



# City of Palo Alto

## City Council Staff Report

(ID # 5376)

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**Report Type: Study Session**

**Meeting Date: 3/2/2015**

**Summary Title: Palo Alto Shuttle and Rideshare Program for the Future**

**Title: Study Session on Shuttle and Rideshare Program for the Future  
(Continued from February 2, 2015)**

**From: City Manager**

**Lead Department: Planning and Community Environment**

### **Recommendation**

This study session is intended as an opportunity to explore the future of the Palo Alto shuttle and rideshare programs that could dramatically reduce the use of single occupant vehicles over time. No action is recommended.

### **Executive Summary**

Palo Alto has had its own shuttle system for many years, providing “last mile” connections to and from Caltrain, and “community shuttle” routes for use by students, seniors, and other riders interested in accessing destinations along the routes.

Palo Alto shuttle service complements transit services provided by the Valley Transportation Authority (VTA), as well as shuttle services provided by Stanford University and private companies. Currently, the City has three shuttle routes: the Embarcadero Route (partially funded by Caltrain), the Crosstown Route, and the East Palo Alto Route (funded by the City of East Palo Alto). In October 2014, the City Council authorized an expansion of service to increase frequency on the Crosstown Route, and to add a fourth route, called the West Route, from the University Caltrain Station into the Shoreline Business District in the City of Mountain View. The West Route will be partially funded by private entities along the route.<sup>1</sup>

When the City Council discussed the expanded service in October, they requested a number of follow-up actions, which are addressed in this staff report, and also requested a broader discussion regarding the future of the City’s shuttle system and emerging trends such as

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<sup>1</sup> The City’s shuttle service provider, MV Transportation is under contract until June 30, 2017, and the contract amendments and funding agreements necessary to implement the expanded service will appear on the Council’s consent agenda in the coming weeks.

rideshare services that could potentially offer a more convenient “on demand” service, potentially resulting in a greater shift away from single occupant vehicles.

These topics are also discussed in this staff report, and have come to the fore due to their potential to reduce greenhouse gas emissions from transportation sources if pursued as part of the ongoing update to the City’s Sustainability/Climate Action Plan. Shuttle service and rideshare concepts are also relevant to the ongoing process of forming a Transportation Management Association (TMA), which will provide information and incentives designed to encourage alternatives to the private automobile, and could ultimately assume responsibility for funding and managing contracts for transit/rideshare programs.

## **Background**

The City of Palo Alto has historically provided free shuttle service via a shuttle program that included two shuttle routes: the Crosstown Shuttle Route and the Embarcadero Shuttle Route (which is 75% funded by Caltrain). In 2014, the Phase One expansion of the Palo Alto Shuttle Program introduced a new shuttle route in partnership with the City of East Palo Alto, bringing the total number of shuttle routes in the program to three routes.

**The Crosstown Shuttle** provides a north-south transit connection from Charleston Road to the University Avenue Caltrain station along Middlefield Road and several community neighborhoods. This route serves both JLS and Jordan middle schools during the morning and afternoon bell schedules. Crosstown Route currently operates on one-hour headway during most of the day, except for the morning and mid-afternoon school bell schedule period when there is additional service to support school activity. This route is funded 100% by the City’s General Fund and operates Monday through Friday, excluding some holidays, from 7:40AM-5:30PM.

**The Embarcadero Shuttle** connects the business parks on the east side of the City along Embarcadero Road to the University Avenue Caltrain Station. The City currently contracts with the Peninsula Corridor Joint Powers Board (JPB) for the Embarcadero Shuttle, which is a part of the Caltrain peak hour commuter shuttle program and subsidized 75% by the JPB. The remainder 25% is subsidized by Palo Alto (the General Fund). The shuttle operates on 15-minute headway Monday through Friday from 6:50AM-9:50AM and 3:10PM-6:50PM, excluding some holidays. The Embarcadero Shuttle includes a Special Run to Jordan Middle School to supplement the Crosstown Shuttle Routes demand for transit service to the school.

**The East Palo Alto Route** began operation on July 1, 2014 and links the University Avenue Caltrain Station with Woodland Avenue community in East Palo Alto. This route is fully funded by the City of East Palo Alto but is managed by the City of Palo Alto. This route operates on 30-minute headways, seven days per week, excluding some holidays, from approximately 6:00AM to 10:00AM and 4:00PM-9:00PM.

