# NATIVE PLANTS ENHANCE ART:

| Nina Karavasiles

ABSTRACT

Native plants, modern art, and environmental stewardship were integrated to design a trolley station for the San Diego Light Rail Transit System. In this paper I describe the process used to develop the station and the plant management plan, as well as provide insight on the lessons learned during the process. I include a checklist that may be helpful for similar projects.

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**KEY WORDS**

landscaping, architecture, interpretation, natural history

**NOMENCLATURE**

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Photos by Nina Karavasiles

# TRANSFORMING PUBLIC TRANSPORTATION

The San Diego light rail trolley service has been operating since 1981. Over 25 y of service, the system had expanded to a 77-km (48-mi) network serving the San Diego region. In 2005, the Mission Valley East (MVE) trolley line extension (the Green Line) completed a 9.4-km (5.9-mi) gap and provided commuters with increased mobility within the busy Interstate 8 corridor. The MVE extension included 4 new stations and is expected to generate more than 11 000 new trolley trips a day, as people are encouraged to use public transit whenever possible. Each of the four new stations has a selection of site-specific public art. I designed the 70th Street Station in La Mesa, focusing on environmental stewardship and using native plants to support this theme.

## ARTWORK AND BACKGROUND GOALS

Because a call for work in a public station falls in the category of public art and not landscape design, there was a competition process of RFQ (request for qualifications) for a public art piece. After an interview process I was chosen from a pool of artists. The 70th Street Station involved a 7-y commitment on my part and required 2 y to actually complete construction. The site is adjacent to the La Mesa segment of Alvarado Creek and required a thorough assessment of archaeological relevance and environmental impact. Tasks included a re-routing of the creek, salvage of native cobble stones, and installation of a new culvert. As mitigation for every acre of riparian habitat disrupted by construction, 3 new acres were created.

Many concepts were put forth by the design team, which consisted of myself, architect Kathryn Lim from Mission Valley Designers, and landscape architect Kim Wiley of KTU+A Landscape Architecture. First, every decision needed to be based on good environmental practices. I wanted elements to be beautiful and inspiring to others, particularly in terms of future activities. For example, I wanted to encourage people to go to the trouble of recycling glass bottles after seeing how glass can be reused. By using native plants, the viewer would immediately recognize their aesthetic value. I required that natural materials from the site be utilized in the design. For example, I had the construction crew save cobble stones from the creek to use in the benches and walls. The benches were made of a high quality recycled plastic lumber as well. The light installation

