Wichita Falls Texoma Vision

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ITS Architecture and Deployment Plan

- Provide framework for future ITS, services, integration and interoperability
- Inventory existing infrastructure
- Identify needs of stakeholders
- Coordinated effort
- Sharing information
- Share resources

Key Stakeholders

- TxDOT
- TxDPS
- Oklahoma DOT
- Oklahoma DPS
- Emergency Management
- Cities
- Counties
- Transit Management
- Sheppard Air Force Base
- US Geological Survey

Wichita Falls TMC

Traffic Management Center

Local Resources

- Molli Choate
  - ITS Technician
- Signals Section
  - Field Maintenance and Support
- WFS Information Resources
  - Maintenance and Support

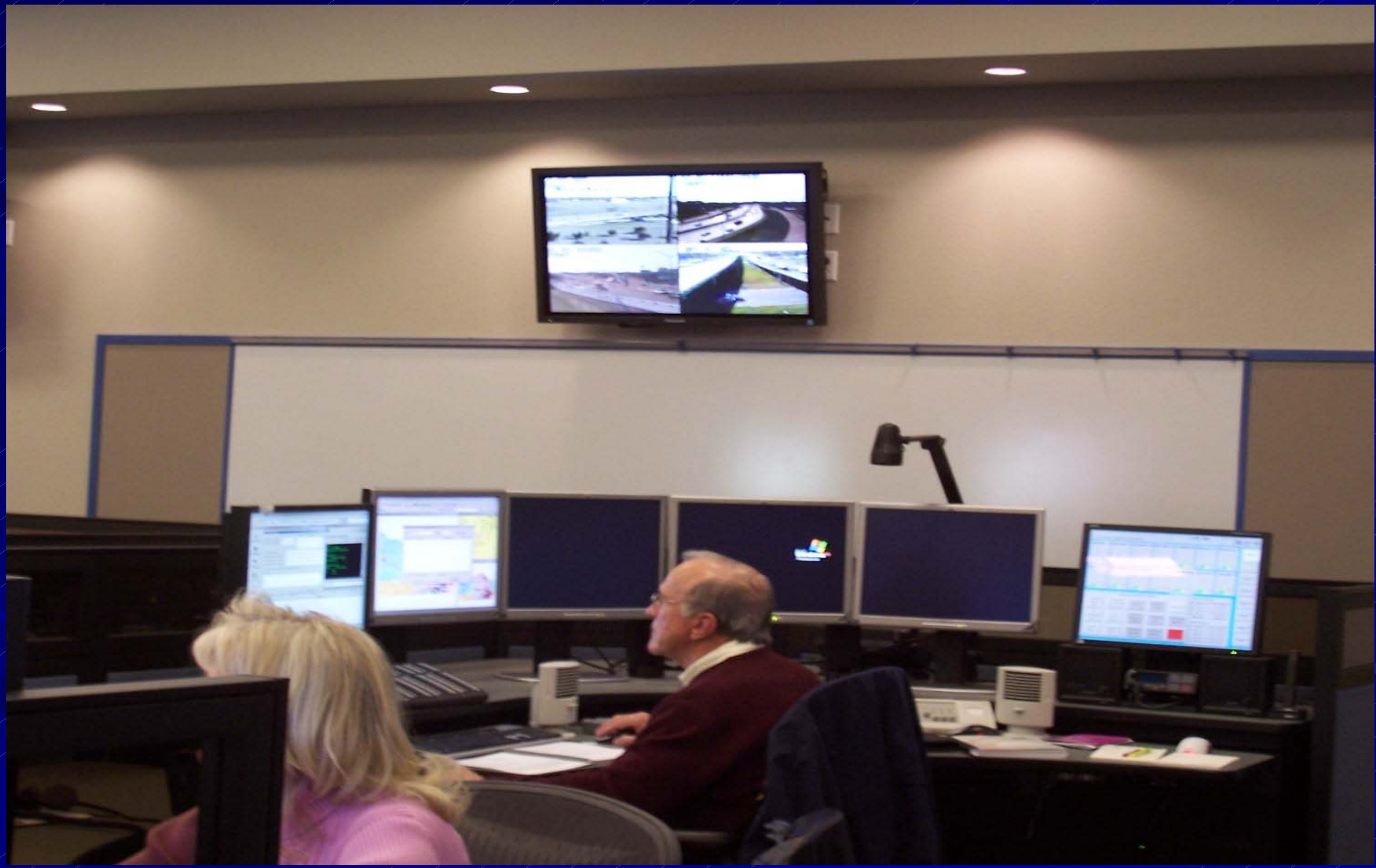
Other Resources

- Traffic Division in Austin - ITS Branch
  - ATMS Software
  - Technical Support

