Intelligent Transportation Systems

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Intelligent Transportation Systems

- The application of technology to build a responsive transportation system that will effectively and efficiently move goods and people within the Fresno-Clovis Region.
- 1995 - National ITS Plan was published.
- 1998 - Congress allocated $1.2 billion for ITS related programs.
- 2001 - The San Joaquin Valley Intelligent Transportation System Strategic Deployment Plan was published, identifying the Fresno-Clovis Regional ITS Project and Fresno-Clovis area Signal Coordination as priority projects for Fresno County.

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San Joaquin Valley Regional ITS Plan

"The Intelligent Transportation Vision for San Joaquin Valley is to enhance the quality of life, mobility, and the environment through coordination, communication and the integration of ITS technologies into the valley's transportation systems"

San Joaquin Valley ITS Strategic Deployment Plan, 2001

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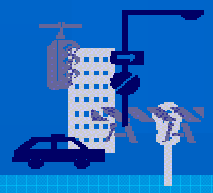
ITS Program History!



- Phase1 – 1999/2001 — Blackstone Corridor Constructed.
  (124 count fiber trunk line with 6 strands at each intersection)
- Phase 2 – 2001/2003 — Traffic Operations Center Operational Conduit & and Infrastructure Built for Herndon, Chestnut, Ventura-Kings Canyon.
- Phase 3 – 2006/2007 — Fiber Optic Loop Installed, Technology Deployed & System Operational.
  (168 count fiber trunk line with 6 strands at each intersection)

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Operations & Maintenance – Today!

ITS Program	Funded (over 1 mil for O&M)
Operations & Maintenance	Staffed with 8 Dedicated ITS Staff
ITS Standards	Published (Feb 2008)
ITS Strategic Plan	Published (Jan 2009)
ITS Wireless Standards	Published (Oct 2009)
Traffic Synchronization	Underway!

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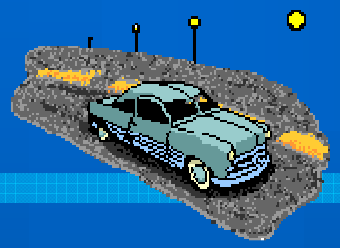
Traffic Synchronization – Today!



✓ Herndon Ave	Synchronized Willow to Golden State
✓ Blackstone Ave	Synchronized Olive to Herndon
✓ Kings Canyon	Synchronized Downtown to Chestnut
✓ Chestnut Ave	Synchronized Kings Canyon to Shields
✓ Cedar Ave	Synchronized Olive to Shepherd
➢ Herndon Ave	Re-Synchronize Herndon from Willow to Golden State is Next!

