act, Texas Government Code, Chapter 791, as amended (the “Act”), provides authority for local governments of the State of Texas to enter into interlocal agreements with each other and with local government corporations for the purpose of performing governmental functions and services as set forth in the Act; and

WHEREAS, concomitant with the execution of this Agreement by the Local Governments, NTCAN is being created by the Local Governments, as reflected in NTCAN’s Articles of Incorporation, attached herein and incorporated for all purposes as Exhibit 1, and Bylaws, attached herein and incorporated for all purposes as Exhibit 2, to provide for the funding of NTCAN’s functions necessary to provide the services to be provided by NTCAN to the Local Governments; and

WHEREAS, the Parties desire to enter this Agreement for the purpose of establishing the agreement of the Parties regarding NTCAN’s provision of the services referenced herein.

NOW, THEREFORE, for and in consideration of the mutual benefits and obligations set forth in this Agreement, the Local Governments agree as follows:

ARTICLE I.

PURPOSES OF THE NORTH TEXAS CLEAN AIR NETWORK

A. The Local Governments agree and acknowledge that the purposes of NTCAN, as reflected in its Articles of Incorporation and Bylaws, are as follows:

1. To supervise the implementation and maintenance of a publicly accessible, secure and scientifically credible regional air sensor network (hosted by AAEMON via the Microsoft Cloud) providing simultaneous real-time air quality information from multiple locations within member or contracted jurisdictions via the World Wide Web;
2. To provide the best, most up-to-date factual information about local air quality;
3. To provide fact-based public education resources on local air quality;
4. To support scientific research on local air quality by local colleges, universities, hospitals and schools;
5. To work with regulatory agencies and entities to further local clean air goals;
6. To raise capital to support policy goals, as needed; and
7. To prepare annual written reports, the contents and format of which shall be determined by NTCAN, to the Local Governments detailing progress to date and goals for the future.

B. To accomplish the foregoing purposes of NTCAN, it shall be authorized to engage in the following:

1. Contract with persons, and with governmental, for-profit and non-profit entities for the procurement of services and supplies and the hiring of personnel;
2. Acquire and hold title to real property and interests in real property;
3. Accept funds and property appropriated by the Local Governments and by other public or private entities;
4. Apply for grants of funds, services, and things of value and to accept awards of such grants;
5. Accept donations of funds, services and things of value;
6. Issue bonds, notes, and other debt obligations as necessary for the accomplishment of the governmental purposes stated above, provided that NTCAN shall not incur debt without the

consent of each Local Government's governing body, as evidenced by an ordinance, order or resolution approved by same; and

7. Engage in other lawful activities to accomplish the governmental purpose stated above.

ARTICLE II.

NORTH TEXAS CLEAN AIR NETWORK BOARD OF DIRECTORS

A. The Parties agree that NTCAN shall be governed by an eleven (11) member Board of Directors. The Board of Directors shall consist of the following members:

1. A current Dallas City Council Member;
2. A Dallas Office of Environmental Quality representative;
3. A City of Dallas Public Advocate representative;
4. A current Dallas Commissioners Court member;
5. A Parkland Health and Hospital representative;
6. A Dallas County Public Advocate representative;
7. A Dallas County Medical Society representative;
8. A current City of Plano Council Member;
9. A Plano Sustainability & Environmental Education Division representative;
10. A Plano Public Advocate representative; and
11. A Dallas Independent School District representative.

B. Directors 1-3, as referenced above, and their successors shall be nominated by the Mayor of the City of Dallas ("Dallas Mayor") and shall be confirmed by the Dallas City Council. Directors 4-6, as referenced above, and their successors shall be nominated by the Dallas County Judge ("Dallas County Judge") and confirmed by the Dallas County Commissioner's Court. Directors 8-10, as referenced above, and their successors shall be nominated by the Mayor of the City of Plano (Plano Mayor") and confirmed by the Plano City Council. Directors 7 and 11, as referenced above, shall be nominated by the Chair of the Board and confirmed by the Board. Directors shall serve staggered terms of three years. Directors 1-6, as referenced above, shall serve terms which will end on September 30 of each even-numbered year. These Directors' initial terms shall end on September 30, 2020, or until a successor is appointed. Directors 7-11 shall serve

terms which will end on September 30 of each odd-numbered year. These Directors' initial terms shall end on September 30, 2021, or until a successor is appointed.