Successful TMC

- The real key to a successful TMC is the first responders and our interaction with them.
  - Police Dispatch
  - First Responders
  - Weather Spotters

WFS Police Dispatch



Non Typical Traffic Incident

- Lane Closure
- Clueless Drivers
- The Unexpected
- Heavy Loads
- Little Old Lady
- Road Rage

Provide Information

- Traveling Public
- Maintenance Forces
- Other Government Agencies
- Public Transportation Systems
- Commercial Vehicles
- Other TMCs

ITS Server Room TxDOT

Server Hardware

- Four Servers

- **Datawise**
  (Weather Sensors)

- **ATMS**
  Camera control (pan, tilt, & zoom)
  Dynamic Message Sign

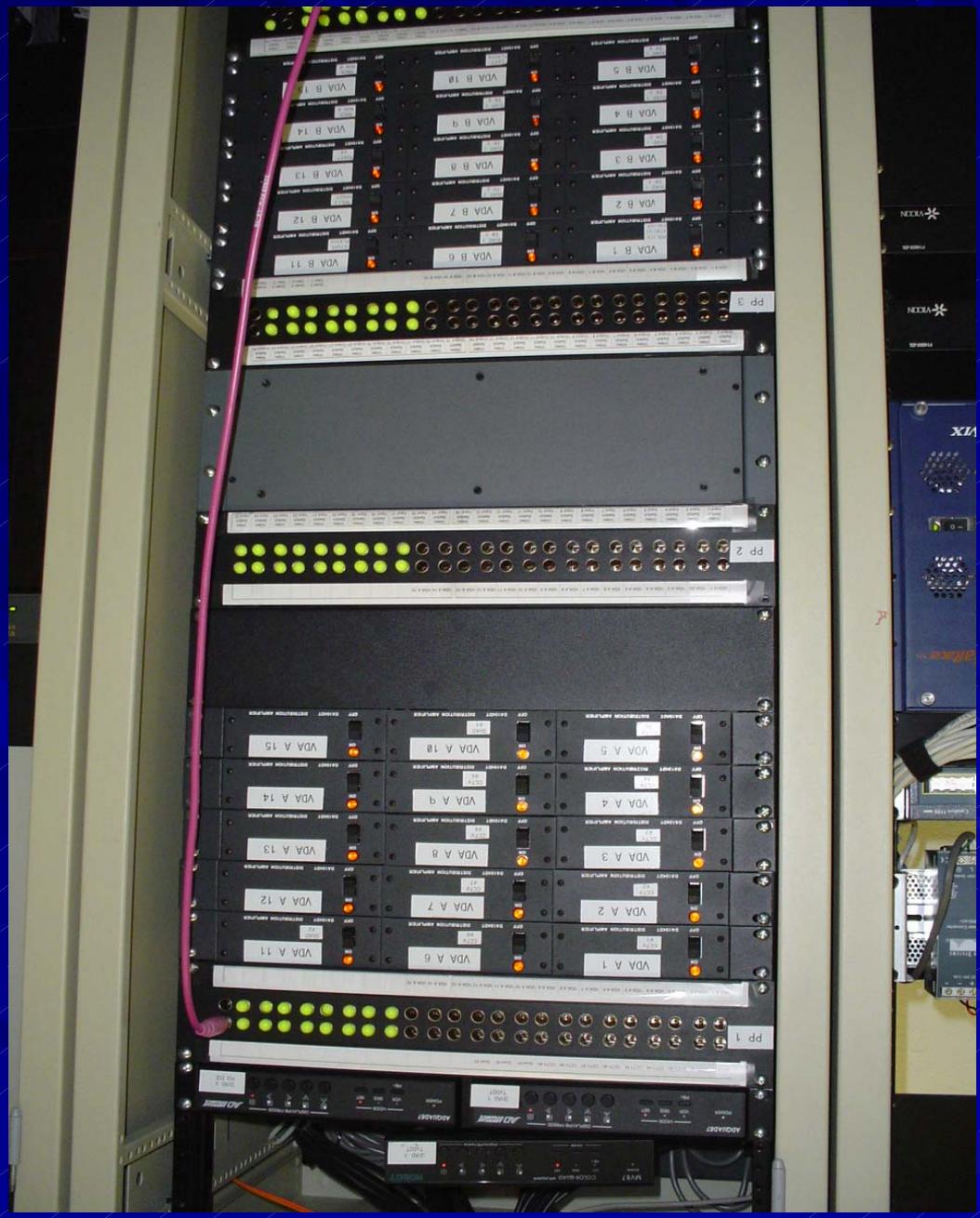
- **Database**
  Supports ATMS

- **WFS – VID**
  Supports Video

Video Processing Hardware

- Switches
- Decoders
- Communication Connections
- Firewall

Video Conditioning Hardware



Video Monitoring and Testing Hardware

Field Equipment

- Dynamic Message Signs
  - 2 on IH 44/US 287 FDS Fiber
  - 2 on IH 35 Skyline LED
- 9 Camera Locations
- 5 Weather Stations

