



Traffic Management System

Status Update

February, 2008

Traffic Management System

- In 1984, the original Traffic Signal Master Plan was developed for the Gainesville Urban Area.
- A Computerized Traffic Signal System was installed in 1987.
- Software runs in DOS and is not Windows Compatible utilizing 1200 baud phone dial-up phone lines.
- Technologically, the equipment is out of date and does not provide for upward compatibility.

Regional Impact

- The City of Gainesville maintains all of the traffic signals and flashing beacons in Alachua County including the other incorporated cities and the University of Florida. This project will encompass the traffic signals in the Gainesville Urban Area as well as the entire County.
- In 1997, a feasibility study was performed to determine the future needs of the County. It was determined that a Traffic Management System was needed to meet our future growth.

What is a Traffic Management System?

- Conventional traffic signal systems operate traffic signals.
- TMS components include operating traffic signals, traffic monitoring, real time traffic operations, emergency vehicle control, enhanced mass transit, real time motorist information and effective incident management.
- Some of these features are demonstrated in the following slides:

Signal Priority Control



LED Installation



Pedestrian Traffic Signals



Traffic Signal Removal



Funding Partnerships

- Local Funding Methodology:
 - City, County, MTPO, FDOT and University Staff worked together to develop a funding methodology for this project.
 - The methodology is similar in nature to FDOT's for funding traffic signal maintenance.
 - The intersection is broken down by the ownership of each approach to the traffic signal.
 - If the county owns 2 approaches and the city owns 2, each agency pays for 50% of the improvements at that intersection.

Funding Partnerships

- The University of Florida pays their fair share based upon ownership and trip generation surrounding the campus.
- The University of Florida's fair share was subtracted from the total and the "fair share" percentages applied to the whole.

Funding Commitments to Date

<u>Agency</u>	<u>Fair Share</u>	<u>Committed</u>
▪ City	▪ 25.1% (\$ 3.6 mil)	▪ \$ 5.0 mil
▪ County	▪ 22.7% (\$ 3.3 mil)	▪ \$ 2.0 mil
▪ U.F.	▪ 3.9% + \$ 3.2 mil = (\$ 3.8 mil)	▪ \$ 3.8 mil
▪ FDOT	▪ 50.0% (\$ 9.1 mil)	▪ \$ 9.1 mil

Funding Partnerships

- Transportation Regional Improvement Plan (TRIP)
 - On February 1, 2007, the Regional Transportation Partners (Alachua MTPO and Marion County MPO) approved and adopted the Regional Transportation Plan
 - Application was made to FDOT for TRIP program funding for the maximum 50% match.
 - On November 29, 2007, FDOT executed the TRIP Agreement and awarded funding at the full 50% of total cost ~\$9.1 million.

What Are We Doing Now?

