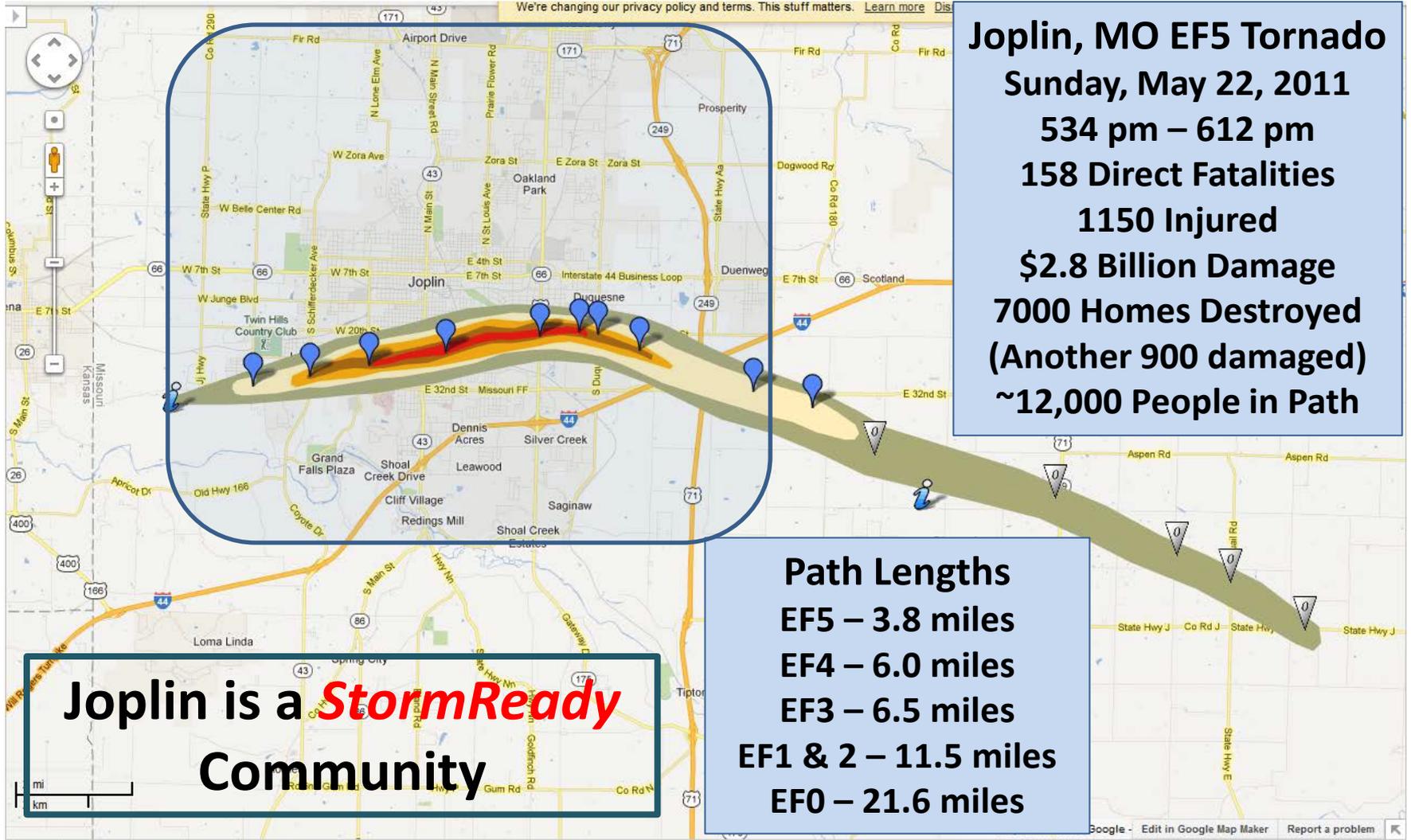


What If – Moving the EF5 Joplin Tornado Through Madison, WI



Madison, Wisconsin

Joplin Tornado



Joplin Tornado



looking N from I-44 just southwest of Joplin
from video by Jon & Shawna Davies



contrast enhanced to see tornado





Risk Signals

- **First siren (first indicator for the vast majority)**
- **TV/Radio**
- **Web sites showing watches/warnings**
- **Second siren**
- **Text messages**
- **Facebook/Twitter etc**
- **NOAA Weather Radio**
- **Seeing the tornado**
- **Messages from family, friends, etc**