ARTICLE III.

TERM

The term of this Agreement shall be for one (1) year from the Effective Date as defined herein, unless otherwise terminated by any of the Parties, pursuant to Article 5.1 of the Bylaws ("Term"). Thereafter this Agreement may be renewed or extended by mutual written consent of all the Parties for additional one-year terms (each such additional one-year term a "Renewal Term"). All renewals or extensions shall be based on existing terms and conditions in the executed Agreement or as amended and approved in writing by the Parties.

ARTICLE IV.

GENERAL PROVISIONS

A. Assignment. This Agreement may not be assigned. This Agreement embodies and constitutes the entire understanding between the Parties with respect to the matters referenced herein, and this Agreement may not be amended except by an agreement in writing signed by the Parties hereto, and approved by the respective governing bodies.

B. Severability. In the event that one or more of the provisions contained in this Agreement for any reason shall be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability of this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein, but shall not affect the remaining provisions of this Agreement, which shall remain in full force and effect.

C. Authority. The Parties acknowledge and agree that each has the requisite power and authority to enter into this Agreement; that this Agreement has been duly authorized and approved by each Party's respective governing body; and that the person executing the Agreement on the behalf of each Party has been duly authorized to do so.

D. Governing Law/Venue. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Texas and exclusive venue shall lie in Dallas County, Texas.

E. Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be binding on the Party executing and all of which shall be deemed originals, but such counterpart copies shall constitute one and the same instrument.

F. Good Faith/Mediation. In the event of any dispute regarding this Agreement or the terms contained herein, after good-faith negotiation by and between the Parties, the Parties agree that they shall submit such dispute to non-binding mediation.

G. Sovereign Immunity. This Agreement is expressly made subject to each Party's sovereign immunity, Title 5 of the Texas Practice and Civil Remedies Code, and all applicable State and federal law. The Parties expressly agree that no provision of this Agreement is in any way intended to limit or constitute a waiver of any immunities from suit or from liability that the Parties have by operation of law.

H. INDEMNIFICATION. ALL PARTIES, INCLUDING THEIR RESPECTIVE EMPLOYEES AND ELECTED OFFICIALS, AGREE THAT EACH SHALL BE RESPONSIBLE FOR ITS OWN NEGLIGENT ACTS OR OMISSIONS OR OTHER TORTIOUS CONDUCT IN THE COURSE OF PERFORMANCE OF THIS AGREEMENT, WITHOUT WAIVING ANY SOVEREIGN IMMUNITY, GOVERNMENTAL IMMUNITY, OR OTHER DEFENSES AVAILABLE TO THE PARTIES UNDER TEXAS AND OTHER APPLICABLE LAWS. NOTHING IN THIS PARAGRAPH SHALL BE CONSTRUED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, IN OR TO ANY THIRD PERSONS OR ENTITIES. ALL PARTIES AGREE THAT ANY SUCH LIABILITY OR DAMAGES OCCURRING DURING THE PERFORMANCE OF THIS CONTRACT CAUSED BY THE JOINT OR COMPARATIVE NEGLIGENCE OF THE PARTIES, OR THEIR EMPLOYEES, AGENTS OR OFFICERS, SHALL BE DETERMINED IN ACCORDANCE WITH COMPARATIVE RESPONSIBILITY LAWS OF TEXAS.

THIS PROVISION SHALL SURVIVE TERMINATION, EXPIRATION, OR CANCELLATION OF THIS AGREEMENT, OR ANY DETERMINATION THAT THIS AGREEMENT OR ANY PORTION HEREOF IS VOID, VOIDABLE, INVALID, OR UNENFORCEABLE.

I. Insurance. Plano, Dallas, and NTCAN agree that they will at all times during the Term of this Agreement or any Renewal Term maintain in full force and effect insurance, or self-insurance, to the extent permitted by applicable law under a plan of self-insurance, that is also maintained in accordance with sound accounting practices. It is expressly agreed that Dallas will be solely responsible for all costs of such insurance; any and all deductible amounts in any policy; and any denials of coverage made by its respective insurers.

