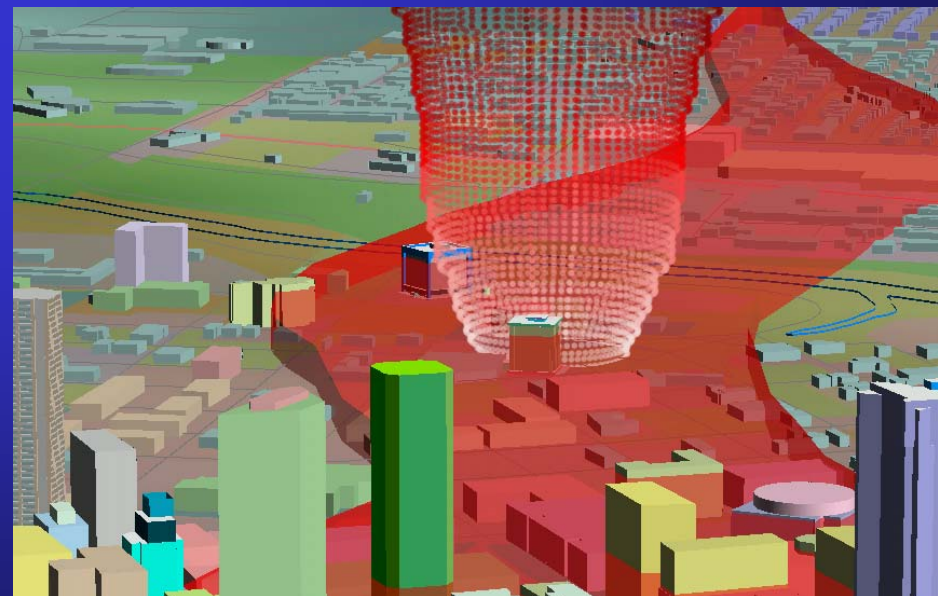
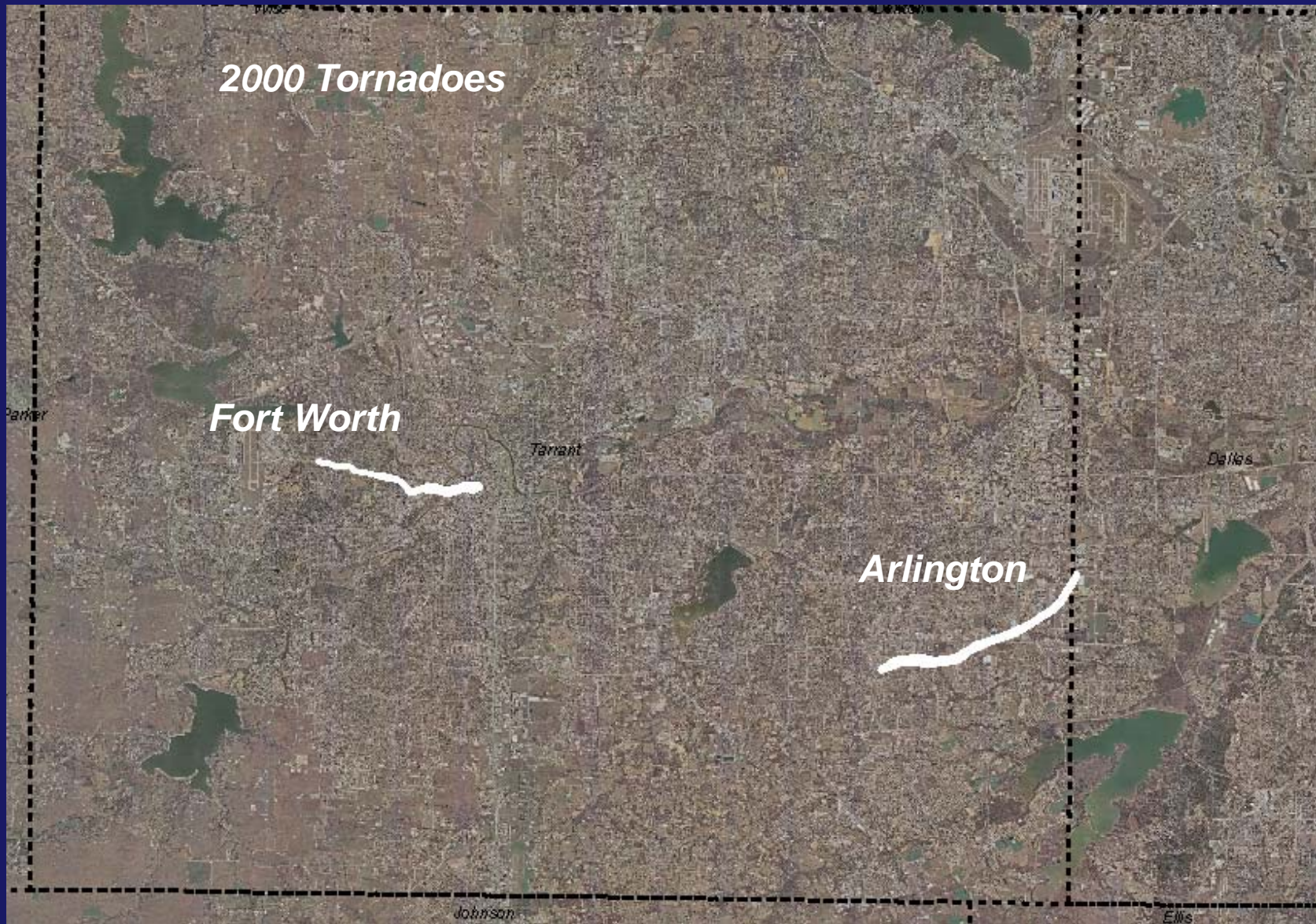


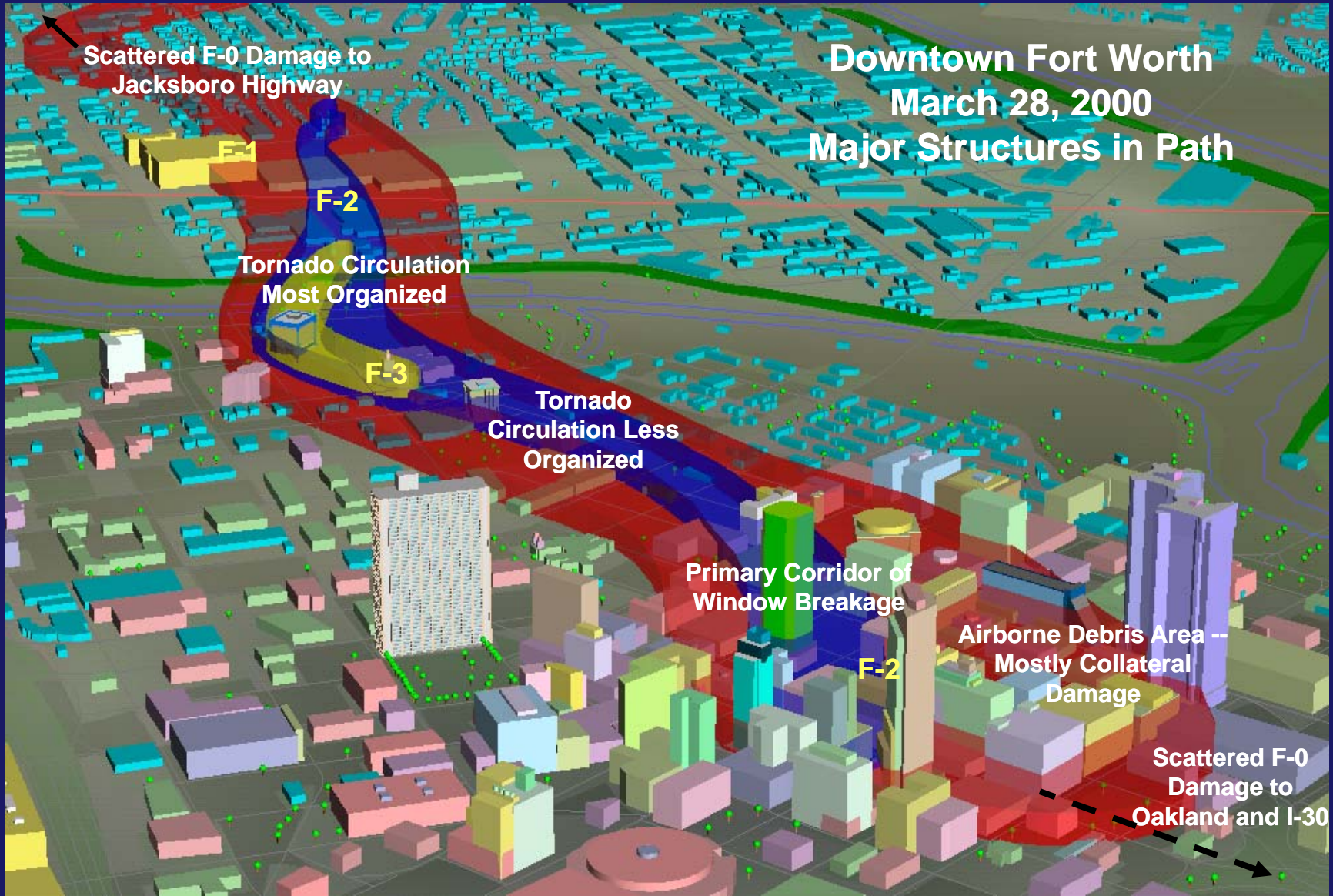
**Looking Back at
the Storms:
*A GIS
Perspective of
Tornado
Damage***