Reaction to 1st Risk Signal

- **Vast majority of residents did not take shelter at first indication of risk (usually a siren)**
- **This was mostly due to previous experience with severe weather, and perceived frequency of siren activation**
- **Most chose to wait for, or actively seek, additional info**

A Few Notes

- **Some took shelter in the best location and perished, while others drove into the tornado and survived**
- **Deaths: 54% residences, 32% non-residential buildings, 14% vehicles/outside**
- **Many lives saved that day (i.e. actions by officials, media, businesses, churches, hospitals, etc., and citizens)**
- **Most businesses had a plan of receiving warnings and sheltering patrons. Toll would have been much higher.**
- **Significant number of fatalities were older than 70, or were infirmed, or had a disability. Extra time and/or assistance required.**

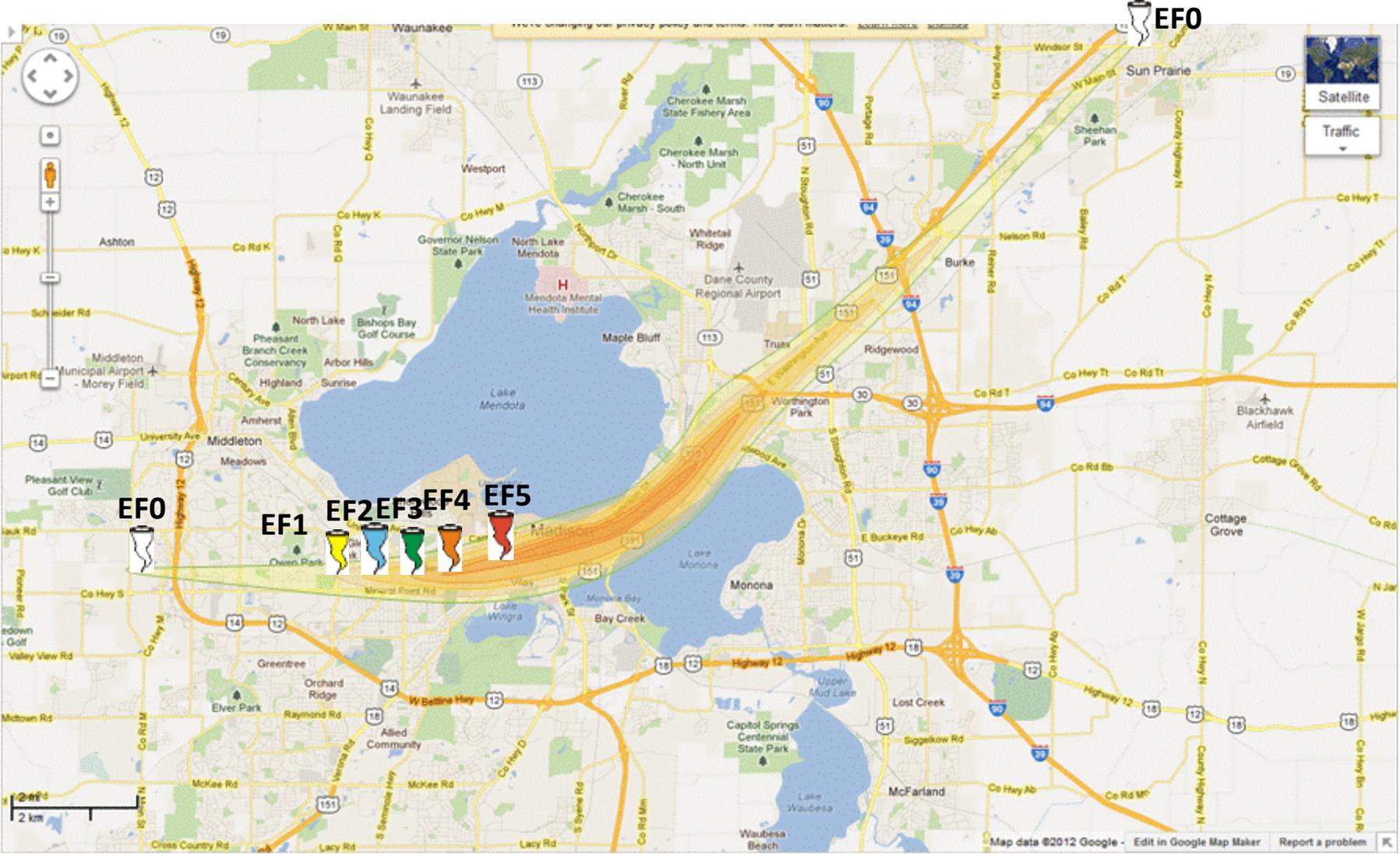
A Personal Account

- **Heard first siren**
- **Went to TV. NOAA Weather Radio on TV override said the tornado would be 7 miles north**
- **Went on porch with family to take a look. Had a cigar.**
- **Heard second siren**
- **Thought something wasn't right – went inside and watched local TV**
- **Regular programming still on – saw several colored counties and thought threat was still to the north**
- **Wife yelled “basement!” Grabbed the cat.**
- **Tornado hit as he reached top of stairs**

