



Council Meeting: March 18, 2008

SUBJECT: Downtown Parking Information System - Study Issue

REPORT IN BRIEF

This Study Issue originated from the approval of the Forum proposal for redevelopment of the Sunnyvale Town Center Mall on August 17, 2004. As a condition of approval of this proposal, the City Council required that a parking management system be evaluated for implementation not only in the Town Center area but for the North of Washington area as well. The Town Center developer was conditioned to install a system subsequent to an evaluation.

Subsequently, in 2005 the evaluation of parking management systems was approved as a study issue (Attachment A). The study was envisioned as a joint study between the Town Center developer and the City. City staff would provide oversight on the work scope, consultant selection, public outreach, and technology and funding alternatives. The City Council would receive a final report and recommendation on a preferred type of parking management system.

The issue was put on hold as redevelopment efforts stalled. Then, on February 6, 2007, the Sand Hill Properties proposal was approved by the City Council, and redevelopment efforts re-started in earnest. Design and construction efforts have been placed on a fast track.

As a result, the developer has proceeded with the identification of a dynamic parking supply system. An important distinction to be drawn is that the condition of approval holds the developer responsible only for installation of a system in the Town Center area (Block 18). The language regarding participation by the developer in a study of a system for areas outside of Block 18 is somewhat unclear. Staff believes that the developer can contend that they have met the required condition of approval. The developer has proceeded so as not to delay design and construction of parking facilities in the Town Center redevelopment area. A specific vendor and technology has been identified, the "Simply Park" system. Rather than conducting a broader study of a range of systems technologies, conducting outreach, and evaluating funding as part of a joint study with the developer, staff has focused on evaluating the developer's preferred system and its applicability for expansion to the North of Washington Parking District area, because of the accelerated timeline for design and construction of the Sand Hill Properties site. This report presents staff's

evaluation. The developer did not participate in the evaluation of a system for the area outside of Block 18.

Staff does not have a position on the use of the Simply Park system for the Town Center redevelopment project. This system has certain merits but is not widely proven. The system is also more expensive than traditional or more proven parking management technologies. As the Town Center project is currently conditioned, the City does not have the ability to dictate the type of parking management system that the developer installs, only that it be “dynamic”.

The Simply Park system is compatible with other types of guide sign systems, however, so expansion to the North of Washington Parking District could be feasible without locking the City into this particular technology or vendor. If a unified system for the entire downtown is desired, this would require the City to reach some agreement with the Town Center developer or project operator, since they would be the owner of the primary operating platform. Because staff believes the developer has technically met the condition of approval to evaluate parking management technology, and to require a joint City/developer evaluation of other technologies would potentially cause significant delay to the Town Center project, staff recommends that the City allow the developer to proceed with use of the Simply Park technology. Staff further recommends that the City monitor the implementation and use of the Simply Park technology and consider this application or a broader examination of other systems for other areas of the downtown at an indeterminate future date.

BACKGROUND

This Study Issue originated from the approval of the Forum proposal for redevelopment of the Sunnyvale Town Center Mall on August 17, 2004. As a condition of approval of this proposal, the City Council required the following:

TT1. A dynamic parking supply system shall be evaluated for implementation that incorporates the North of Washington Parking District area. Identification of available parking spaces for each parking deck and directional guides to convenient parking for uses within Block 18 shall be included in the final site plan approval. Permittee shall be responsible for implementation of that portion of the system which directs motorists to parking in Block 18.

Subsequently, in 2005 the evaluation of parking supply systems was approved as a study issue. This issue was approved by Council but put on hold pending action by the potential developers for Town Center to initiate a study.

The study issue was intended to give staff the opportunity to play a leadership role in a joint study to be undertaken with the Mall developer. City staff would develop the scope of work for the study, insure that the study includes the entire Downtown area, participate in the consultant selection process, oversee the consultant's work jointly with the developer, conduct outreach to the Downtown business community, identify potential funding mechanisms for the City share of implementation, and make a final report and recommendation to the City Council. Instead, in order to expedite the design and construction of the Town Center redevelopment, Sand Hill Properties has selected a preferred technology and vendor for the Town Center site. Staff has conducted an evaluation of the proposed technology.