In October 2014, the City Council adopted a motion supporting a “phase two” expansion of the City’s Shuttle Program to include increasing frequency of service on the Crosstown Shuttle Route from 60 minutes to 30 minutes, and establishment of a new West Shuttle Route from the University Caltrain Station into the Shoreline Business District in Mountain View once private-sector funding could be obtained to off-set the costs. A separate agenda item planned for later in March will amend the contract with the City’s current service provider MV Transportation and include other actions (funding agreements and a Budget Amendment Ordinance) so that these increases in service can be implemented this spring. The City Manager will also be exploring potential participation in the shuttle program with the school district.

Based on ridership information provided by the shuttle operators, staff calculated the cost per rider metrics for the following:

**Table 1. Palo Alto Shuttle Service – Estimated Cost per Rider**

<b>For Fiscal Year 2013-2014</b>			
	<b>Ridership</b>	<b>City’s Total Cost</b>	<b>Cost per Rider</b>
Embarcadero	48,619	\$51,716.35	\$1.06
Crosstown Regular	74,089	\$138,231.51	\$1.87
Crosstown School	11,591	\$9,725.49	\$0.84
Total for Both Routes Combined	134,299	\$199,673.35	\$1.49

Source: Department of Planning & Community Environment, December 2014

City of Palo Alto has successfully partnered with various online mapping websites such as Google Maps, BING Maps and HERE Maps to include Crosstown and Embarcadero shuttle information on their Transit Maps. With shuttle data such as stop locations, route and schedule available on these Transit websites, Palo Alto visitors and regular shuttle users are able to plan their trips using this technology. The trip planning websites include one-stop transfer information for trips throughout the region since Caltrain, AC Transit, Valley Transportation Authority, Stanford Marguerite and others are included in the Trip Planner. As a result, potential riders do not need to consult bus and rail schedules from various transit operators.

At the Council’s request, following the October 2014 discussion, staff did an analysis of the existing transit service available in Stanford Research Park and found that this area is connected to San Francisco, San Jose and within Palo Alto through various operators. VTA operates line 89 between California Avenue Caltrain station and Palo Alto Veterans Hospital. It also operates lines 101, 102, 103, 104 and 182 from various parts of San Jose to the Research Park. Line R, RP, 1050A and VA Tram line runs within Stanford and Palo Alto and is operated by Stanford Marguerite Shuttle. AC Transit operates Dumbarton Express from East Bay to the Research Park. Deer Creek Shuttle is a Caltrain shuttle that runs between the California Ave. Caltrain Station and Deer Creek area office buildings during commute hours. The shuttle is funded jointly by the Bay Area Air Quality Management District Transportation Fund for Clean Air, Peninsula Corridor Joint Powers Board and Hewlett-Packard.

In addition, earlier this year, RidePal launched two bus lines (18 and 28) to Stanford Research Park from San Francisco in partnership with VMWare. RidePal is a transportation service that offers corporate commute bus services for companies and individuals in the San Francisco Bay Area and works on a shared mobility or collaborative consumption model for corporate commuters. The routes are planned based on commuter demand and geography.

## **Discussion**

At their October 2014 discussion, the City Council requested that staff return with plans to build a user-friendly application and “explore what kind of alternative technology exists that we can use that would open up the taxi/van information world to single person travel from home to destination.” The discussion below summarizes the shuttle program enhancements planned for this year, and a list of alternative technologies that are quickly evolving to address mobility in urban settings.

### **Shuttle Program: Next Steps**

In addition to the service expansions described above (increased frequency on the Crosstown Route and addition of the West Route this spring), staff is planning to enable GPS tracking of shuttle vehicles via a mobile application this year, and undertake design improvements and marketing of the program including schedules, stops, vehicles and the website. The goal is to make shuttle services both more convenient and better known—two key elements in increasing their ridership and utilization.

#### *Live tracking of Shuttles*

City’s current contract with MV Transportation includes a GPS-based tracking system called Time Point Software that allows users to track the bus online to help schedule travel time to designated pick-up stations. The software has been undergoing some developmental changes over the last few months and is now nearing completion. The redesigned mobile site with new features and modernized user interface will be released by end of this fiscal year for Crosstown and East Palo Alto Shuttle routes.

