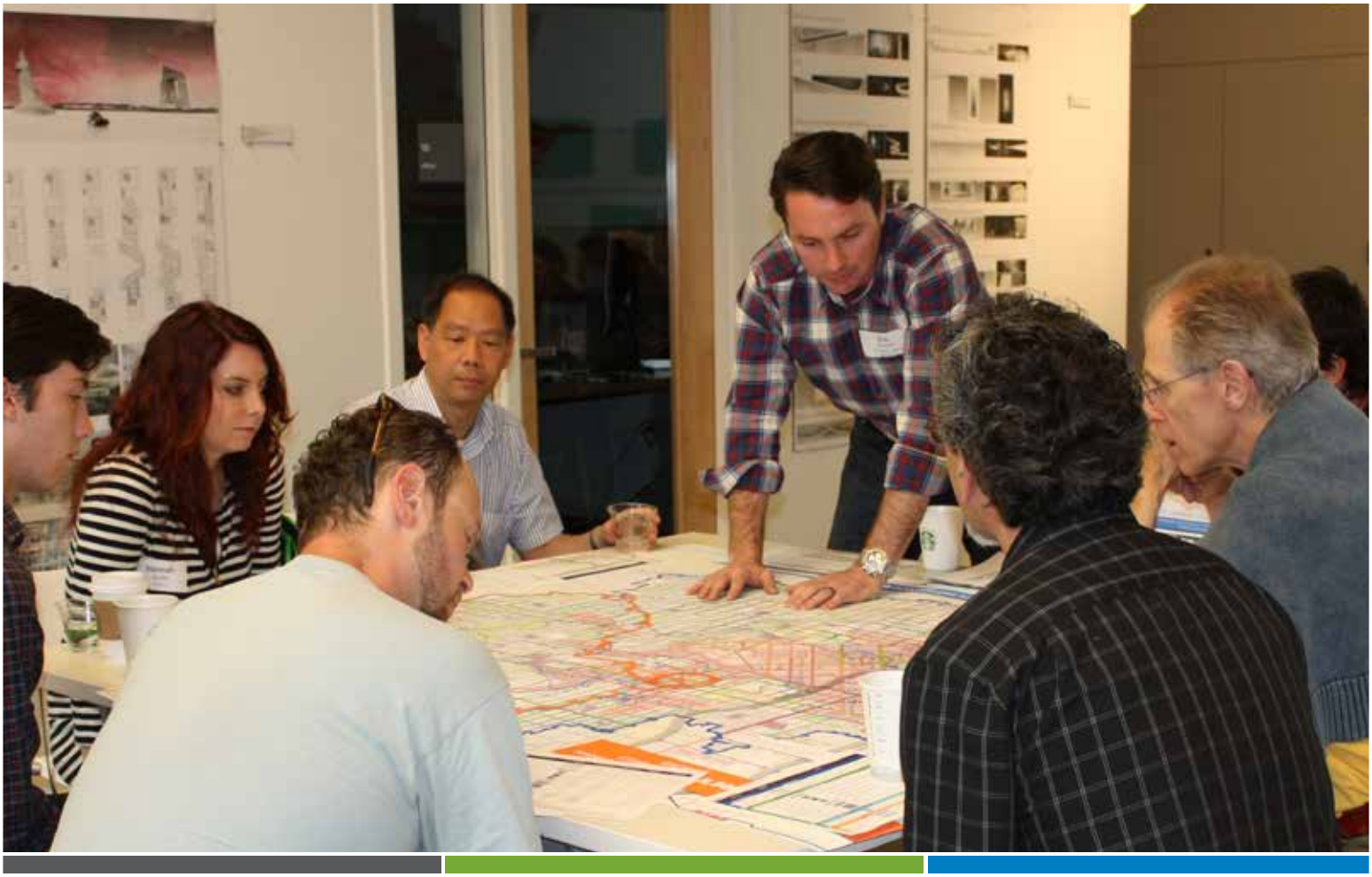
SEWER SYSTEM IMPROVEMENT PROGRAM | Grey. Green. Clean.

Channel + North Shore Watersheds



June 1, 2013 | Urban Watershed Assessment

Community Workshop Summary Report: Urban Watershed Planning **Game Results**

San Francisco Water Power Sewer
Services of the San Francisco Public Utilities Commission

Introduction

This Urban Watershed Assessment Community Workshop Summary Report provides an overview of the June 1, 2013 Workshop and Urban Watershed Planning Game.

