



DATE: May 20, 2014

CATEGORY: New Business

DEPT.: Community Development

TITLE: **Downtown Parking Technology**

RECOMMENDATION

1. Develop a website application for online permitting system to allow permit holders to purchase and manage their permits online, along with the ability to print daily permits from a personal computer.
2. Develop and issue a Request for Proposals for a real-time wayfinding sign program at the two parking structures. Each sign would display two types of information—total available occupancy and directions to another parking garage. The program would also include an online website showing parking availability.
3. Develop and implement a work plan to utilize vehicle-detection parking technology for parking enforcement efforts.

BACKGROUND

The City completed a comprehensive Downtown Parking Study in June 2011. The study concluded that while there was sufficient parking at that time, over the next 5 to 15 years, development and improved commercial activity in downtown would lead to a parking deficit and the need to create additional public parking. Since 2011, the state of the economy has created the need for more immediate solutions to help make the existing downtown public parking system more efficient. In addition, one of City Council's major goals in Fiscal Year 2013-14 is to use technology to enhance customer service, efficiency, and advance the mission of the organization. Studying and implementing parking technology solutions aligns with this major goal.

Staff contracted with CDM Smith, the same company who completed the 2011 Downtown Parking Study and the 2013 Downtown Parking Permit Analysis, to evaluate the most promising parking technologies and vendors that will help the City increase efficiencies in the downtown public parking system. The overall goal of the

report is to give the City information needed to develop public parking policies and to decide which parking technologies are appropriate to implement.

ANALYSIS

The report (Attachment 1) is organized into two parts. The first part is a technology review to identify current parking technologies by type that may create a more efficient public parking management system for downtown visitors, employees, and residents. The second part is a feasibility study to evaluate the identified technologies, including estimated costs, ongoing operation and maintenance, and key considerations and issues.

CDM Smith assessed the parking technologies based upon the current state of the downtown public parking system. Currently, technology solutions are being used to manage public parking in the downtown by the Police Department for parking enforcement efforts. Police Assistants have a handheld device to print tickets and the department contracts with a third party to allow online payment of the citations. However, parking technology could be used on a larger scale to reduce traffic congestion and make the employee permit parking system more convenient:

- Currently, downtown parking permits must be purchased in person at City Hall and the City would benefit from an online system. In addition, parking technology could eliminate the need for physical permits and instead link permits to license plate or vehicle information.
- Public parking facilities are frequently at capacity during lunch and dinner times. The City would benefit from parking technology that would inform drivers when a parking facility is full and redirecting them to another location with available parking spaces.

Parking Technologies

There are four types of individual parking technologies recommended for the City—real-time wayfinding signage, vehicle-detection technology, website application, and parking management software. CDM Smith also identified vendors (see Attachment 2 for a vendor list with cost breakdown according to the type of parking technology) that provide the following parking technology devices and services:

1. Real-time wayfinding signage offers dynamic and real-time parking information about parking availability in public parking facilities to reduce time spent by drivers searching for a parking space. A vehicle-detection technology (defined

below) would be installed at each entry and exit to count the number of cars entering or exiting the parking facility. The parking occupancy counts collected from the vehicle-detection technology would then be sent to signage to display information. There are three different types of signage: occupancy, level count, and directional.

- An occupancy sign displays how many total parking spaces are available in the entire facility. These signs are found at the entry point of a parking facility.
- A level-count sign displays the spaces available per facility level. These signs are typically used in conjunction with an occupancy sign and can be found at the entry point of a parking facility or a level of the facility.
- A directional sign display directs drivers to parking facilities along with the occupancy counts for each of the parking structures. These signs are strategically placed around the commercial core so that drivers, upon approach to the facility, will see which parking facilities are available and, if necessary, redirect drivers to another parking facility.

Capital cost for the wayfinding signage is the highest among the four parking technologies. It can range from \$75,000 per occupancy sign showing total spaces available at the entrance of a parking facility with the vehicle detection technology to over \$200,000 for a more integrated system consisting of a sign at the garage's entrance, a sign at each level, and vehicle detection technology in each individual parking space. Maintenance of the signs would need to be factored into the long-term costs which would be determined at the RFP stage.

2. Vehicle-detection technology can be used to detect vehicles entering and exiting a parking facility or for "digital chalking" enforcement. There are two types of vehicle-detection technology: license plate recognition cameras that record the license plate or digital image sensors that record vehicle information (location, vehicle length, and color).

The technology can do three different actions: count the number of cars entering a parking facility which is then connected to the real-time wayfinding signage, read license plates to identify permit holders automatically (this would eliminate the need for a physical permit), or "digital chalking" where recording information about a vehicle's position and parked time is recorded without using the traditional chalking methods. The recorded information identifies the vehicle and

when the officer passes the vehicle a second time after the time restriction has expired, they are alerted that the vehicle is violating a parking restriction.

Privacy concerns about collecting and retaining vehicle information can arise and the City would need to ensure that the vehicle information from the State of California's Department of Motor Vehicles is kept separate from the database that is scanning and collecting the vehicle information. Additionally, the data collected for parking purposes can be deleted on a regular basis so that data is only kept for a defined time period (i.e., 24 hours).