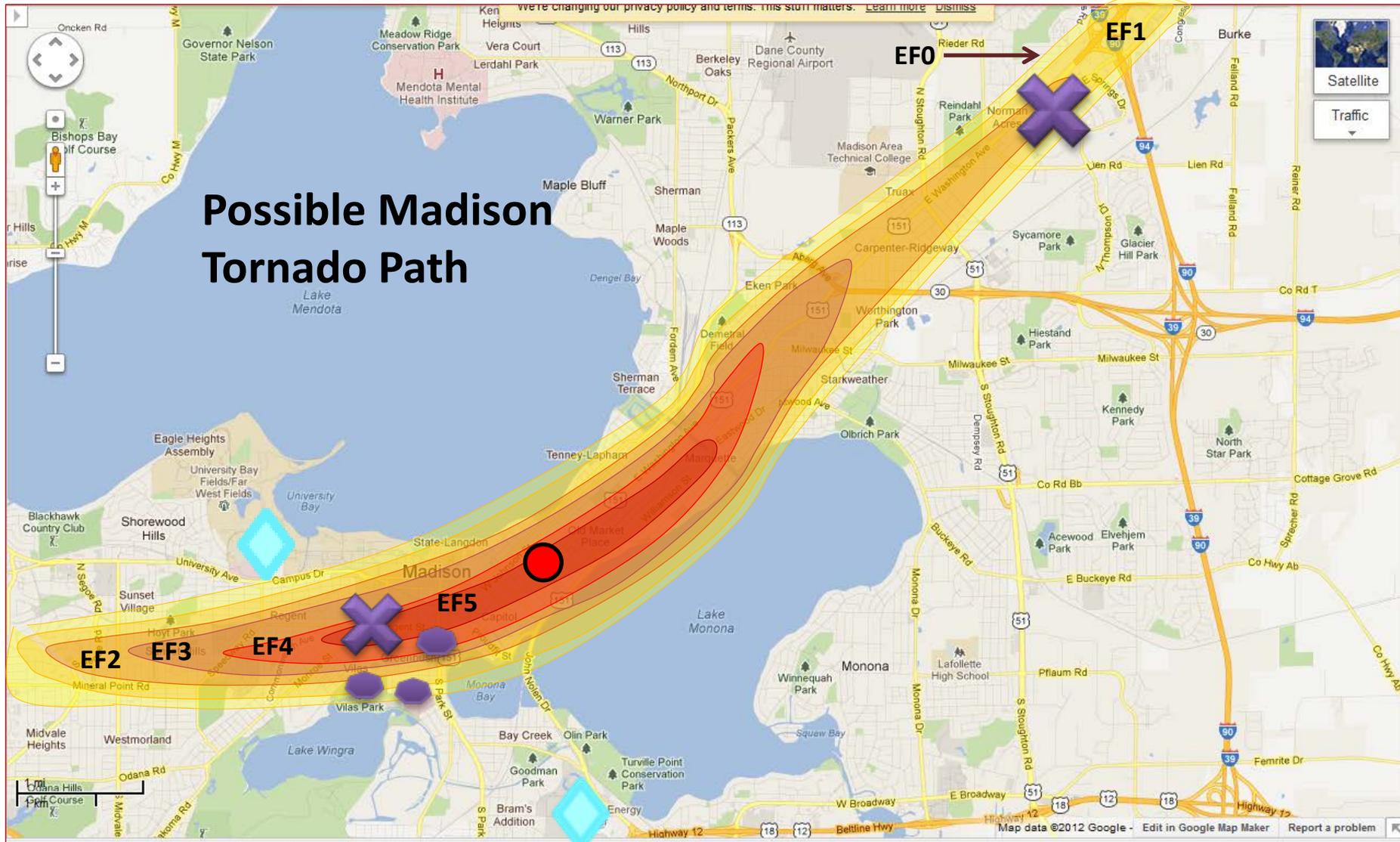
Joplin Tornado Through Madison

- Late April-early May....afternoon hours
- It's a hot & humid day...temperatures in the mid-80s
- Winds south 25 mph
- UW-Madison still in session
- Businesses still open
- Capitol Square & East Towne Mall are busy
- **Tornado Watch 1 PM to 7 PM**
- **Tornado Warning 245 PM to 345 PM**
- **Tornado spins up 3 PM, 2.5 miles SSW Middleton**
- **Tornado arrives Capitol Square 320 PM**
- **Tornado ends in Sun Prairie at 345 PM**

Madison Tornado Path



Possible Madison Tornado Path



Satellite
Traffic

Estimated Tornado Effects

- **100,000 people in path (up to 120,000?)**
- **800 to 1300 fatalities, 10,000 injured**
- **6 to 7 Billion property damage**
- **1400+ Businesses and 11,000+ homes/apartments significantly damaged or destroyed**
- **60,000 vehicles damaged or destroyed**
- **15 million cubic yards of debris/waste**
- **40,000+ people need shelter**
- **Most trees gone, and remaining trunks de-barked**
- **1 to 4 years to rebuild?**

Madison Area Stats

Estimated structures destroyed and monetary losses within each EF strip

100% structural loss for EF5, EF4, 90% for EF3, 40% for EF2, 20% for EF1, and 2% for EF0
