City Wide Wireless Interconnect and TCC Implementation for Utah's Washington County

City Wide Wireless Interconnect and TCC implementation for Utah's Washington County

- 50/50 partnership with City & State
- Device connection and Installation
    49 each signals/ 11 each CCTV's
- Implementation of TCC (in City Hall)
- Integration of i2TMS (*icons*)
- Connection to the Salt Lake City Traffic Operation Center (via State WAN)

The Partnership

- 24 each signals = UDOT
- 17 each signals = St. George City
- 8 each signals = Washington City
- All 49 signals on a wireless spread spectrum 900 MHz
- St. George and UDOT equally matched $80K = $160K (Phase 1)

Wireless signal interconnect project in Washington County

POINT TO MULTI-POINT TECHNOLOGY

- Phase 1 - Winter of 2004
  - 31 each signals/5 each CCTV's
    - 5 each 5.2 GHz/26 each 5.7 GHz
  - TCC Implementation
  - i2TMS System setup
  - Begin funding process for Phase 2
- Phase 2 – Summer of 2005
  - 18 each signals in Cities of Washington and Santa Clara/6 Each CCTV's
    - All on 5.7 GHz
- Phase 2.1 – Install Fiber on Bluff Street = Santa Clara
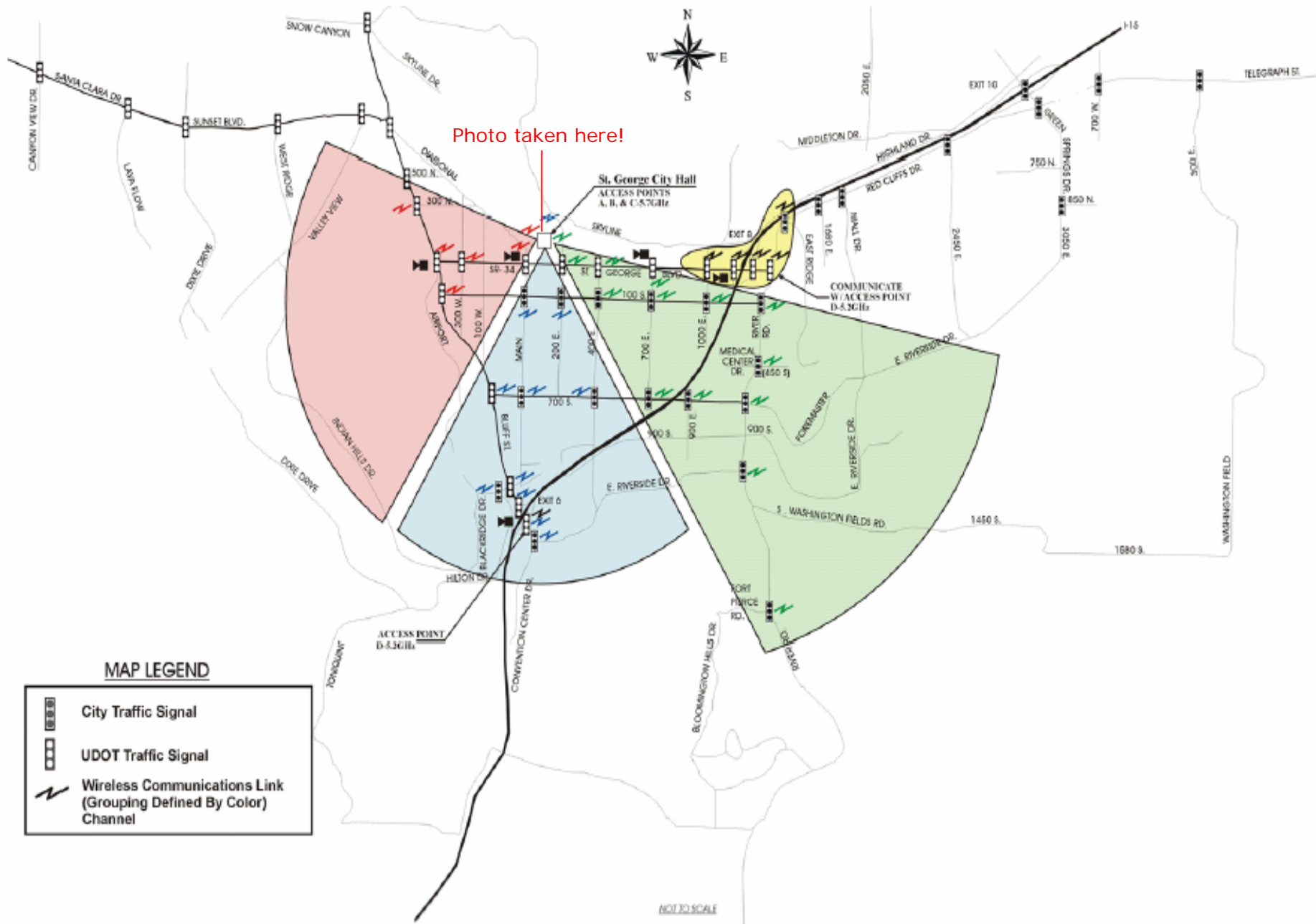 - Install Fiber on Red Cliff Dr. = Washington