EXISTING POLICY

Land Use and Transportation Element C3, Attain a transportation system that is effective, safe, pleasant and convenient.

DISCUSSION

The desired concept for a parking management system for downtown is to have real-time monitors of available parking spaces in each lot or parking structure (car counting devices.) Electronic signs on streets entering Downtown would indicate the number of available spaces in various sectors, and similar signs at entrances to or within parking facilities would show a current count of vacant spaces in the facility, or even by floor for multi-story structures. Such a system would add to the convenience for a Downtown visitor, utilize the full inventory of parking spaces, and reduce the traffic congestion and air pollution associated with motorists circling around Downtown looking for a parking space.

The system selected by Sand Hill Properties as their preferred technology is an application-based system that integrates vehicle-specific detection with networked digital displays and data management in real time as well as being recorded. Battery powered sensors with micro computing capabilities are placed at every parking space. These interface with each other and a web-based software via low power radio. The system can then communicate to the network of digital displays in real time on the location and availability of parking spaces. Digital displays can be custom designed and located to allow parking information to be aggregated at multiple levels in order to direct people to garages with vacancies, to tell them how many vacancies a garage has, to direct them to specific areas of a garage where vacant parking is located, and to identify row/aisle specific availability.

The software features multiple capabilities to convey and analyze information to improve parking management. Parking space availability and occupancy is tracked in real time; duration of occupancy can be monitored; arrival and

departure trends can be tracked over time; and all can be correlated spatially – by parking lot, level, space, etc.

The system requires regular operating oversight. This can be done by the purchaser of the system, or can be contracted for with the vendor. Active management of the system can vary depending upon the level of desired ongoing analysis of parking data. Maintenance involves primarily repair or replacement of damaged sensors or displays and replacement of sensor batteries. Sensors have an estimated battery life of seven years. Because the system communications are radio based, there are no electrical conduits between system components.

The system also has the capability to increase the efficiency of management and enforcement of parking regulations. By deploying sensors at time-restricted parking spaces, the presence and/or duration of parked vehicles can be monitored in real time and tracked. Information can be accessed via handheld devices, or browser or email alerts can be utilized. This has the potential to increase the efficiency of citation writing by parking officers. Officers no longer would need to mark vehicles, but could focus efforts on citing violators. The system also eliminates the issue of chalk markings being scraped off of vehicles. The Simply Park vendor is not aware of whether parking citations enforced using this type of system will stand up to court scrutiny, however.

The system is cutting edge. The technology used is a departure from technologies that have represented industry practice, such as magnetic detection, video detection, or other systems that rely on vehicle detection at certain key points, such as garage entrances or parking structure ramps. As such, there is a minimal track record to review on the success or failure of the technology. A Federal Highway Administration evaluation of advanced parking management systems notes that a wireless system implemented in Seattle had chronic communications problems. A per-space system that is evaluated in the same report featured hardwired connections between sensors that was integrated into the construction of the garage, and therefore is not a suitable comparison to the Simply Park system. Per-space systems also feature many more physical components – per-space sensors and signs – than traditional systems. This affects up front cost and maintenance. These systems are more expensive. The Federal Highway Administration case study found per-space and wireless communications systems to cost from \$ 450 to \$ 800 per parking space. The Simply Park vendor confirms that the cost of their system would be in this range.

Consultation with an independent parking consultant revealed that the parking management equipment industry is fraught with new technology proposals from start-up companies. This has been characteristic of the industry for more

than 25 years. The presence of unproven, beta-test only technologies requires customers to be wary of issues with durability of equipment, quality and reliability of equipment support, etc. Without a number of time-tested applications of a technology, development of experienced support staff, and establishment of reliable equipment suppliers, it is difficult for a company that is marketing a new technology to develop sufficient business and resources to succeed (as it is in many industries). Very often, early purchasers of such technology are left with unsupportable, unsustainable systems. The Simply Park technology may be prone to such an outcome. The independent parking consultant contacted by staff indicated that they had evaluated the Simply Park system and found the technology and hardware to be sound, and that the system will readily interface with most commercially available kinds of dynamic sign systems.

