As Palo Alto seeks to lead the nation in fighting climate change, we know that reducing "vehicle miles" represents a great opportunity to lessen greenhouse gas emissions. With unprecedented public awareness of the deleterious effects of CO2 and record high gasoline prices, policy makers are now looking for creative solutions. Building on Palo Alto's strong biking history and culture, we are asking the Council to have City staff study the feasibility of a public-bike ("bike sharing") system for Palo Alto.

We, along with Mayor Klein, recently heard an excellent presentation about the Library Bike Program (imagine a bike library where bikes are checked-out and returned), which has been extremely successful in other cities, especially across Europe and in bike-friendly cities in the U.S. There are well-supported reasons to believe that we would see similar results here. The Library Bike Program has provided a proposal (see attachment) for Palo Alto. This is a very rough draft, but hopefully you can imagine replicating the Europeans' success -- converting drivers into bicyclists -- while addressing many of the issues (like convenience and bike ownership) that stop people from riding their bikes around our city.

While the attachment provides more details, this proposal can be summarized as follows:

1. Library Bike Program would provide 20 bicycles in one location of the City's choosing.
2. Bicycles would be available to any member of the public who has enrolled as a member in the program at a nominal charge.
3. Enrolled members would be entitled to use bicycles on an as needed basis.
4. Library Bikes manages the membership program and maintains the bicycles throughout the trial.
5. Available bicycles would be stored in portable kiosks provided by the vendor.
6. Bicycles used for the program have been recently retired from Paris' city-wide bike sharing program.
7. The cost of the program $64,860 for the 6 month trial.

This is a unique opportunity to grow a program that has the power to force significant behavioral changes while reducing vehicle miles (and the associated negative environmental impacts) in Palo Alto. We also believe that this work aligns well with City staff's up-coming recommendations regarding reducing the city's carbon footprint. This memorandum encourages Council to have City staff study the feasibility and cost/benefit of the Library Bike Program, along with other similar programs and grant opportunities. And of course, wanting to ensure fiscal responsibility, we urge our colleagues to request that staff evaluate the resource impacts involved with implementing these types of programs and report back to us as soon as possible.

Thank you for the consideration.
July 16, 2008
To: City of Palo Alto

Re: Public Bicycles within Palo Alto
As per: City direction to
deliver and operate a bicycle fleet
for rent to the public

Dear City,

Please accept our interest to provide bicycle services for the City of Palo Alto.

Our proposal is to provide a bicycle loaning system to the City of Palo Alto that includes:

-A pilot project of 20 bicycles at a single location, that will demonstrate in small scale how an expanded bike loan project can work.

-A bicycle rental cabin/kiosk at the bike loan location within the city. The cabin/Kiosk would be of the size to fit in one car parking space.

-The system will be membership based. A Library Bike card will be given to participants. The card will open the Library Bike cabin door. Proprietary electronics will identify the bicycle that leaves and enters the cabin.

-A two month or six month membership will give the users access to the bikes; the use of the bikes will be free for up to two hours. An hourly charge will be applied after the initial free period. An escalating daily and weekly charge will be applied until return of the bicycle. Users will be responsible for any loss of the bicycle under their care. After two weeks the user of a non-returned bicycle will be charged for a replacement bicycle.

-We will provide a website to sign up for a Library Bike card. The users must be adults and must sign a waiver online.

-The bikes will be available during daylight hours,

-The bikes will have chainguards, fenders, a taillight, a rack and a bell. The ‘Roue Libre’ bikes from Paris will have an attractive white and green color scheme, and stickers that identify program bicycles.
- The system will be scaleable so growth to private / corporate parking lots can occur and/or other neighborhoods and locations expansion will be possible.

- We will brand the bikes as "Palo Alto" Library Bikes, original public bikes from the 'Roue Libre' bike loaning system of Paris, France.