Point to Multi-Point Wireless System

- Access Point (AP) antenna's that communicate with field located multi-point Subscriber Module (SM) antenna's.

- 2 each frequencies 5.2 & 5.7 GHz

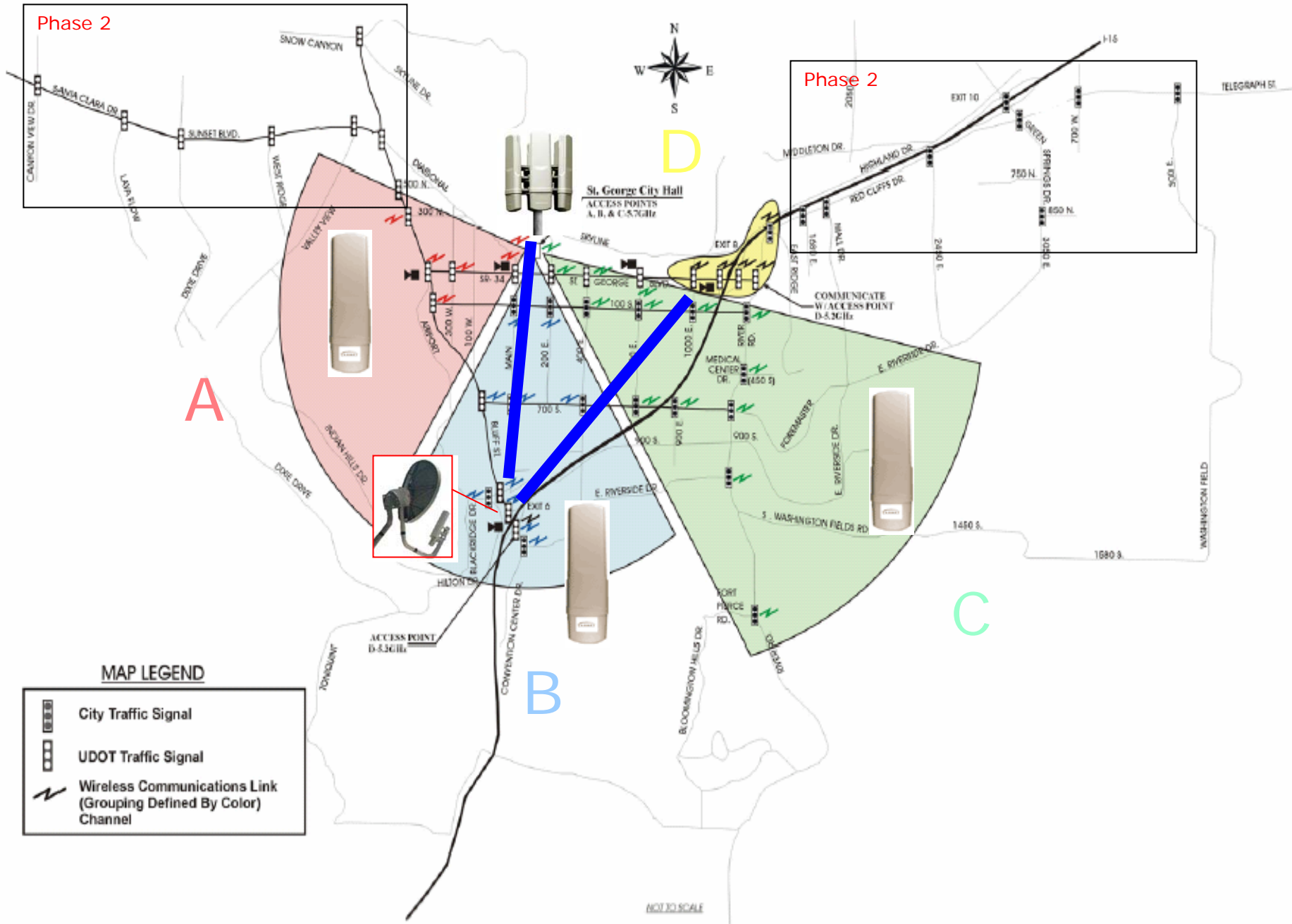- Compatibility with State adopted signal management architecture (i2TMS)