The summary highlights key community input and provides a snapshot of the project ideas generated during the workshop. Note that project ideas generated from the workshop will be considered by the SFPUC team and evaluated for technical feasibility and cost effectiveness as part of the Urban Watershed Assessment process.

Workshop Objectives and Purpose

The SFPUC is developing a comprehensive plan for the next 20 years of sewer and stormwater management upgrades to address sewer system challenges in each of San Francisco's urban watersheds. This planning process is called the Urban Watershed Assessment (UWA). San Francisco has eight distinct urban watersheds, five on the Bayside (North Shore, Channel, Islais, Sunnydale and Yosemite) and three on the Westside (Richmond, Sunset and Lake Merced). Each has its own unique sewer system challenges and solutions. This workshop focused on challenges and potential solutions in the Channel and North Shore Watersheds.

> " I learned generally how SF's water and sewer system works, what the local watersheds are, and what some of the options are for managing them going forward."
>
> ~ workshop participant

The objectives of the workshop were to provide an opportunity for participants to:

- Become aware of system challenges specific to that watershed;
- Understand the cost, benefits, and trade-offs of different solutions;
- Provide input on planning priorities and solution preferences; and
- Generate project ideas for further analysis.

Meeting Format

The workshop was held at the San Francisco SPUR offices, located at 654 Mission St. More than 40 members of the public participated. The workshop opened with an introductory presentation on the Sewer System Improvement Program, the Urban Watershed Assessment, and an overview of the technologies the SFPUC will use to meet stormwater management goals. To ensure the City has a reliable and resilient sewer system, future infrastructure solutions will include both green (e.g. rain gardens and permeable pavement) and grey (e.g. pipes and tunnels) infrastructure.

Following the presentation, participants were organized into small group breakout teams to "play" the Urban Watershed Planning Game, a participatory planning tool designed to educate players about sewer system challenges and engage them in developing solutions. Each group worked as a team to meet the stormwater management goals of their watershed challenge area. Participants were given game pieces representing different green and grey stormwater management technologies, and then "played" pieces to achieve combined sewer discharge and excess stormwater management targets within the budget provided. The game wrapped up with a discussion of potential solutions and voting on favorite ideas, after which each team presented their top recommendations to the larger group.

