

About Traffic and Transportation in Benicia ...

Green Gateway Business Community

A 21ST CENTURY POSSIBILITY



Prepared by Benicia citizens
organized as the Green Gateway Group

October, 2008

Disclosure

The Green Gateway Group fully believes that the Benicia City Council has sufficient data, facts, information, and legal opinion from numerous sources to fully deny the current project as proposed by Discovery Builders.

This document is not intended and shall not be used as grounds for the Benicia City Council to deny the current project as proposed.

We are simply formulating possibilities, based on our research and discussion with visionaries in the industry. We are not presenting an Alternative Project. We are simply taking a positive step in presenting a framework for a 21st Century vision.

Green Gateway Group
October, 2008

GREEN GATEWAY BUSINESS COMMUNITY A 21st Century Possibility

ABOUT TRAFFIC & TRANSPORTATION IN BENICIA

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Introduction and Summary

Visionary 21st Century Planning based on a City-Sponsored Specific Plan

Benicia's Green Gateway Group proposes an achievable visionary business community in contrast to the current proposed project for Benicia Business Park.

This Study Focuses on Traffic

Much of the work we have done previously revolves around the need to reduce traffic and thereby reduce greenhouse gas emissions. This study will briefly recap substantial sections from our previous study concerning traffic, beginning on page 5, and then focus on new information on the subject.

The Vision

We believe the best way to achieve the goals envisioned in our study is to exercise our right as citizens to encourage a Specific Plan.

We join our voices with a chorus of local citizens and professionals who have advised a vote to deny the current Seeno plan, which is archaic, unsustainable and unsuited to the future. We believe that Benicia needs a 21st Century alternative that would be forward-looking and specific in its vision. We also recognize that a developer needs to be advised clearly by the citizens as to what we would require, what we want, and what would and would not be acceptable.

This vision is not only important to us as Benicians and world citizens, but it is required of us moving forward in our planning under State of California law "AB32," the California Global Warming Solutions Act, now approved and codified as Division 25.5 (commencing with Section 38500) of our California Health and Safety Code.

Industry Standard Sustainable Development

Our Green Gateway Business Community vision follows current industry standards, calling for sustainable, profitable, green development. It envisions an **environmentally sustainable** and highly profitable research park, having its uses and activities guided by an overarching concept and focus on the emerging field of clean technology. There should be protections against grading slopes beyond 20% incline (a common development standard), a richer mixed-use layout, **road alignment that will encourage greater walking and biking accessibility, an emission-free electric or low-emission hybrid public transit system to serve the entire city of Benicia**, and Form-based code to guide the development of a livable and sustainable business *community*.

Note: for our previous 51-page study, Green Gateway Business Community – A 21st Century Possibility, please go to www.greengatewaygroup.org/ or contact Green Gateway Group chairperson Roger Straw at 707.748.7350.

References to Traffic & Transportation in our September 2008 Study (GGBC)

The Green Gateway vision is heavily dependent on cutting back dramatically on the greenhouse gas emissions Benicia contributes to our Bay Area air. We propose to do this for our own health and safety. We propose to do this to satisfy the requirements of our Benicia General Plan, our Solano County General Plan and California's Global Warming Solutions Act (AB32). *And* we propose to do this on behalf of our "upwind neighbors," and because we belong to the planet and care about the future of Earth. Our September study, Green Gateway Business Community – A 21st Century Possibility, contained too many references to traffic to reiterate here, but we will lay out the basic formulations in the following summary.

Following are excerpts, with material not related to traffic omitted.

Context and Framework (pp. 5-10, GGBC)

1. General Plan goals

Benicia's General Plan governs all forms of community development and lays out goals for Sustainability, Identity and Health and Safety. Our General Plan is the law in Benicia....

Community Development and Sustainability - Circulation

- 2.14 Enhance Benicia's small town atmosphere of pedestrian-friendly streets and neighborhoods
- 2.15 Provide a comprehensive system of pedestrian and bicycle routes which link the various components of the community; employment centers, residential areas, commercial areas, schools, parks, open space
- 2.17 Provide an efficient, reliable and convenient transit system
- 2.18 Encourage the provision of convenient rail service to Benicia with a station near the Benicia Bridge
- 2.21 Encourage Benicia residents and employees to use alternatives to the single occupant automobile
- 2.22 Alleviate traffic near school sites
- 2.24 Continue to provide safe and direct access to the Industrial Park
- 2.26 Ensure that scenic and environmental amenities of I-680 and I-780 are not compromised
- 2.27 Ensure an active community deliberation process in response to Caltrans proposals now and in the future

Community Identity - Visual character

- 3.9 Protect and enhance scenic roads and highways

Community Health and Safety

- 4.1 Make community health and safety a high priority
- 4.7 Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials
- 4.9 Ensure clean air for Benicia residents
- 4.10 Support improved regional air quality
- 4.17 Minimize hazardous waste generation
- 4.23 Reduce or eliminate the effects of excessive noise

2. AB 32 - California Global Warming Solutions Act – (Passed by the California Assembly and approved by the Governor September 27, 2006). Our California Health and Safety Code relating to air pollution now mandates a reduction in greenhouse gas emissions back to the “1990 emissions baseline” by 2020. By 2020 the bill would require the state board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program. The bill defines “greenhouse gas emissions limit” as an authorization, during a specified year, to emit up to a level of greenhouse gases specified by the state board, expressed in tons of carbon dioxide equivalents. (Greenhouse gas or greenhouse gases includes all of the following gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.)

Greenhouse gas emissions predominantly come from Transportation (38%)....When considering any development, it is clear that the City's responsibility lies in encouraging reduction in traffic and alternate transportation solutions....

The AB32 goal should primarily be achieved through ...transportation strategies to (1) reduce per capita “vehicle miles traveled”....

From the Attorney General’s Office, titled: “The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level”, comes the following recommendations that local agencies can require of development projects in order to carry out their duties under CEQA as they relate to Global Warming and AB32: (See <http://ag.ca.gov>)

Energy Efficiency

- Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.