City of St. George

Attachment A

Photo taken here!

St. George City Hall
ACCESS POINTS
A, B, & C-5.7GHz

COMMUNICATE
W / ACCESS POINT
D-5.2GHz

ACCESS POINT
D-5.2GHz

N
W   E
S

NOT TO SCALE

MAP LEGEND

City Traffic Signal

UDOT Traffic Signal

Wireless Communications Link
(Grouping Defined By Color)
Channel

SANTA CLARA DR.
CANYON VIEW DR.
SNOW CANYON
SKYLINE DR.
SUNSET BLVD.
WEST RIDGE
LAVA FLOW
DIXIE DRIVE
VALLEY VIEW
DIAGONAL
500 N.
300 N.
AIRPORT
300 W.
100 W.
INDIAN HILLS DR.
SR-34
SKYLINE
ST. GEORGE BLVD.
100 S.
MAIN
200 E.
400 E.
700 E.
1000 E.
MEDICAL CENTER DR.
(450 S.)
RIVER RD.
900 E.
920 E.
900 S.
700 S.
15 - 18 TH
DIXIE DRIVE
E. RIVERSIDE DR.
EXIT 6
E. RIVERSIDE DR.
HILTON DR.
BLACKRIDGE DR.
TONAQUINT
CONVENTION CENTER DR.
BLOOMINGTON HILLS DR.
FORT PIERCE RD.
DR. GRAND
S. WASHINGTON FIELDS RD.
1450 S.
1680 S.
WASHINGTON FIELD
PICKEMASTER
E. RIVERSIDE DR.
EAST RIDGE
EXIT 8
MIDDLETON DR.
HIGHLAND DR.
RED CLIFFS DR.
2050 E.
1690 E.
1450 E.
2450 E.
GREEN SPRINGS DR.
750 N.
850 N.
3050 E.
700 N.
3000 E.
EXIT 10
I-15
TELEGRAPH ST.