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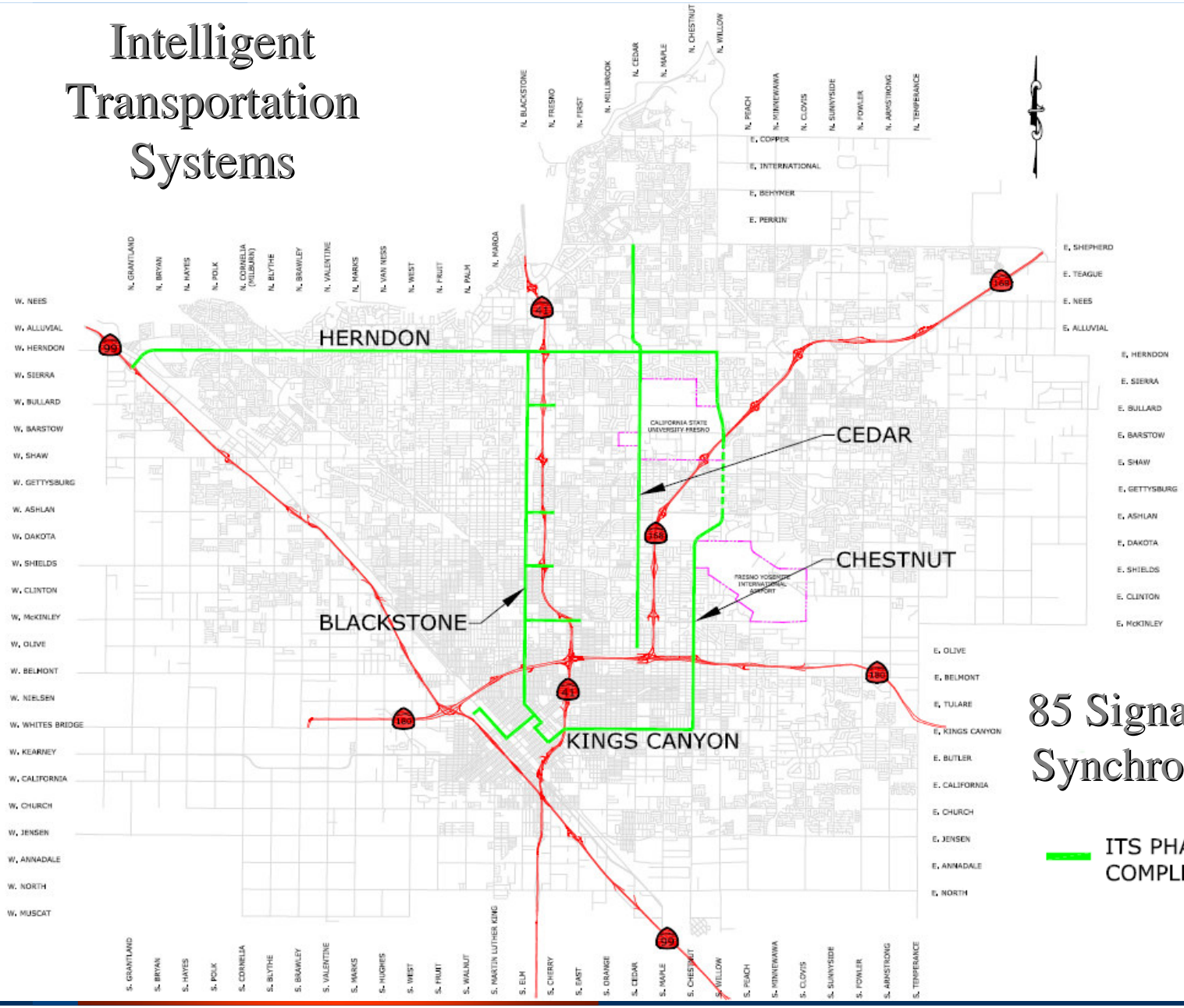

85 Signals are Synchronized

ITS PHASE 1-3 COMPLETED

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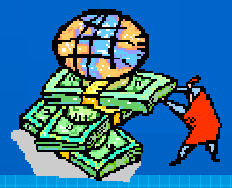
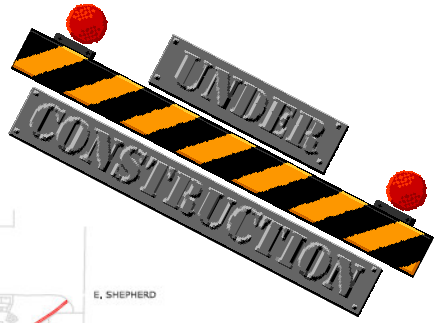
ITS Fiber Projects - 2009 to 2012!



Shaw Ave (East)	ITS Project is being designed from Highway 41 to Highway 168 ($3.1 mil)
Shaw Ave (West)	ITS Project is being designed from Blackstone to SR99 ($4.2 mil)
Clovis Ave	ITS Project is being designed from Dakota to American ($3.1 mil)
Willow Ave	ITS Project is being designed from Ashlan to Shepherd ($1.4 mil)
Fresno Street	ITS Wireless Project is awarded from Olive to Herndon ($0.22 mil)
Palm-Nees-Friant	ITS Project is awarded from Herndon & Palm-Nees-Friant to Shepherd ($1 mil)

Intelligent Transportation Systems 2000 - 2012



FRIANT

WILLOW

GPS

HERNDON

SHAW

CEDAR

FRESNO ST.

CHESTNUT

BLACKSTONE

CLOVIS AVE

KINGS CANYON

CALIFORNIA STATE UNIVERSITY FRESNO

FRESNO YOSEMITE INTERNATIONAL AIRPORT

TO AMERICAN AVE.

