Green Streets in the San Francisco Bay Area

Josh Bradt, Oct 24, 2018
### PARTNERS
- San Francisco Estuary Partnership
- San Francisco Estuary Institute
- Environmental Protection Agency - Region 9
- SF Bay Regional Water Quality Control Board
- Bay Area Stormwater Agencies Association
- Association of Bay Area Governments
- City of San Jose
- City of San Mateo
- City of Oakland
- City of Richmond
- Contra Costa County

### PRODUCTS
- GreenPlan-IT 2.0
- LID Tracker Tool
- Conceptual Standard Details
- Implementation Projects
- Road Map of Funding Solutions for Sustainable Streets
Complete Street + GI = Sustainable Street
El Cerrito Rain Gardens
Before

Hacienda Ave Green Street
City of Campbell
| MUNICIPAL REGIONAL PERMIT 2.0  
GREEN INFRASTRUCTURE PLANNING REQUIREMENTS | DUE DATES |
<table>
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<tbody>
<tr>
<td>Interdepartmental coordination: draft budget &amp; procedures, ID updates to planning docs</td>
<td>2/2017</td>
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<tr>
<td>GI Planning Framework, approved by City Council, Board, or Manager</td>
<td>6/2017</td>
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<tr>
<td>Regionally consistent tracking &amp; reporting of GI measures and load reductions achieved</td>
<td>12/2017</td>
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<tr>
<td>Mechanism to ID &amp; prioritize projects w/targets for imperv. surface ↓, Hg &amp; PCB capture</td>
<td>3/2018</td>
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<tr>
<td>Prioritized project list w/early implementation opportunities</td>
<td>3/2018</td>
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<tr>
<td>Develop GI Design Guidelines, specifications and typical details</td>
<td>6/2018</td>
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<tr>
<td>Analyses of potential funding options and applicability to local conditions</td>
<td>7/2018</td>
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<tr>
<td>Outreach &amp; education to practitioners, general public (via website), and elected officials</td>
<td>6/2019</td>
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<tr>
<td>Update planning docs, ordinances, policies, and resolutions</td>
<td>7/2019</td>
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SUBMIT GREEN INFRASTRUCTURE PLAN TO WATER BOARD, SEPTEMBER 2019
Chynoweth Ave
Green Street
City of San Jose
San Pablo Ave Green Stormwater Spine

- Oakland
- Emeryville
- Berkeley
- Albany
- El Cerrito
- Richmond
- San Pablo
Oakland Site
Stormwater Improvement Concept Plan

1. Existing median is removed and travel lanes remain as asphalt.
2. New painted bike lanes are proposed on both sides of the street (by others).
3. Stormwater planters and street trees accept runoff from both San Pablo Avenue and adjacent private property.
4. Boardwalks allow pedestrians to access parking and sidewalks.
5. Parallel parking configuration allows for greater space efficiency along the street.
6. A 4.5’ egress zone allows pedestrians to safely exit their vehicles and pay parking meters. The existing ADA marked parking stall is retained at this location.
7. The east side of San Pablo Avenue could be converted to mirror west side improvements in the future.
Stormwater Improvement Concept Plan

1. Entry point of stormwater flow from Apar Street.
2. Low-flow green gutter. Higher flows spill over a small retaining wall into larger adjacent rain garden.
3. Rain garden landscape area.
4. Existing sewer manhole location.
5. Side slope landscape transitions grade from street level to the basin’s finished elevations.
6. On-street asphalt parking zone (Capacity is for five vehicles)
7. New sidewalk paving to match existing brick paving along San Pablo Avenue (by private development?)
8. Pedestrian boardwalk crossing over rain garden system.
9. Expanded sidewalk area overlooks rain garden cells and allow for addition space for cafe/plaza seating.
10. Overflow from rain garden system.
11. Existing street trees to remain.
12. Sidewalk zone to be paved with standard scored concrete.
Stormwater Improvement Concept Plan

1. Stormwater curb extensions capture runoff from San Pablo Avenue.
2. Grated trench drains allow stormwater to flow into adjacent sidewalk planter.
3. Existing private landscaping/signage/utilities are retained.
4. Sidewalk planter accepts stormwater from San Pablo Avenue. A small concrete curb wall helps provide grade separation and protection of existing signs and utilities. This will require acceptance and coordination of improvements with private owner.
5. An existing vegetated swale is modified to capture stormwater from both San Pablo Avenue and McDonald's parking lot. This will require acceptance and coordination of improvements with private owner.
6. Grated trench drains allow stormwater overflow to flow into a stormwater curb extension in San Pablo Avenue.
7. All existing trees are retained with streetscape improvements.
8. Boardwalk allows stormwater to follow under pedestrian pathway.
Stormwater Improvement Concept Plan

1. Stormwater curb extension extends out into San Pablo Avenue and captures street runoff. Existing drain inlet is modified to capture overflow.
2. Landscaped curb extensions located within the parking zone of the street helps define parking spaces along San Pablo Avenue.
3. Existing trees are preserved and protected.
4. 5’ wide separated bike path with 3’ buffer zone is located along existing curb line. Bike path runoff flows towards on-street parking zone.
5. Bike path transitions from a separated condition to an integrated condition at intersection.
6. 2’ painted bike buffer zone.
7. Sidewalk is expanded to varying widths (possibly retained at current widths at existing tree locations).
8. Pervious paving system between existing trees captures rainfall and runoff from sidewalk zone.
9. To accommodate new improvements, travel lanes are reconfigured and shifted to the west.
10. Existing median must be altered to accommodate new lane configurations.
11. Traffic lanes transition to match current traffic layout.

