Meeting Date: 10 / 12 / 10

ACTION	TYPE OF ITEM
☐ Approved Recommendation	☐ Info/Consent
☐ Ord. No(s). _____	■ Report
☐ Res. No(s). _____	☐ Public Hearing
☐ Other _____	☐ Other _____

Prepared By: Matthew G. Winegar Agenda Item No. O-1

Reviewed By: City Manager City Attorney Finance Other *(Specify)*

DATE: September 22, 2010

TO: City Council

FROM: Matthew G. Winegar, AICP, and Development Services Director

SUBJECT: **Update on the Intelligent Transportation System (ITS) Master Plan Implementation**

RECOMMENDATION

That City Council consider a report regarding the implementation of the City's ITS Master Plan.

DISCUSSION

The ITS Master Plan was adopted by City Council in 2008. This Plan involves the centralized computer control of the City's 136 signalized traffic intersections; ability to monitor 46 Caltrans, 12 County of Ventura, and eight City of Port Hueneme traffic signals; video surveillance of traffic incidents; and the ability to inform drivers of traffic conditions in real-time. This form of centralized control will require a fiber optic backbone system to transmit data between the Traffic Management Center (TMC) and traffic signal controlled intersections and vice-versa. The fiber optic network will be installed along certain major arterial roadways. Traffic signals on these corridors will have fiber communication with the TMC. Traffic signals not located on these corridors will utilize existing copper wire interconnects to communicate with the fiber optic backbone or directly to the TMC. Intersections without wire communication will utilize wireless communication to the nearest traffic signal with either copper wire or fiber optic communication.

The ITS Master Plan was initially proposed to be implemented in six phases. Staff now proposes the system be completed in 4 phases. The first phase will establish communication to all existing traffic signals. This phase will include installation of a fiber-optic "back-bone" and gigabit Ethernet communication for the entire ITS system. The second phase will involve the installation of traffic surveillance cameras. The third phase will be to put a system in place that will inform drivers of traffic conditions though various digital, visual and other means. The fourth phase will involve strengthening the system through the installation of redundant communication networks and the upgrading of the system with the latest technology available.

The City has had elements of an ITS in place for over 15 years. A server in City Hall has permitted the remote adjustments of signal timing of City-controlled signals; however these modifications must be field verified. The introduction of enhanced centralized control and video observation will result in more rapid signal adjustments at less cost. The server and signal control software have recently been upgraded in anticipation of implementation of the ITS.

Progress to Date

As roadway and intersections improvements have occurred over the last several years, Staff has included elements which will enhance the implementation of the ITS. These include:

- Installation of conduit along the majority of the "back-bone" circuit which will allow swift application of the fiber optic runs.
- Upgraded signal controllers and pre-emption devices.
- Migration from roadway loop detectors to video detection which is far more flexible and cost-effective

A Request for Proposal for ITS design and engineering services was sent out on May 5, 2010 to nine different consulting firms. The effort will result in the plans and specifications which will allow the construction of the first phase of the ITS and TMC, and integration with the existing network and facilities. Five firms responded and Iteris, Inc., was selected as the best qualified. The schedule is to have plans completed for Phases 1 by spring 2011 and then go out to bid for construction. Phase one should be completed by spring 2012.

Once operational, the computers in the TMC will have the ability to automatically adjust signal timing and coordination between traffic signals based on traffic volume trends. The ability to make real time changes to the system will require a staff member be present in the TMC. Staff can make remote modifications for special events such as the Strawberry Festival and Downtown events, high school sporting events and graduations, or for roadway construction projects.

FINANCIAL IMPACT

The estimated cost to fully implement the ITS Master Plan is approximately $11 million. The first phase of the plan will cost approximately $6.5 million to implement. The City Council has specified funding for the program by a combination of both Measure O funds ($3.5M), CIP funds ($3.0M) from Traffic Impact fees, and a $340,000 grant from the Department of Energy for the TMC. Future funding sources may include a combination of Traffic Impact Fees and Measure "O" funds. Staff will continue to pursue grant funding sources such as federal TIGER grants and also evaluate alternative technologies, such as wireless communications, to reduce overall project costs.