Land Use Measures

- Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.¹⁹
- Incorporate public transit into project design.
- Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.²¹

Transportation and Motor Vehicles

- Limit idling time for commercial vehicles, including delivery and construction vehicles.
- Use low or zero-emission vehicles, including construction vehicles.
- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Create car sharing programs. Accommodations for such programs include providing parking spaces for the car share vehicles at convenient locations accessible by public transportation.²²
- Create local “light vehicle” networks, such as neighborhood electric vehicle (NEV) systems.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero- emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).
- Increase the cost of driving and parking private vehicles by, e.g., imposing

- tolls and parking fees.
- Build or fund a transportation center where various public transportation modes intersect.
- Provide shuttle service to public transit.
- Provide public transit incentives such as free or low-cost monthly transit passes.
- Promote "least polluting" ways to connect people and goods to their destinations.²⁴
- Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.
- Incorporate bicycle-friendly intersections into street design.
- For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.
- Work with the school district to restore or expand school bus services.
- Institute a telecommute work program. Provide information, training, and incentives to encourage participation
- Provide incentives for equipment purchases to allow high- quality teleconferences.
- Provide information on all options for individuals and businesses to reduce transportation-related emissions.
- Provide education and information about public transportation.

3. Sustainability defined ...

Sustainability is defined as "development that meets the needs of the present without compromising the future generations to meet their own needs". It is about balance between environmental protections, social equity and economic performance, the three major components of sustainability, and about balance between short and longer term returns on public and private investment.

Environmental Considerations

Maximize pedestrian circulation modes

Provide for alternative/renewable energy use - work toward "energy neutral" development

Safely and efficiently accommodate traffic with out adverse impact to surrounding community

Develop alternative public transportation modes and efficient connectivity between them

Social Equity

Contribute to critically needed solutions to regional transit and transportation issues

Recognize any regional significance and strive to ensure that it positively impacts its surrounding community (ies)

(The above information was adapted from Brisbane, California's Baylands Plan

Basics for a 21st Century Plan (p. 12, GGBC)

Transportation is key to air quality.

Fully 38% of the greenhouse gases in our Bay Area air comes from automobiles. It is simply no longer an acceptable alternative to develop new retail and industrial land usages that fail to take this into account.

A 21st Century development must be planned in such a way as to keep trip generation at a minimum. We need to enable and encourage many if not most of those fewer trips to be made on foot and by bicycle, and on clean-tech public transit. In this way, a primary goal of the Green Gateway Business Community is to provide alternatives to cars.

We propose:

1. A much smaller development, (fewer lots on less acreage, less grading, fewer square feet of building space) with accordingly fewer trips to and from the Business Community
2. Plentiful pedestrian and bicycle paths within the Community, and whenever possible, interconnected streets (as opposed to cul-de-sacs). This design would encourage foot and bicycle traffic.
3. Focus most business and industrial uses on cleantech R&D and related commerce, so that Green Gateway becomes known and recognized as a central cleantech hub in the emerging East Bay/Sacramento Green Corridor. By focusing on cleantech R&D and University collaboration, the Park would create a good job match for Benicia's employment demographics, thereby reducing commute traffic. A clean tech green-collar training center would generate a skilled green-collar workforce for the many businesses on site and elsewhere.
4. A distribution of commerce and retail throughout the acreage rather than concentrated near Interstate 680. This retail and commerce would primarily serve the Community itself, and would result in much less traffic off Interstate 680, although high-quality restaurants and other commercial ventures would appeal to hotel and retreat center guests, Benicians and others from nearby cities.
5. An Intermodal Transportation hub and shuttle service – paid for through assessment district financing – (note for example, Emeryville, CA), to cut down on trips from other cities.
6. Minimal parking which would encourage use of connector buses.
7. A citywide local transit system of electric -- or hybrid -- short buses (vans or cutaways) and a system of elegantly designed bus stops to serve all of Benicia. Buses would run frequently enough to make car trips to and from the Green Gateway Business Community (and elsewhere in Benicia) unnecessary in most cases.

Guidelines, Goals (p. 14, GGBC)

Guidelines

Sustainable under California law (AB32)
0 Carbon footprint
Net positive energy outflow

Goals

Intermodal transport site
Connect to electric trolley service that connects BIP, downtown, Yuba, Arsenal, Rose Drive business, Southampton, Community Park etc
Walking/biking trails
Connecting streets

Comparison: Seeno and the Green Gateway Vision, (p. 15, GGBC)

The Green Gateway model would result in an estimated 78% reduction in traffic over Seeno's 2007 proposal based on trip generation alone. With an intermodal transit station, on-campus shuttle service and an electric or hybrid transit system serving all of Benicia, there would be even greater reductions.

Ozone In Benicia, Ozone From Benicia

OZONE IN BENICIA - one of the 10 WORST IN BAY AREA

Source: <http://gate1.baaqmd.gov/aqmet/AQYearly.aspx>

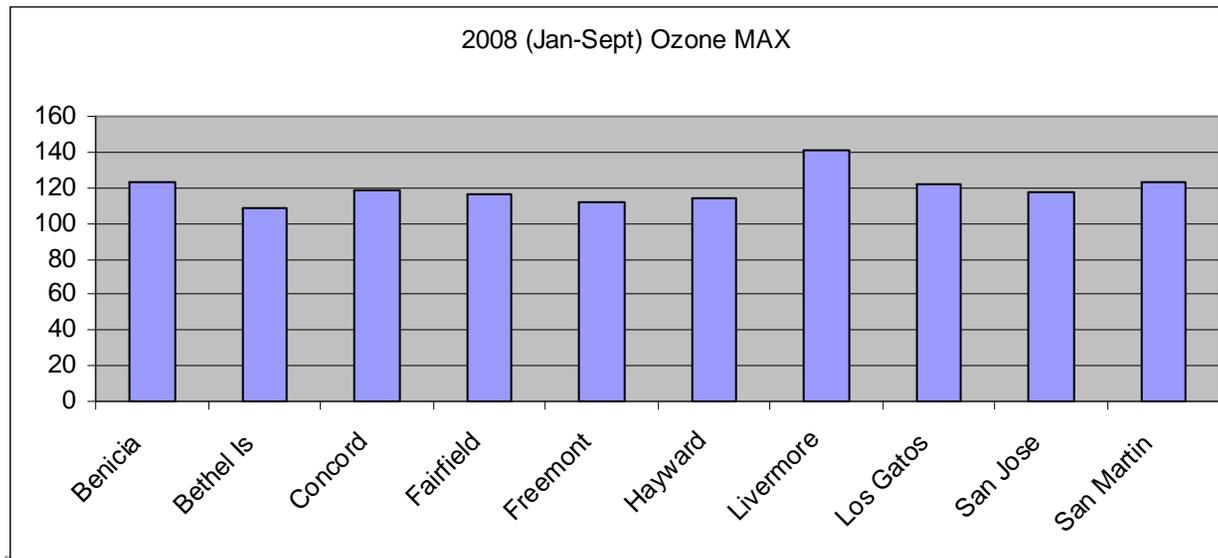
Benicia already has a serious public health ozone problem compared to other Bay Area communities.
Please don't approve any measures that will make this problem worse!!