CCTV Cameras

Capabilities

Cohu 3950

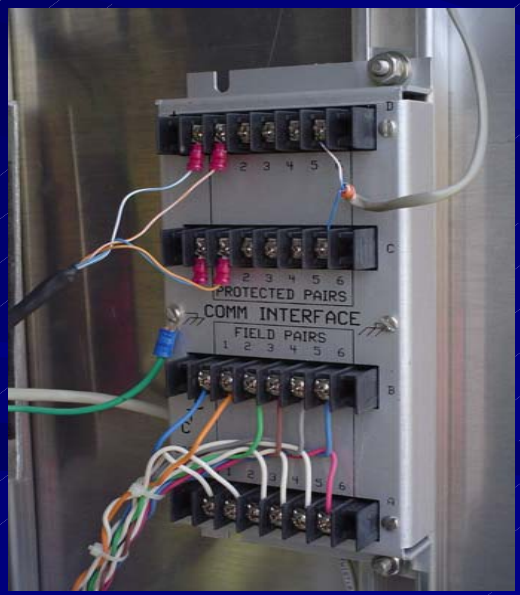
23X Optical

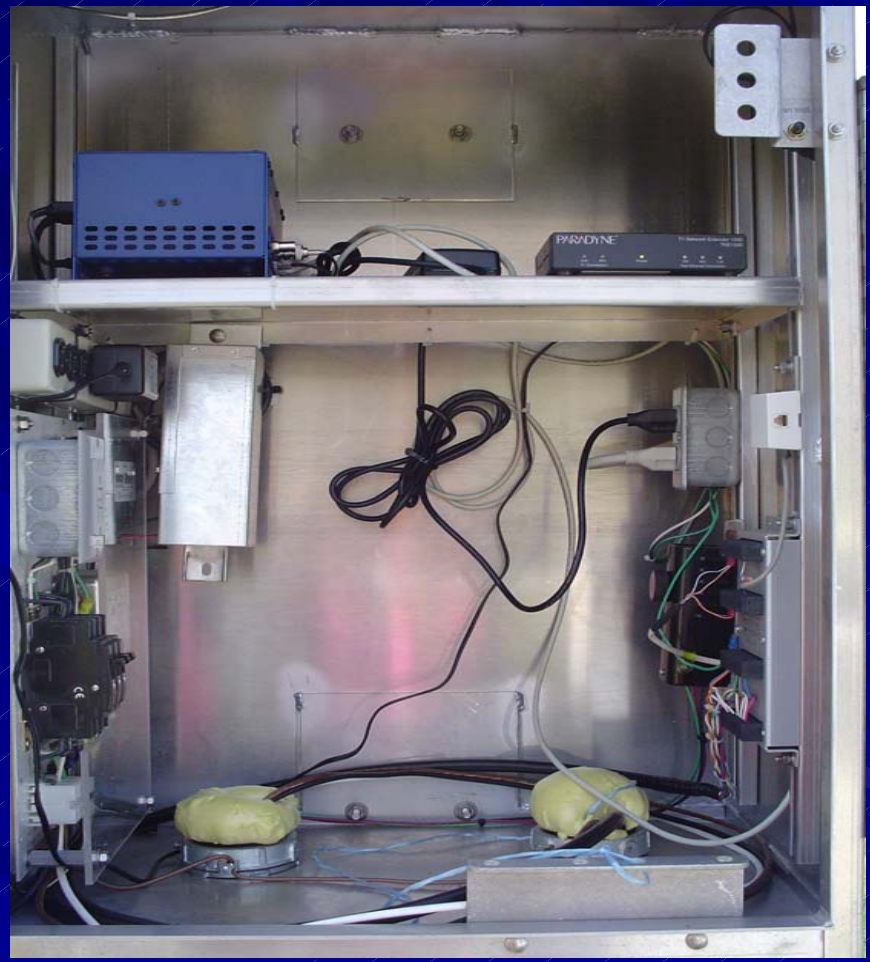
10X Digital

Field Hardware

T1 Extender

Video Encoder



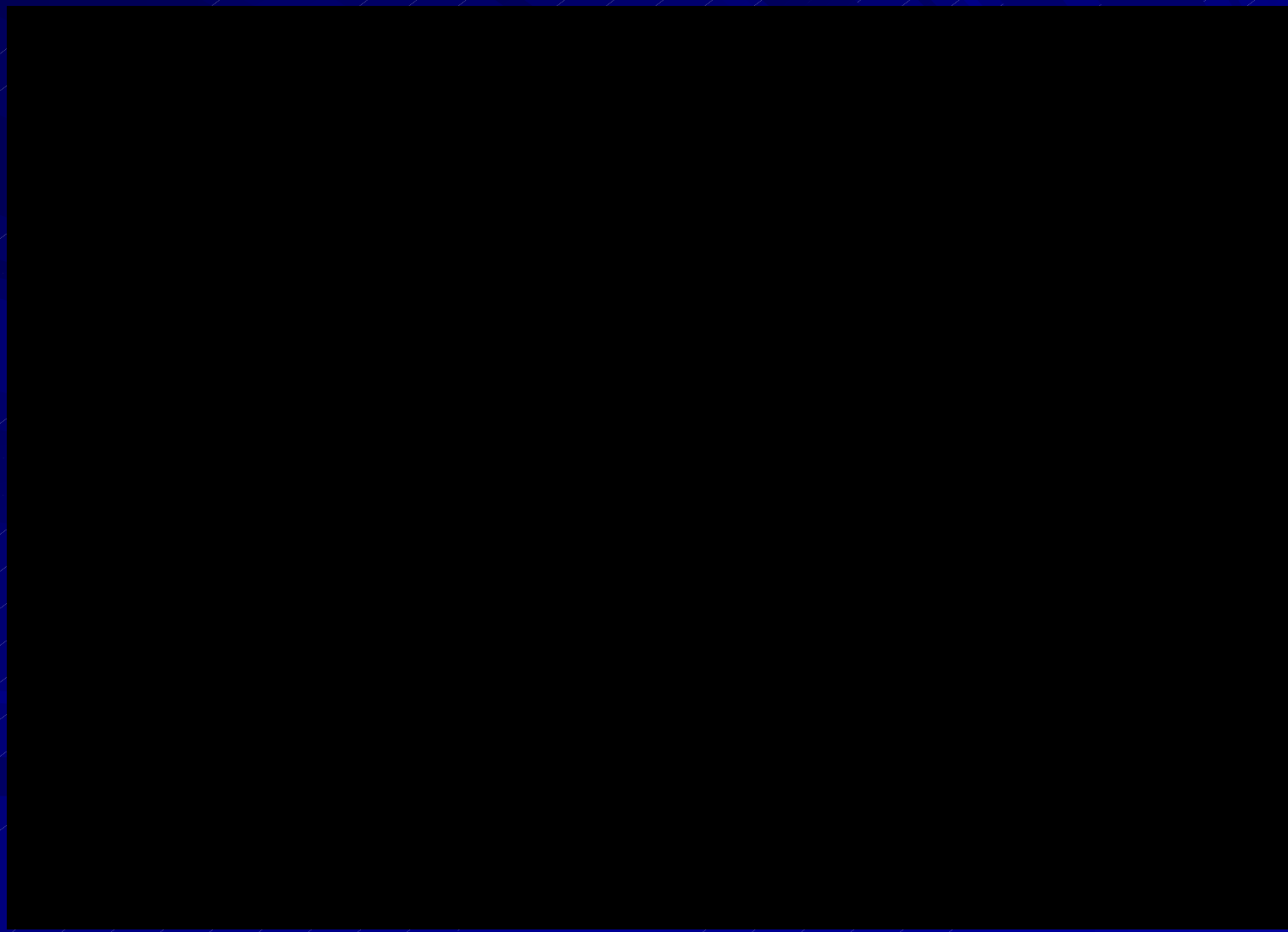


Challenges

- Low Bid Process
- Manufacturer Claims Vs Real World
- Video Quality
- Hardened Products
- Communication Lines
- Integrating Components from Different Technologies
- Contract Delays

ISDN Line 80 K

T1 Line 1Meg



Weather Issues

- Center of Tornado Alley
- Sudden Ice Storms
- ATMS Alarm Capabilities
- Absence of Sensors in Rural Areas
- Storm Spotters