The parking management equipment industry does feature a few longstanding technologies and operations models, and a few established vendors. These companies typically feature magnetic detection or gate-based counting systems at a small number of select locations. These systems do require daily calibration. The industry has not moved wholesale into PC or web-based management systems, or per-space systems. There are some examples of central computer controlled, lot specific and floor/aisle/space specific systems in use, but these are limited. This Simply Park system is readily adaptable to communicate with guide sign networks used in other technologies and by other vendors.

The Town Center developer indicates that they believe the existing City parking structure in Block 18 and the Town Center parking structures being constructed currently could be retrofitted with the more time tested systems using detection or gating at key points and hard wired components. This would be a retrofit situation, however, so wiring conduits would be exposed in the garages, and interconnection between parking areas would require excavation. Provision of a hard wired system through the downtown would require excavating streets for conduit runs. This would also likely delay completion of the Town Center project. A key positive for the Simply Park system is that radio communications and electronic detection requires minimal physical disruption to install the system.

Still to be resolved with the implementation of any advanced parking management system at Town Center and the rest of downtown is how such a system would be managed. The Town Center developer will initially manage the system for Block 18, but should the City desire to integrate with and expand this system to other areas of downtown, a different management scheme may be desired. This would need to be negotiated with the Town Center developer.

Study Issue

A study of the scope described in the Study Issue approved by Council did not occur as originally envisioned. Because of the fast pace of downtown redevelopment, the City's consideration of parking management systems is overlapping with the developer's design of a system. Staff and the developer are working together to assess appropriate technology and configurations concurrent with the design of a system for Town Center. This report represents staff's intent to present information on a system that meets the desired concept for a parking management system for downtown that can potentially be expanded to the North of Washington area. This system was identified by the Town Center developer and is their preferred system for the Block 18 area.

The Simply Park vendor prepared a cursory proposal for the installation of their system in City owned or controlled parking areas outside of Block 18. The vendor assumed 1162 spaces at six parking lots would be monitored using the system. Dynamic guide signs and parking availability signs would be included. Use of the system for enforcement of parking regulations on City streets was not assumed. The vendor did not specify pricing for ongoing support costs, but provided information on available services to train City staff to configure, manage, and maintain the system, as well as ongoing support services available from the vendor. Cost information provided by the vendor, while incomplete, verifies that the Simply Park system would likely cost within the \$400 to \$800 per space range identified by the Federal Highway Administration as typical for per-space, wireless communications systems.

Staff could conduct a broader examination of parking management technology per the original study issue description. Should the Council desire more information and options for parking management systems at Town Center and in the downtown, this could delay implementation of parking management for Block 18 and could impact the schedule for parking garage construction. Because other technologies would likely require hard wiring, this would require some redesign of the parking structures and potentially disruptive and aesthetically unpleasant placement of equipment.

The Town Center developer can argue that the condition of approval to evaluate a dynamic parking system for downtown, including the North of Washington area, has been satisfied. While the City desired a more cooperative investigation that would have the identification of a system that is mutually agreeable to the developer and the City, this did not take place due to the pace of development. The developer has identified a system that could be expanded to the North of Washington area or could interface with other types of systems that the City may want to consider for installation in the North of Washington area. However, there are considerable issues with this system that cause staff

to conclude that endorsement of this particular technology for the North of Washington area at this time would be premature.