Staff also discussed the possibility of adding Palo Alto Shuttle information on NextBus, which is a vehicle tracking system which uses global positioning satellite information to provide real-time passenger information and predicts when the next bus will arrive at any given bus stop. Each vehicle is fitted with a Global Positioning System (GPS) receiver, which transmits speed and location data to a central location where a computer running proprietary software calculates the projected arrival times for all stops in the system using this data along with configuration information and historic travel times. These times are then converted to a 'wait time' and made available via the NextBus website and electronic signs at bus stops as well as cell phones, and other wireless devices via the Internet. Staff also met with representatives from DoubleMap, which provides a solution very similar to NextBus in offering real-time tracking solutions for the shuttle vehicles. Stanford has been using DoubleMap solutions since 2013 for routes within the Stanford Marguerite system that serve the Medical Center.

Another company, TransitScreen, is a start-up firm that develops software displaying real-time transportation options at any given location, typically on flat screens in building lobbies. TransitScreen is a web application featuring and can be displayed on devices such as TVs, computers, tablets but currently this is not available as an application for smartphones. Installing screens at places with lots of pedestrian activity such as City Hall and Mitchell Park Library would make transportation information more accessible and viewable by commuters, visitors, residents and employees so they can make informed transit choices.

RideScout is an example of a growing number of apps that use the General Transit Feed Spec (GTFS) pioneered by Google to provide enhanced transit services—in this case an app that provides point-to-point “real-time” travel options, schedules, travel times and costs.

#### Coordinated Design & Marketing

The City’s shuttle system is well used, but not well known. Staff plans to raise its visibility with design changes, and will be seeking professional design services this year. The selected consultant will be tasked with upgrading and integrating the look and feel of printed and electronic materials, and may also recommend changes to stop locations and shuttle vehicles. The City’s contract with MV Transportation includes provisions for updating vehicle “wraps” if desired.

#### **Rideshare Alternatives**

There are multiple technologies that have recently expanded the traditional ridesharing concept to facilitate a service available to broader community, and this is a fast growing area of investment and innovation. Technologies are reinventing the way people are getting around in their communities, providing safe, reliable and affordable choices for consumers; creating flexible economic opportunities for drivers; and improving cities by increasing the utilization of existing resources to make transportation more efficient. As an example, staff recently met with representative from Lyft and will be meeting with proponents of “Mobility as a Service” in the days just before the March 2, 2015 study session.

Lyft is a private, San Francisco–based transportation network company. The company's mobile-phone application facilitates peer-to-peer ridesharing by connecting passengers who need a ride to drivers who have a car. Lyft currently operates in about 65 U.S. cities, including San Francisco. Lyft Line is one of the ways offered by Lyft that enables a person to connect with nearby people who are headed in the same direction so they can share their commute. Multiple people share the costs of the journey and reduce traffic and emissions in the community. Based on pickup and drop-off locations entered by the rider, a Line ride is created and multiple members of the community are chained together. Lyft Line prices are calculated using a combination of distance and time and the cost to operate is on a per ride basis. Businesses and cities can encourage this service by making discounted rides available to patrons or residents.

Mobility as a Service (MaaS) is a software-based, online enterprise mobility solution that is envisioned as a seamless, door-to-door combination of transportation mode—including public & private transit, bikeshare, rideshare, carshare, vanpool, taxi, employer commute benefits, electric scooter/bike lease, pay-by-phone parking, future robo-taxis—designed to outcompete private auto ownership. The “Mobility Operator” would aggregate all services into a unified smartphone app with easy fare payment, one-stop billing, and innovative subscription pricing. MaaS would dissolve the boundaries between different transport modes, providing a more customer-centered experience while improving the efficiency of the entire transport system. Staff is exploring, with Helsinki, Finland Ministry of Transport, Tekes (the Finnish Funding Agency for Innovation) and Joint Venture Silicon Valley the potential piloting of MaaS in this region. The program summary for MaaS is available as attachment B.

One element of the MaaS solution that could be piloted separately is the KutsuPlus system of dynamically re-routable shuttles now being tested in Helsinki—a hybrid of taxi and bus service that’s priced between the two, that’s “able to route-plan on the fly as requests come in and cluster passengers going in similar directions.” A Fast Company article describing the service is available at <http://bit.ly/1oHt2C4>

Staff is interested in the City Council’s thoughts about partnering with a private company or joining a regional consortium to test or explore these issues, potentially as part of the TMA’s initial pilot projects. The City could also compare these options to a more traditional public “on demand” paratransit service. With “on demand” paratransit, riders call for door to door service, and the cost per rider could be greater than with the current, fixed route service.