Weather Sensors

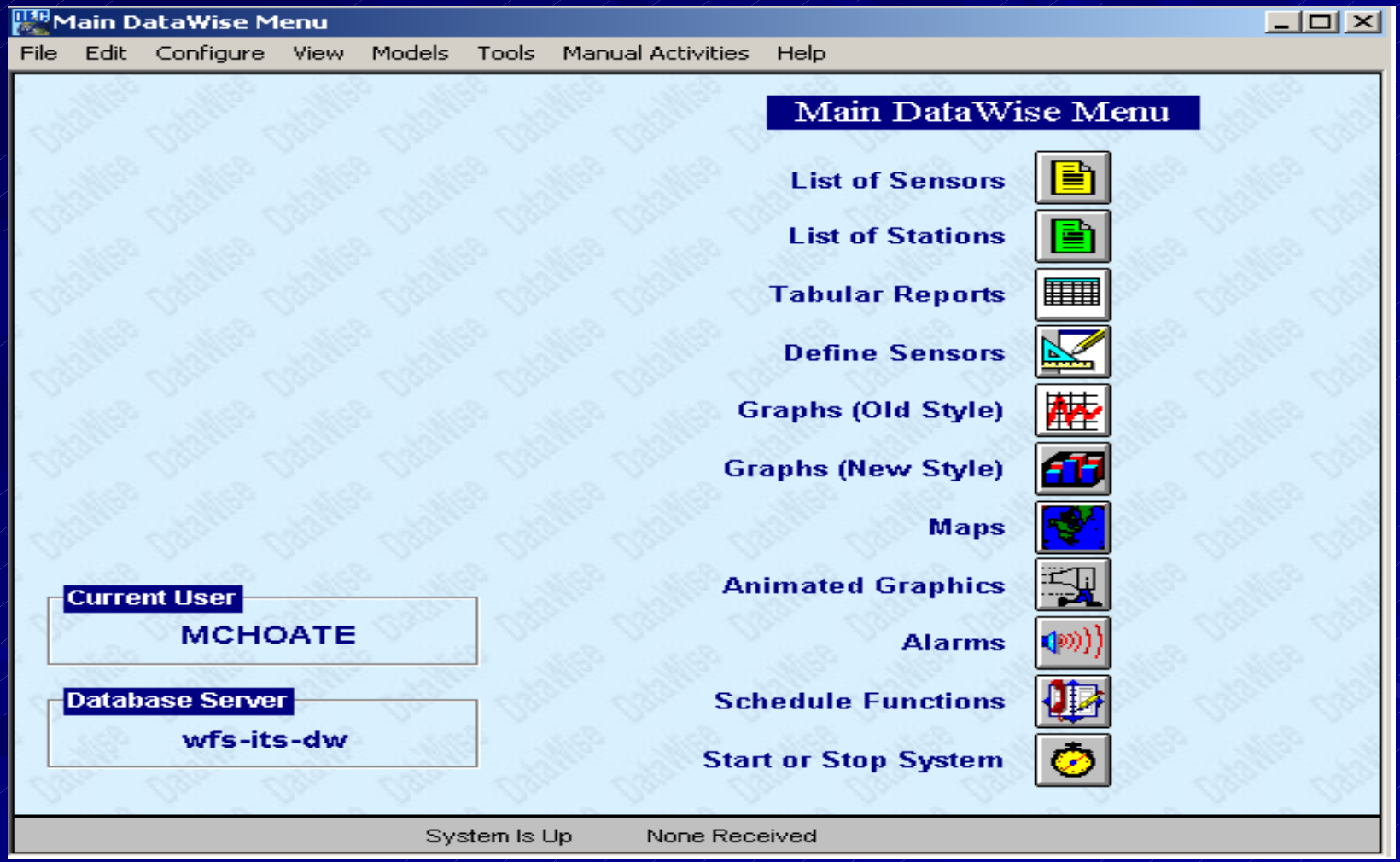
- Wind Sensor
- Wind Gust
- Wind Direction
- Rain Gauge
- Air Temperature
- Humidity
- Pavement Sensors
- Virtual Ice Sensors
- Battery Sensors
- Flood Sensor