FISCAL IMPACT

There is no direct fiscal impact associated with consideration of this report. The Simply Park system is more expensive than other types of parking management systems, but the proposed technology can readily interface with other technologies. Therefore, the City retains flexibility in selecting a technology or vendor for other areas of the downtown, potentially at less expense than the Simply Park system.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, in the Council Chambers lobby, in the Office of the City Clerk, at the Library, Senior Center, Community Center, and Department of Public Safety; posting the agenda and report on the City's Web site; and making the report available at the Library and the Office of the City Clerk.

ALTERNATIVES

1. Accept the Study Issue Report on Downtown Parking Information Systems.
2. Monitor the implementation and use of the Simply Park technology and consider this application or a broader examination of other systems for other areas of the downtown at an indeterminate future date.
3. Other action as directed by Council.

RECOMMENDATION

Staff recommends Alternatives 1 and 2: Accept the Study Issue Report on Downtown Parking Information Systems, and monitor the implementation and use of the Simply Park technology and consider this application or a broader examination of other systems for other areas of the downtown at an indeterminate future date.

The Simply Park system has certain merits that meet the City's stated objectives for a parking management system, but is not widely proven. The system is also more expensive than traditional or more proven parking management technologies. Staff believes there is a benefit to be derived from observing how the system operates at the Town Center site before making a decision about future deployment of a parking management system elsewhere in downtown. The Simply Park system is compatible with other types of guide sign systems, however, so expansion to the North of Washington Parking District and integration with the Simply Park system could be feasible without locking the City into this particular technology or vendor. Further, staff believes the developer has technically met the condition of approval to evaluate parking management technology, and to require a joint City/developer evaluation of other technologies would potentially cause significant delay to the Town Center project. Staff recommends that the City allow the developer to proceed with use of the Simply Park technology and consider this application or a broader examination of other systems for other areas of the downtown at an indeterminate future date.

Reviewed by:

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Prepared by: Jack Witthaus, Transportation and Traffic Manager

Approved by:

Amy Chan

City Manager

Attachments:

A. Study Issue Paper - DPW 04C Downtown Parking Information System

Proposed Continuing Council Study Issue

Number DPW 04C
Status Pending
Calendar Year 2008
Title Downtown Parking Information System
Lead Department Public Works
Element or SubElement Land Use and Transportation Element

1. What are the key elements of the issue?

A condition of Approval for the Special Development Permit for redevelopment of Town Center Mall, adopted by City Council on August 17, 2004, states:

A dynamic parking supply system shall be evaluated for implementation that incorporates the North of Washington Parking District area. Identification of available parking spaces for each parking deck and directional guides to convenient parking for uses within Block 18 shall be included in the first site plan approval. Permittee shall be responsible for implementation of that portion of the system which directs motorists to parking in Block 18.

The concept is to have real-time monitors of available parking spaces in each lot or parking structure (car counting devices at entrances and exits). Electronic signs on streets entering Downtown would indicate the number of available spaces in various sectors, and similar signs at entrances to parking facilities would show a current count of vacant spaces in the facility, or even by floor for multi-story structures. Such a system would add to the convenience for a Downtown visitor, effectively utilize the full inventory of parking spaces, and reduce the traffic congestion and air pollution associated with motorists circling around Downtown looking for a parking space.

This study issue would give staff the opportunity to play a leadership role in a joint study to be undertaken with the Mall developer. City staff would develop the scope of work for the study, insure that the study includes the entire Downtown area, participate in the consultant selection process, oversee the consultant's work jointly with the developer, conduct outreach to the Downtown business community, identify potential funding mechanisms for the City share of implementation, and make a final report and recommendation to the City Council.

2. Current Status:

Because of the fast pace of downtown redevelopment, this study is overlapping with the design of a system. Staff and the developer are working together to assess appropriate technology and configurations concurrent with the design of a system for Town Center. Staff will strive to meet the intent of the study issue to provide a system that can potentially be expanded to the North of Washington area.

3. Estimated consultant hours for completion of the study issue

Managers	Role	Manager			Hours
	Lead	Witthaus, Jack	Mgr CY1:	80	Mgr CY2: 0
			Staff CY1:	100	Staff CY2: 0