Our organization has loaned over 4000 Library Bikes over four years in our home city of Arcata (population 16,000). This popular system of lending – renting for long-term bicycle use has proven to produce significant mode shift. We are the West Coast's largest operator of such a system. The system for Palo Alto could grow to include long-term bicycle rentals and a central bicycle "HUB" facility also.

Please review the options and pricing, and we would like to discuss any other options or questions you may have.

Sincerely Yours,

Bill Burton,
Director, Librarybikes.Org

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QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.
Bill Burton is the pioneer of Library Bikes systems in America. He has written the book “Anybody’s Library Bike Book” and has personally worked with over 4200 Library Bike exchanges. He has presented papers about Library Bikes at the Velo-City conferences in Ireland, South Africa, and Germany. He has a degree in Environmental Engineering from Humboldt State University (1985). Bill Burton has a long history of involvement in bicycling including; racing in the 1970's, international exchange of bicycles in the 1980's, running a community bike project in the 1990's, running Library Bikes for 7 years, and authoring California Bicycle Recycling legislation in 2005.

Mr. Burton has run the largest fleet of Library Bikes in the United States. Bill Burton will be director of the Palo Alto program.

Kipp Marzullo is a cyclist – web site designer. He has created the Librarybikes.org website, and hundreds of others. Kipp has managed the Humboldt Campus Recycling Program and has a B.S. degree from Humboldt State University.

Kipp Marzullo will manage the website and electronic communications with the bike loan system.

Moss Bittner is a Harvard grad who lives without a car. He has training in law, engineering, Roman history, and is avid cyclist. He believes the grid pattern of streets given to us by the Romans was not a design intended for modern living, as most travel patterns don’t naturally move in a grid. He will bring writing, cycling, academic, and human interaction expertise to the project. He is a program writer and repair coordinator for Library Bikes.

Librarybikes.org was formed from experiences of Arcata Community Bikes Program. Arcata Community Bike Program is a non-profit program operated by individuals under the direction of ASSIST, a non-profit corporation under the laws of the State of California. ASSIST is governed by a five-member board. (see website www.humboldt1.com/~assist) The chief administrative officer is Art Reeve, who is the Chief Engineer of Del Norte County. Program Manager for Arcata Library Bikes is Bill Burton, who is currently Director. Librarybikes is a for profit entity operated by Bill Burton of Arcata, California.
City direction to deliver and operate a bicycle fleet for rent to the public

Public Bikes within Palo Alto

We propose to offer bicycle cabins or kiosks in the city, containing bicycles for loan to Library Bike participants. The bicycles will be ready for use, inside the locked cabin/kiosk. The user will access the cabin with a LibraryBike card, which is given to members. If the rider chooses to keep the bike for over two hours, or all day, a rental will be charged. The system will be automated to log all bike uses and rentals.

We believe the number of bicycles needed to be effective and available transportation for the City of Palo Alto to be in the range of 250 to 400 (population 58,000 night, daytime approximately double; metropolitan area population over 200,000; Stanford population about 13000 night time, daytime approximately double.)

A beginning program may use only 20 to 80 bicycles at a few public locations in Palo Alto. This size is considerably smaller than a system in Paris, (which started with 1000 bicycles, then increased to 4000 over approximately a five-year period) yet the density of one bike per 1000 population is the same that Paris started at. Paris is now (in 2008) providing 20,000 public use bikes. (1 bike/250 persons ratio)

Proposed schedule of ‘Roue Libre’ bicycle deployment:

<table>
<thead>
<tr>
<th></th>
<th>Initial Rental Bikes</th>
<th>Deploy New Inventory Bikes</th>
<th>Automatic Bicycle Cabin/ Kiosk Rent Bikes (Velib style)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>20</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>Year 2</td>
<td>80</td>
<td>40</td>
<td>4</td>
</tr>
<tr>
<td>Year 3</td>
<td>120</td>
<td>80</td>
<td>6</td>
</tr>
<tr>
<td>Year 4</td>
<td>200</td>
<td>80</td>
<td>10</td>
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<tr>
<td>Year 5</td>
<td>280</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Year 6</td>
<td>280</td>
<td>100</td>
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<td>Year 7</td>
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<td>Year 8</td>
<td>280</td>
<td>100</td>
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<tr>
<td>Year 9</td>
<td>280</td>
<td>100</td>
<td>14</td>
</tr>
<tr>
<td>Year 10</td>
<td>280</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>
At the end of five years there can be 280 public bikes available. At the end of ten years there could be 680 public bikes; 400 public bikes available from automatic racks and 280 from the bicycle cabins. This phased in approach to providing public bikes will get the public accustomed to using the bikes as a mode of transportation.