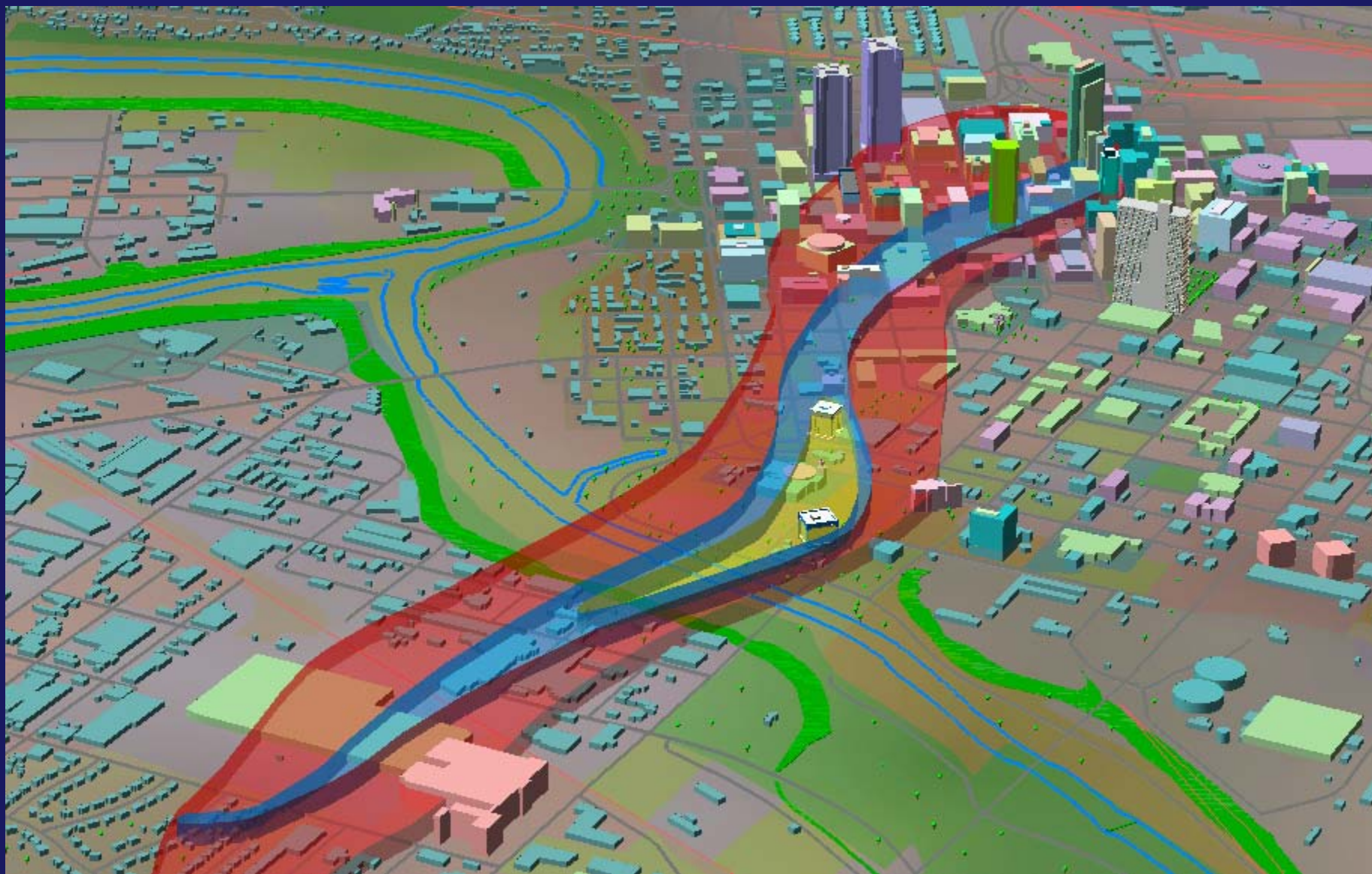
Fort Worth / Arlington Tornadoes



Fort Worth / Arlington Tornadoes



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U.S. Army Corps of Engineers



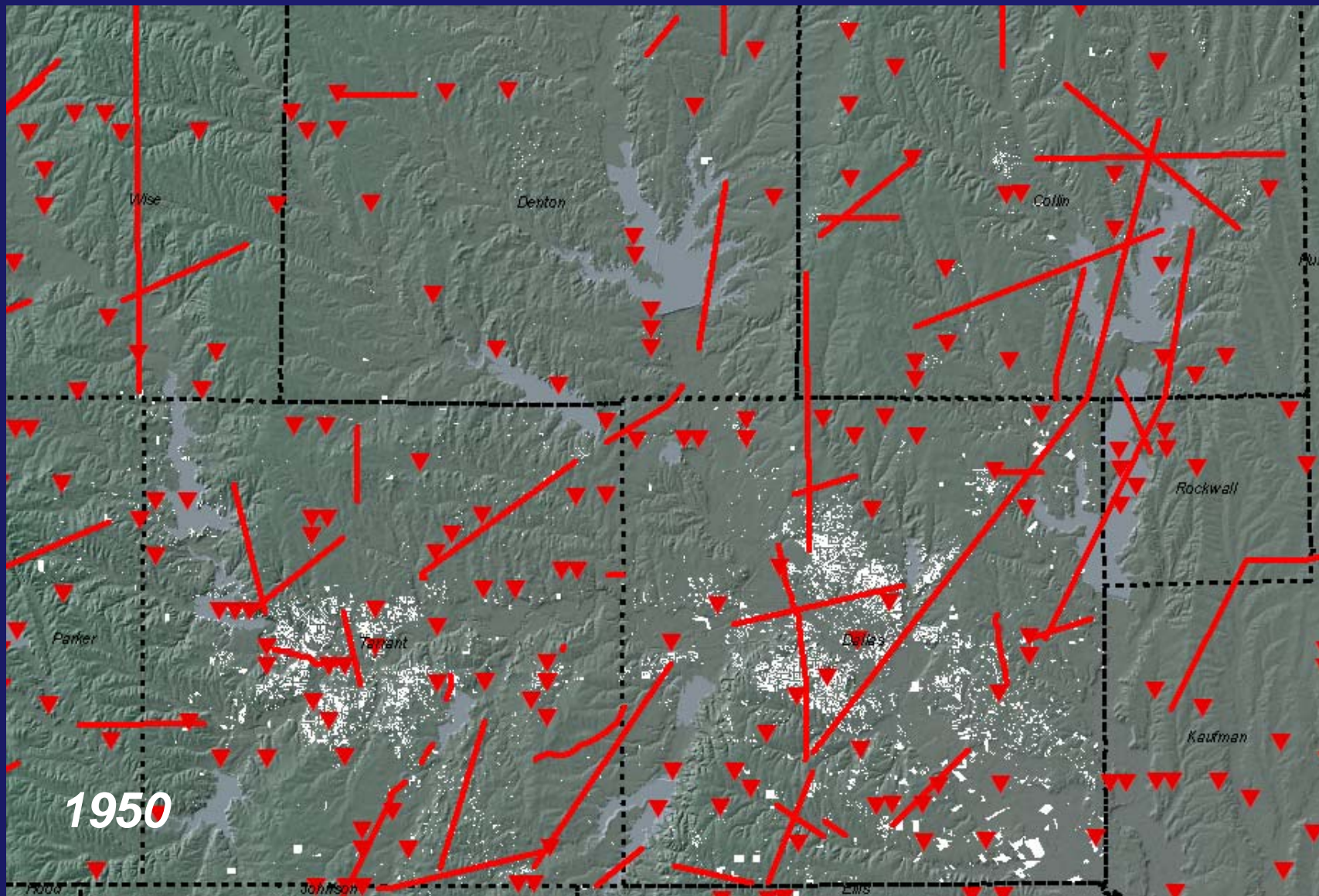
North Central Texas Council of Governments