The 10 stations listed below consistently have HIGHEST readings of all 23 stations in Bay Area!

(as of Sept. 29)

2008 (Jan-Sept) Ozone MAX

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Avg MAX	highest MAX
Benicia	45	50	51	87	65	81	123	87	94	76	123
Bethel Is	43	49	56	79	103	96	109	88	86	79	109
Concord	51	47	57	94	73	102	119	84	97	80	119
Fairfield				81	63	77	116	95	85		116
Freemont	52	45	55	90	58	76	112	79	89	73	112
Hayward				85	55	74	114	83	88		114
Livermore	51	44	54	91	87	91	141	117	97	86	141
Los Gatos	53	46	56	88	79	80	122	81	92	77	122
San Jose	50	43	54	94	64	83	118	83	85	75	118
San Martin				78	91	86	123	95	91		123
Avg MAX				88	80	85	126	94	91		



Ozone in Benicia

9-Month Ozone Snapshot

Note that Benicia measured one of the highest Maximums in the Bay Area, and ties with Fairfield and Hayward for the highest Average for the year so far. Source: <http://gate1.baaqmd.gov/aqmet/AQYearly.aspx>

Bay Area Air Quality Management District

Ari Quality

<http://gate1.baaqmd.gov/aqmet/AQYearly.aspx>

Ozone: units: ppb

Monthly Maximum/Average Values

Raw data: Unchecked data that may contain errors

QC data: Validated data

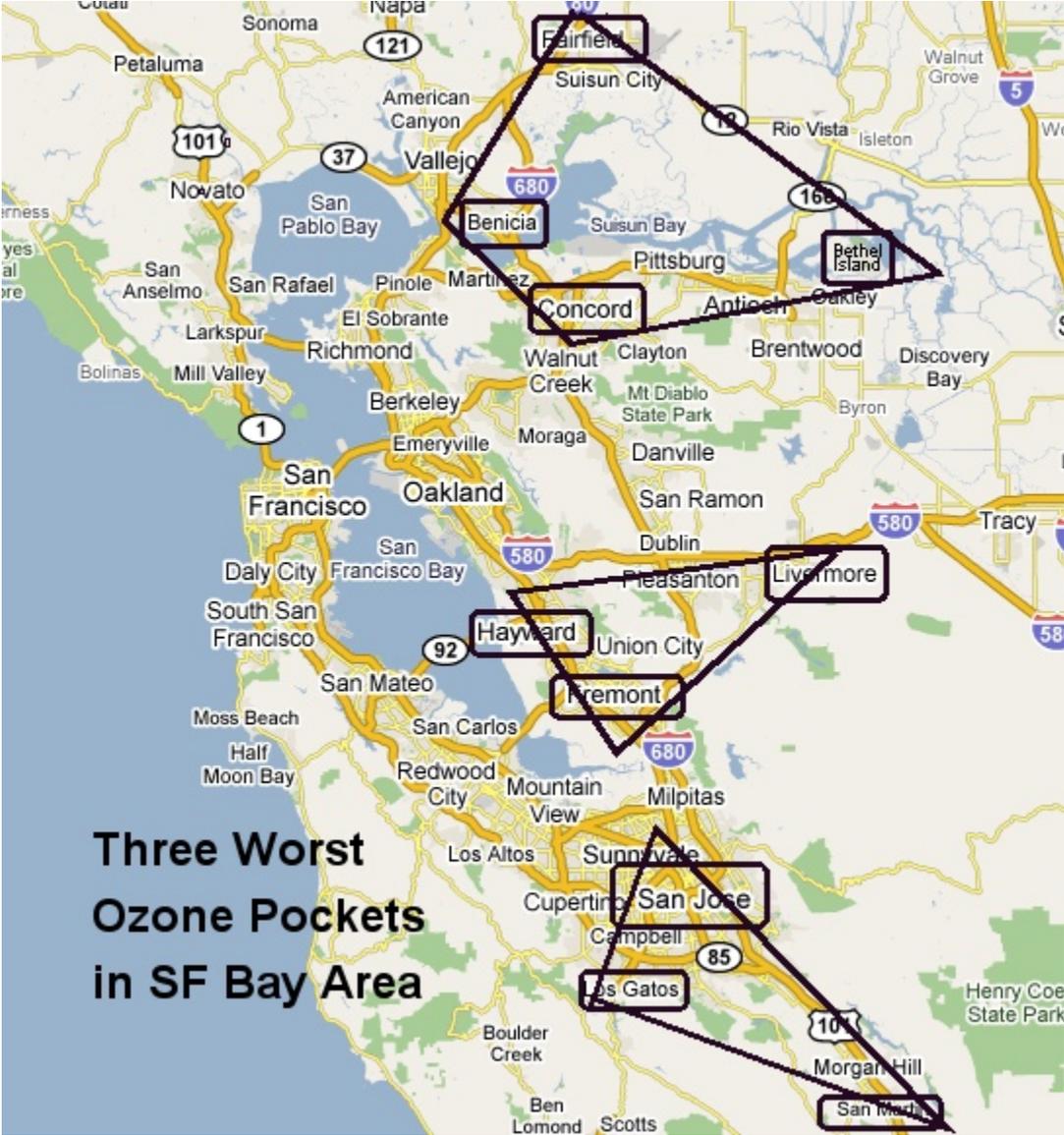
Station:	Year: 2008, Month												Yearly		
	1	2	3	4	5	6	7	8	9	10	11	12	Max	AVG	
Benicia	45	50	51	87	65	81	123	87	94					123	32
Berkeley	42	40	42	53	47	46	43	35	50					53	21
Bethel Island	14	17	22	29	28	22	19	15	24					109	31
Concord	43	49	56	79	103	96	109	88	86					119	30
Fairfield	18	22	30	38	36	38	31	29	37					116	32
Fremont	51	47	57	94	73	102	119	84	97					112	24
Gilroy	20	20	29	38	35	36	30	27	35					103	31
Hayward				81	63	77	116	95	85					114	32
Livermore				37	34	33	28	25	34					141	28
Los Gatos	52	45	55	90	58	76	112	79	89					122	26
Napa	17	18	24	34	31	27	22	18	25					107	25
Oakland				70	74	91	103	84	86					86	23
Pittsburg				36	34	33	26	23	31					82	23
Redwood City				85	55	74	114	83	88					118	23
San Francisco				40	35	33	27	24	36					118	23
San Jose Central	51	44	54	91	87	91	141	117	97					123	31
San Leandro	20	19	26	35	33	34	29	25	31					84	25
San Martin	53	46	56	88	79	80	122	81	92					85	23
San Pablo	19	19	24	32	29	29	26	23	32					76	24
San Rafael	44	44	50	89	60	73	107	74	88					93	27
Santa Rosa	17	18	24	32	31	29	25	22	29					109	27
Sunnyvale	50	43	53	83	51	80	86	58	83						
Vallejo	16	17	23	31	30	24	21	17	25						
	47	45	49	80	77	78	106	80	78						
	19	20	28	35	34	35	30	26	33						
	50	44	53	81	62	82	54	57	78						
	14	16	24	34	30	26	20	17	25						
	51	44	42	73	50	82	51	44	66						
	15	18	25	33	31	26	23	19	26						
	50	43	54	94	64	83	118	83	85						
	13	16	23	32	30	28	23	20	27						
				82	51	84	96	66	81						
				36	31	26	23	19	29						
				78	91	86	123	95	91						
				34	34	33	27	24	31						
	50	43	50	74	57	84	53	50	83						
	18	19	28	36	31	27	23	19	29						
	52	46	50	79	53	74	62	51	85						
	16	18	25	33	29	27	21	18	25						
	48	46	49	76	58	67	75	52	69						
	16	17	22	31	30	29	23	19	28						
				90	67	76	93	68	84						
				34	31	28	23	20	28						
	45	46	51	93	63	88	109	68	91						
	17	20	29	37	35	31	25	22	32						
Day:	1	2	3	4	5	6	7	8	9	10	11	12	Max	AVG	