Sensor Field Electronics

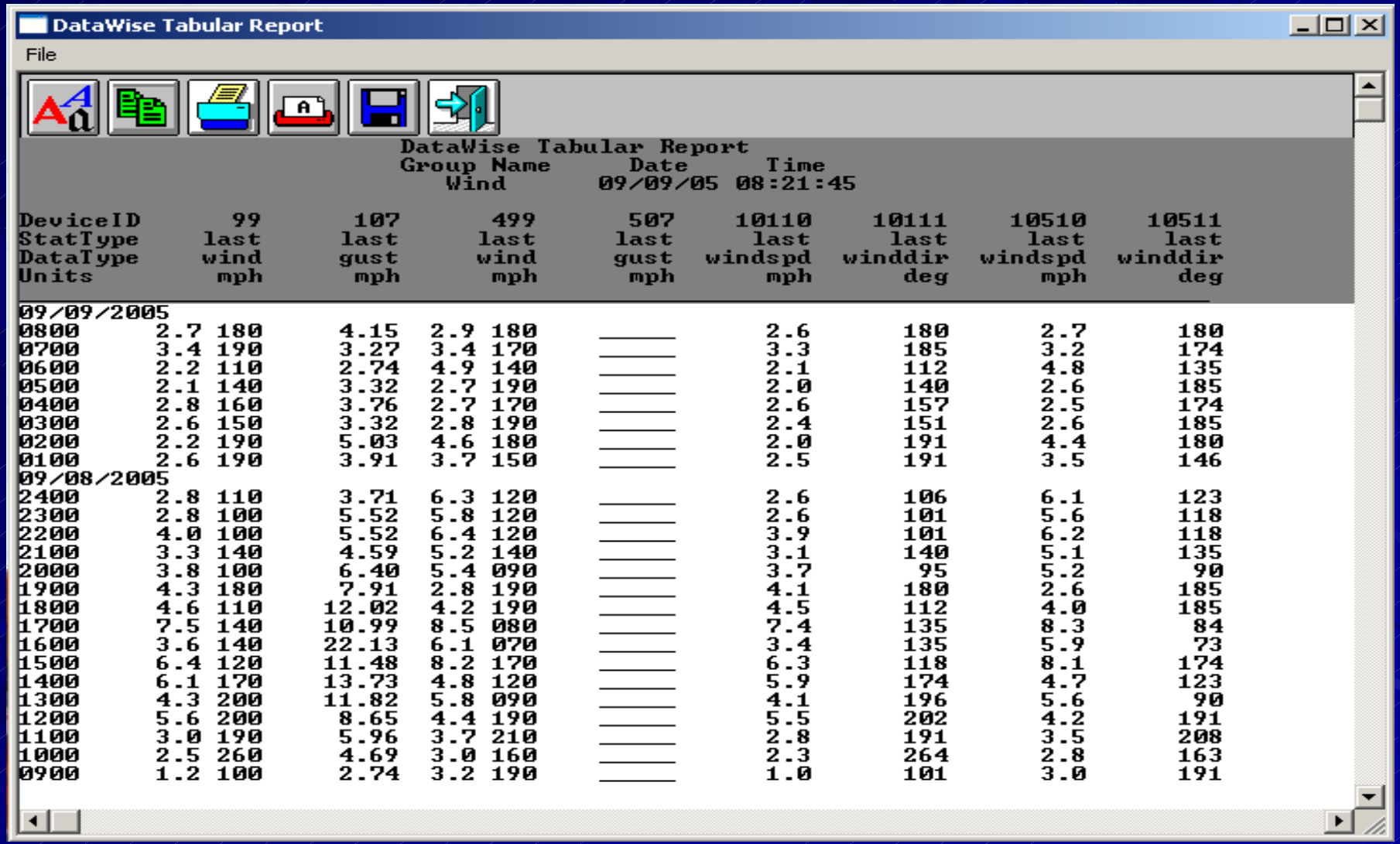
Weather Sensors

- High Sierra Electronics System
- Solar Powered
- Wireless Data Transmission
- Real Time Data