Fort Worth / Arlington Tornadoes

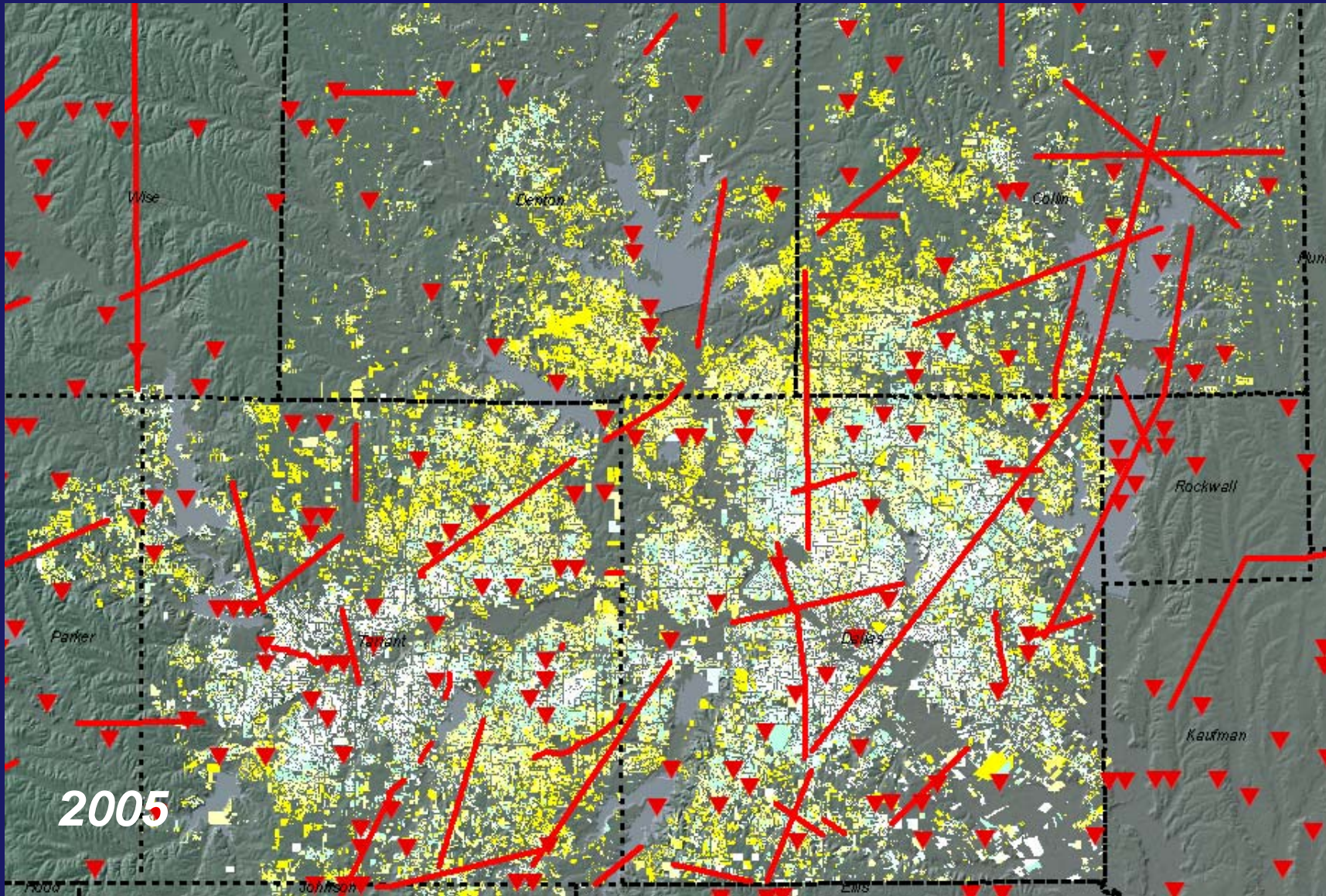


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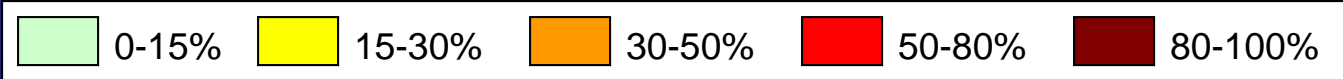
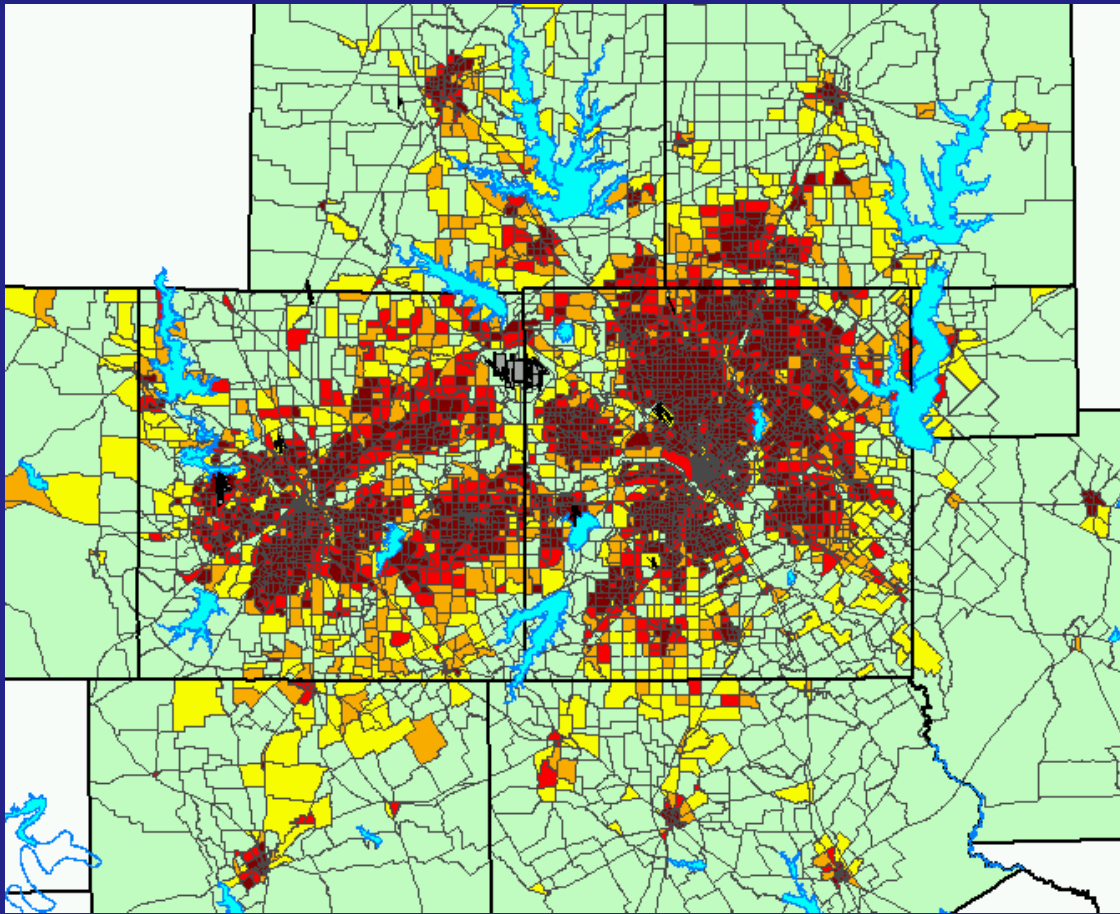
Fort Worth / Arlington Tornadoes



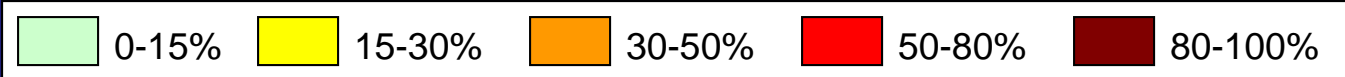
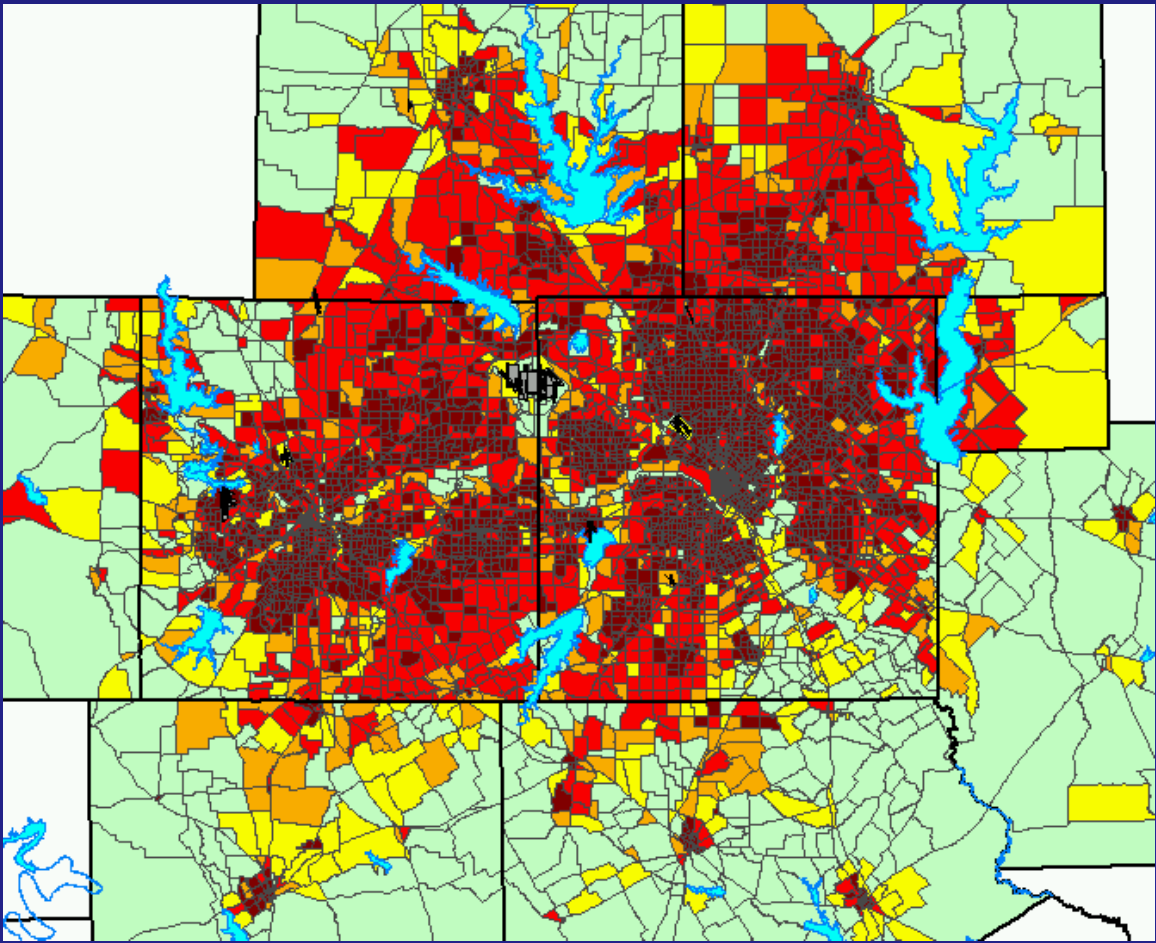
Fort Worth / Arlington Tornadoes