Ozone in Benicia Ground-Level Ozone Map August 28, 2008 5:00 PM

Source is an animated map:
<http://www.epa.gov/airnow/2008/20080828/8a-sfba.gif>



Ozone *In* and *From* Benicia The Bay Area's Three Worst Ozone Pockets



Bay Area OZONE levels August 28, 2008

(Same day as Benicia Traffic Count)

Regardless of the traffic count, Benicia already has plenty of reason to worry about ozone! A large increase in tailpipe emissions will only make our dangerous ozone levels much worse.



Bay Area Air Quality Management District

Quality | Meteorology | Contact Us | **Data Display System**

Ozone: units: ppb

Hourly Average Values and 24-hour changes
Raw data: Unchecked data that may contain errors

Thursday, August 28, 2008, Ending Hour (PST)

Station:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Daily Max*	8Hr
North Counties:																										
Napa	11	9	7		3	2	3	9	19	31	47	54	61	63	68	64	54	42	29	15	4	2	3	6	68	56
San Rafael	7	8	3		1	1	2	5	9	18	26	31	41	46	41	47	42	28	26	15	7	3	4	2	47	37
Santa Rosa	11	6	15		5	1	3	8	9	26	41	50	43	40	40	46	43	35	27	14	15	19	16	12	50	42
Vallejo	14	12	9		1	1	2		17	28	33	48	63	63	58	44	53	49	35	26	24	21	11	4	63	51
Coast & Central Bay:																										
Berkeley	11	10	11		3	0	1	4	4	5	12	18	28	26	26	23	24	24	18	14	10	8	8	9	28	23
Oakland	1	1	2		4	1	2	3	6	7	8	19	29	34	38	58	53	45	37	25	12	11	8	3	58	39
San Francisco	13	11	13		1	2	3	5	6	7	13	26	35	44	43	36	28	31	22	10	9	9	6	6	44	33
San Pablo	11	12	15		3	1	2	6		24	31	26	31	39	33	30	24	23	17	11	9	3	3	13	39	30
Eastern District:																										
Benicia	24	22	24		22	20	19	23	21	21	37	54	67	77	87	67	60	58	48	37	30	28	28	29	87	64
Bethel Island	24	22	19		15	15	13	22	27	33	40	43	46	48	49	51	58	65	59	44	32	31	28	28	65	52
Concord	20	17	15		5	2	2	4	22	33	38	46	53	60	64	69	74	72	54	44	32	30	30	27	74	61
Fairfield	24	17	16		1	2	3	8	23	34	43	58	68	73	89	95	67	52	40	28	27	24	21	22	95	68
Livermore	1	2	1		1	1	5	29	32	33	37	42	44	47	54	67	86	87	69	42	29	15	9	8	87	62
Pittsburg	19	17	11		11	10	10	22	27	31	37	44	50	51	55	58	79	66	46	34	31	30	32	34	79	56
South Central Bay:																										
Fremont	0	0	0		0	0	1	3	8	15	22	34	48	59	69	79	68	47	32	17	3	1	0	0	79	54
Hayward	38	43	37		41	36	32	27	31	22	31	39	47	65	81	83	74	59	51	47	47	45	43	43	83	63
Redwood City	0	1	1		1	1	2	4	7	9	11	18	28	45	49	52	40	37	25	28	24	10	3	1	52	38
San Leandro	13	7	1		15	12	3	3	7	11	14	18	41	66	58	57	64	52	43	39	28	18	9	24	66	52
Santa Clara Valley:																										
Gilroy	12	17	17		14	14	12	17	23	29	48	60	77	84	84	83	60	42	35	30	27	12	5	10	84	67
Los Gatos	38	35	20		23	14	8	7	25	33	41	49	58	64	70	78	81	77	51	31	19	26	34	34	81	66
San Jose Central	40	37	21		2	0	2	5	8	13	22	37	53	69	80	83	77	71	46	26	12	3	4	1	83	64
San Martin	4	5	3		1	1	1	7	18	28	43	54	70	82	95	91	62	51	45	43	43	36	27	7	95	68
Sunnyvale	8	2	1		1	1	1	4	11	27	40	49	57	65	67	61	53	39	28	19	14	9	6	6	67	57
Sunnyvale	-7	-9	-13		-6	+0	-1	-2	-2	+9	+14	+17	+13	+20	+1	+7	+9	+14	+9	+5	+4	-1	-17	-13		
Hour:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	1Hr	8Hr

* Note: Daily Max 1HR column is for State standard and 8HR is for National 8-Hour standard.
Ozone values exceeding the standards are displayed in red in their respective columns.

