

DEVELOPMENT OF STUDY AND BUDGET ISSUES

Attached is a list of all study and budget issues raised this year by the BPAC members. All study and budget issues remaining on the 2007 list are also included. It should be noted that Council can only consider same issues for two consecutive years. If such repeated issues are not prioritized for review, they get eliminated. Additional details in this regard are expected to be addressed during the Council meeting scheduled for August 26, 2008.

In addition, a number of questions regarding Levels of Service (LOS) analysis were raised by Chair Kevin Jackson on August 10, 2008. The questions were initiated to assist with the evaluation of one of the 2007 study issues (Study Issue #5) regarding the possibility of incorporating bicycle and pedestrian safety into the LOS policy. The raised questions along with a staff response are attached for the BPAC reference.

DEVELOPMENT OF STUDY AND BUDGET ISSUES

The Study and Budget Issue process is an annual City procedure for planning the consideration of important issues. The City Council, after receiving input on issues of importance from a number of sources including commissions, committees, staff, and the general public, holds a Study/Budget Issues Workshop. This workshop is a ranking exercise of all of the issues submitted for consideration. From this exercise, staff gains an understanding of the Council's priority issues for the following fiscal year, and future years to come. Staff then develops a realistic work plan for addressing the identified issues. Budget issues, essentially expenditure requests, are either considered for inclusion in the budget or dropped. At this time, BPAC is to develop a list of issues for consideration of a review in 2009. The BPAC will finalize and rank its Study and Budget issues at either the September 18th or the October 16th meeting, depending on the overall process schedule.

Newly Proposed Study Issues

1. Assess the East Channel (runs parallel on the east side of Fair Oaks Avenue south of Tasman Drive) as a bike route.
2. Review the feasibility of better spreading the potential replacement of BPAC members over the four-year term. BPAC currently has a potential replacement of three members after the first two-years, followed by a potential replacement of four members after the second two years of the four-year term, which could subject BPAC to losing the majority of its experienced members. The study issue is to consider a different arrangement such as possible replacement of two members per year for each of the first three years, followed by one member in the fourth year.
3. Evaluate and consider implementation of the Stevens Creek Trail extension currently proposed by the City of Los Altos.
4. Improve signage in order to direct cyclists to transit stations and other key destinations. This also includes a review of similar experiences in other cities.
5. Review the resources needed for performing regular bicycle counts as part of the City's yearly data collection program.
6. Review the feasibility of reducing the speed limit on the right-hand/curb-side lanes.
7. Investigate how to encourage people to own fewer cars in order to avoid/minimize the negative impacts on non-motorists. Also review of such programs and experiences in other parts of the Country.
8. Coordinate between the newly approved policy on street space allocation with the implementation of the Bicycle Plan, capital improvement projects and road maintenance/resurfacing projects.
9. Evaluate the concept of developing multi-media DVDs and CDs containing educational and safety information which can be handed out at fairs and other events. Also assess the possibility of utilizing the City of Sunnyvale local channel to promote traffic safety. This study issue would later translate into a budget issue for implementation and production.

Remaining 2007 List of Study Issues

1. Conduct a Plan Line Study to increase bike space.
2. Update/Review of the Corner Vision Triangle Municipal Code Ordinance.
3. Review of the Homestead Road bike lane hours of operation.
4. Review of design standards for bike lanes adjacent to on-street parking.
5. Revise intersection Level of Service (LOS) policy to incorporate bicycle and pedestrian safety.
6. Review Transportation Demand Management (TDM) opportunities for schools.
7. Review suitable bicycle parking schemes for office and retail developments.
8. Evaluate impacts of traffic calming devices on bicyclists.
9. Consider addition of residential collector streets in the City's Traffic Calming Policy for the purpose of speed control (vs. traffic volume control).
10. Establish an education campaign or a policy regarding safe construction zone and associated traffic control for bicyclists and pedestrians.

Newly Proposed Budget Issues

1. Improve the markings and operation of the bicycle detectors (cyclists have to be very close to trigger the detectors).

Remaining 2007 List of Budget Issues

1. Construct pathways to connect the John Christian bicycle and pedestrian trail with the bicycle parking facilities at Lakewood and Fairwood Elementary Schools.
2. Create a task for bicycle locker maintenance at City facilities, and provide associated resources.
3. Develop a computerized system for on-line issuance of bicycle licenses, and for tracking of lost and recovered bicycles.
4. Develop a marketing campaign including preparation and distribution of promotional materials in order to encourage bicycling as an alternative form of transportation.
5. Create a task for Bike to Work Day budget at a yearly funding level of \$5,000.
6. Provide of bike racks at major community events such as the Farmer's Market and the 4th of July celebration.
7. Establish a traffic enforcement campaign of bicycle and pedestrian related violations such as cycling in the wrong way, jaywalking, and violation of the vehicular right-of-way.