Current Structure-Dominant Land Uses

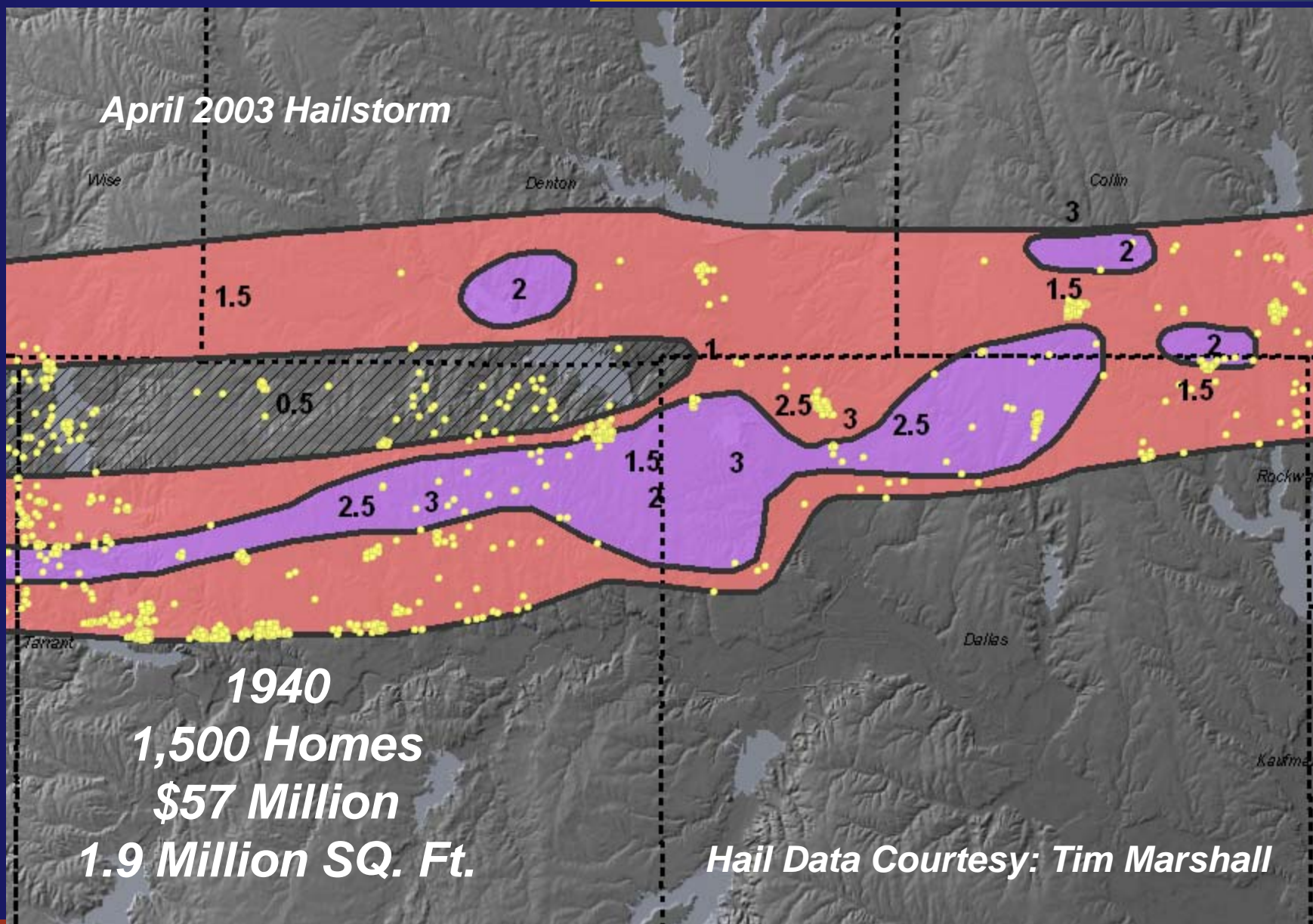


2025 Structure-Dominant Land Uses



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April 2003 Hailstorm

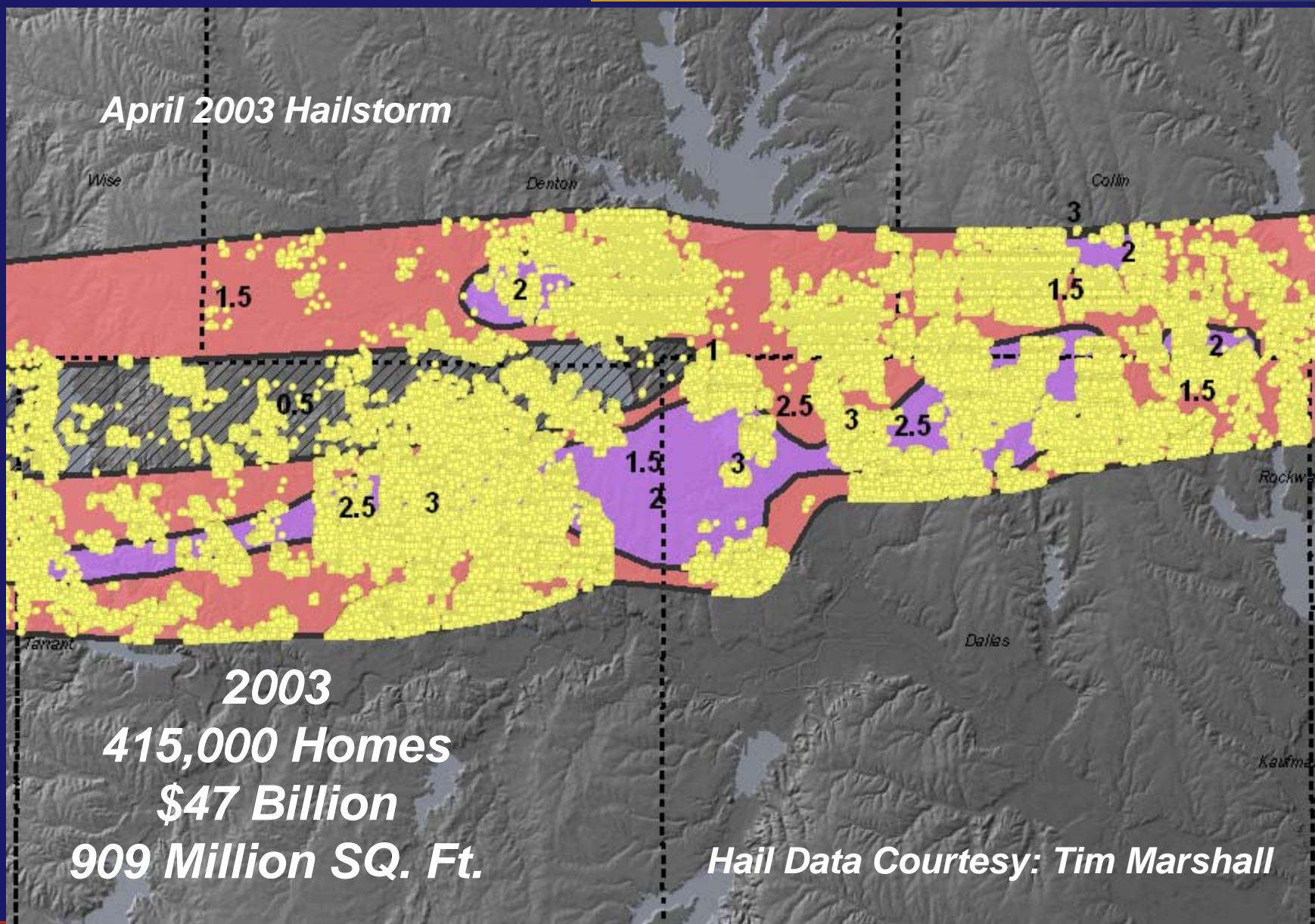


1940
1,500 Homes
\$57 Million
1.9 Million SQ. Ft.

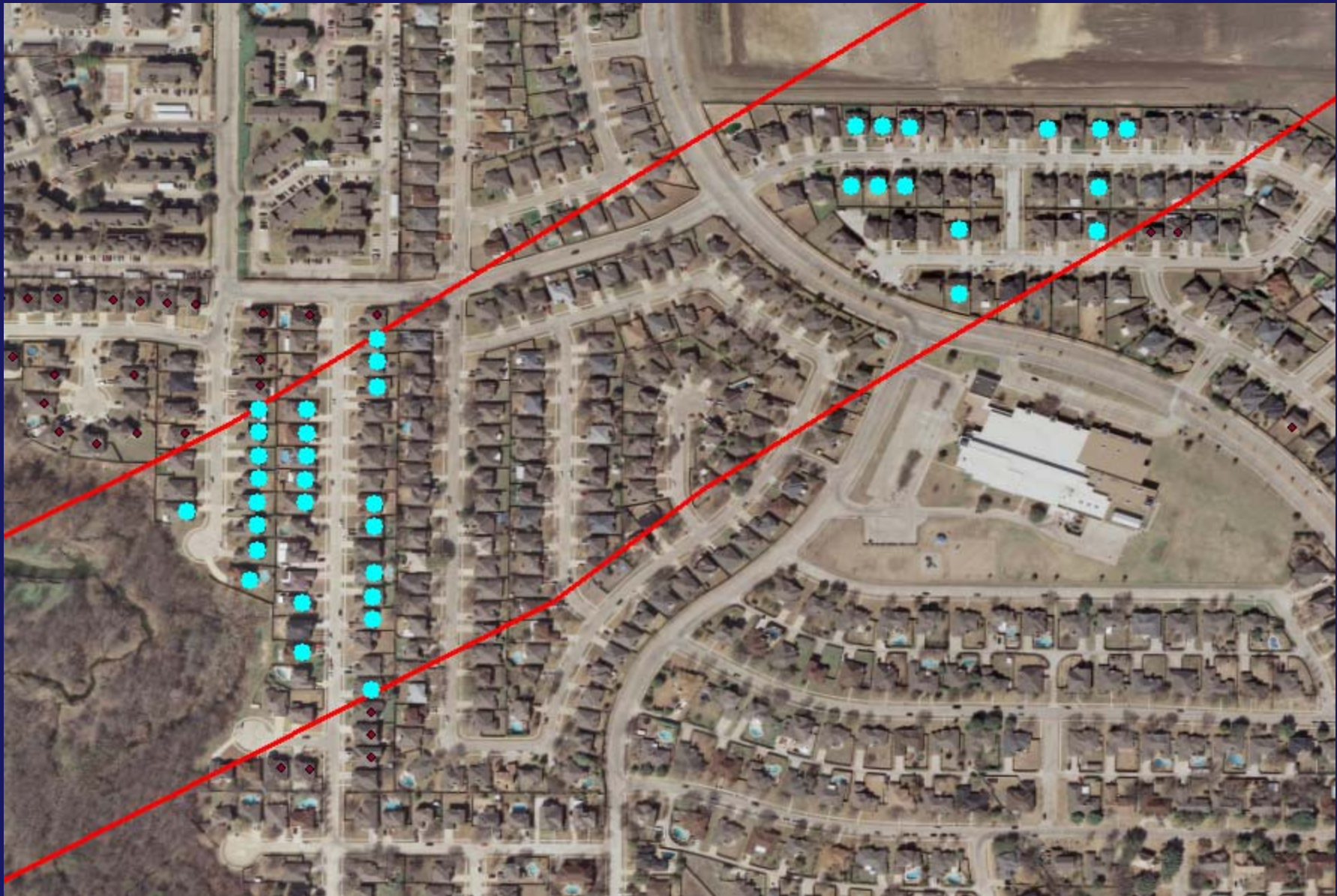
Hail Data Courtesy: Tim Marshall



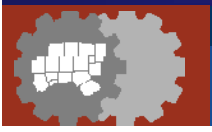
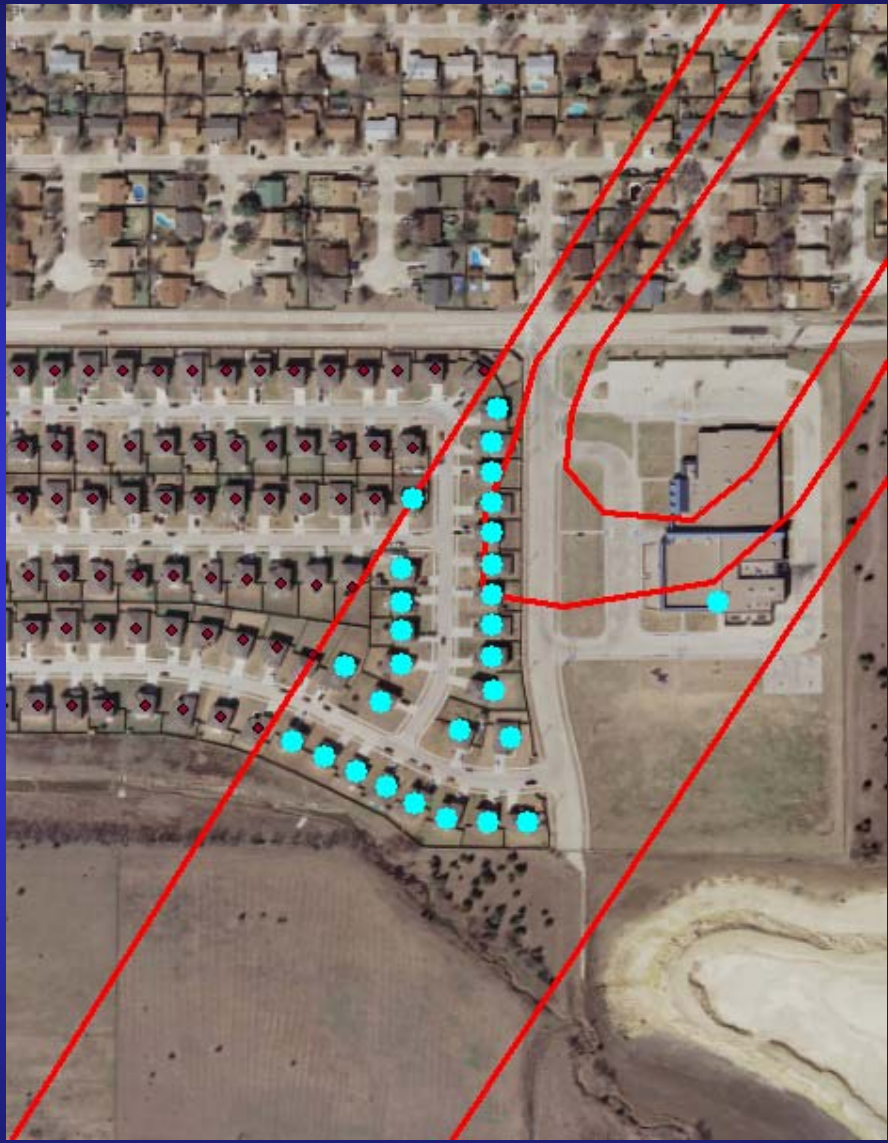
Fort Worth / Arlington Tornadoes