Bay Area OZONE levels August 28, 2008

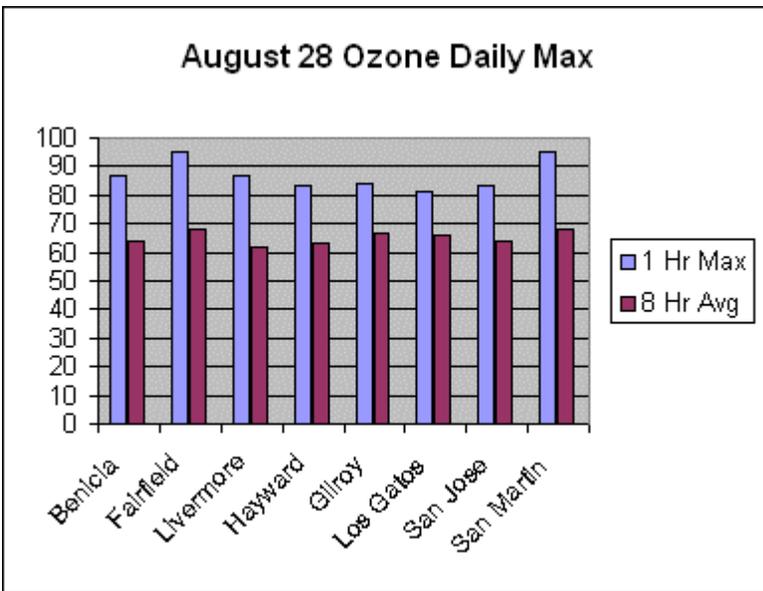
(Same day as Benicia Traffic Count)

This chart summarizes the previous page.

Regardless of the traffic count, Benicia already has plenty of reason to worry about ozone! A large increase in tailpipe emissions will only make our dangerous ozone levels much worse.

Below are the 8 (out of 23) stations with highest Ozone 1-Hr & 8-Hr daily Max

	Aug. 28 Ozone Daily Max	
	1 Hr	8 Hr
Benicia	87	64
Fairfield	95	68
Livermore	87	62
Hayward	83	63
Gilroy	84	67
Los Gatos	81	66
San Jose	83	64
San Martin	95	68



The City of Benicia Citizen Survey

Benicians want the City to IMPROVE our air quality, NOT make it worse! Following are excerpts from Benicia's Aug. 2006 National Citizen Survey.

Respondents were asked to rate the importance of a number of items.

How important is it for the City to allocate additional resources to each of the following:

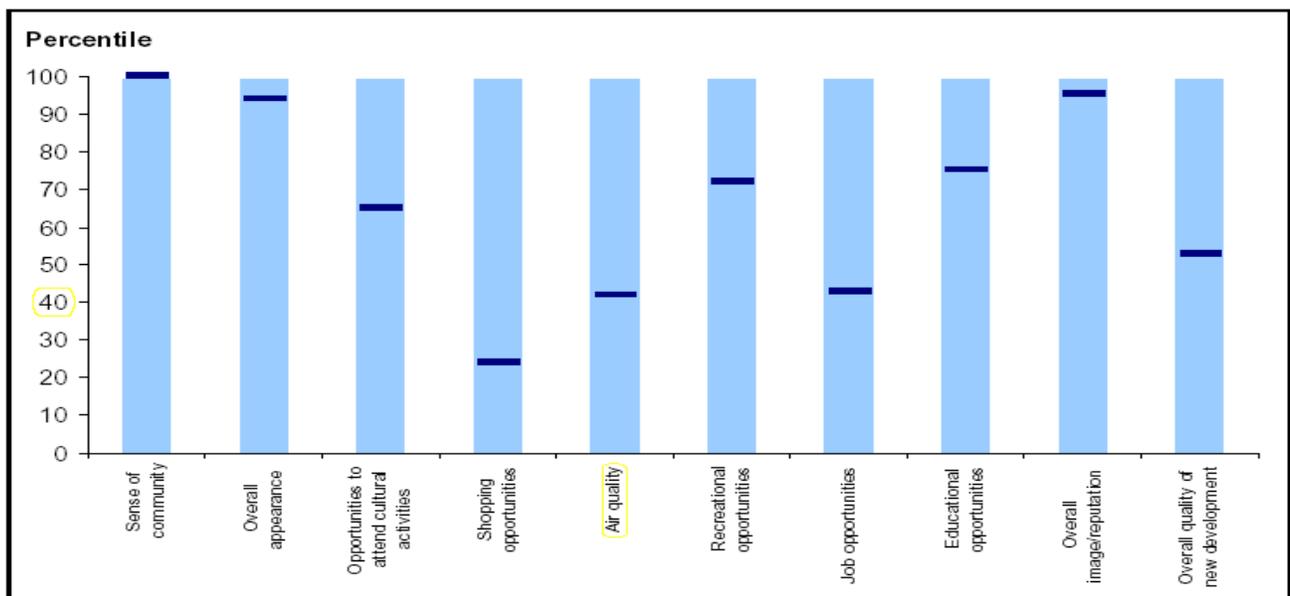
- Protecting the environment (such as air and water quality) -- 84%
- Open space -- 62%
- Streets -- 60%
- Recreation programs and services -- 59%
- Affordable housing -- 56%
- Downtown -- 56%
- Preservation and restoration of public historical structures -- 53%
- Community appearance and beautification -- 50%
- Local access to ferry service -- 49%
- Local access to rail service -- 45%
- Resources and facilities for the arts -- 44%
- New or expanded police station -- 37%

When asked about **potential problems in Benicia**, the three concerns rated by the highest proportion of respondents as a "major problem" were drugs (13% of respondents), toxic waste or other **environmental hazards** (12%), and too much growth (10%).

Ratings of Community Characteristics

Air quality was ranked at 40%. Only one other category ranked lower.

Ratings of Community Characteristics



Health Effects of Ozone

(from BAAQMD, http://www.sparetheair.org/about/ozone_effects.htm)

Ground-level ozone can cause several types of short-term health effects:

Ozone can irritate the respiratory system. Ozone can cause coughing, irritate your throat, eyes, or nose, and/or cause headaches. These symptoms can last for a few hours after ozone exposure and may even become painful.

Ozone can reduce lung function. "Lung function" refers to the amount of air that you draw in when you take a full breath and the speed at which you are able to blow it out. Ozone can make it more difficult for you to breathe as deeply and quickly as you normally would.

Ozone can aggravate asthma. When ozone levels are high, more asthmatics have asthma attacks that require a doctor's attention or the use of additional medication. Ozone makes people more sensitive to allergens (such as dust mites, pets, and pollen) which are the most common triggers for asthma attacks.