(loss estimate below reflects adjustments for structural loss percentages)

Land Use/Demographics	EF5	EF4	EF3	EF2	EF1	EF0	Total Tor Track
Total # of Parcels (all)	2,785	3,384	3469	5076	3005	3102	20821
# of Single Family Homes	1,041	1,712	2451	4300	2133	2013	13650
# of Two-Family Homes (Duplex)	461	739	464	461	81	140	2346
# of Multi-Family Apartment Buildings	518	657	340	345	211	400	2471
# of Commercial Properties	657	231	178	321	169	503	2059
Government/Institutional (# of Parcels)	108	45	36	167	227	46	629
# of Parcels with Improvements > \$10,000	2,213	3,109	3262	5116	2441	3090	19231
# of Buildings	3,097	4,195	4160	4919	2133	2491	20995
Total Improved Value = loss estimate	1,004,576,000	881,013,000	622,079,910	423,885,800	118,501,200	51,989,531	3,070,851,723
							0
Total Population	22,299	17,741	12,774	20,656	8,432	15,838	97,740
# of Households	7,839	7,547	6,028	8,292	3,956	7,876	41,538

Stats do not include monetary losses with government, university, and other tax-exempt buildings. To account for this, we doubled the \$3.1B listed above to arrive at the 6B to 7B loss estimate in slide #8

Stats do not include transient workers and shoppers (wash out for people not at home?)

Are you Weather Ready?