Attachment A

MAP LEGEND

City Traffic Signal

UDOT Traffic Signal

Wireless Communications Link
(Grouping Defined By Color)
Channel

Phase 2

Phase 2

St. George City Hall
ACCESS POINTS
A, B, & C 5.7GHz

COMMUNICATE
W/ ACCESS POINT
D-5.2GHz

ACCESS POINT
D-5.2GHz
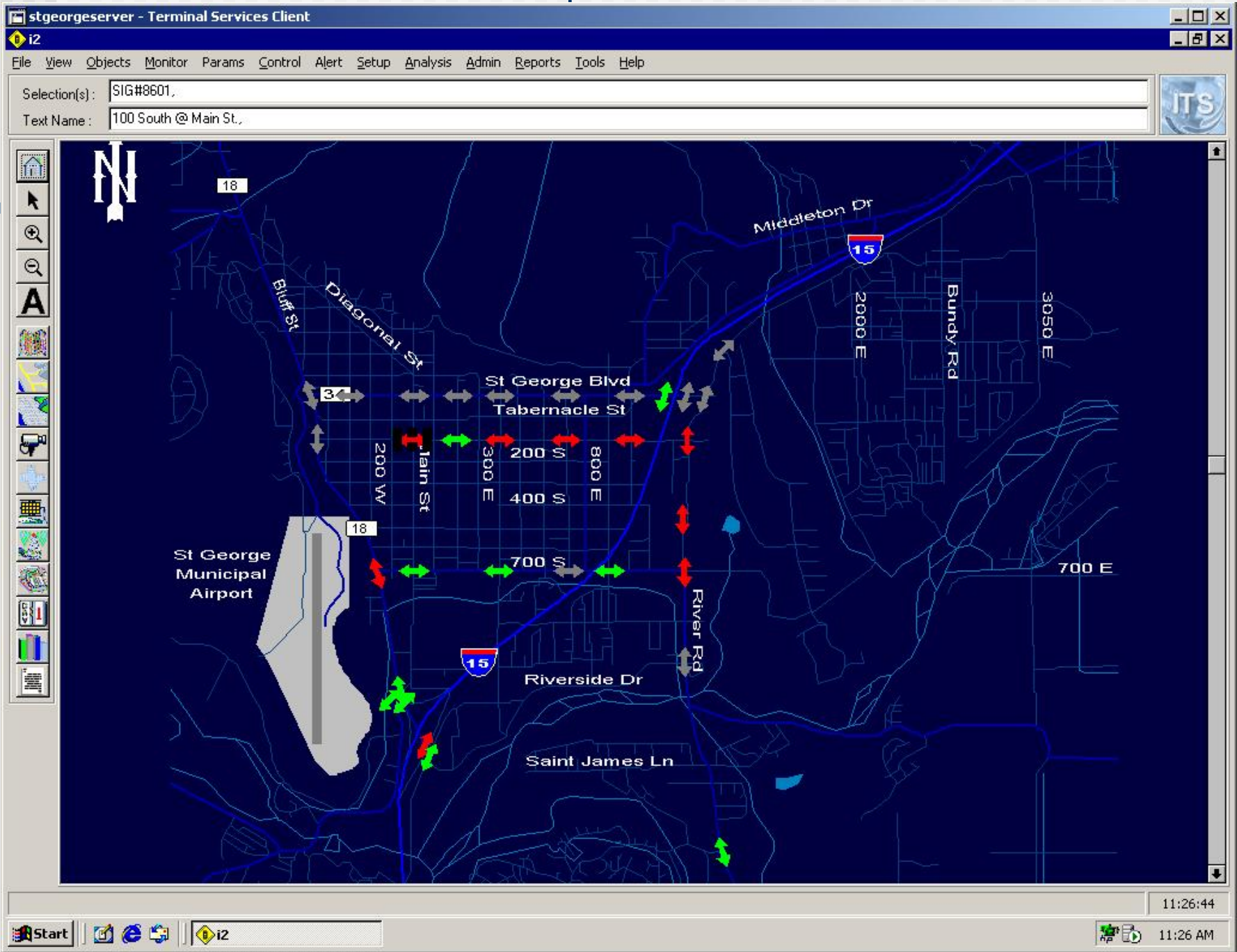
A

B

C

D

NOT TO SCALE

CCTV Communication Challenges

MPEG 2 vs. MPEG 4

- Axis server encoders allows MJPEG streaming video and JPEG image capturing.