Ozone can inflame and damage the lining of the lung. Ozone's effect on the lining of the lung is comparable to the effect of sunburn on the skin. Ozone damages the cells that line the air spaces in the lung. Within a few days, the damaged cells are repaired, just as our skin recovers from sunburn naturally.

Scientists suspect that ozone may have other effects on people's health, as well. Ozone may aggravate chronic lung diseases, such as emphysema and bronchitis. Also, studies in animals suggest that ozone may reduce the immune system's ability to fight off bacterial infections in the respiratory system.

Most of these effects are considered short-term because they eventually cease once ozone levels subside. However, there is concern that repeated short-term damage from ozone exposure may permanently injure the lung. For example, repeated ozone impacts on the developing lungs of children may lead to reduced lung function as adults.

Who is most at risk?

Children. Children are more sensitive to pollution than adults. Children typically spend more time and are more active outdoors. Pound for pound, they breathe more than adults. They breathe, drink, and eat to grow, not just to maintain themselves. Their air passages are also narrower than adults, so it takes less inflammation or irritation to obstruct a child's airways. Children are also more likely to have asthma or other respiratory illnesses.

Adults who are active outdoors. Healthy adults of all ages who exercise or work vigorously outdoors are considered a "sensitive group" because they have a higher level of exposure to ozone than people who are less active outdoors. Ozone is typically a problem in the afternoon due to pollution generated in the morning. People with respiratory diseases, such as asthma. There is no evidence that ozone causes asthma or other chronic respiratory disease, but these diseases do make the lungs more vulnerable to the effects of ozone.

People with unusual susceptibility to ozone. Scientists don't yet know why, but some healthy people are simply more sensitive to ozone than others.

Health effects of ozone



- **Increased risk of early death**
- **Lung inflammation**
- **Reduced lung function**
- **Increased asthma attacks**
- **Increased risk of infection**
 - *Bell et al. 2005; Levy et al, 2005; Ito et al, 2005; US EPA, 2006*



The plant on the left is stunted due to smog exposure. The plant on the right grew in healthy air. Children's lungs respond to smog in a similar way.

Consistency Analysis

Benicia's General Plan and Seeno's 2008 Revised Project

City staff has proposed and Seeno has accepted over 200 conditions for project approval that render binding mitigations for some of the General Plan inconsistencies disclosed in the public record. However, the California Environmental Quality Act (CEQA) does not acknowledge conditions of approval as binding mitigation measures. Any condition of approval that is proposed as a mitigation measure must be included and acknowledged in the Final EIR as a mitigation measure and must be part of the EIR's Mitigation Monitoring and Reporting Program. THE FOLLOWING INCONSISTENCIES WITH BENICIA'S GENERAL PLAN THEREFORE REMAIN UNMITIGATED IN SEENO'S FINAL EIR, AND ARE NOT MITIGATED IN THE EIR ADDENDUM.

Note that many of these inconsistencies have been presented to Council previously by Benicia citizen Steven L. Goetz, AICP, and others, and are part of the hearing record. Additional **inconsistencies not previously entered in the hearing record are shown below in boldface type**. And all **inconsistencies specifically relating to traffic and its associated environmental effects are presented with highlighted font**.

Reducing trip generation and its associated effects is a central aim of Benicia's General Plan. Note the following language from Part I, Chapter 2, on page 59: "...policies in this General plan...call for promoting alternative commute methods and a better jobs/housing balance to minimize freeway travel demand....The intent of the General plan is not to create greater traffic congestion by rejecting all freeway widening, but to address the realities of growing travel demand through site-specific improvements, land use policies that minimize travel demand, and high occupancy vehicle (HOV) travel."

Goal Policy or Program Language (Bold=new, Highlight=traffic)	Conclusions based on the Addendum
Policy 2.14.1 Give priority to pedestrian safety, access, and transit over automobile speed and volume.	Addendum justifies finding of inconsistency with this General Plan policy. (Previously noted in hearing record.)
Goal 2.15 Provide a comprehensive system of pedestrian and bicycle routes which link the various components of the community: employment centers, residential areas, commercial areas, schools, parks, and open space.	Addendum justifies finding of inconsistency with this General Plan goal. (Previously noted in hearing record.)
Policy 2.15.2 Encourage the development of pedestrian paths in hill areas as a way to link neighborhoods to schools, parks, employment centers, and convenience commercial destinations.	Addendum assumes this outcome is possible but such features are not proposed as part of the project. (Previously noted in hearing record.)
Goal 2.20 Provide a balanced street system to serve automobiles, pedestrians, bicycles and transit, balancing vehicle flow improvements with multi-modal considerations.	The Addendum fails to evaluate this goal. The EIR referred to Policy 2.14.1. (Previously noted in hearing record.)
Policy 2.20.3 Maintain Lake Herman Road as a rural, two-lane, curving scenic route.	The current Seeno proposal includes lane widening at three intersections along Lake Herman Rd.

Goal Policy or Program Language (Bold =new, Highlight =traffic)	Conclusions based on the Addendum
Goal 2.21 Encourage Benicia residents and employees to use alternatives to the single occupant automobile.	Addendum justifies finding of inconsistency with this General Plan goal. (Previously noted in hearing record.)
Policy 2.21.1 Provide and promote a range of travel alternatives to the use of the private automobile.	Addendum justifies finding of inconsistency with this General Plan policy. (Previously noted in hearing record.)
GOAL 2.22 Alleviate traffic congestion near school sites.	The current Seeno project proposal would create serious traffic congestion by Semple school on E. 2nd St.
POLICY 2.22.1 Work closely with the School District in addressing traffic congestion near schools.	The current Seeno project proposal would create serious traffic congestion by Semple school on E. 2nd St.
Program 2.22.A Develop a plan jointly with the School District for reducing traffic congestion at and near school sites.	The current Seeno project proposal would create serious traffic congestion by Semple school on E. 2nd St.
Policy 2.23.2 Reduce the visibility of parking lots.	Addendum assumes adherence to non-binding design guidelines. (Previously noted in hearing record.)
Program 2.23.D Update parking requirements based on actual local parking generation studies wherever appropriate, and consider parking proximity to transit corridors.	No data provided by Mitigated Project to evaluate its consistency. (Previously noted in hearing record.)
Program 2.23.E Allow future parking to be divided into smaller lots with generous internal and perimeter landscaping.	Addendum assumes adherence to non-binding parking plans. (Previously noted in hearing record.)
Program 2.23.F Recommend parking to be located behind or alongside (but not in front of) buildings, where possible.	No data provided by Mitigated Project to evaluate its consistency. (Previously noted in hearing record.)
Program 2.24.A Investigate establishment of Industrial Park bus service.	Addendum justifies finding of inconsistency with this General Plan program. (Previously noted in hearing record.)
Goal 2.3 Ensure orderly and sensitive site planning and design for large undeveloped areas of the city, consistent with land use designation and other policies of the General Plan.	The Addendum fails to evaluate this goal. The EIR found the 2007 project would be consistent with the land use designations for the site, but would be inconsistent with “numerous” other General Plan goals, policies or programs. This table is provided to show that the Addendum fails to adequately demonstrate the Mitigated Project to be consistent with 28 out of 72 goals, policies and programs included in the General Plan for the purpose of environmental protection (nearly 40% of the total). (Previously noted in hearing record.)