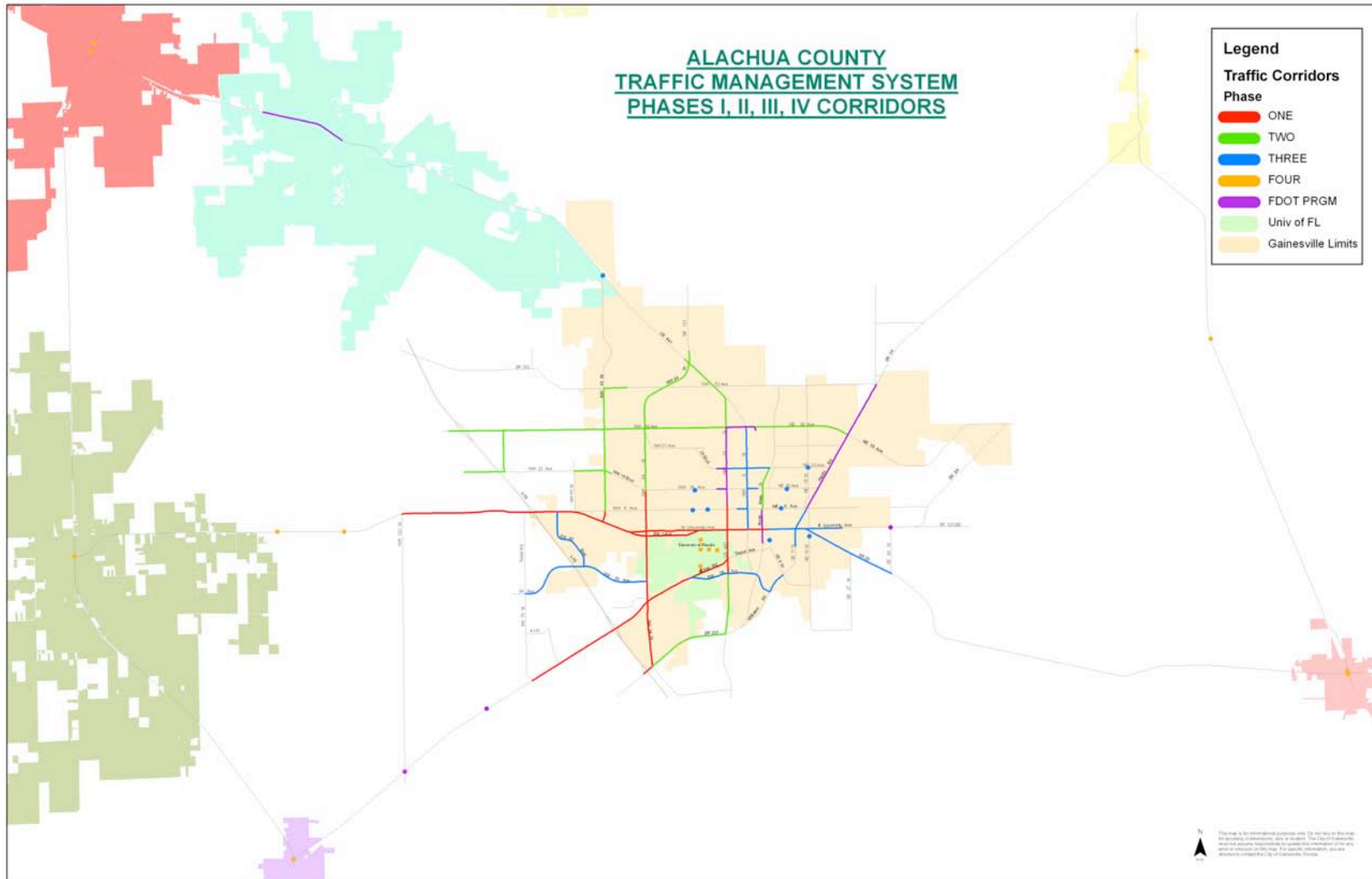
- RFQ's for the TMS Engineering Contract were solicited. A review team consisting of City, County and FDOT staff selected VANUS Engineering from Tampa. Vanus was issued a notice to proceed on October 12, 2007.
- Wireless communication RFP's are being reviewed by GRUCom and PWD Staff.
- Traffic Management Center (TMC) design-build advertising began February 14, 2008.
- \$ 1.4 mil P.O. issued to TMS vendor (Naztec) for phase I equipment on November 30, 2007.