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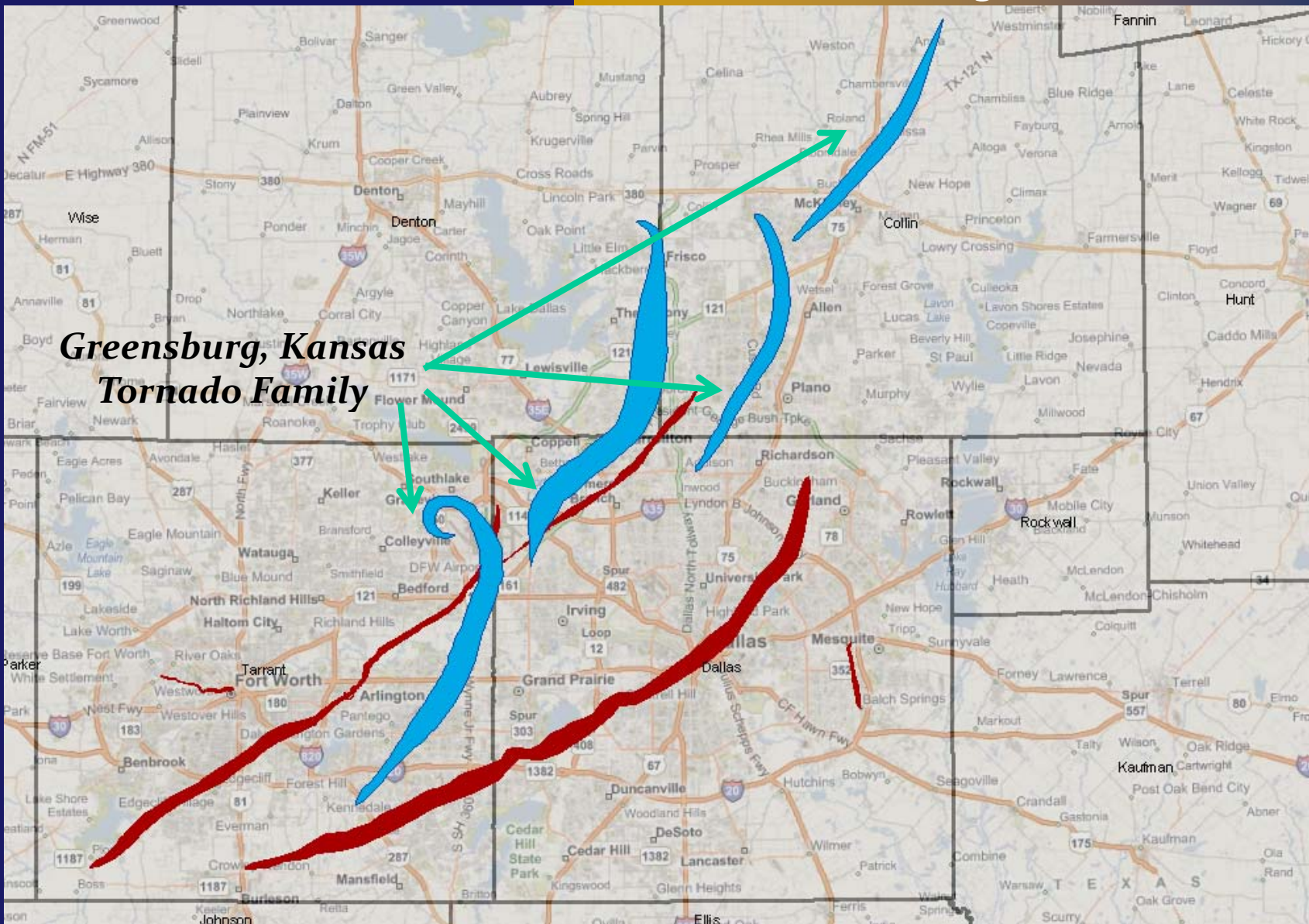


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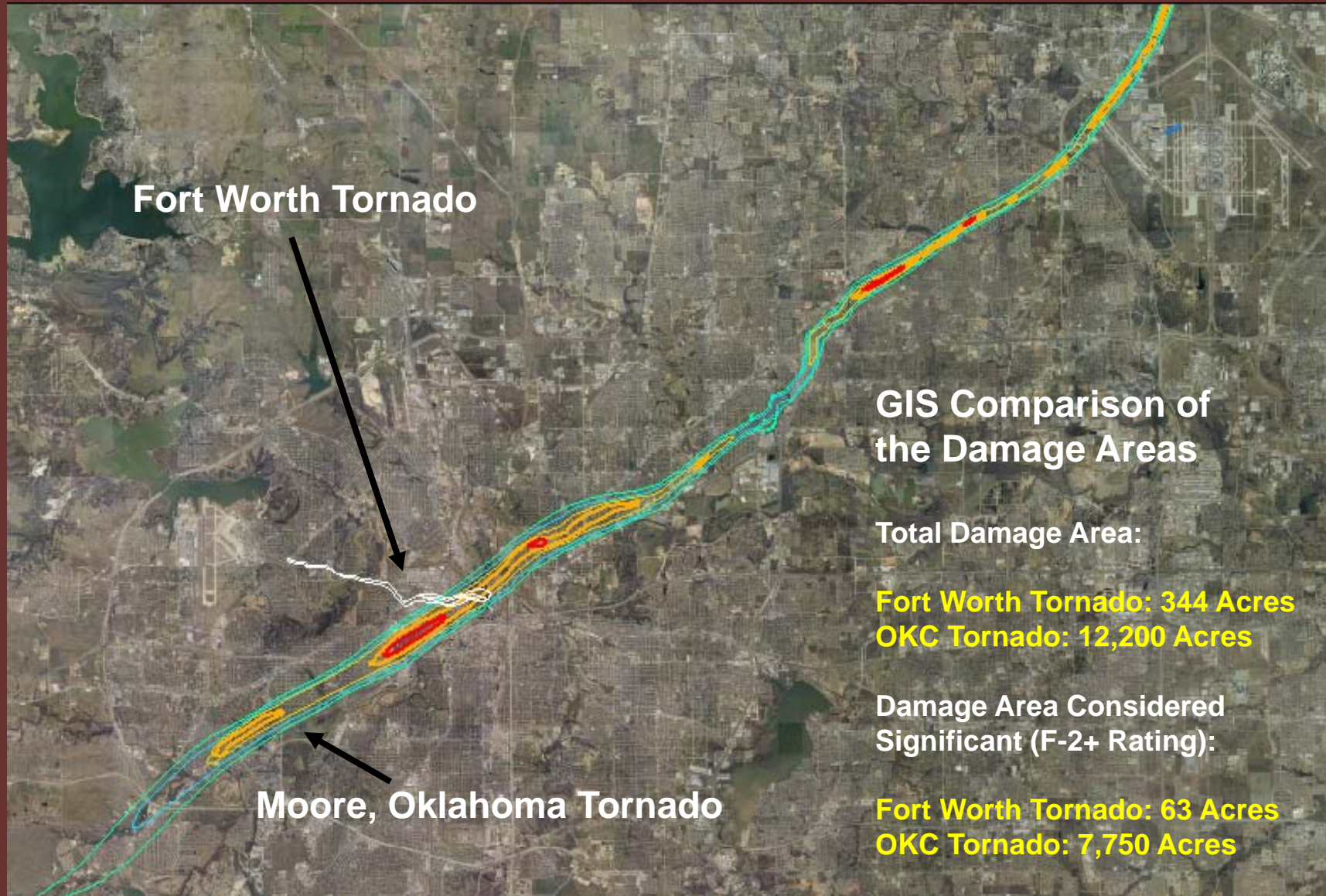
Fort Worth / Arlington Tornadoes