Goal Policy or Program Language (Bold =new, Highlight =traffic)	Conclusions based on the Addendum
Policy 2.38.1 Continue to require the use of feasible and practical Best Management Practices to protect receiving waters from adverse effects of construction and urban runoff.	Addendum assumes adherence to non-binding design guidelines. (Previously noted in hearing record.)
Program 2.36.C Continue to implement City-adopted water conservation Best Management Practices (BMP).	Addendum assumes adherence to non-binding design guidelines. (Previously noted in hearing record.)
<p>GOAL 2.5: Facilitate and encourage new uses and development which provide substantial and sustainable fiscal and economic benefits to the City and the community while maintaining health, safety, and quality of life.</p> <p>Sustainable development maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.</p> <p><i>This goal is the heart of the entire General plan. [emph. added] It is a citywide expression of urban development policy. Nearly every policy and program in the General plan, in some manner, serves to implement this goal.</i></p>	<p>The Seeno project's proposed uses detract from Benicia's air quality and the health, safety and quality of life.</p> <p>The project as currently proposed suffers from lack of a current economic analysis, and is predicated on needs, uses and expectations of citizens from a previous generation.</p> <p>The project fails to adequately protect the environment AND the people.</p>
Program 2.5.B: Target business attraction efforts toward firms that pay high wages and with jobs that relate to the skills and education levels of Benicia residents.	The Seeno project's proposed uses do not conform to our employment demographic and 75% would be filled by out-of-town low wage commuters.
Program 2.5.C Evaluate future uses on a cost/revenue basis, taking into account economic diversity for the long term and environmental and community costs and benefits.	The EIR failed to evaluate this program. The Addendum does not estimate the cost/revenue for the Mitigated Project, and does not evaluate economic diversity or environmental and community costs and benefits. (Previously noted in hearing record.)
Program 2.5.D: Continue to offer incentives for locating in Benicia to businesses that maximize jobs or long-term net revenues to the City of Benicia, or both.	Without adequate economic analysis, the current project cannot show that it maximizes jobs or long-term net revenues to the City of Benicia.
GOAL 2.7: Attract and retain industrial facilities that provide fiscal and economic benefits to—and meet the present and future needs of—Benicia.	The Seeno project's proposed uses do not comply with this goal and policy for our industrial areas regarding high wage, high revenue, high tech jobs.

Goal Policy or Program Language (Bold =new, Highlight =traffic)	Conclusions based on the Addendum
<p>POLICY 2.7.1: Attempt to attract high-wage and high-revenue producing companies to Benicia. This policy applies to emerging occupations such as secondary materials industry, wine industry, alternative transportation, environmental technology, fitness, and tourism. The intent of this policy is to encourage Benicia's participation in studies by the Solano Economic Development Corporation (SEDCORP) related to attracting high-tech jobs and marketing efforts targeted to Benicia.</p>	<p>The Seeno project's proposed uses do not comply with this goal and policy for our industrial areas regarding high wage, high revenue, high tech jobs.</p>
<p>Goal 3.9.1 Preserve vistas along I-780 and I-680.</p>	<p>Mitigated Project's inconsistency with this goal would be reduced compared to the 2007 project. (Previously noted in hearing record.)</p>
<p>Policy 3.15.2 Preserve public views of open space and maintain existing vistas (including the Northern Area vistas) wherever possible.</p>	<p>Mitigated Project's inconsistency with this policy would be reduced compared to the 2007 project. (Previously noted in hearing record.)</p>
<p>Policy 3.15.D Where applicable, require that new developments include view corridors that allow viewing open space from public roadways and public use areas.</p>	<p>Mitigated Project's inconsistency with this policy would be reduced compared to the 2007 project. (Previously noted in hearing record.)</p>
<p>Policy 3.15.6 Restore and maintain natural landscapes in a natural manner.</p>	<p>Mitigated Project's inconsistency with this policy would be reduced compared to the 2007 project. (Previously noted in record.)</p>
<p>Goal 3.17 Link regional and local open spaces.</p>	<p>Addendum justifies finding of inconsistency with this General Plan goal. (Previously noted in hearing record.)</p>
<p>Policy 3.17.1 Attempt to link existing regional and local open spaces using trails and open space corridors.</p>	<p>See Goal 3.17 (Previously noted in hearing record.)</p>
<p>Program 3.17.B Construct trails in open space corridors that link existing regional and local open spaces, where feasible.</p>	<p>See Goal 3.17 (Previously noted in hearing record.)</p>
<p>Policy 3.19.1 Protect essential habitat of special-status plant and animal species.</p>	<p>Addendum assumes this outcome is possible but such features are not proposed as part of the project. (Previously noted in hearing record.)</p>
<p>Policy 3.20.2 Restore native vegetation, such as birch grasses and oaks, wherever possible for open spaces of existing developed areas.</p>	<p>Addendum assumes this outcome is possible but such features are not proposed as part of the project. (Previously noted in hearing record.)</p>

Goal Policy or Program Language (Bold =new, Highlight =traffic)	Conclusions based on the Addendum
Policy 3.20.4 Require protection of movement corridors.	No data provided by Mitigated Project to evaluate its consistency. (Previously noted in hearing record.)
Policy 3.22.1 Avoid development that will degrade existing lakes and streams.	Addendum assumes adherence to non-binding design guidelines. (Previously noted in hearing record.)
Program 3.22.A Require that all development in watersheds flowing into lakes and unchannelized streams include features to preserve run-off water quality.	Addendum assumes adherence to non-binding design guidelines. (Previously noted in hearing record.)
Program 4.10.B: Require that projects with identified significant air quality impacts include all feasible mitigation measures needed to reduce impacts to less than significant levels.	The developer has not been required to include all feasible mitigation measures, for example, provision of free convenient shuttle bus service to main bus stops throughout town. And use of parking fees, minimal parking lots, and other disincentives to discourage auto use.
Policy 4.10.2 Encourage designs and land use strategies that reduce automobile use and promote mixed use, jobs/housing balance, telecommuting, bicycle and pedestrian facilities, and transit.	Addendum assumes this outcome is possible but such features are not proposed as part of the project. (Previously noted in hearing record.)