Datawise Software



Datawise Reports

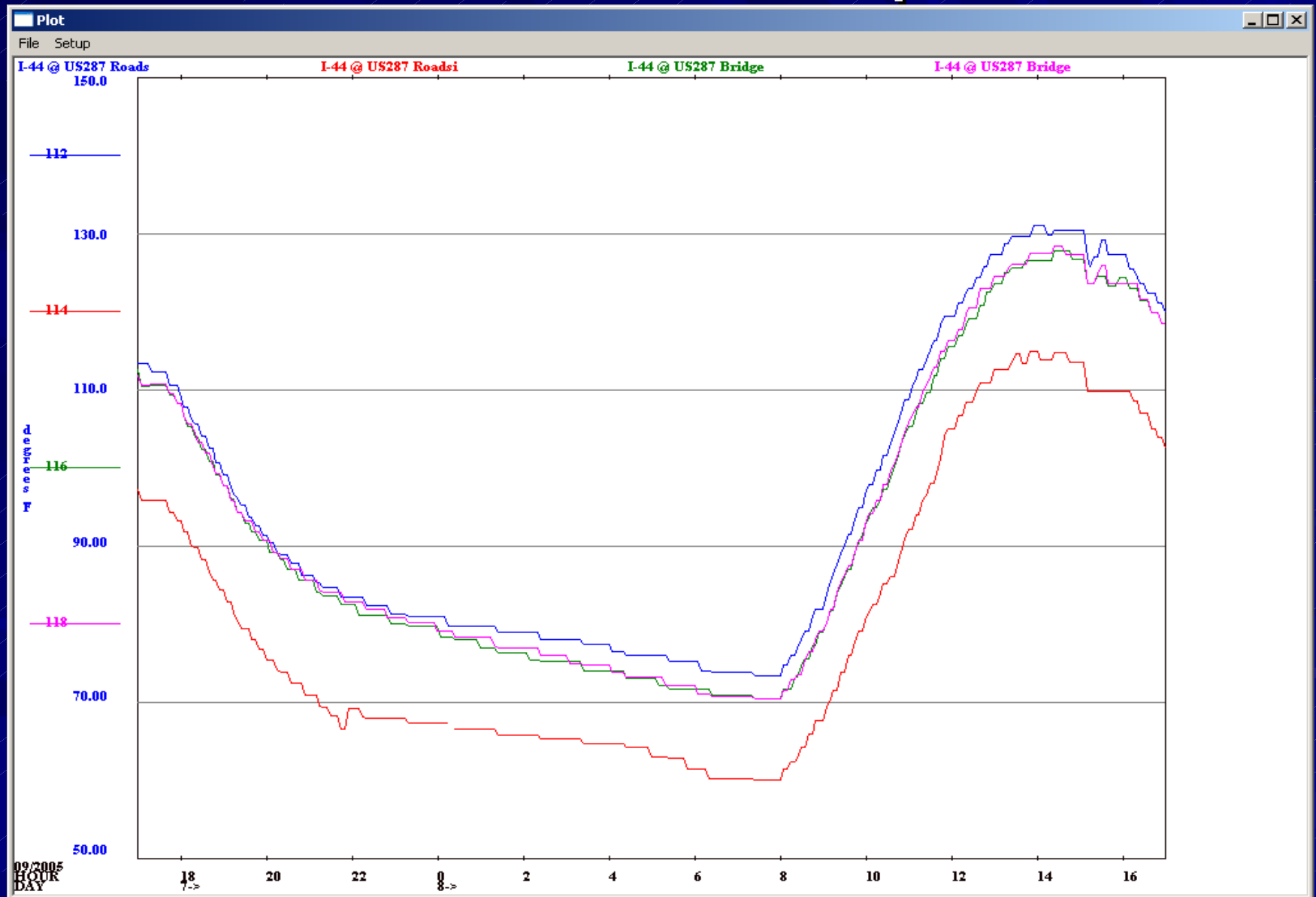


DataWise Tabular Report

Group Name	Date	Time
Wind	09/09/05	08:21:45

DeviceID	99		107	499		507	10110	10111	10510	10511
StatType	last		last	last		last	last	last	last	last
DataType	wind		gust	wind		gust	windspd	winddir	windspd	winddir
Units	mph		mph	mph		mph	mph	deg	mph	deg
09/09/2005										
0800	2.7	180	4.15	2.9	180	_____	2.6	180	2.7	180
0700	3.4	190	3.27	3.4	170	_____	3.3	185	3.2	174
0600	2.2	110	2.74	4.9	140	_____	2.1	112	4.8	135
0500	2.1	140	3.32	2.7	190	_____	2.0	140	2.6	185
0400	2.8	160	3.76	2.7	170	_____	2.6	157	2.5	174
0300	2.6	150	3.32	2.8	190	_____	2.4	151	2.6	185
0200	2.2	190	5.03	4.6	180	_____	2.0	191	4.4	180
0100	2.6	190	3.91	3.7	150	_____	2.5	191	3.5	146
09/08/2005										
2400	2.8	110	3.71	6.3	120	_____	2.6	106	6.1	123
2300	2.8	100	5.52	5.8	120	_____	2.6	101	5.6	118
2200	4.0	100	5.52	6.4	120	_____	3.9	101	6.2	118
2100	3.3	140	4.59	5.2	140	_____	3.1	140	5.1	135
2000	3.8	100	6.40	5.4	090	_____	3.7	95	5.2	90
1900	4.3	180	7.91	2.8	190	_____	4.1	180	2.6	185
1800	4.6	110	12.02	4.2	190	_____	4.5	112	4.0	185
1700	7.5	140	10.99	8.5	080	_____	7.4	135	8.3	84
1600	3.6	140	22.13	6.1	070	_____	3.4	135	5.9	73
1500	6.4	120	11.48	8.2	170	_____	6.3	118	8.1	174
1400	6.1	170	13.73	4.8	120	_____	5.9	174	4.7	123
1300	4.3	200	11.82	5.8	090	_____	4.1	196	5.6	90
1200	5.6	200	8.65	4.4	190	_____	5.5	202	4.2	191
1100	3.0	190	5.96	3.7	210	_____	2.8	191	3.5	208
1000	2.5	260	4.69	3.0	160	_____	2.3	264	2.8	163
0900	1.2	100	2.74	3.2	190	_____	1.0	101	3.0	191

Datawise - Graph

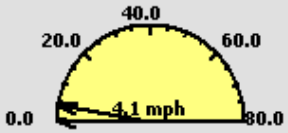


Graphic Screen Design ... D:\DW\Templet\Weather Page1.tpt

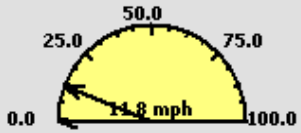
File View Color and Font Sensors Edit Edit Mode Draw