J. Fiscal Funding. Notwithstanding any provisions contained in this Agreement, the obligations of any governmental entity under this Agreement are expressly contingent upon the availability of funding for each item and obligation for the Term of the Agreement and any pertinent extensions or Renewal Terms. No Party to this Agreement shall have any right of action against the any other governmental entity in the event a governmental entity is unable to fulfill its obligations under this Agreement as a result of lack of sufficient funding for any item or obligation from any source utilized to fund this Agreement or failure to budget or authorize funding for this Agreement during the current or future fiscal years. In the event that a governmental entity is unable to fulfill its obligations under this Agreement as a result of lack of sufficient funding, or if funds become unavailable, any governmental entity, at its sole discretion, may provide funds from a separate source or may terminate this Agreement by written notice to all Parties at the earliest possible time prior to the end of its fiscal year.

K. Notices. All notices hereunder will be sufficient if sent by certified mail, email, or facsimile transmission with confirmation of delivery, addressed to:

Dallas County:

Dallas County Judge
411 Elm Street #200
Dallas, Texas 75202

With copies to:

Dallas District Attorney's Office Civil Division
411 Elm Street, Fifth Floor
Dallas, Texas 75202

City of Dallas
(Address)

City of Plano
(Address)

NTCAN
(Address)

L. Cooperation of the Parties. The Parties agree to cooperate at all times in good faith to effectuate the purposes and intent of this Agreement. Without limitation, each Party agrees to execute and deliver all such other and further instruments and undertake such actions as are or may become necessary or convenient to effectuate the purposes and intent of this Agreement.

M. Authority to Execute. Each signatory represents this Agreement has been read by the Party for which this Agreement is executed and that each Party has had an opportunity to confer with its counsel.

N. No Third-Party Beneficiaries. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the Parties do not intend to create any third-party beneficiaries by entering into this Agreement.

O. Applicable Laws. This Agreement is subject to all applicable Federal and State laws, as they exist, may be amended or in the future arising, and any applicable permits, ordinances, rules, orders and regulations of any local, State or Federal governmental authority having or asserting jurisdiction, but nothing contained herein shall be construed as a waiver of any

right to question or contest any such law, ordinance, order, rule or regulation in any forum having jurisdiction.

P. Agreement Drafted Equally by Parties. This Agreement shall be deemed drafted equally by the Parties hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and the presumption or principle that the language herein is to be construed against a Party shall not apply. Headings in this Agreement are for the convenience of the Parties and are not intended to be used in construing this Agreement.

Q. Entire Agreement. This Agreement, including the attached exhibits and Recitals, contains the entire agreement between the Parties with respect to the subject matter hereof and supersedes all previous communications, representations, or agreements, either verbal or written, between the Parties with respect to such matter.

R. Force Majeure. No Party shall be in default or responsible for delays or failures in performance resulting from causes beyond its control. Such acts include but are not limited to acts of God, fire, storm, flood, earthquake, natural disaster, nuclear accident, strike, air traffic disruption, lockout, riot, freight embargo, public regulated utility, or governmental statutes, orders, or regulations superimposed after the fact. Any Party delayed by force majeure shall as soon as reasonably possible give the other Parties written notice of the delay. The Party delayed shall use reasonable diligence to correct the cause of the delay, if correctable, and if the condition that caused the delay is corrected, the Party delayed shall immediately give the other Parties written notice thereof and shall resume performance under this Agreement as soon as practicable. The date of delivery or of performance shall be extended for at least a minimum time period equal to the time lost by reason of the delay.

S. Continuing Obligations. All obligations of this Agreement which expressly or by their nature survive the expiration, termination or transfer of this Agreement shall continue in full force and effect after and notwithstanding its expiration, termination or transfer until such are satisfied in full or by their nature expire.