Sample Watershed Game Board with Project Ideas

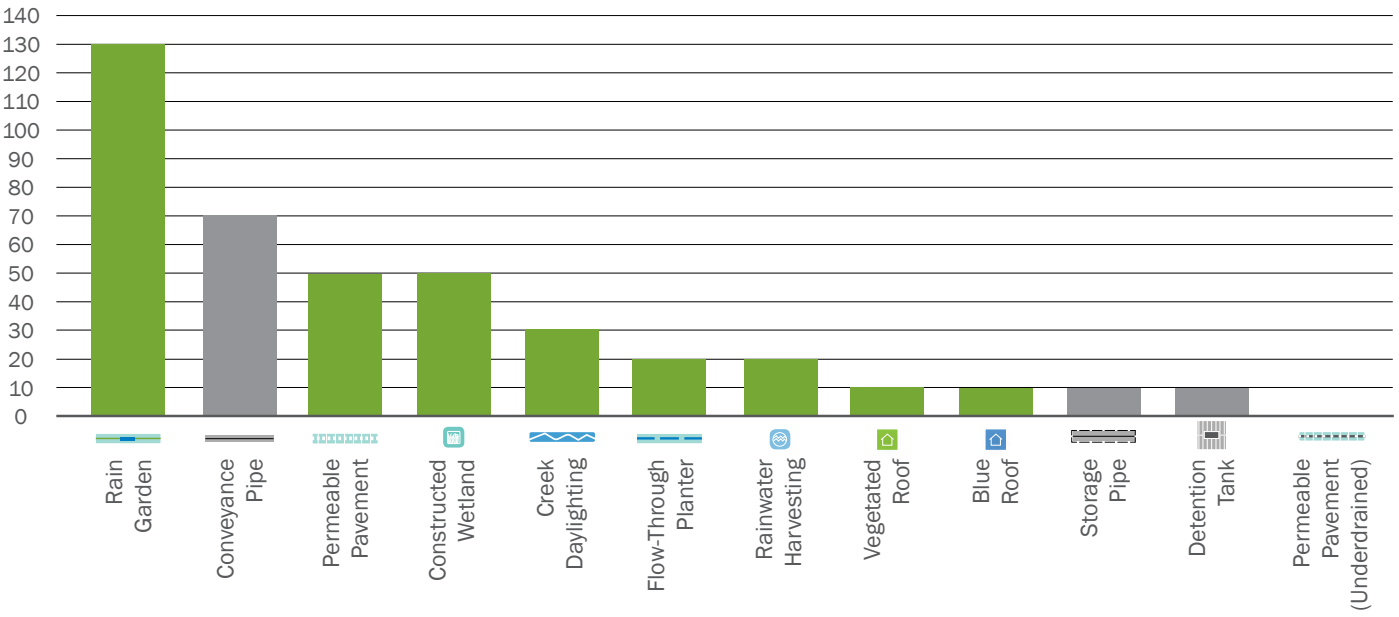
Workshop Results

Technologies and Project Types

All teams proposed overall watershed solutions that featured a blend of green and grey technologies. Most participants preferred projects with multiple community benefits, such as neighborhood greening, pedestrian improvements, and educational opportunities.

Rain gardens were the most popular project type due in large part to the cost/benefit value. Rain gardens, like the one shown in the photo below, are a stormwater management planter that relies on plants and soil to capture and infiltrate stormwater, keeping water out of the city's aging sewer system. Conveyance pipes were also a popular choice, due to their ability to move large amounts of stormwater and reduce flooding cost effectively. Constructed wetlands and permeable pavement were also frequently played technologies. Although creek daylighting was recognized as expensive, it was a popular project type that participants felt should be investigated as it provides additional benefits that are hard to quantify. The chart below lists the number of times each stormwater management technology was used during the workshop.

Number of Times a Type of Game Piece was Played

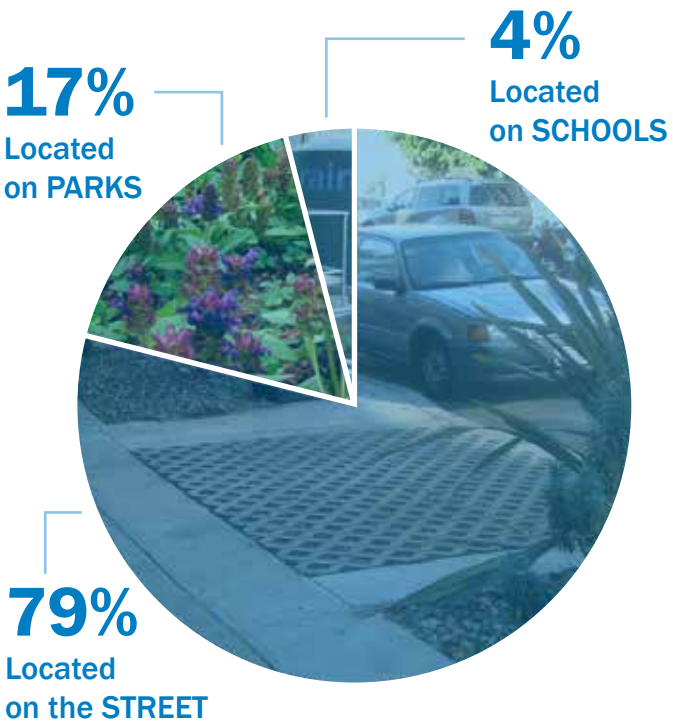


Rain garden on Newcomb Avenue in San Francisco's Bayview Neighborhood

New conveyance pipe on Cesar Chavez St in the Mission District

Location of Projects

Participants overwhelmingly located their project ideas on public property versus private land. An exception was creek daylighting project ideas which would require some private land acquisition by the City. Of the projects proposed on public land, most were located on streets. There was also strong interest in projects located on parks and at schools. The following chart shows the distribution of project ideas across different types of public land.