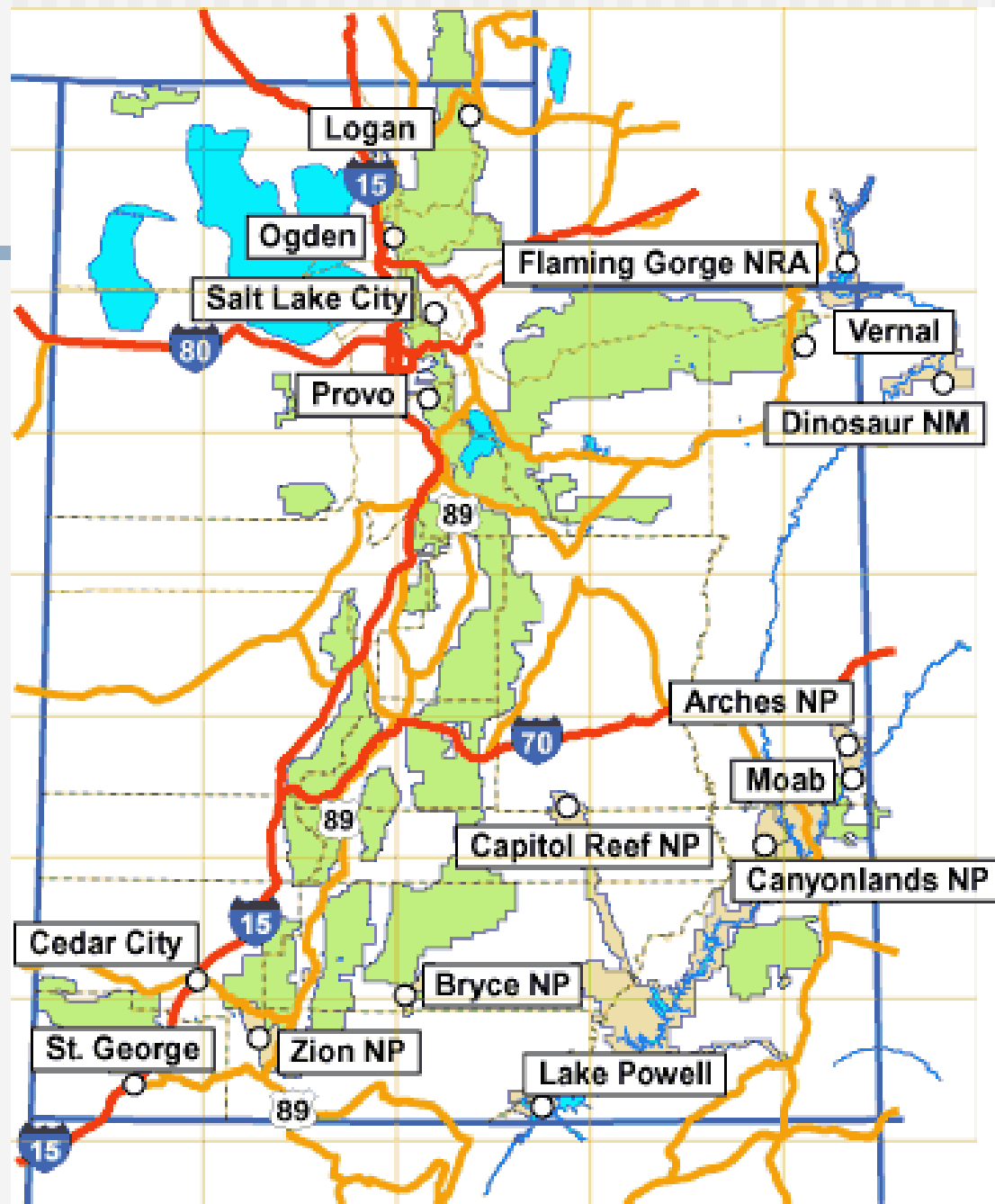   -Decoding at no cost (software)

    -Inexpensive of the shelf

Traffic Control Center

i2TMS implementation

State of Utah

Connection to the UDOT Traffic Operation Center

- 300 mile separation of cities
- Utilization of the State's Microwave communication system.
- State Department of Information Technologies (DITS) user restriction challenges
- Firewall connection challenges

Success story

- Dixie Metropolitan Planning Organization
- Programmed $150,000
- Exclusive ITS project funding
- Regional Architecture Study FY06
- FY07 & FY08

THANK YOU!