Initial bicycle deployment will be at one location as selected by the city. Throughout the program on a minimum of a monthly basis, bicycles will get redeployed and/or restocked, (best efforts for weekly redeployment basis will be made).

Automatic rental bike racks are not proposed for the initial 5-year period. However development of a use pattern of ‘Palo Alto’ bikes will help future decisions about effective locations for automatic rental bike racks.

Our experience shows a short life span for bicycles in public bike use with many different users. With a single renter a 3 to 5 year lifespan is reasonable, however with 50 to 500 renters of a single bike in short-term rentals, the lifespan is about one to two years.

The Bikes
We will provide bicycles from the Roue Libre system of Paris, France for the ‘Palo Alto’ rental system. These bikes will be the exact bikes of the Roue Libre system, with a uniform green and white color scheme.
Green and White Roue Libre bicycles

The bikes will be multi speed, (3 and 5 speed), comfortable, adjustable comfortable seat. These bikes are equipped with racks, fenders, a bell and tail lights. The bikes will be good utility and commute bikes. If, over time, the supply of French bicycles becomes limited an equal quality substitute will be supplied for service, as approved by the city.

Theft and Vandalism
Theft and vandalism of public bikes can be high percentages; our experience has been about 1/3 of public bikes stolen and 1/3 vandalized each year. Thus we believe a reasonable program will be the above schedule with expected 50% bicycle replacement each year.

We have found that saturation of the community with public bikes has an overwhelming effect of the theft operators. Early in a program some theft operators steal a significant chunk of bikes, like 10 to 15. Soon they realize their efforts are fruitless, there are no buyers of their wares, and a pile up of these extra bikes occurs where the problem thief operator is working. After two to three years of bike program operation the theft rate tapers off.

Vandalism will be a significant work item. Social street tension on the streets of urban America can be high, and street fixtures take the brute force of these expressions of tension. We have observed however that there tends to be a level of respect given to bicycle program equipment. Vandalism is rarely organized, however it usually results in major repairs required to a program bicycle. This is the individual work we are skilled at. We have repaired hundreds of these situations. However as the bikes wear out and as the appearance tapers off people tend to treat the bikes worse. We assess the appearance and safety of each repaired bike, and retire about 1/3 of the fleet per year.
III. Benefit/Cost Ratio Analysis
We have found the costs of operation of a Public Bike fleet are small compared to the city benefits. In this section are some benefit-cost ratios for this program.

**Benefit/Cost Ratio of 100 bike public bike fleet:**

- 100 workers production rate cost before vs. 100 workers production rate cost after: 1.0
- 100 drivers delay time before vs. 100 drivers delay time after project: 1.07
- 100 town car fuel savings vs. 100 bikes operation cost: 1.61
- 100 drivers health cost vs. 100 bike riders health cost: 1.8
- 100 cars infrastructure demands reduction vs. 100 bikes infrastructure demands: 10
- 100 mass transit riders 3 miles vs. 100 bike transit riders 3 miles: 13.5
- 100 less cars in traffic vs. 100 more bikes in traffic - (public safety by street access): 15
- 100 bus transit riders 3 miles vs. 100 bike transit riders 3 miles: 27
- 100 car parking spots eliminated vs. 100 bike parking spots: 55
- 100 autos carbon emissions eliminated vs. 100 bikes carbon footprint: 150
- 100 new cars manufacture energy cost eliminated vs. 100 reuse bikes energy cost: 200

(Source: LibraryBikes.Org 2007 benefit-cost ratios of 100-bike public bike fleet, page 8)

The benefits are huge and multiple; in less traffic congestion, in reduction of infrastructure maintenance costs, in public health, in pollution reduction, in fuel cost savings. The benefits are of a better social nature also and not easily put into dollar value. However these benefits/costs ratios applied across the whole fabric of the city are worth multiple millions of dollars.