El Cerrito Urban Greening Grant Project
City of El Cerrito, California
Stormwater Improvement Concept Plan

1. Stormwater curb extensions capture runoff from San Pablo Avenue, Andrade Avenue, and McBryde Avenue.
2. A new rain gardens capture stormwater from private parking lot. This will require acceptance and coordination of improvements with private owner.
3. Boardwalks allow stormwater to be connected between the curb extensions and rain garden.
4. Existing parking spaces are modified to allow for only parallel parking, however, additional parallel parking is allowed on McBryde Avenue.
5. A new bus stop canopy conveys stormwater to adjacent rain garden (by others).
6. Trench drains used for stormwater conveyance.
7. A new corner plaza for placemaking opportunity (art, pedestrian seating, other amenities by others).
8. Boardwalk allows for additional stormwater storage adjacent to stormwater curb extension.
9. Existing private signage/Utilities are to be protected within rain garden.
10. Optional new bike racks (by others)
• Prioritize Sustainable Streets in Funding Sources
• Improve Conditions for Projects Funded by Multiple Grants
• Additional Funding Options development
• *Road Map Committee to Track Actions and Progress*
THANKS!

Please visit:
https://www.sfestuary.org/green-streets/
for additional resources

You can find me at
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5-WAY ROUNDABOUT PROJECT
CITY OF HEALDSBURG SOUTH ENTRY TO DOWNTOWN
METROPOLITAN TRANSPORTATION COMMISSION
LARRY ZIMMER – CITY OF HEALDSBURG DIRECTOR OF PUBLIC WORKS
WHERE IS THE CITY OF HEALDSBURG?

San Francisco Bay Area – 9 Counties of the MTC

Healdsburg, California
PROJECT LOCATION
CENTRAL HEALDSBURG

Tourism based
- Plaza is the City’s tourism center
- Fine Dining
- High end shopping
- Summer Concerts in the Park
- Weekly Farmers Market
- Winery Tasting Rooms
- Wine Tours
- Hotels, Inns, Bed and Breakfasts
- Art Galleries
TRANSPORTATION MODES

U.S. Highway 101
SMART Train
Heavy Pedestrian Traffic
Local and Long Distance Cycling
Bike Share
The Russian River
Foss Creek and Trail
Agricultural Vehicles
Large Trucks
T-A-13 of the City of Healdsburg general plan: The City will seek to improve motor vehicle, bicycle and pedestrian circulation at the intersection of Healdsburg Avenue, Mill Street and Vine Street.
ADDRESSING PEDESTRIAN CONCERNS

Previous configuration not conducive to pedestrian travel

• Missing crosswalks
• Long travel lengths with no islands
• Consistency in each street branch
NOTE:

1. CONTRACTOR SHALL INSTALL FIRE HYDRANTS, LIGHT POLES, AND OTHER UTILITIES WITHIN LID AREA PER CITY STANDARDS. LIMITS OF LID STRUCTURAL SOIL SHALL CONFORM TO LIMITS OF BACKFILL FOR UTILITIES (TYP).
GREENIFICATION OF CENTRAL HEALDSBURG AVENUE
QUESTIONS?
City of San Mateo

- A city on the San Francisco Peninsula in Northern California’s Bay Area, approximately 20 miles south of San Francisco, and 31 miles northwest of San Jose.
Green Infrastructure

• takes advantage of landscape and urban design components of streets by various elements to capture, slow, and treat stormwater runoff.

Green Streets

• incorporate environmental features like trees, rain gardens, and infiltration planters to slow the course of runoff and filter it naturally before it reaches major waterways and sensitive plant and animal life.
800 N Humboldt St

Pros:
- Green infrastructure
- Shorten crosswalks
- ADA
- Enhance pedestrian safety by installing Solar RRFB
- Overflow will drain into catch basin

Cons:
- Education – Pedestrians do not like pushing the button when crossing the street
- Drivers do not yield to pedestrian when the RRFB are not flashing
800 N Humboldt St

Post construction
N Humboldt St at College Ave

Pros:
- Green infrastructure
- Shorten crosswalks
- ADA
- Encourage pedestrian usage by installing pedestrian scale streetlight

Cons:
- Additional cost for landscape maintenance
- Additional electrical bill for the streetlights
- Additional “Yield to pedestrian” signage
N Humboldt St at College Ave

Post construction
S Humboldt St at Cypress Ave

Pros:
• Green infrastructure
• Shorten crosswalks
• ADA
• Installed overflow catch basin

Cons:
• Additional cost for long term maintenance of catch basin
S Humboldt St at Cypress Ave

Post construction
E 4th Ave at S Fremont St

Pros:

• Green infrastructure
• Shorten crosswalks
• ADA
E 4th Ave at S Fremont St

Proposed design
THANK YOU!

City of San Mateo

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