TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER DEPARTMENT: PLANNING AND COMMUNITY ENVIRONMENT

DATE: February 19, 2002 CMR:141:02

SUBJECT: CONTRACT WITH TJKM TRANSPORTATION CONSULTANTS FOR A CITYWIDE GLOBAL POSITIONING SYSTEM (GPS)-BASED VEHICLE SPEED AND TRAVEL TIME STUDY

This is an informational report and no Council action is required.

DISCUSSION

The Transportation Division has recently contracted with TJKM Transportation Consultants to provide the City with Global Positioning System (GPS)-based citywide vehicle speed and travel time information. TJKM will purchase the raw vehicle speed data from @Road, a firm in Fremont which specializes in Intelligent Transportation System (ITS) technology. @Road has developed a GPS location-based application that allows its subscribers to track their vehicles, noting information such as the location and speed of the vehicles at specific points in time. The subscribers’ vehicles may include trucks, company fleets, and private cars. @Road is thus maintaining an extensive database of vehicle speeds and times throughout the region, including within Palo Alto. This information, however, must be post-processed in order to be useful for transportation planning and monitoring purposes. TJKM will provide this post-processing service.

The project scope includes purchasing the vehicle speed data from @Road, performing travel time studies to validate the data, analyzing the data, developing a database and corresponding Geographic Information System (GIS), and developing maps and charts to graphically display the data, which can then be included on the City’s website. The maps and charts will display average vehicle speeds on all major and residential arterial roadways within the City during the a.m. and p.m. peak hours. The amount of the contract is $33,000.

This citywide vehicle speed and travel time information will be instrumental in helping the Transportation Division achieve several of its goals. Following are a few of the potential uses:
• TJKM is currently under contract with the City to provide the Transportation Division with an updated citywide travel demand model. Vehicle speed information obtained from the GPS vehicle speed and travel time study will be used to validate the travel demand model to a higher degree of accuracy than could be done using turning movement volumes alone.

• The GPS vehicle speed information could be used to supplement, or eventually replace, speed information obtained from standard pneumatic hoses. Speeds obtained from pneumatic hoses placed in the street are currently used to respond to public inquiries and to evaluate streets for the Neighborhood Traffic Calming Program.

• The Transportation Division has been directed by Council to report annually on the condition of the Palo Alto transportation system and on trends with respect to its use. The GPS vehicle speed and travel time data will provide an effective means to quantify on a citywide scale the average speeds of vehicles and levels of congestion on the roadways in Palo Alto. If done on an annual basis, trends can easily be gauged and the results reported as part of an ongoing transportation systems performance monitoring program.

Staff hopes to retain TJKM on an annual basis to provide current GPS-based vehicle speed and travel time data to the City. As a result, charts on the City website can be updated on an ongoing basis with current traffic conditions, and trends in vehicle speeds and travel times can be easily monitored. Staff anticipates that the annual cost of such a program will be significantly less than the $33,000 of the current contract, as much of this cost will be used to set up database and GIS systems, which can be recycled in subsequent years.

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