Phasing Costs

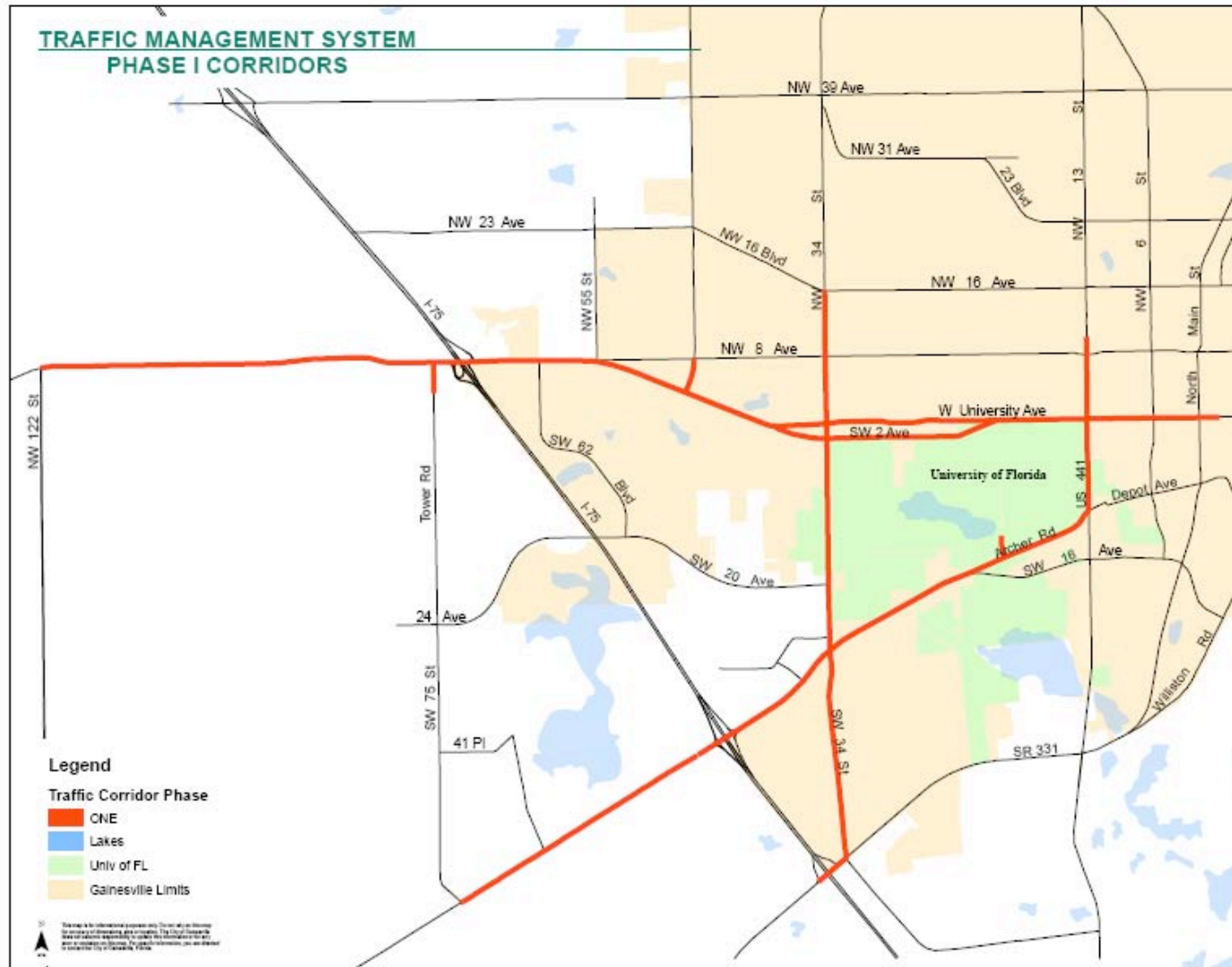
- Phase I \$ 7.5 million
- Phase II \$ 5.8 million
- Phase III \$ 4.1 million
- Phase IV \$ 820,000
- Total \$ 18.2 million

Note: In 2006 Dollars

TMS Project Build-out



TMS – Phase I



Implementation Time Frame

- From the time we begin construction until the time we complete construction will be approximately 4 years:
 - Phase I – 1 year;
 - Phase II – 1 year;
 - Phase III – 1 year;
 - Phase IV – 1 year.
 - The TMC will be built during Phases I & II.

Annual Operating Costs

- Budget increment requests will be considered and cost share proposals will be developed for consideration in annual signal maintenance contracts to cover the annual operating costs of:
 - Additional Staffing to operate and properly maintain the system to ensure maximum efficiencies are realized - \$ 253,000/yr.
 - Funding to host a real-time traveler's information website, software upgrades and licensing, ITS equipment maintenance, specialized training and periodic signal re-timings - \$240,000/yr.

Potential Benefits

- An effective Traffic Management System helps reduce congestion. According to a TTI Study, reducing congestion can save motorists app. 10 gallons a fuel a year. In a city our size, that related to approximately \$ 1.9 Million in annual savings in fuel. This does not include the reduction in lost time while in traffic. (Based on fuel cost of \$ 1.00 / gallon)
- This equates to 28.5 million in fuels savings over 15 years. Other savings include:
 - Reduced emissions;
 - Reduced loss time by motorists.

Potential Benefits

- Enhanced emergency response for Fire-Rescue (GFR & ACFR) through system wide traffic signal priority control. Also available to law enforcement (GPD & ACSO).
- Enhanced mass transit through system wide priority control.
- Real time traveler information on incidents, congestion conditions and alternate routes.
- Enhanced traffic signal coordination improvements through constant system-wide real-time monitoring and timing adjustments. This will reduce congestion and delay system-wide.
- System-wide re-timing of all traffic signals.

Key Points for the Future

- Initial results from the traffic signal re-timing and traffic management system are not re-occurring.
- Land use changes and population density shifts change motorist characteristics.
- New activity centers change trip distribution on a system-wide basis.
- There must be an on-going effort to continue to realize the benefits of the initial capital investment to meet the changing dynamics of the community. Must fund those annual operating costs to meet the needs.