## **Timeline**

Implementation of increased service on the Crosstown Shuttle and implementation of the new West Shuttle route are expected this spring. The City’s current contract with its shuttle service provider, MV Transportation, extends through June 30, 2017 and any significant changes or alternatives to shuttle service should be studied between now and then to inform decision making at that time.

## **Resource Impact**

The City Council set aside \$1 million in an earmarked reserve as part of the FY 2015 Adopted Budget for the City’s shuttle program. This amount was set aside for expected increases to the annual cost of shuttle services and only a portion of the reserve will be needed for the current fiscal year. Included in the FY 2015 Midyear budget request is \$8,660 for additional shuttle expenses incurred during the fiscal year. In spring 2015, staff will request \$25,000 from the shuttle reserve to expand the frequency of the Crosstown Route, and may also request funds for the West Shuttle, which is intended to be partially or wholly funded by private industry. For Fiscal Year 2016, the shuttle service will include the enhanced Crosstown Route, the Embarcadero Route, and the newly added East Palo Alto Route for a total cost of \$585,773 offset with \$218,983 in revenue from City of East Palo Alto.

## **Policy Implications**

The City Council has indicated its desire to invest in transportation demand management strategies, parking management and parking supply initiatives as a way to address traffic and parking demand and reduce the City's carbon footprint. Transit services like the free Palo Alto shuttle can provide an attractive alternative to single occupancy vehicles for work- and non-work trips, as well as meeting the needs of those for whom driving is not an option.

## **Environmental Review**

No decision is anticipated as part of this study session and no review is required under the California Environmental Quality Act.

### **Attachments:**

- Attachment A: Program Summary for MaaS (PDF)

**Seamless Mobility as a Service (MaaS) for Silicon Valley***Invitation to Partner in a world-leading collaboration with Finland***Target:**

- Cut the number of private autos in Santa Clara County in half in the next 20 years.
- Increase mobility, convenience, and productivity while reducing stress, congestion, and GHGs.

**Rationale:** Mobility as a Service (MaaS) provides a seamless, door-to-door combination of transportation mode—including public & private transit, bikeshare, rideshare, carshare, vanpool, taxi, employer commute benefits, electric scooter/bike lease, pay-by-phone parking, future robotaxis—to outcompete private auto ownership. The “Mobility Operator” aggregates all services into a unified smartphone app with easy fare payment, one-stop billing, and innovative subscription pricing. MaaS dissolves the boundaries between different transport modes, providing a more customer-centered experience while improving the efficiency of the entire transport system.

**Status:** Finland’s Transport Ministry, innovation agency and the City of Helsinki are curating an open, interoperable ecosystem (APIs for schedules, payment, and location), and have convened a 70-company industry association with recognizable brands. They are developing business models and software platforms to enable one or more “Mobility Operators” to aggregate and deliver services; implementing a Spring 2015 pilot launch; and exploring collaboration with the Silicon Valley region. Silicon Valley will adopt Finland’s open architecture and then plan, pilot, and uniquely implement MaaS. Helsinki and Silicon Valley baselines and needs are different:

	Transit-centered Helsinki	Auto-centered Silicon Valley	Difference
SOV rate	38%	76%	50%
Transit rate	40%	3.3%	10X
Bike/Walk	18%	3.8%	5X
Cars/capita	0.55	0.84	50%
Parking cost/hr	\$2.25	Free	∞
Gas price/gal	\$8.12	\$2.50	3X

While Helsinki will strive to go “car free,” Silicon Valley could initially aspire to “Two to one, Millennials none!” –i.e., two-car families shed one car and Millennials never buy a one.

**Action:** Six month initial commitment from key SV MaaS partners (JVSV, Google, Stanford, San Jose, Mountain View, Palo Alto, and Palo Alto’s TMA)

- Meet with Finnish delegation Feb 24-26
- Provide seed funding of \$5,000-25,000
- Commit 24 hours staff time over 6 months
- Review, and contribute to the SV MaaS Planning Study
- Review and contribute to grant funding proposal development (including Finland’s 100k Euro open call)
- Provide letters of support and “talking head” videos expressing that support

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