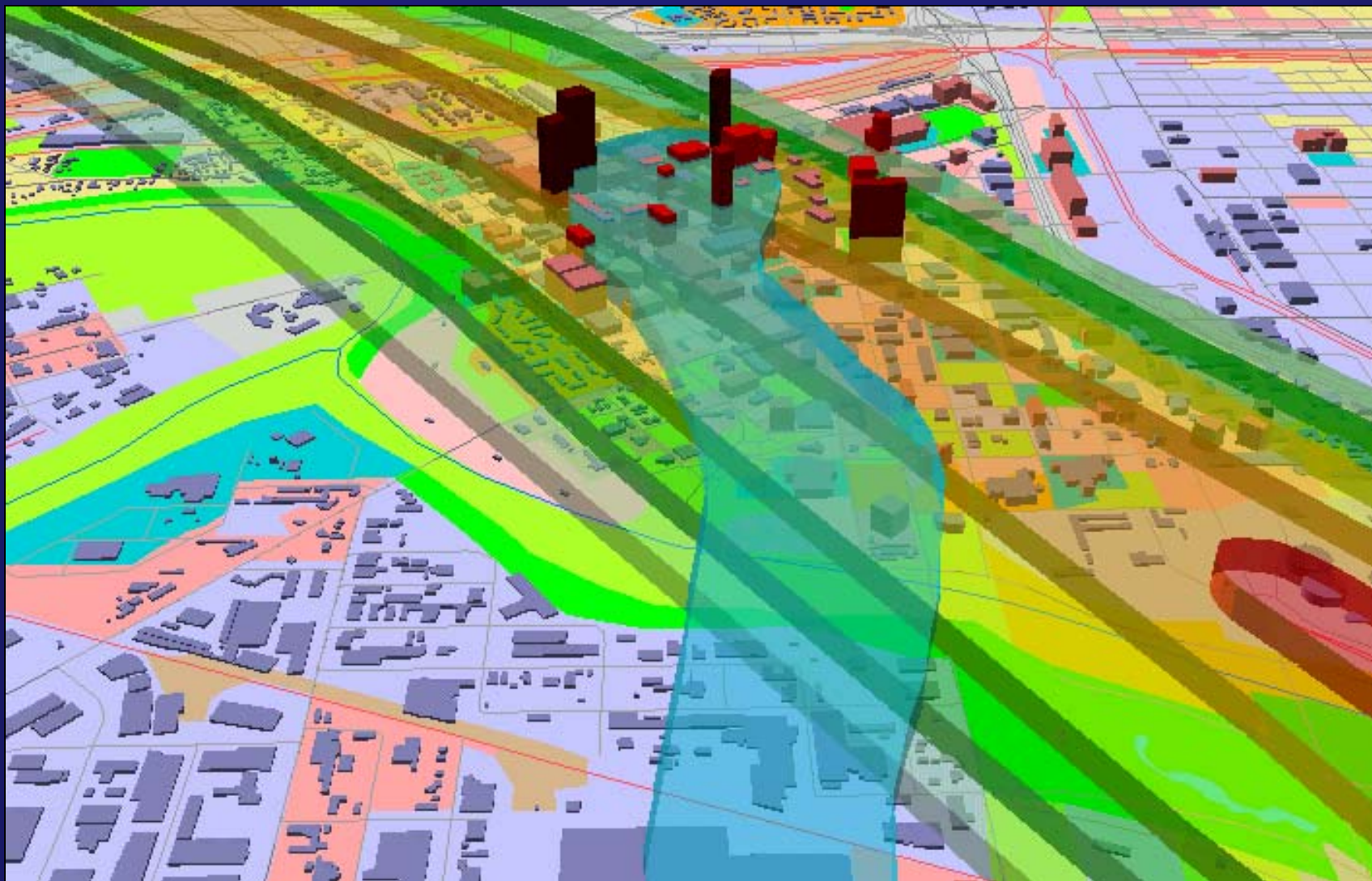
**Greensburg, Kansas
Tornado Family**



Fort Worth / Arlington Tornadoes



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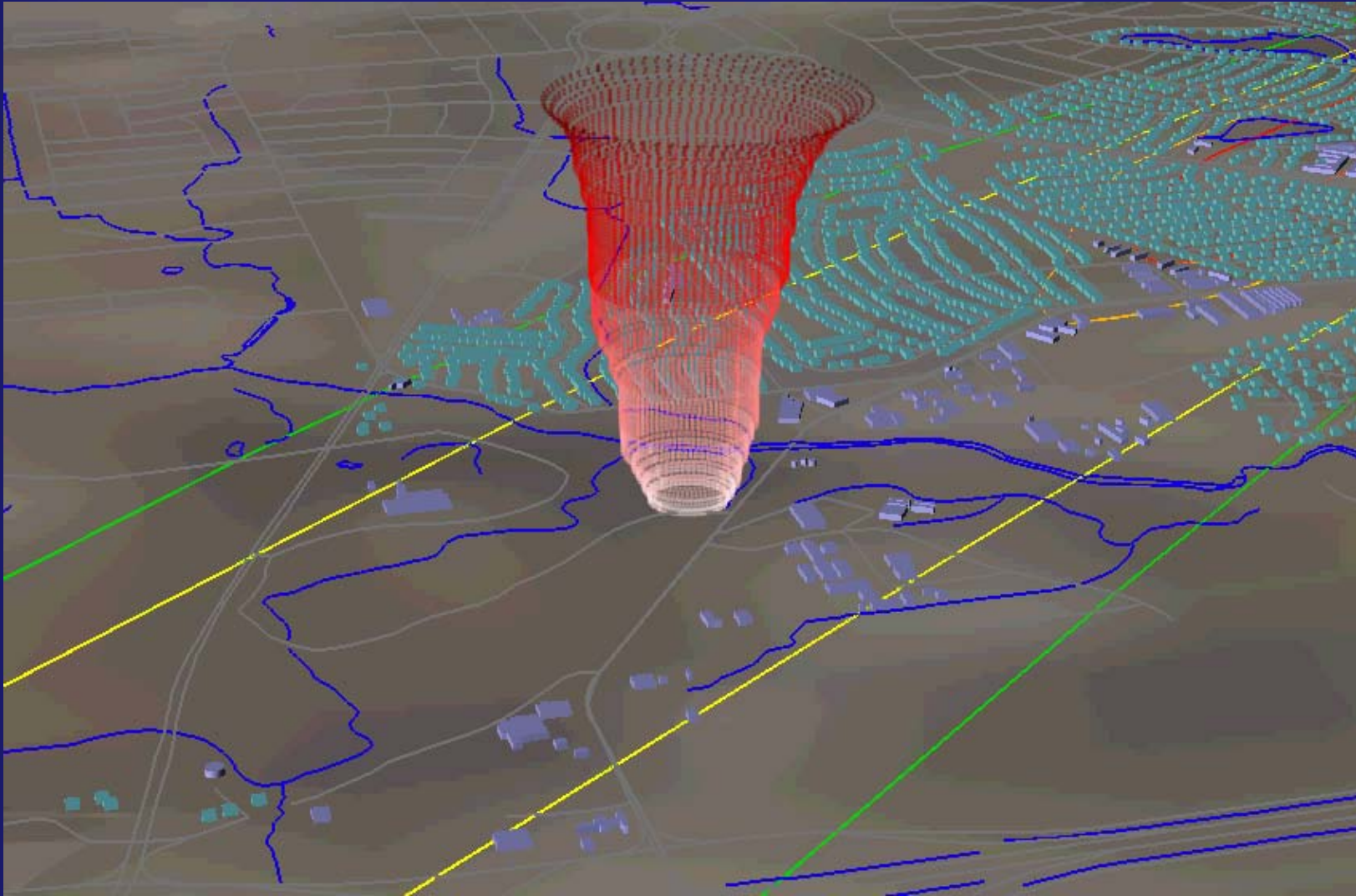


Tim Marshall



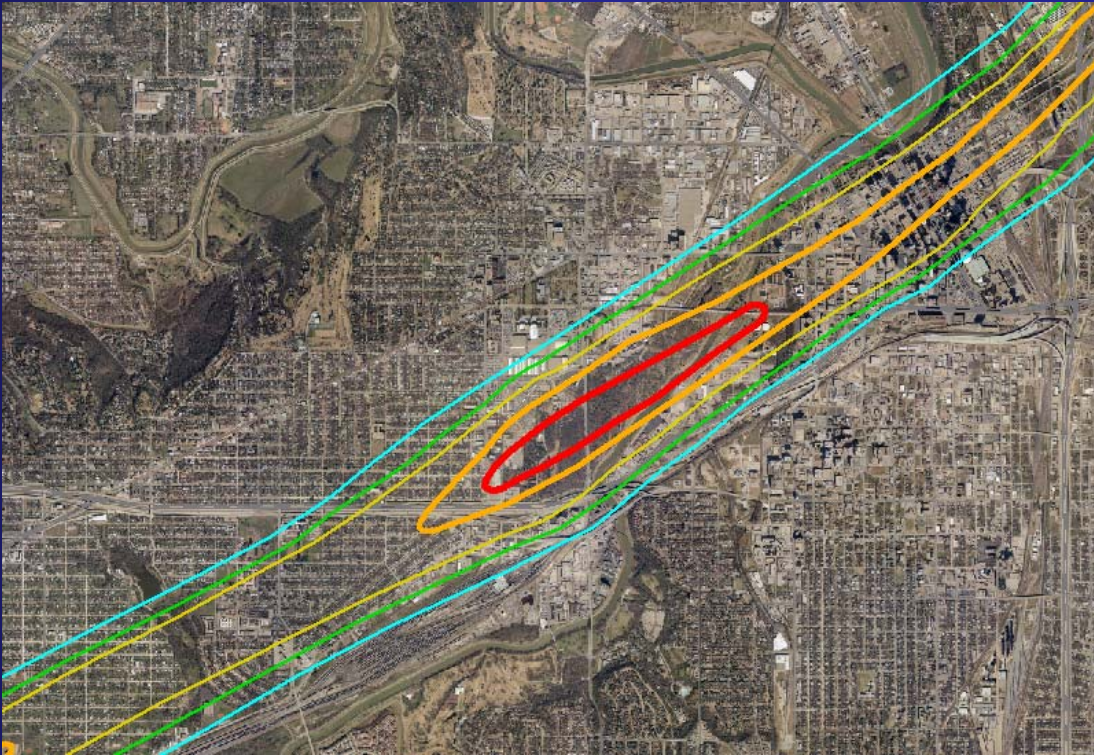
North Central Texas Council of Governments

Downtown Fort Worth Path Animation



Downtown Fort Worth

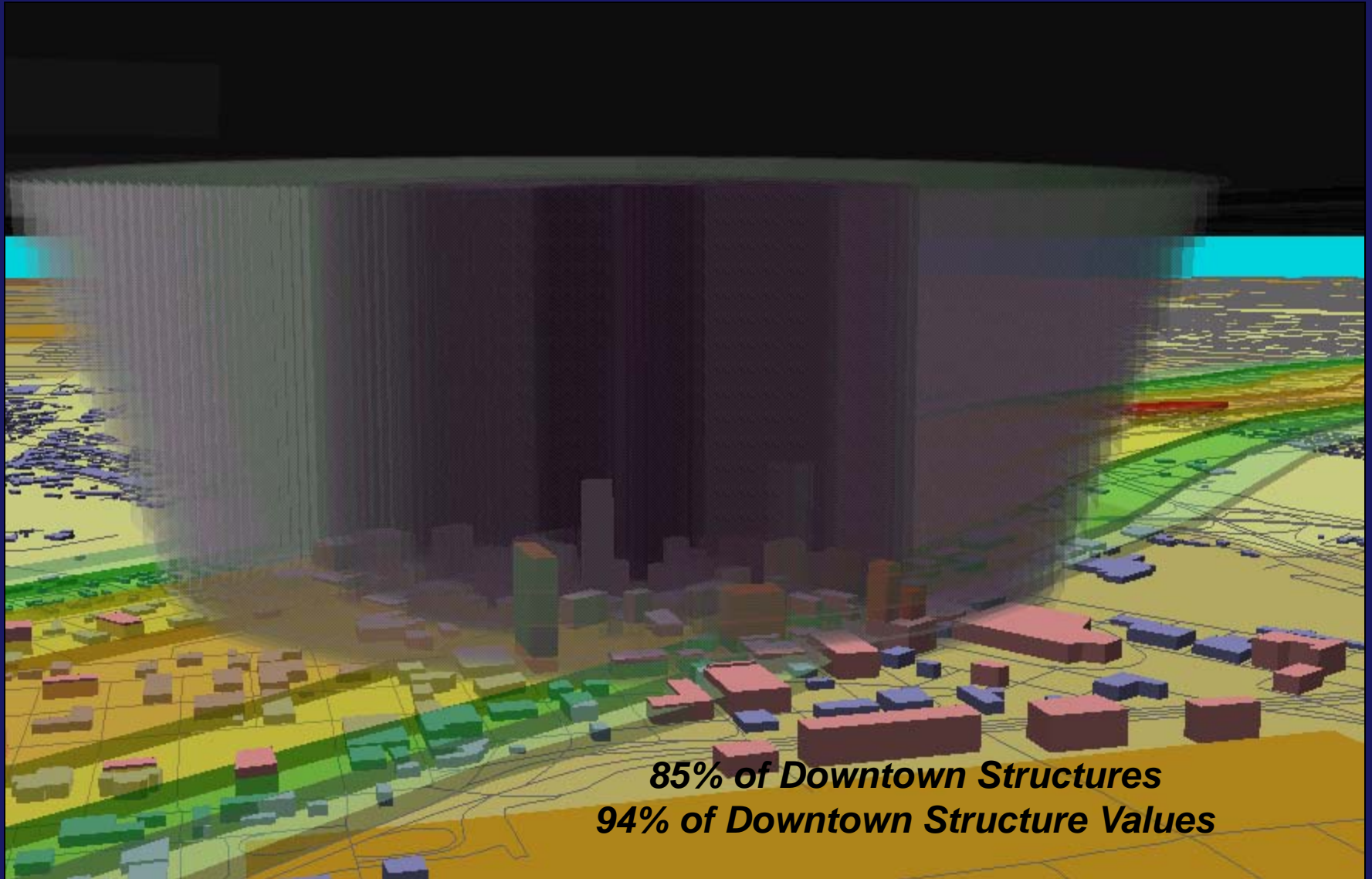
Fort Worth / Arlington Tornadoes



Residents: 51,300
Employees: 64,600
Structures: 23,000
Structure Value: \$4.2 Bill.
Damages: \$2.6 Bill.
Hourly Traffic: 169,000
Normal Volume: 1,700
Traffic Jam: 79,500