Benicia's New Greenhouse Gas Reduction Targets

Meeting on September 16, 2008, our City Council adopted a resolution accepting a carefully prepared Greenhouse Gas Emissions Inventory Report and approved Greenhouse Gas Reduction Targets, laying out goals for years 2010 and 2020. The inventory was funded by the Bay Area Air Quality Management District's Climate Protection Grant Program, and conducted by City staff, using Clean Air Climate Protection (CACCP) software provided by ICLEI-Local Governments for Sustainability.

The inventory and reduction targets cover wastes and energy usages and resulting emissions related to all city services as well as community-wide wastes and emissions.

According to our new standards, the City and Community hope to meet and/or exceed strict new challenges of the California Global Warming Solutions Act, AB32.

Quoting the City Manager's Executive Summary of September 9, 2008:

Benicia's communitywide greenhouse gas emissions in 2000 were about four million metric tonnes, of which just .2% was attributable to the City's municipal operations. While the community emissions grew to 4.2 million tonnes in 2005, the City's declined almost 20%, to 7400 tonnes. Under a business as usual scenario, the community's emissions in 2010 will increase by 9% from 2005 (to 4.6 million tonnes), and in 2020, the forecasted increase is 21% (to 5.1 million tonnes). To prevent this growth, the recommended reduction targets are:

- 25% below 2000 level in 2010 for City Operations;
- Maintain 2005 level in 2010 for the Community;
- 33% below 2000 level in 2020 for City Operations;
- 10% below 2000 levels by 2020 for the Community.

Benicia has been acclaimed as a leader in Solano County and the Bay Area for moving so quickly to inventory its emissions and to adopt target goals for significant reductions.

Simply put, and not to labor the point, Green Gateway Group believes the current Seeno proposal will significantly detract from Benicia's achieving these new greenhouse gas reduction targets, and is not in keeping with Benicia's emerging leadership in greenhouse gas reduction efforts in the Bay Area.

Appendix A

Seeno Project Timeline

(Jan. 2007 - June 2008)

Jan. 15, 2007 Seeno/LSA publish DEIR.

Public Comment period begins on DEIR....

Feb. 24, 2007 Council votes to extend public comment period on DEIR.

May 7, 2007 DEIR Hearing. Council frustrated (esp. Patterson, Schwartzman) that Seeno had not provided sufficient info to questions relating to environmental and GP issues. Council refused to vote on the DEIR, instead they vote to "continue" the hearing until such time as Seeno can come back with more info and answers to their concerns about GP and environmental issues, and a modified project that dispels those concerns.

July 2007 – Seeno/LSA publish Response to Comments document

Aug. 7, 2007 Seeno comes to Council with a slick Powerpoint presentation and hardcopy version of the presentation, but no written report addressing the previous concerns and questions, and with essentially the same project as before.

Nevertheless, the Council votes 3-2 to approve DEIR. (Whitney, Hughes, Messina, vs Patterson, Schwartzman)

Dec. 2007 (12/12?) – Seeno/LSA publish Final EIR and Supplemental Response to Comments. Public Comment period begins on FEIR...(Jan. 2008)

Feb. 19, 2008 – FEIR Public Hearing. Patterson & Campbell vote yea on Option 2: to defer action on FEIR until the actual final project is brought forward for consideration. Defeated due to lack of 3rd vote.

Schwartzman proposes amendments to Option 1 – directing Seeno to come forward with a CEQA Initial Study based on Hillside Upland alternative project, and adding some additional (nonbinding) environmental conditions and mitigations. Patterson joined him in adding more specific conditions and mitigations.

Option 1 passes (Campbell voting no), Council votes to certify the EIR as complete but noting that the current project as proposed cannot be approved due to numerous conflicts with GP policies.

March 20, 2008 – Seeno submits a project description document briefly outlining revisions to project. This is all the documentation the Planning Commission is provided.

April 10, 2008 – Planning Commission. Seeno gives Powerpoint presentation, and a brief written description of the revised project, but no detailed documentation. Planning Commission votes to deny the project due to lack of information regarding GP inconsistencies, environmental and health and safety impacts, and due to lack of time to review documentation, and Seeno's unwillingness to extend time. They also recommend that Seeno begin work with city staff to refine the project into a more acceptable form and enter into a Development Agreement (contract) with the city.

City staff begins working with Seeno to add over 200 (non binding) "Conditions of Approval" to the project (Seeno declines to enter into Development Agreement).

April 29, 2008 – Seeno/LSA publish Draft EIR Addendum which presents a drastically revised version of the project, partially based on Hillside Uplands alternative, with 50% less industrial, reduced grading, etc. It is essentially a new project, but they claim it is just a mitigated version of same project, so it doesn't need a new EIR.

May 6, 2008 – City Council Initial Public Hearing on revised project Draft EIR Addendum. (By law, Council must vote on project approval by June 3.) City Manager gives update on 216 (?) Conditions of Approval, praises the revised project, and recommends approval. Seeno gives Powerpoint presentation. Public comments. Council discussion.

May 20, 2008 – City Council Hearing on revised Seeno project. BeniciaFirst! gives Powerpoint presentation. Public comments. Mayor asks Seeno for more time to review documents and opportunity to have the Planning Commission review the Conditions of Approval. Seeno declined sending back to PC, or time extension. Council discussion.

June 3, 2008 – City Council Hearing on revised Seeno project. Staff discussion. Public comments. Hearing closed. Council discussion. Patterson proposed a resolution to deny the project (read by Campbell) but no vote was taken.. At 2 AM Seeno agrees to a time extension to Oct. 7 City Council meeting in order to do an additional traffic study in August. Meanwhile, Council noted that they can use the additional time to look at some of their other concerns, and can send the project back to Planning Commission for review. Seeno rejects suggestion of Development Agreement, Specific Plan, or urban decay study. Seeno agrees that at Oct. 7 meeting, Council can discuss all aspects of project, but public can only comment on the traffic study.