**Carbon Emissions Offsets**
We expect to generate data as the project progresses on the offset of car usage, and associated carbon emissions offset. After year two or three we expect to have enough information to offer these offset amounts to the carbon offset market. Our early projections of the value of this offset to be about $20 to $30/ton of CO2 offset. One bicycle may be able to generate 2 tons of offset a year, thus a high estimate of gross revenue assuming 50 bikes is about $3000 assuming that market begins to function in the U.S.A.

**Bike Check-Out Cabin / Kiosk options**
All check out locations will have windows to view available bikes

![Bike Cabin on trailer](image1)
(Door will be curb level –3 ft. wide)

![Bike Kiosk with Dome Roof](image2)
Bike Check Out
In time bicycle rental cabins will be at locations across the city. We will provide up to 20 bicycles in each cabin. Each cabin would be of the size to fit in one car parking space. The cabin will have windows for users to look in to easily see if bicycles are available inside.

The system will be membership based. A Library Bike card will be given to participants. The card will open the Bike Library cabin door. Proprietary electronics will identify the bicycle that leaves and enters the cabin.

A two month or six month membership will give the users access to the bikes. The use will be free for up to two hours. An hourly charge will be applied after the initial free period. An escalating daily and weekly charge will be applied until return of the bicycle. Users will be responsible for any loss of the bicycle under their care. After two weeks the user of a non-returned bicycle will be charged for a replacement bicycle.

We will provide a website to sign up for a Library Bike card. The users must be adults and must sign a waiver online or onsite.

The bike check out will be during daylight hours only.

If a condition exists where the user does not have a credit card, the user can sign up for the system manually at the rental sites when a staff member is there.

Users will be responsible for theft while renting the bike. Users will not be responsible for vandalism to the bike if a good excuse is presented.

We will produce informational literature about the program similar to the flier below.

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Come on down and get yours...

We are located at 839 8th Street between the Post Office and the Hospice Shop near the southwest corner of the Arcata Plaza.

LIBRARY BIKE

Ride at your own risk • All bike laws apply • Repairs: www.arcata.com/greenbikes

www.arcata.com/greenbikes

A $20 deposit gets you a bicycle for six months. Bring the bike back within six months and get your $20 back.

We love volunteers!
Come by Saturday afternoons!

The mission of the Arcata Community Bike Program is to promote the use of bicycles as a safe, efficient and environmentally sound means of transportation. Our volunteer-run program hopes to inspire people to bicycle more often. We enact our mission by providing Arcata residents and visitors with FREE bikes in convenient locations.

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7
Cost Proposal:  
July 16, 2008

We will provide a pilot project of bicycle loans from a location in Palo Alto to include 20 original ‘Roue Libre’ public bicycles. The bicycles will be released from a Bike Library cabin or kiosk placed in a public space like a parking space. The program will make bicycles available to adults in Palo Alto, with the intent of reducing car use in Palo Alto.

Included are:
- Initial 20 Original Roue Libre Bicycles from Paris, France, and one rental cabin/kiosk.
- Website and start of program operations for pilot project first 6 months in Palo Alto,
- One press release event.
- Initiation of program subscriptions, maintenance of bicycles and release equipment.

$64,860.

We will provide additional ‘Palo Alto’ bicycles for the program, as needed in working condition, safety checked, 1 speed, 3 speed and 5 speed models, (similar to Roue Libre bikes in Paris) and replacement ‘Palo Alto’ bicycles, for any reason, $1032./ea.