T. Relationship of Parties. No Party to this Agreement is an agent, servant, joint enterpriser or employee of the other Parties. Each governmental entity represents that it shall, or will, secure at its own expense, all personnel and consultants required in performing the services herein. All personnel and consultants required in performing the obligations herein shall not be employees of or have any contractual relationship with the other Parties to this Agreement.

U. Default/Cumulative Right. It is not a waiver of default if the non-defaulting Party fails to declare a default or delays in taking any action. Waiver of any term, covenant, condition or violation of this Agreement shall not be deemed or construed a waiver unless made in authorized written instrument, nor shall such waiver be deemed or construed a waiver of any other violation or breach of any of the terms, provisions, and covenants herein contained. The rights and remedies provided by this Contract are cumulative, and either Party's use of any right or remedy will not preclude or waive its right to use any other remedy. These rights and remedies are in addition to any other rights the Parties may have by law, statute, ordinance or otherwise. Pursuit of any remedy provided in this Agreement shall not preclude pursuit of any other remedies herein

provided or any other remedies provided by law or equity, including injunctive relief, nor shall pursuit of any remedy herein provided constitute a forfeiture or waiver of any obligation of the defaulting party hereunder or of any damages accruing by reason of the violation of any of the terms, provisions, and covenants herein contained.

V. NTCAN's Obligation. NTCAN shall approve this this Agreement within thirty (30) business days after its incorporation, and the failure to do so shall render this Agreement null and void and of no further force and effect.

IN WITNESS WHEREOF, the Local Governments execute this Agreement on the dates listed below. The "Effective Date" of this Agreement shall be the date of the last signature below.

EXECUTED AS OF THE ____ day of and month of _____, 2018, by the **CITY OF DALLAS** signing by and through its **CITY MANAGER** duly authorized to execute this Agreement by Resolution No. _____, adopted by the City Council on _____, 2018.

APPROVED AS TO FORM:

LARRY E. CASTO
City Attorney

CITY OF DALLAS

T.C. BROADNAX
City Manager

BY _____
Assistant City Attorney

BY _____
Assistant City Manager

EXECUTED AS OF THE ____ day of and month of _____, 2018, by the **CITY OF PLANO** signing by and through its **CITY MANAGER** duly authorized to execute this Agreement by Resolution No. _____, adopted by the City Council on _____, 2018.

APPROVED AS TO FORM:

PAGE MIMS
City Attorney

CITY OF PLANO

BRUCE GLASSCOCK

City Manager

BY _____

BY _____

EXECUTED AS OF THE ____ day of and month of _____, 2018, by the **DALLAS COUNTY** signing by and through its **COUNTY JUDGE** duly authorized to execute this Agreement by Court Order No. _____, approved by the Commissioners Court on _____, 2018.

DALLAS COUNTY, TEXAS:

Clay Lewis Jenkins
County Judge
Dallas County, Texas

RECOMMENDED:

Gordon Hikel
Assistant County Administrator
Dallas County, Texas

APPROVED AS TO FORM*:

**FAITH JOHNSON
DISTRICT ATTORNEY**

**RUSSELL RODEN
CHIEF CIVIL DIVISION**

James R. Palomo
Assistant District Attorney

***BY LAW, THE DISTRICT ATTORNEY'S OFFICE MAY ONLY ADVISE OR APPROVE CONTRACTS OR LEGAL DOCUMENTS ON BEHALF OF ITS CLIENTS. IT MAY NOT ADVISE OR APPROVE A LEASE, CONTRACT, OR LEGAL DOCUMENT ON BEHALF OF OTHER PARTIES. OUR REVIEW OF THIS DOCUMENT WAS CONDUCTED SOLELY FROM THE LEGAL PERSPECTIVE OF OUR CLIENT. OUR APPROVAL OF THIS DOCUMENT WAS OFFERED SOLELY FOR THE BENEFIT OF OUR CLIENT. OTHER PARTIES SHOULD NOT RELY ON THIS APPROVAL, AND SHOULD SEEK REVIEW AND APPROVAL BY THEIR OWN RESPECTIVE ATTORNEY(S).**

EXHIBIT 1

(Articles of Incorporation)

EXHIBIT 2

(Bylaws of North Texas Clean Air Network)