Wichita Falls Weather Page

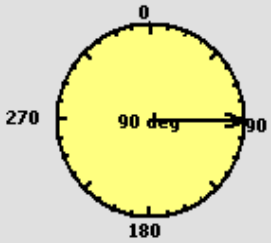
IH 44 / SP 325



Wind Speed



Wind Gust

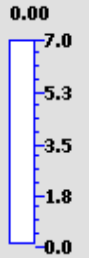


Wind Direction

Current Air Temp

89

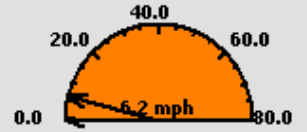
24 hr Rain Guage



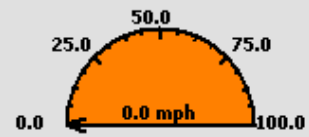
Pavement Temperature

	Roadway Approach		Bridge Deck	
	Right	Left	Right	Left
SP 325	122.40	107.00	121.40	121.70
	0.00	0.00	0.00	0.00
Wichita River	122.20	120.00	120.90	119.00
	0.00	0.00	0.00	0.00
NB Elevated			115.60	115.60
			0.00	0.00
SB Elevated			115.60	104.20
			0.00	0.00
US 281	139.60	120.80	117.60	116.30
	0.00	0.00	0.00	0.00

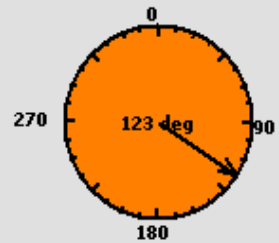
US 287 / US 281



Wind Speed



Wind Gust

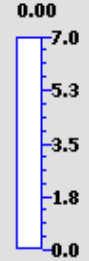


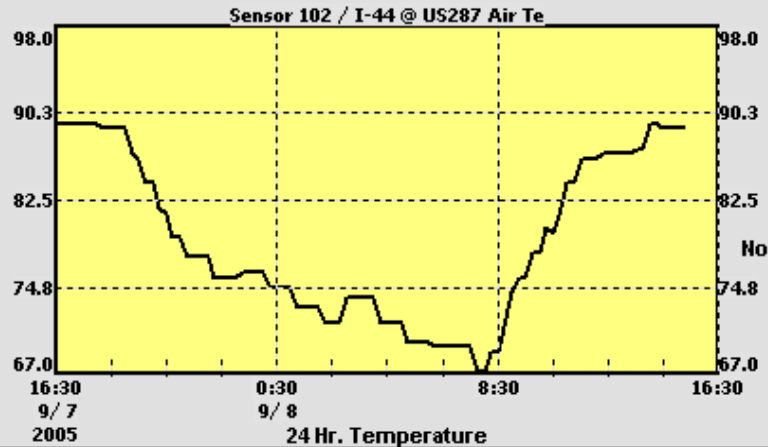
Wind Direction

Current Air Temp

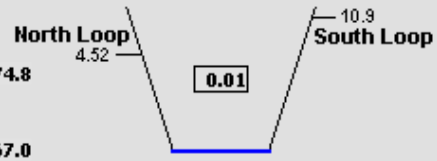
91

24 hr Rain Guage

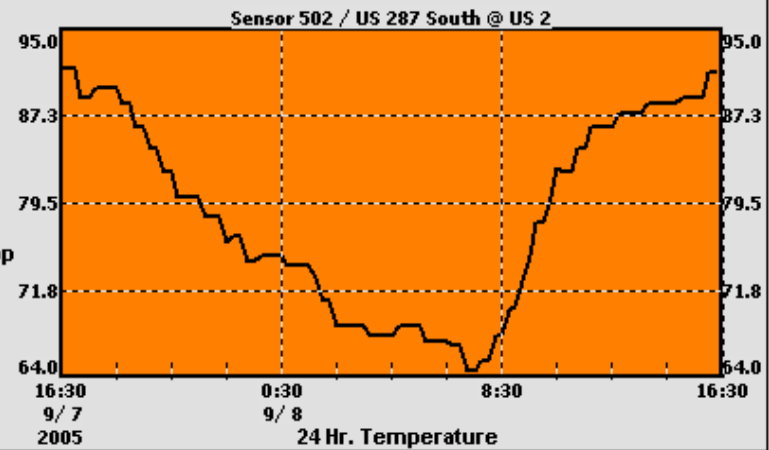




Battery Voltage	
#1	14.07
#2	13.82
#3	13.90
#4	13.80
#5	13.96



Wichita River Level



Future Plans

- United States Geological Service Information
- Coordinate installation of weather stations at USGS sites
- Share Data with National Weather Service

Future Plans

- Video accessible to public thru Internet Site
- Video available to Local Media
- Expand camera coverage
- Convert to wireless system

Questions???