1. Where does LOS policy come from?

LOS policy applicable to streets in Sunnyvale is established by the Santa Clara Valley Transportation Authority Board of Directors for streets designated as part of the Congestion Management Program Roadway Network, and by the Sunnyvale City Council for all other streets. Currently the implementing document for regional streets is the Santa Clara County Congestion Management Program, and for City streets is the Land Use and Transportation Element of the General Plan. The VTA and City standards are applied primarily to intersection LOS, although LOS can be determined for other types of facilities such as roadway segments and freeways.

2. How is it measured?

The attached summary from a Transportation Engineering reference book and the Highway Capacity Manual explain how LOS is measured along with the definition of the different levels.

3. What happens if we fail to meet standards?

Several consequences occur if our LOS standards are failed to be met. Most importantly, roadway congestion occurs, with its attendant issues. From the perspective of environmental law, LOS standards represent thresholds of environmental impact, so if a project is proposed to be built that causes LOS standards to be violated, then it is an environmental impact that must either be mitigated or findings made that the project is more important than the impact for overriding reasons. From the perspective of California Congestion Management law, the City must adhere to LOS standards on the regional roadways (as determined through bi-annual monitoring of intersections and preparation of traffic studies for large new land developments) or else be at risk of losing a portion of annual gas tax subventions to the City.

4. Who do we need to persuade if we want to change it?

The Sunnyvale City Council and the Santa Clara Valley Transportation Authority Board of Directors.

use these concepts as major descriptors when communicating with traffic engineers, and vice versa.

In this chapter we describe the basic definitions and concepts relating to capacity and level of service. It also presents procedures for determining the capacity and level of service of uninterrupted flow transportation facilities: freeways, multilane highways, and two-lane highways. Interrupted traffic flow facilities, such as signalized intersections and arterials, are dealt with in a separate chapter.

2. HIGHWAY CAPACITY AND LEVEL OF SERVICE

Transportation modes that make use of highways and are controlled by individual drivers are referred to as individually controlled modes. The *Highway Capacity Manual* (HCM) (TRB, 1985) is the standard reference work used in this area. Over the years the HCM has emerged as a collection of the latest proven techniques for estimating highway capacity.

Two major types of transportation facilities are described in the HCM:

1. Uninterrupted flow facilities
 - (a) Freeways
 - (b) Multilane highways
 - (c) Two-lane highways
2. Interrupted flow facilities
 - (a) Signalized intersections
 - (b) Unsignalized intersections
 - (c) Arterials
 - (d) Transit
 - (e) Pedestrian ways
 - (f) Bikeways

The analysis of these facilities varies considerably. Note, however, that the details presented in the HCM on transit, bicycles, and pedestrians focus on those aspects that interact with traffic using the street/highway. "In general, the capacity of a facility is the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions" (TRB, 1985). A 15-minute period is generally used. Roadway conditions refer to the type of facility, its geometric characteristics, the number of lanes (by direction), lane and shoulder widths, lateral clearances, design speed, and horizontal and vertical alignments. Traffic conditions refer to the distribution of vehicle types using the facility, the amount and distribution of traffic in available lanes of a facility, and the directional distribution. The types and specific design of control

devices (such as traffic signals and their timing) and traffic regulations on the facility constitute control conditions (TRB, 1985).

Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. Factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety are generally included as conditions affecting LOS. Each facility can be measured on the basis of six levels of service, A through F, A representing the best operating conditions and F the worst (TRB, 1985).

The maximum rate of flow that can be accommodated by a facility at each LOS (except LOS F) is described as the *service flow rate*. Thus every facility has five service flow rates, corresponding to each LOS (A through E), and the service flow rate for a designated LOS is the maximum hourly rate at which persons or vehicles can reasonably be expected to traverse a point or uniform section of a lane or roadway during a given time period under prevailing roadway, traffic, and control conditions.

Note that each LOS represents a range of conditions defined by a range in the parameter(s). While the concept of LOS attempts to address a wide variety of operating conditions, limitations on data collection and their availability make it impractical to consider the full range of operational parameters for every type of transportation facility. The parameters selected to define LOS for each facility type are called *measures of effectiveness* (MOEs) and represent those measures that best describe the quality of operation on the facility. For example, density [passenger cars per mile per lane (pc/mi/ln)] is the MOE for basic freeway segments and multilane highways, while time delay (%) and average travel speed (mph) are the two MOEs considered for two-lane highways (TRB, 1985).

3. BASIC FREEWAY CAPACITY STUDIES

3-1 Definitions

A freeway is a divided highway facility having two or more lanes in each direction for the exclusive use of traffic, with full control of access and egress. In the highway hierarchy the freeway is the only facility that provides completely uninterrupted flow. A freeway is composed of three subcomponents: the basic freeway segments, weaving areas, and ramp junctions. Figure 7-1 shows these subcomponents. We deal with basic freeway sections only.