The capital and installation cost of a vehicle-detection technology can range from \$60,000 for a license plate recognition system to \$100,000 for a vehicle-recognition system. The estimate does not include the cost of a vehicle. The maintenance of the technology would need to be factored into the long-term costs which would be determined at the RFP stage.

3. Website application can provide the public a variety of information ranging from real-time parking availability information to online permit purchasing and payment capabilities with personal logins and account information for each permit holder, to citation payment and appeal process capabilities. The website could be integrated with the wayfinding signs and vehicle-detection technology while streamlining a purchasing or payment process.

A website specifically for the Downtown Permit Parking Program would also support the demand for permits and encourage eligible permit holders to purchase permits online. Moving forward with an online permit purchasing system and the ability to print daily permits from a personal computer would be consistent with the Parking Permit Work Plan City Council approved in November 2013 where staff recommended the implementation of an online system.

The capital and installation cost ranges from no cost due to a proposed pilot program to \$20,000 to \$35,000. However, depending on the vendor, the website could require an ongoing subscription ranging from no cost to \$10,000 to \$16,000 per year.

4. Parking management software is an integration tool that brings together individual parking technologies so that the information is collected and shared into one parking management software system. The software is useful when there are several parking technologies in place by consolidating data collection and monitoring into one software system. CDM Smith found that parking technology vendors will package individual parking technologies into an integrated parking

management system that is managed with a parking management software system.

The capital and installation cost ranges from no cost due to a proposed pilot program to \$35,000 for installation costs and an ongoing annual subscription ranging from \$14,500 to \$18,500. At this point, staff does not recommend the parking management software and instead recommends focusing on specific individual parking technologies.

Summary of Findings

1. Parking technology can help improve parking efficiencies and should be a part of the overall goal of better managing the downtown public parking system. However, additional public parking initiatives, such as shared parking agreements and continued modifications to the permit parking program, would need to be in place to manage the public parking system.
2. While a preliminary list of vendors with the associated costs was completed by CDM Smith, an official Request for Proposals would be necessary to outline the specific parking technology requirements and needs. The proposals would include a more detailed scope, schedule, and estimated cost.
3. The costs for each parking technology vary significantly from high capital costs to low annual costs for real-time wayfinding signage, to low capital costs and annual subscription costs for parking management software or website application. Parking technology is becoming a common method to create efficiencies for an existing parking supply without having to create new parking spaces. However, the parking management software would only be beneficial if one or more additional technologies were implemented.
4. Parking technology could help assist staff in the overall management of the public parking system by reducing the amount of time required to manage a program (i.e., parking permit program). However, parking technologies that include hardware (i.e., real-time wayfinding signage) could require staff to monitor the technologies and work with a parking technology vendor to assure that the technologies are working properly.
5. Parking enforcement could be more efficient if parking technologies were used to assist the Police Assistants in enforcing parking requirements. A fair balance between enforcement and a business-friendly downtown is important to staff and the business community. It is important to note that the costs of vehicle-parking

technology compared to the current staff levels are similar. For instance, license plate recognition is estimated at \$60,000 for capital costs and Police Assistant staffing per fiscal year is approximately \$64,000. Staff believes that additional information is needed to determine options between enforcement needs and being business friendly.

Downtown Committee

Over the past three months, the Downtown Committee has been reviewing each section of the parking technology study. On May 6, 2014, the Downtown Committee reviewed the final draft and proposed recommendations. The Committee recommended the implementation of the following parking technologies:

- Online permitting system.
- Real-time wayfinding signs.
- Vehicle-detection technology for parking enforcement.

The Committee also recommended that staff continue to include parking technology in future development and implementation of new parking policies/programs such as paid parking. Parking technology should remain flexible and help address current and future downtown parking demands. As part of the Committee's Work Plan for Fiscal Year 2014-15, they will continue to review parking technologies as it relates to new or modified parking policies, but will also begin to study the concept of paid parking.

FISCAL IMPACT

There are two budget requests for Fiscal Year 2014-15 and carryover funding from Fiscal Year 2013-14 to support the implementation of the recommendations for a total of \$185,000. As part of the Fiscal Year 2014-15 Parking District Budget, staff recommended \$100,000 in funding to implement parking technologies. Meanwhile, in the CIP budget for Fiscal Year 2014-15, a total of \$75,000 is allocated toward parking technology implementation from the Parking District. In addition, there will be approximately \$10,000 carried over from Fiscal Year 2013-14 from funding of the Parking Technology Study.

CONCLUSION

Parking technology can help the City manage its downtown public parking system more efficiently while allowing City Council to meet one of its major goals for Fiscal

Year 2013-14. Staff is seeking approval of the following recommended parking technologies:

- Website application for parking permits;
- Real-time wayfinding signage; and
- Vehicle-detection technology for parking enforcement.

ALTERNATIVES

1. Approve some but not all of the parking technology recommendations.
2. Approve none of the recommendations and provide other direction.

PUBLIC NOTICING

Agenda posting and a copy of the report was sent to the Downtown Committee and Central Business Association.

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TC-AA/7/CAM
822-05-20-14CR-E

Attachments: 1. Parking Technology Review and Feasibility Study
2. List of Parking Technologies – Vendors and Costs

cc: APWD – Solomon, CTE, PC – Hsiung, PL – Canfield