Attachment #1 - ITS Phase I Map

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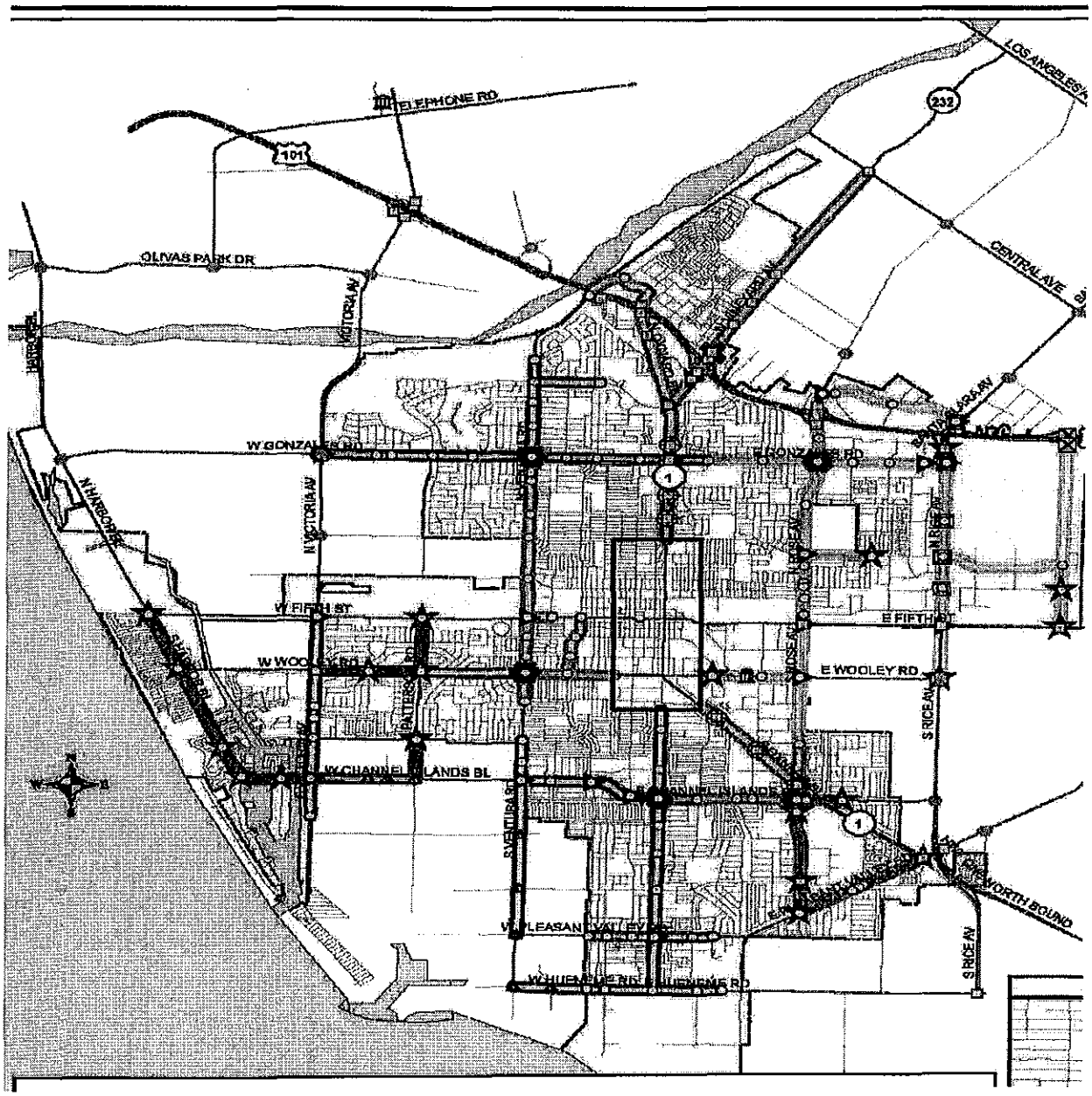
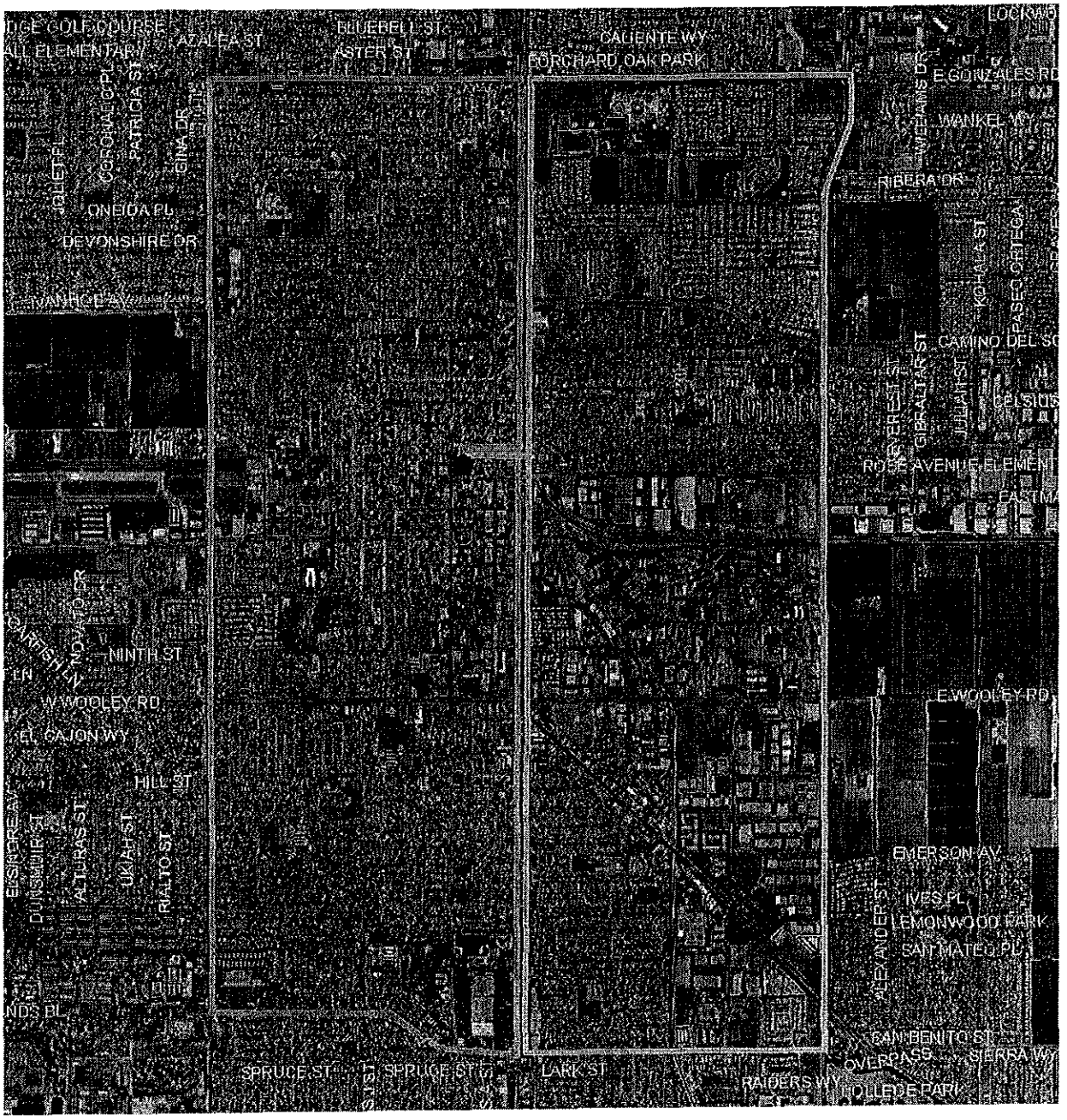
ITS PHASE I
COMPLETE COMMUNICATION NETWORK
(Fiber, Copper, and Wireless)



ITS PHASE I
FIBER OPTIC RINGS



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