150 Signals will be Synchronized

- FIBER COMPLETED
- WIRELESS COMPLETED
- GPS COMPLETED
- FIBER CONSTRUCTION (2010 - 2012)
- WIRELESS CONSTRUCTION (2010-2012)

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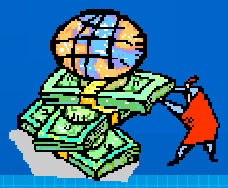
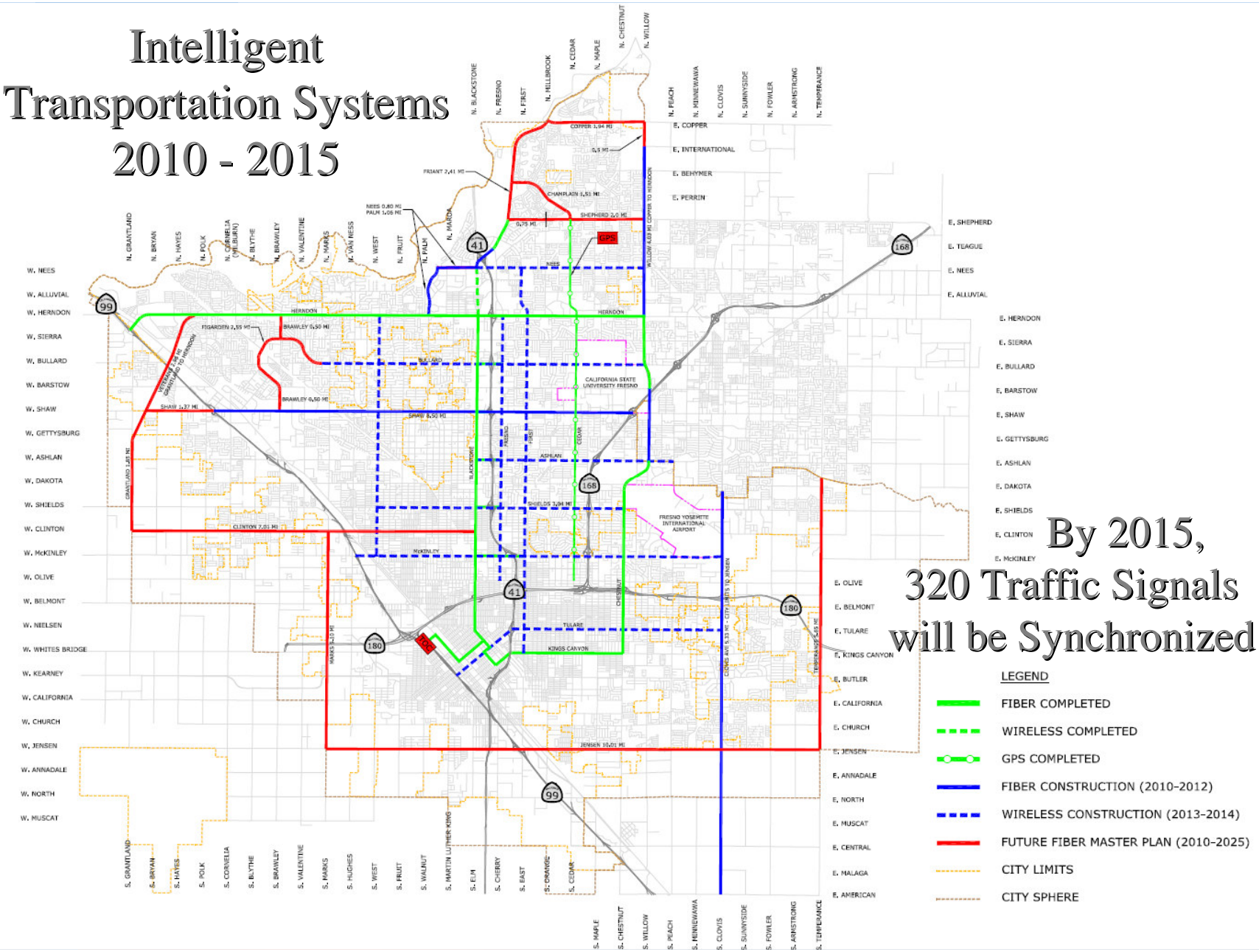


ITS Wireless Projects - 2013 to 2014!