Freeway capacity is the maximum sustained (15 minutes) rate of flow in vehicles per hour (veh/hr) at which traffic can pass a point or uniform segment of freeway under prevailing roadway and traffic conditions. Roadway characteristics include the number and width of lanes, lateral clearances, design speeds, grades, and lanes configurations. Traffic conditions include the percentage composition of the traffic stream by vehicle type, lane distribution characteristics, and driver characteristics (such as weekday commuters and recreational drivers).

TABLE 2
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B+	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 12.0
B		12.1 to 18.0
B-		18.1 to 20.0
C+	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 23.0
C		23.1 to 32.0
C-		32.1 to 35.0
D+	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 39.0
D		39.1 to 51.0
D-		51.1 to 55.0
E+	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 60.0
E		60.1 to 75.0
E-		75.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: VTA's CMP Traffic Level of Service Analysis Guidelines, June 2003, and Transportation Research Board, Highway Capacity Manual, 2000.

TABLE 3
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay	≤ 10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded	> 50.0

Source: Highway Capacity Manual, Transportation Research Board, 2000.

Information Item 4

**UPDATE OF THE SUNNYVALE HANDBOOK
FOR BOARDS, COMMISSIONS AND COMMITTEES**

An update of some sections of the Sunnyvale Handbook for Boards, Commissions and Committees will be provided to the BPAC members at the meeting.

Information Item 5

BPAC E-MAIL MESSAGES

Please find enclosed e-mail messages received since the circulation of the agenda packet of the July 17, 2008 BPAC meeting.

From: webmaster@ci.sunnyvale.ca.us
To: <bpac@ci.sunnyvale.ca.us>
CC: <webmaster@ci.sunnyvale.ca.us>, <hkwan@ci.sunnyvale.ca.us>, <jtest@ci.su...>
Date: 7/17/2008 12:59 PM
Subject: Web BPAC Request - Street: N Sunnyvale Ave

Name = Neil Becker
Email = nbecker@sensoryinc.com
Street = N Sunnyvale Ave
Between Street = E Hendy Ave
and Street = E California Ave
Landmarks = Villa Oaks Apartments, mortuary
Suggestion =

Hello. I commute by bicycle from San Jose to my job in Sunnyvale and my usual route brings me on N Sunnyvale Ave at approximately 7am in the morning. There are street signs indicating that street parking is not allowed between the hours of 6am to 8am on the section in front of the Villa Oaks Apartments and the mortuary next to it, probably because of the narrowness of this section. However, there are at least two cars (a blue Mazda and a yellow Mercedes) that are regularly parked in front of these apartments each morning. Can you request the Sunnyvale Police to visit this area in the morning and enforce the parking restriction here? It is unsafe for a bicyclist, especially right after a train has passed and there is a long line of cars headed north that must share the road with bicyclists.

Thanks,
Neil

From: "Mather White" <mather.white@gmail.com>
To: <bpac@ci.sunnyvale.ca.us>
Date: 7/30/2008 2:39 PM
Subject: next BPAC meeting

Re: <http://sunnyvale.ca.gov/boards-commissions/bac/index.htm>
<http://sunnyvale.ca.gov/boards-commissions/bac/agenda.htm>

Hi,

I would like to attend the next BPAC meeting. Is it still having meetings "on the 3rd Thursday of each month at 6:30 p.m. in the West Conference Room of City Hall"? Is it open to the public?

Sincerely,
Mather White
408-889-9791

From: "Julie Antonio" <divebug@gmail.com>
To: <bpac@ci.sunnyvale.ca.us>
Date: 8/1/2008 11:14 AM
Subject: light at mary/central

Hi Jack,

This email is in regards to the turn signals for bikers at the intersection of Central Expressway and Mary.

I often need to exit from Central Expressway in order to make a left onto Mary to join the bike lane on that road.

The 4 way stop light does not respond to bikers needing to turn left onto Mary. Unless a car is also needing to turn left, bikers are required to make an illegal turn against a red light to make a left.

Your attention to this matter is much appreciated.

Thank you, julie

From: "Julie Antonio" <divebug@gmail.com>
To: <bpac@ci.sunnyvale.ca.us>
Date: 8/1/2008 11:18 AM
Subject: light at almanor/mathilda

Hi Jack,

This email is in regards to the turn signals for bikers at the intersection of Almanor and Mathilda.

There is a bike lane on Mary and Almanor. Almanor ends at Mathilda and becomes Ahwanee. This is the entrance to my neighborhood.

The 4 way stop light at Almanor/Mathilda does not respond to bikes. Unless a car is also needing to go straight across the very busy intersection; bikers are required to make move forward illegally against a red light. This is very dangerous.