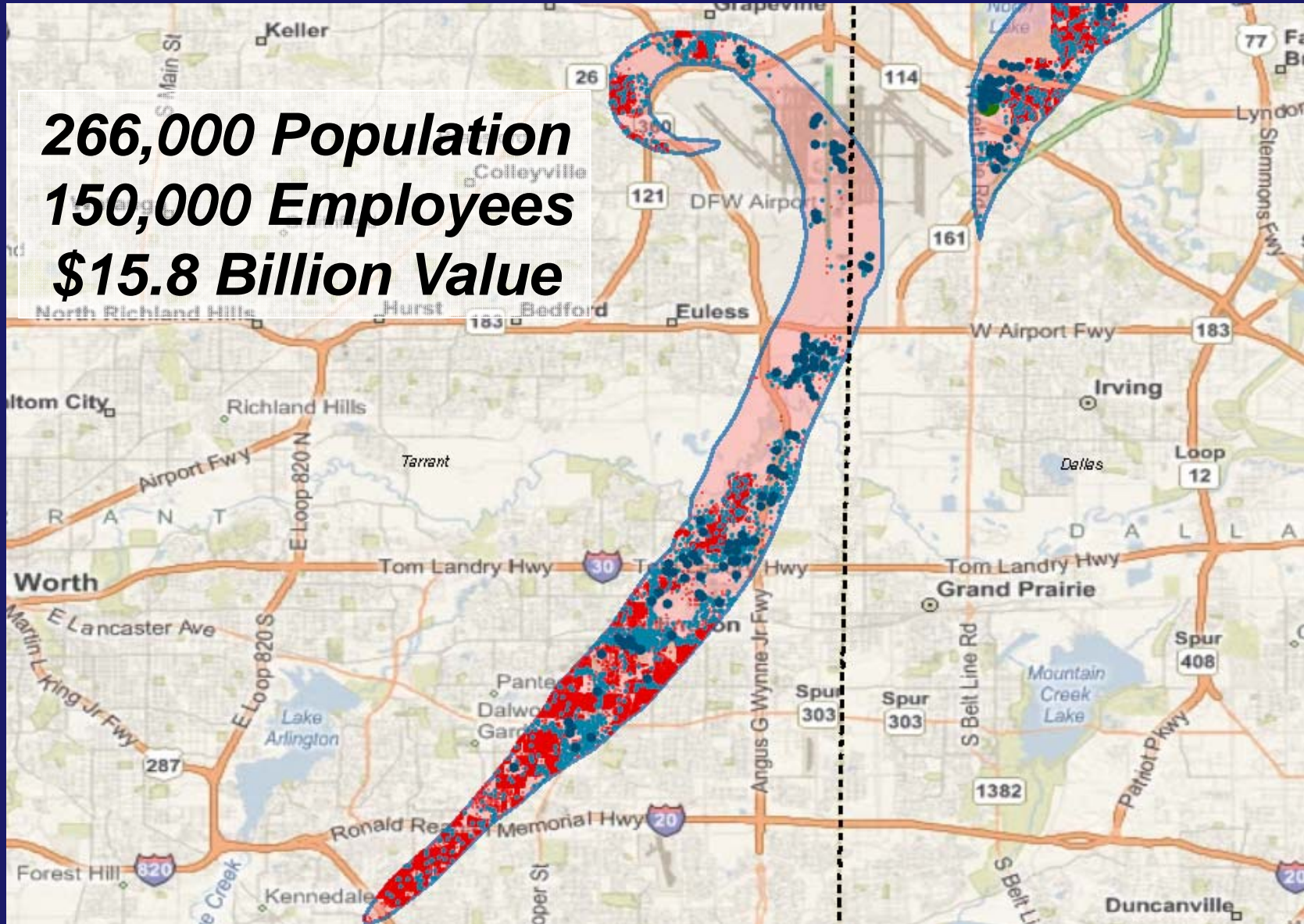


Fort Worth / Arlington Tornadoes



Fort Worth / Arlington Tornadoes

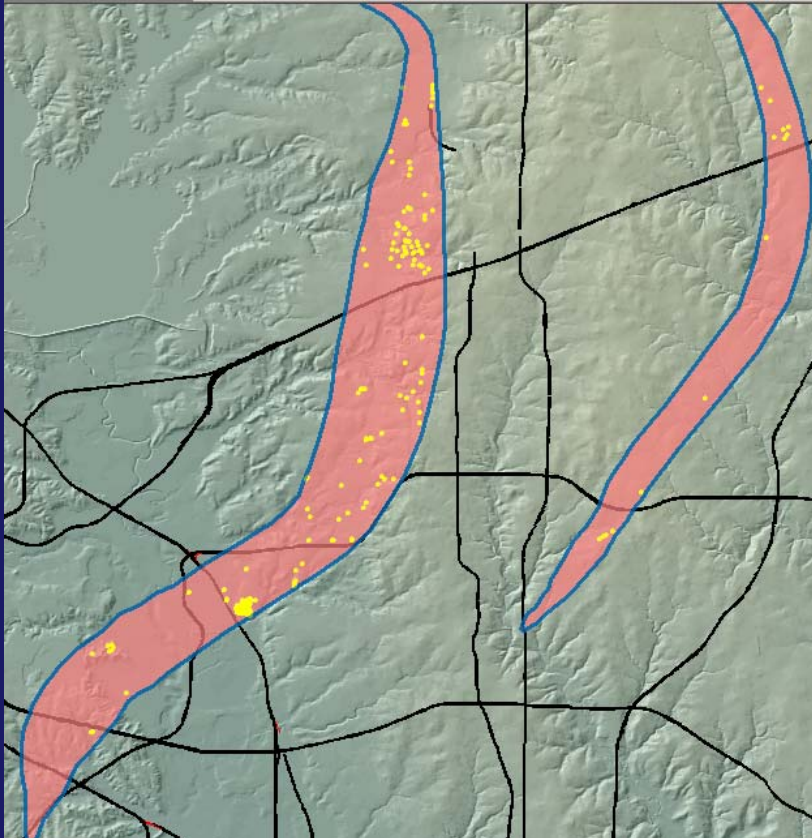
266,000 Population
150,000 Employees
\$15.8 Billion Value



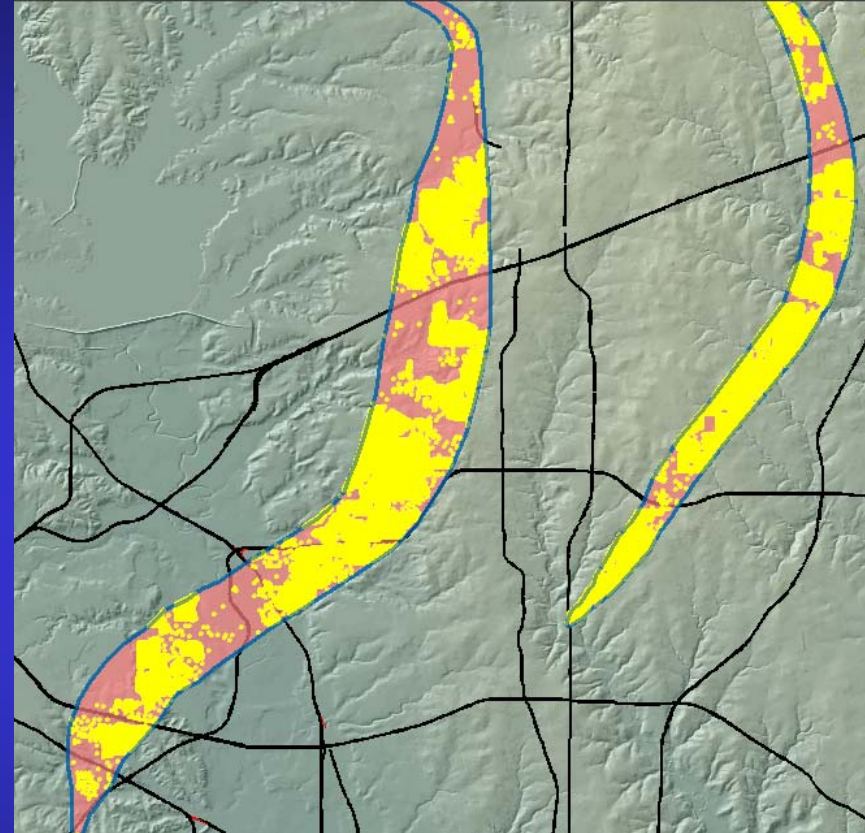
Growth

Fort Worth / Arlington Tornadoes

1950



2009

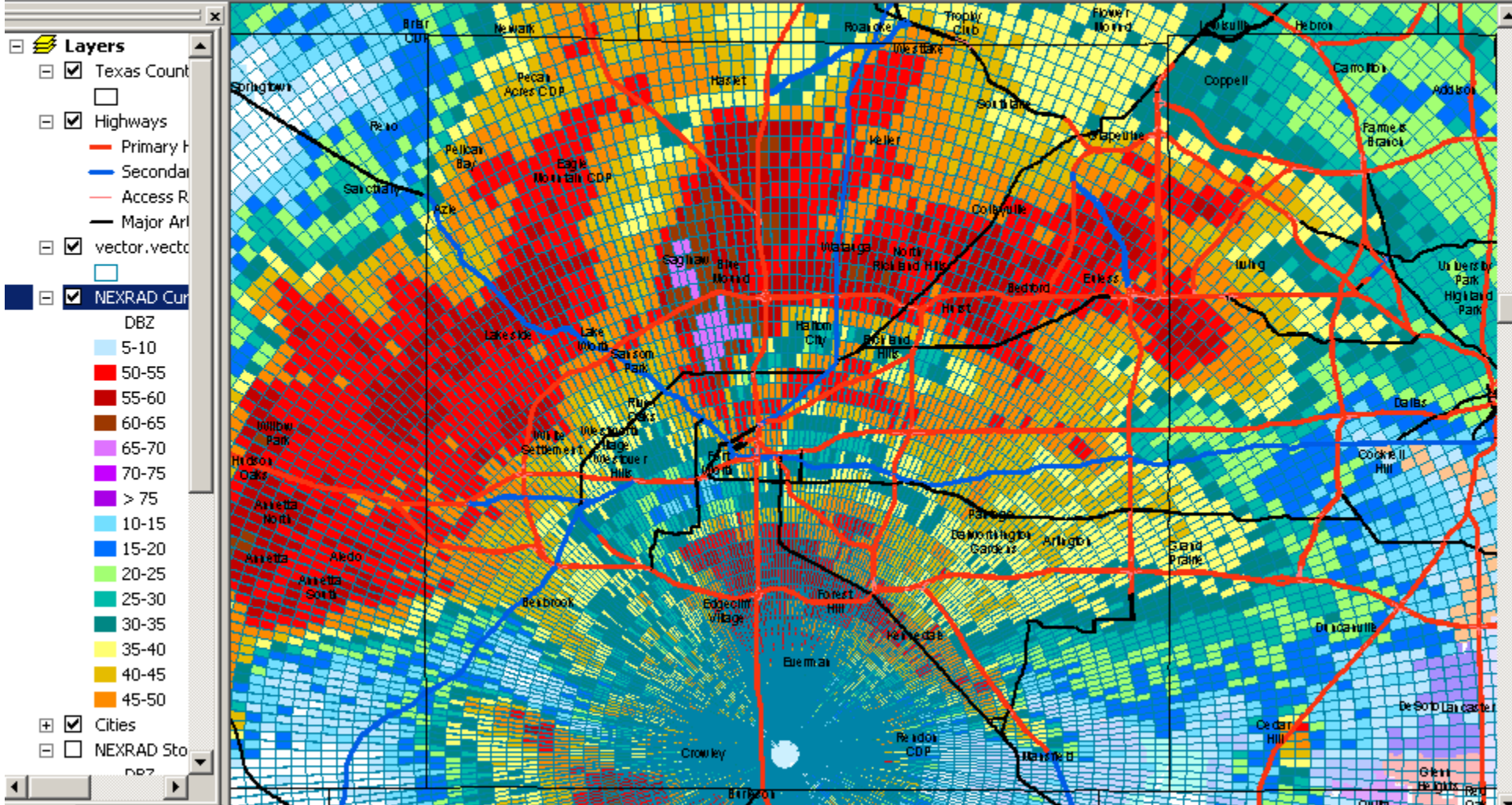


225 Structures
\$9.2 Million

45,000 Structures
\$10,100 Million



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Fort Worth / Arlington Tornadoes