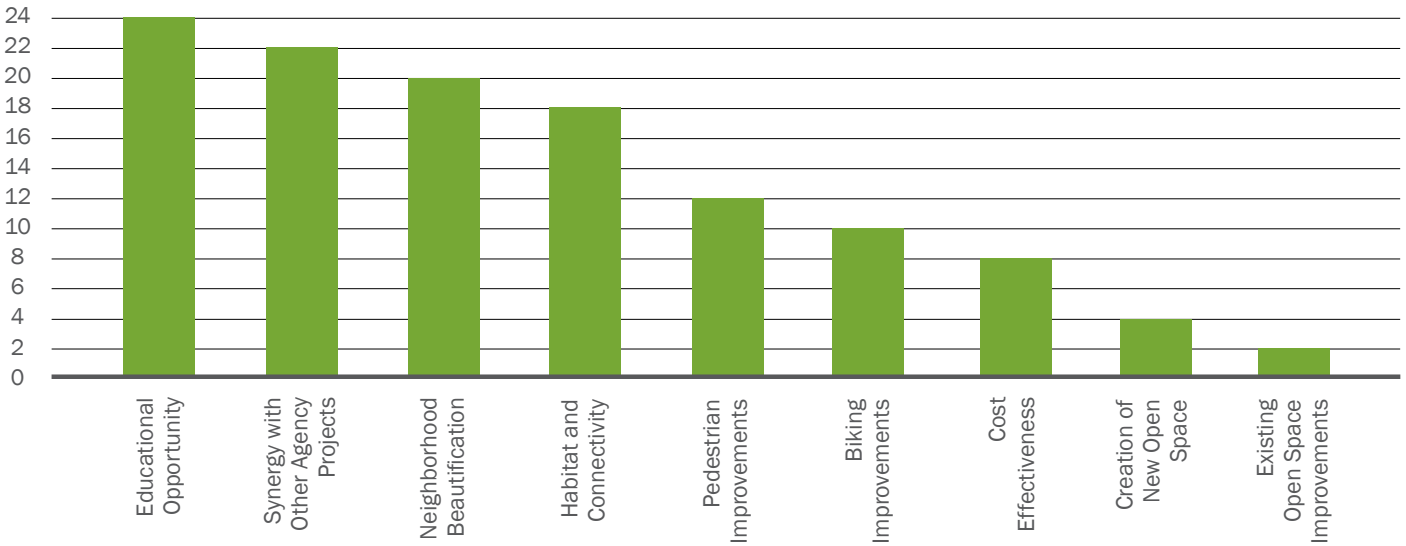
Community Values

After selecting green and/or grey technologies to address stormwater management challenges, participants were asked to explain the reasoning behind their project idea so that the UWA Team could better understand community values in decision making processes. In addition to the primary goals of managing excess stormwater and reducing combined sewer discharges, the most common additional justifications for different projects were providing educational opportunities and capitalizing on synergies with other city projects. Participants repeatedly noted that it was important to construct projects where other streetscape improvements are already planned (such as bicycle and alternative transportation corridors). The bar chart below describes the most common justifications for selecting particular project ideas.

Suggestions for Overall Watershed Strategy

After finishing the game, participants were asked to summarize overall planning strategies that the SFPUC should pursue. One team recommended maximizing green infrastructure in upstream infiltrative areas. Another team recommended beginning with major grey infrastructure projects for storage and conveyance, then moving to visible green projects with multiple benefits. Another team suggested creating public-private partnerships by developing BIDs (Business Improvement Districts) to help pay for maintenance of green infrastructure.

Number of Times a Benefit was Mentioned as a Project Justification



Sample Project Ideas for the Channel Watershed

Project Name	Location	Technologies
17th Street Green Corridor Project	17th Street from Market to Shotwell	Rain gardens, flow through planters, and permeable paving on 17th St. Rainwater harvesting at Everette School
17th and Folsom Conveyance Pipes	Folsom to Carolina	Conveyance pipes
Civic Center Conveyance Pipes	Hayes and Van Ness along 9th to Alameda, then to Carolina to the Channel Tunnel	Conveyance pipes
Duboce Park Constructed Wetland	Duboce Park at Steiner and Walter	Constructed wetland
Ellis Permeable Green Street	Ellis between Larkin and Stockton	Permeable paving
Hayes Creek Daylighting Concept	From Fulton and Octavia to 6th and Townsend	Detention tank under Dolores Park and Rainwater Harvesting at Mission High School
Hayes Valley Green Neighborhood	18th Street and Dolores	Creek Daylighting with wetlands at McAllister and Franklin (Opera House), UN Plaza, 5th and King and 6th between Townsend and King
Mission Creek Daylighting Concept	18th Street up to Division to the Bay	Creek Daylighting with wetlands at the terminus
Mission High School and Dolores Park Rainwater Conservation Project	Franklin to Buchanan, McAllister to Page	Permeable paving and rain gardens
Mission Neighborhood Green Streets	22nd (Shotwell to San Jose), Shotwell (17th to 24th), Valencia (17th to 25th) and Sanchez (Duboce to 21st)	Rain gardens, flow through planters, and permeable paving
Muni Permeable Parking Lot	Presidio Ave and Geary	Permeable parking lot
School Green Roof Program	Golden Gate Elementary School, Dr. William Cobb Elementary, Rosa Parks Elementary	Green roofs
Scott Green Street	Scott Street from Fell to Clay	Rain gardens
SOMA Wetlands	Bluxome Street between 4th and 5th	Constructed wetland
Union Square Rain Gardens	Geary between Powell and Taylor	Rain gardens
Western Addition Rain Garden Program	Golden Gate to Geary, Gough to Pierce	Rain gardens