Your attention to this matter is much appreciated.

Thank you, julie

Information Item 6.

BPAC ACTIVE ITEMS LIST UPDATE

The updated Commission's active items list is attached for your reference.

Bicycle and Pedestrian Advisory Commission

Active Items

Item #	Item	OPR	Due Date (Approx)	Status	Last Updated
1	Borregas Avenue Bike Corridor	Raina	2009	Construction work on the Borregas bridge is expected to be completed in May 2009.	6/12/2008
2	Bernardo Caltrain Undercrossing	EI-Guendy	Preliminary engineering by 2005	Feasibility Study accepted by the City Council. Funds for 20% local matching funds must be identified before further project initiation. BEP Tier 1 update submitted. VTA will program 80% funds out to 2016 to allow for time to secure matching funds. Project update submitted for Valley Transportation Plan (VTP) 2035 consideration.	2/19/2008
3	Evelyn Avenue Bike Lane Phase 1 and 2	Raina	Summer/Fall 2007	Project complete.	4/8/2008
4	Code of Ethics and Conduct	EI-Guendy	4/8/2008	Annual BPAC review is scheduled for July 17, 2008 meeting.	4/9/2008
5	Utility Bill Stuffer	EI-Guendy	May-08	April BPAC (The utility bill stuffer was prepared and mailed out. Project is complete for 2008)	6/12/2008
6	Bike to Work Day	EI-Guendy	5/15/2008	Event took place on May 15th and reported on. Work complete for 2008.	6/12/2008
7	Earth Day	EI-Guendy	4/26/2008	Event took place on April 26th and reported on. Work complete for 2008.	6/12/2008
8	Health and Safety Fair	EI-Guendy	5/10/2008	Event took place on May 10th and reported on. Work complete for 2008.	6/12/2008
9	Overlay, Reconstruction, Slurry & Chip Schedule	T. Pineda	FY 2008-09	Information only item provided during the BPAC meeting of January 31, 2008.	2/19/2008
10	Relocation of the E- Lockers at the Caltrain Station and signage	EI-Guendy	6/12/2008	The E-lockers have been relocated and the Air District Funding stickers, and signage explaining the use steps have been posted on the lockers. VTA was updated and the project is now complete.	6/12/2008
11	Signage request - Entrance of Baylands Park	EI-Guendy	9/18/2008	A site meeting took place with staff of the City's Department of Parks and Recreation who are planning to install improved signage and pavement markings.	7/10/2008
12	Maintenance request - Fair Oaks south of Tasman	EI-Guendy	6/12/2008	To eliminate the crack of concern, the storm drain was slightly relocated and secured in place with application of some filler. Work is now complete.	6/12/2008

Item #	Item	OPR	Due Date (Approx)	Status	Last Updated
13	Operational/Enforcement request - Caltrain Station	EI-Guendy	8/21/2008	Prevent parking violation of a motorcycle which restrict access to the E-lockers. Also enforce the use of the free lockers at the Station to encourage cycling and use of transit. SamTrans has been notified on several occasions.	8/14/2008
14	Operational request - E-Lockers at the Caltrain Station	EI-Guendy	8/21/2008	Investigate the feasibility of reducing the minimum \$ amount that can be placed on an access card to the E-lockers. E-Lock Technologies has been contacted in this regard. The card is for free, and cyclists can utilize the full amount of \$20 on using the lockers. Establishing smaller value cards would penalize the company financially due to their added administrative and material costs.	8/14/2008
15	Maintenance request - Lynn Way/Mulberry Lane	EI-Guendy	8/21/2008	Re-establish the raised markers and faded double yellow lines at the Lynn Way/Mulberry Lane area. A double ship seal is planned for this area on August 28th, 2008. Following this work, a double centerline will be established. The road will be slurry sealed in April/May of 2009. Following the latter work, the raised markers will be installed.	8/14/2008
O-1	VTA Bicycle Expenditure Program (BEP)	EI-Guendy	Annual	The Sunnyvale East Channel bike path is eligible for this funding and a grant application will be submitted to VTA by the due date of June 20th.	6/12/2008
O-2	Bicycle Capital Improvement Program	EI-Guendy	Ongoing		7/12/2007
O-3	TFCA grants	EI-Guendy	Annual	An Arterial Management project application is recommended for timing and coordinating signals along Wolfe Road between Arquez Avenue and Homestead Road.	6/12/2008
O-4	Bike Parking Incentive Program	EI-Guendy	Ongoing		5/11/2007
O-5	Construction Zone Safety Complaints received	EI-Guendy	Ongoing		2/19/2008
O-6	Policy on Street Space Allocation	EI-Guendy	Ongoing	Request to coordinate between the approved policy on street space allocation and relevant roadway resurfacing/construction projects.	7/10/2008