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Courtesy: David Allen



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Courtesy: Tim Nolan



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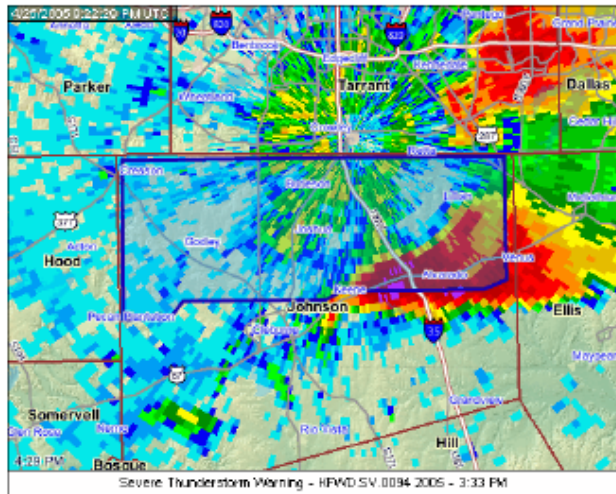
Fort Worth / Arlington Tornadoes

Severe Thunderstorm Warning

Counties: Johnson

Issued: Monday 4/25/2005 3:33:00 PM

Expires: Monday 4/25/2005 4:30:00 PM



Status: WARNING
 Event: Severe Thunderstorm
 Area: 325 Sq. Miles
 Storm Motion: Moving East At 35 M

Impacted Population: 76
 In Homes: 62
 In Multi-Family Units: 2
 In Mobile Homes: 35
 English Spoken Well: 98
 English Not Spoken: 1
 Female: 38
 Male: 37
 Under Age 18: 22
 Over Age 65: 6
 Housing Units: 25
 Source: 2000 Census

DESCRIPTION

* SEVERE THUNDERSTORM WARNING FOR... NORTHERN JOHNSON COUNTY IN NORTH CENTRAL TEXAS

* At 3:34 PM CDT... National Weather Service Doppler Radar Detected A Severe Thunderstorm Located 13 Miles West Of Godley... Or Near Granbury... And Moving East At 35 Mph. This Storm Was Capable Of Producing Nickel Size Hail... And Damaging Winds In Excess Of 60 Mph.

TIMING

* THE SEVERE THUNDERSTORM WILL BE NEAR... GODLEY BY 3:45 PM JOSHUA BY 4:00 PM BURLESON BY 4:05 PM 9 MILE NORTH OF ALVARADO BY 4:15 PM 9 MILES NORTH OF VENUS BY 4:25 PM FOR YOUR PROTECTION MOVE TO A STURDY SHELTER UNTIL THE STORM PASSES. IF YOU ARE CAUGHT OUTSIDE...SEEK SHELTER IN A STRONG BUILDING AND STAY INSIDE...AWAY FROM WINDOWS UNTIL THE STORM HAS PASSED. A TORNADO WATCH IS IN EFFECT FOR THE WARNING AREA. SEVERE THUNDERSTORMS CAN PRODUCE TORNADOES WITH LITTLE OR NO WARNING.

POPULATION IN WARNING AREA (Up to 10 Top Populations Listed)

City/Location	County	Persons	Gender		Housing Units	Age		
			Male	Female				
1. County Land	Johnson	46,469	50.6%	23,502	49.4%	22,967	15,446	30%
2. Burleson	Johnson	16,289	48.6%	7,914	51.4%	8,375	5,837	29%
3. Joshua	Johnson	4,528	49.6%	2,247	50.4%	2,281	1,610	30%
4. Alvarado	Johnson	2,917	49.3%	1,437	50.7%	1,480	1,038	29%
5. Keene	Johnson	2,155	48.8%	987	54.2%	1,168	680	26%

National Weather Service Forecast Office
Fort Worth, TX
 www.srh.noaa.gov

Site Map News Organization Search Enter Search Here Go

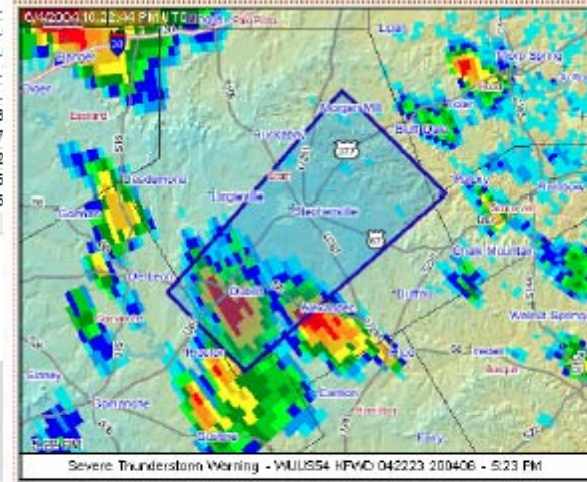
North Texas Graphical Warning Information (Experimental) Friday, June 04, 2004 5:23:27 PM

National Weather Service WUUS54 KFWD 042223 200406 Warning Profile

SEVERE THUNDERSTORM WARNING

Issued: Friday 6/4/2004 5:23:00 PM

Expires: Friday 6/4/2004 6:00:00 PM



Status: WARNING
 Event: Severe Thunderstorm
 Area: 440.20 Sq. Miles
 Counties: Erath
 Storm Motion: Northeast At 10 Mph.

Impacted Population: 27,785
 In Homes: 72.45%
 In Multi-Family Units: 10.98%
 In Mobile Homes: 16.57%
 English Spoken Well: 98.02%
 English Not Spoken: 1.98%
 Urban: 71.62%
 Rural: 28.38%
 Not Living in Texas in 1995: 4.9%
 Source: 2000 Census

DESCRIPTION

* At 5:23 PM CDT... National Weather Service Doppler Radar Detected A Severe Thunderstorm Over Dublin... Moving Northeast At 10 Mph. Hail To The Size Of Golfballs And Wind Gusts To 60 Mph Are Likely. For Your Protection Move To A Sturdy Shelter And Stay Away From Windows Until The Storm Passes.

TIMING

* THE SEVERE THUNDERSTORM WILL BE NEAR... STEPHENVILLE AROUND 5:45 PM CDT

POPULATION IN WARNING AREA (Up to 15 Top Populations Listed)

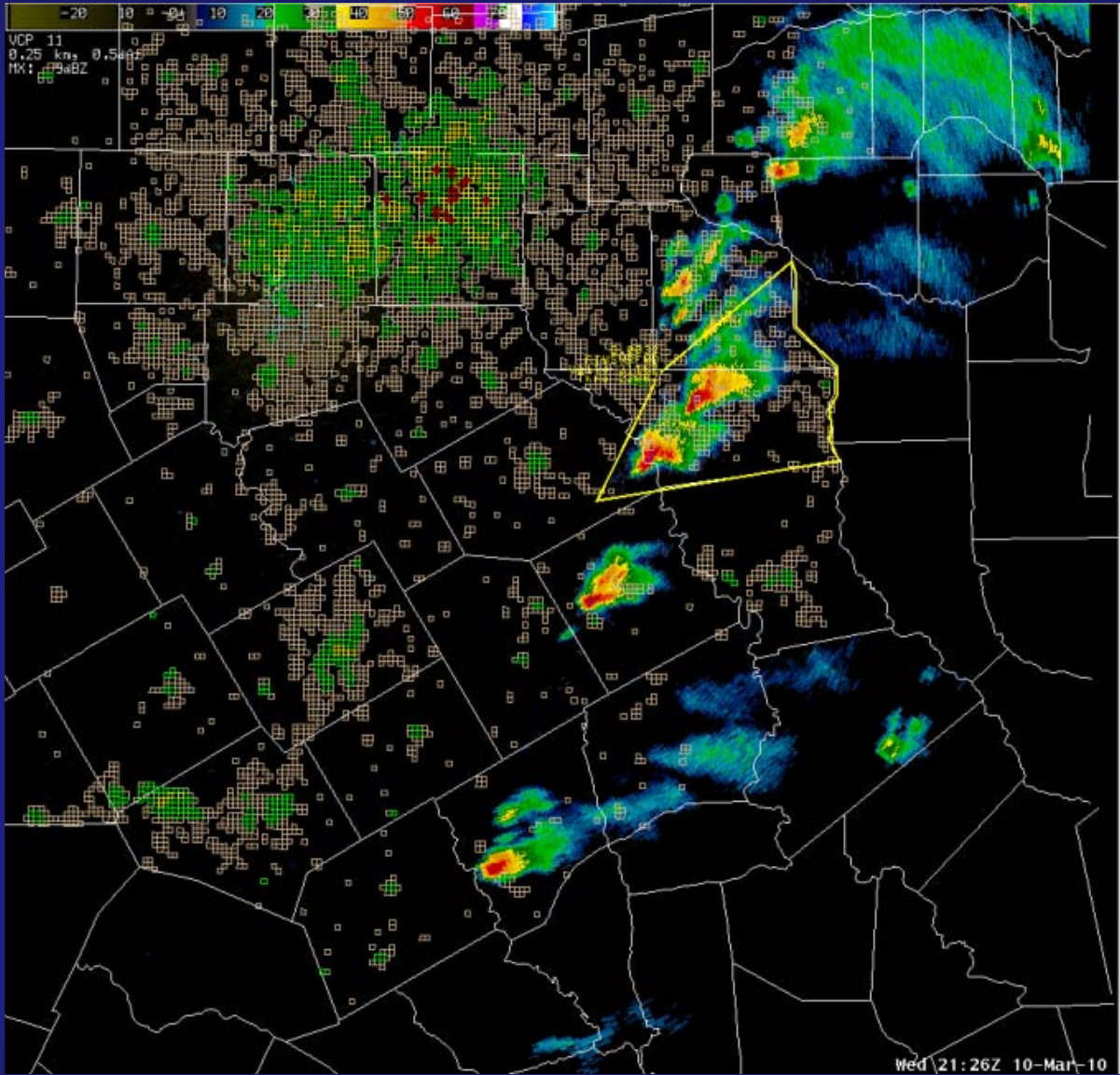
City/Location	County	Persons	Sex		Persons by Age (Years)									
			Male	Female	<5	5-14	15-24	25-34	35-44	45-54	55-64	65+		
1. Stephenville	Erath	14,821	47.6%	52.4%	6%	11%	25%	13%	11%	9%	6%	21%		
2. County Land	Erath	8,088	51.7%	48.3%	7%	15%	17%	13%	15%	13%	9%	18%		
3. Dublin	Erath	3,764	47.6%	52.4%	8%	18%	14%	13%	13%	11%	7%	22%		
4. County Land	Comanche	44	52.3%	47.7%	9%	9%	16%	11%	9%	14%	23%	11%		
Total of 4 Locations		27,785												

Above Warning information is presented through a cooperative project between the North Central Texas Council of Governments and the National Weather Service Fort Worth Office



North Central Texas Council of Governments

Fort Worth / Arlington Tornadoes



Lessons Learned

- **Location Location**
- **Growth is Meeting Risk**
- **Tornadoes Relatively Small**
- **Are We Ready for Bigger Storms?**
- **Information/Tools Improved**



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Data Applications Manager

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North Central Texas Council of
Governments**

srae@nctcog.org