Insurance:
We provide $1,000,000. liability insurance for our operation. Theft and Damage insurance coverage to the bike while in use, if desired, will be an optional charge to the rider.

Cost plus work will be at a rate of;
(Tax/Worker Burden/Overhead/ Profit) @ 78%

Includes;
- Labor
- Library Bikes Cabin and Kiosk (space for 16 bikes minimum.)
- Minimum of 16 ‘Roue Libre’ bikes allocated per location
- Rental system equipment
Cell Phone service
Website registration maintenance
Liability Insurance
Adjustments in operation 50% up or down

Excludes:
Street Furniture
Public Restroom
Vehicle Insurance, (paid by rider)
Engineering studies.
Any item not specifically noted as included

Clarifications:
Rental and subscription income will be yielded to the bidder as incentive payment to make the system effective and popular
All intellectual property development will be owned by the operator.
Operator reserves the right to vend other auxiliary equipment at the site (helmets, gloves, lights, locks, etc.).
All program equipment will be owned by the program operator.

Payment conditions:
-Rental Income unknown, 100% paid to contractor, 0% to City of Palo Alto
-Advertising income on bikes, zero
-All work requested by city on a cost plus basis at @78%
-Annual price escalation of 8%, or prime rate plus 2%, whichever is greater.
-Late payments (beyond 60 days) will be charged at 10%/month.

Subscription  $11/month, $29/ half year
-first two hours free
-rate $2 / hr. $2 charged after two hours.
-all day $20 / all day (over 8 hrs.)
-24 hrs. $40 (over 24 hrs.)
-one week $150
-two weeks $340 end of billing – bicycle is assumed missing

Expected Rental Income per year:
‘Roue Libre’ Bike:
High use  20bikesx$5/dayx5day/weekx48week/year $24,000
Low use  20bikesx$2/dayx5day/weekx48week/year $9,800
At the end of first half year an assessment of incomes from rentals will be used to establish viability of future program growth.
Librarybikes.org
Bill Burton, Director
Librarybike@hotmail.com
P.O. Box 4343, Arcata, CA., 95518
(408) 234-3322

References:

City of Arcata, Council Member / ex Mayor Harmony Groves 707-822-0463
E-mail: hgroves@cityofarcata.org
City of Sacramento Bicycle Coordinator, Ed Cox 916-808-8434
E-mail: ecox@cityofsacramento.org
Bike Station Director, and
City of Vancouver, Transportation Planner Todd Boulanger 360-487-7726
E-mail: Todd.boulanger@ci.vancouver.wa.us
City of San Francisco Bicycle Coordinator Oliver Gajda 415-701-4467
E-mail: Oliver.Gajda@sfmta.com.
Maryland Dept of Transportation,
Office of Planning, Director Bicycle Access Michael Jackson 410-865-1237
E-mail: mjackson3@mdot.state.md.us
Trips for Kids Director, Marilyn Price 415-458-2986
Cycles of Change Director, Maya Carson 510-595-4625
Institute for Transportation Development Policy (ITDP)
Vice President, Matteo Martignoni 212-629-8001
E-mail: matteo@spacet imecc.com
League of American Cyclist President, Andy Clarke 202-822-1333
E-mail: andy@bikeleague.org
Caltrans Bicycle Coordinator, Ken McGuire, 916-653-2750
E-mail: Ken_Mcguire@dot.ca.gov
Transportation Diet

On this back cover you can see a pie chart of our recommended transportation diet in America. If we can design our lives to ride bikes just 20% of our trips, walk 20% of our trips, take some form of transit for 20% of our daily trips, and drive 20% of our trips, then we have decreased our energy consumption by over half that of current day use. (Over 85% of current trips in America are made by car.) This diet leaves a remaining 20% of trips available for any other mode, including flights.

This transportation diet still uses less than half the transportation energy of the American average. Better, this diet allows for a dynamic life with reasonable freedom, and costs about the same. We all remain the same people, drivers and riders, using all available modes of transportation. Most Americans could use a diet of one sort or another; and a transportation diet including bicycles would be good.