- Air Quality Grants Awarded for Wireless!
  - First Street — Nees to Ventura ($1.5 mil)
  - West Ave — Herndon to McKinley ($480 k)
  - Nees Ave — Palm to Willow ($450 k)
  - Bullard Ave — Marks to Willow ($790 k)
  - Ashlan Ave — Blackstone to Peach ($650 k)
  - Shields — West to Chestnut ($1 mil)
  - McKinley Ave — State Route 99 to Clovis Ave ($850 k)
  - Tulare Ave — Downtown C Street to Clovis Ave ($750 k)

Intelligent Transportation Systems 2010 - 2015



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The City's ITS Program – Future!

- ITS Operations & Maintenance Program is staffed.
- ITS Capital Program future is very positive with
  - $23.2 million from development impact fees as the City's General Plan is built out.
  - $19.5 million from Air Quality and Traffic Light Synchronization Grants (2010-2014).
  - What is next?

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The City's ITS Program – Future!

ITS Program's Mission!

- The Fiber Network Backbone will soon be completed, synchronizing 150 Traffic Signals.
- The Wireless Interconnect will build 9 corridors, synchronizing 170 additional Traffic Signals.
- ITS Program is seeking Air Quality Grants for the City's remaining 180 Traffic Signals.

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Program – Benefits!

- Emissions Reductions - Blackstone and Herndon
  - Carbon (CO) 300 Metric Tons
  - Nitrogen Oxides (NOx) 60 Metric Tons
  - Volatile Organic Compounds (VOC) 75 Metric Tons
- Quality of Life
  - Travel time reductions are up to 18%
  - Herndon Synchro model shows 1.5 million gallons of fuel savings annually
  - Blackstone Synchro model shows 0.85 million gallons of fuel savings annually

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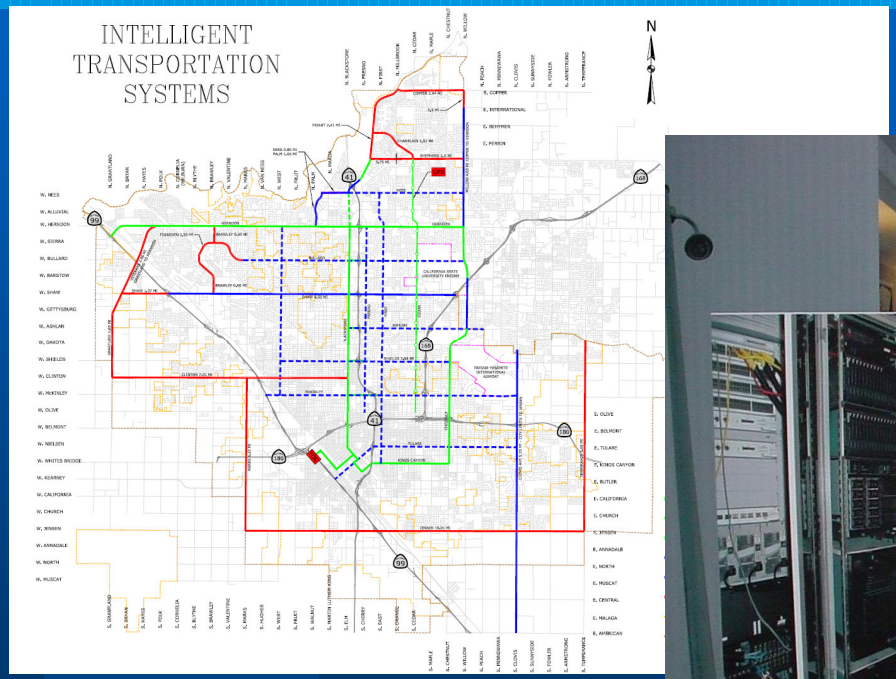
Questions?