Project Ideas for Consideration

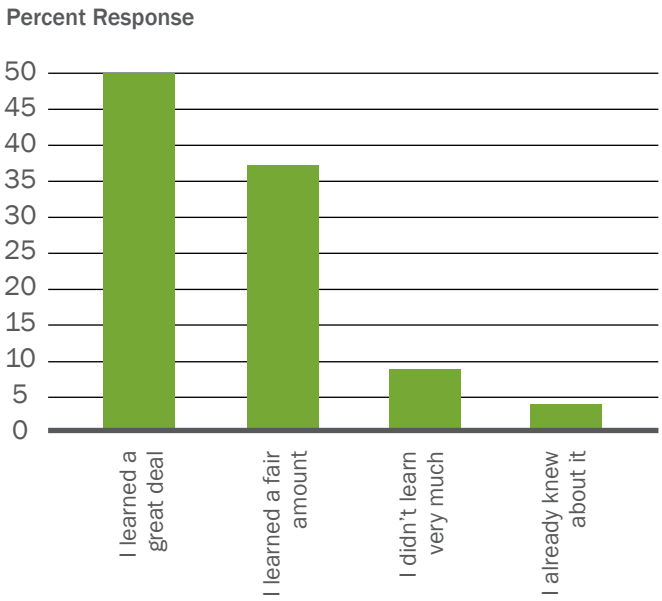
The game yielded a number of site and technology-specific project ideas from the community participants. The chart above shows a subset of project ideas brainstormed for the Channel Watershed. Please note that these brainstormed ideas will be added to concepts generated by the SFPUC project team and other City agency partners. All concepts will be analyzed based on stormwater performance and community, environmental, and economic considerations during the Urban Watershed Assessment process. Many may not be technically feasible or cost effective.

Team members presenting results

Workshop Feedback

Participants at the workshop were asked to submit an online follow-up survey rating their community workshop experience. Over 50% of participants submitted feedback. One hundred percent of respondents reported their overall experience at the workshop was very positive (82.6%) or positive (17.4%). Over 70% indicated that they learned a lot about sewer infrastructure and stormwater management challenges in San Francisco. Several participants also felt they would use what they learned in the personal or professional life. Most felt that their planning game was an effective tool for generating potential projects for San Francisco's watersheds. Overall the event was well received and participants noted they would like to remain involved in future workshops.

How much did you learn about the watershed your team studied, either Channel or North Shore?



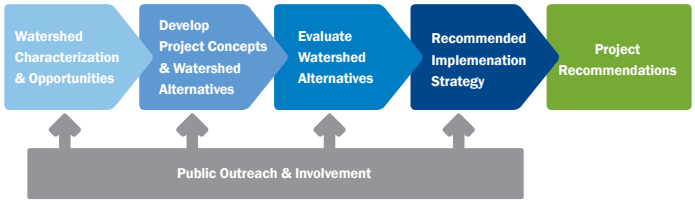
> "This game is a creative way to engage the public in civic works in a meaningful way that builds trust, cooperation, and understanding."
>
> ~ workshop participant

> "I am more inspired to participate in public planning processes and will be better informed on related issues."
>
> ~ workshop participant

Next Steps

Community input gathered at the public workshop will be used to help the SFPUC identify projects that align with the public preferences and values. Project ideas generated through the workshop will be reviewed and considered for further analysis based on several factors including site suitability and feasibility. These project ideas will be analyzed during the Opportunities Phase and will feed directly into the Watershed Alternatives Phase (see project development process chart below). There will be additional opportunities for public engagement including additional Urban Watershed Planning Games through the adoption of the Urban Watershed Assessment Plan in 2015. Please visit sfwater.org/urbanwatersheds for more information about upcoming meetings, educational materials and project updates.

Project Development Process Chart



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