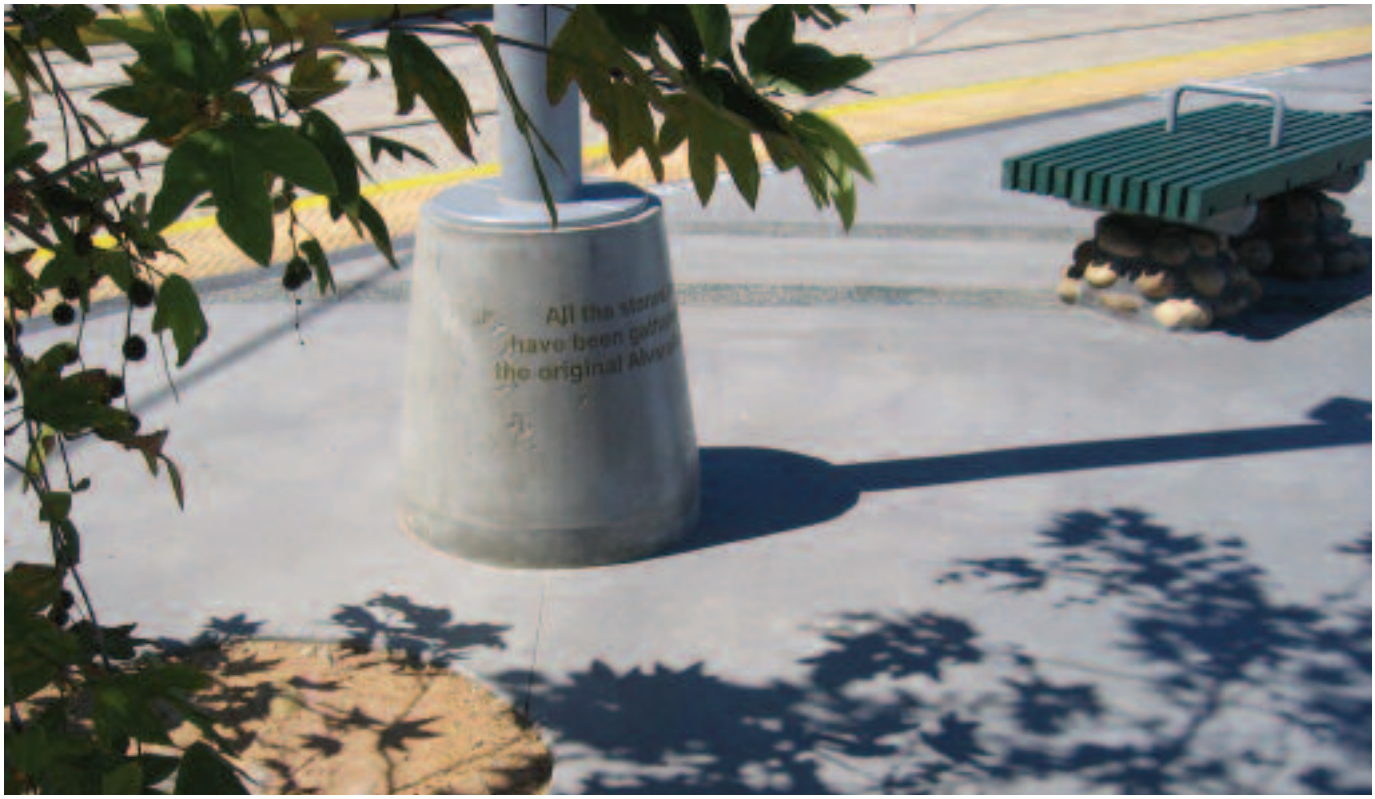

*Figure 1.* Sandblasted quotes on light poles engage commuters.

that points out the creek uses energy-efficient bulbs. Thus, each decision revolved around this theme, so that a viewer can attach and connect meaning to all elements of the station.

Second, consideration was given to the people who would be waiting, engaging them with a comfortable green place to just sit and contemplate or with many objects to investigate and appreciate. Commuters would be returning and they would appreciate lots of stimulation for curious encounters. The platform has 36 sandblasted quotes on the base of the light poles. Some are philosophical, some are factual, while others are unusual or pose a question that relates to the theme (Figure 1). A map case contains descriptions of American Indian villages that historically were along these same roads.

The art centerpiece is entitled "Train-Like Apparatus" and is made of an old switcher mechanism that, when someone moves the handle, rotates a wheel that moves on a metate stone that was found on the project site (Figure 2). On the switcher, the red warning disc was painted to show how Alvarado Creek may have looked 100 years ago. This sculpture is not displayed openly in the manner of other sculptures but is hidden among arroyo willows (*Salix lasiolepis*) waiting to be discovered. With all these things that one can look at during the 12-min wait between trolleys, surely one would want to come back. I wanted travelers to feel good about public transportation, to make that a choice rather than a necessity.

Adding unique beauty and depth to the platform, a design element of pure recycled glass diagonal lines that add movement to the concrete platform was incorporated (Figure 3). The "lithocrete" was supplied by Shaw and Sons Inc (Costa Mesa, California), where they use tiny, recycled glass chips embedded into the concrete to provide a subtle sparkle to the platform.

## ARTWORK CONNECTION TO THE PLANTS

Southern California, and the San Diego area in particular, is home to an amazingly diverse native flora. I selected the native species in the design based on several criteria: local nativity, plant community (in this case riparian), availability, and ethnobotanical uses that I could convey on the plaques without potential legal repercussion (for example, dye and basket plants rather than medicinal plants) (Table 1).

I wanted the plaques to have something intriguing to say in addition to just the name of the plant. Thinking about the aesthetics of the plaques, I decided they would be handmade rather than machine made. My hope was that the handmadeness of them would have the feeling of a spoken word, something passed down and not something from a textbook. I made the "pattern" for the plaques out of oil clay. Next, a mold was made from the clay and then a "positive" from the mold in plaster. I brought the "positive" to a

*Figure 2.* An old switcher mechanism is the art centerpiece.

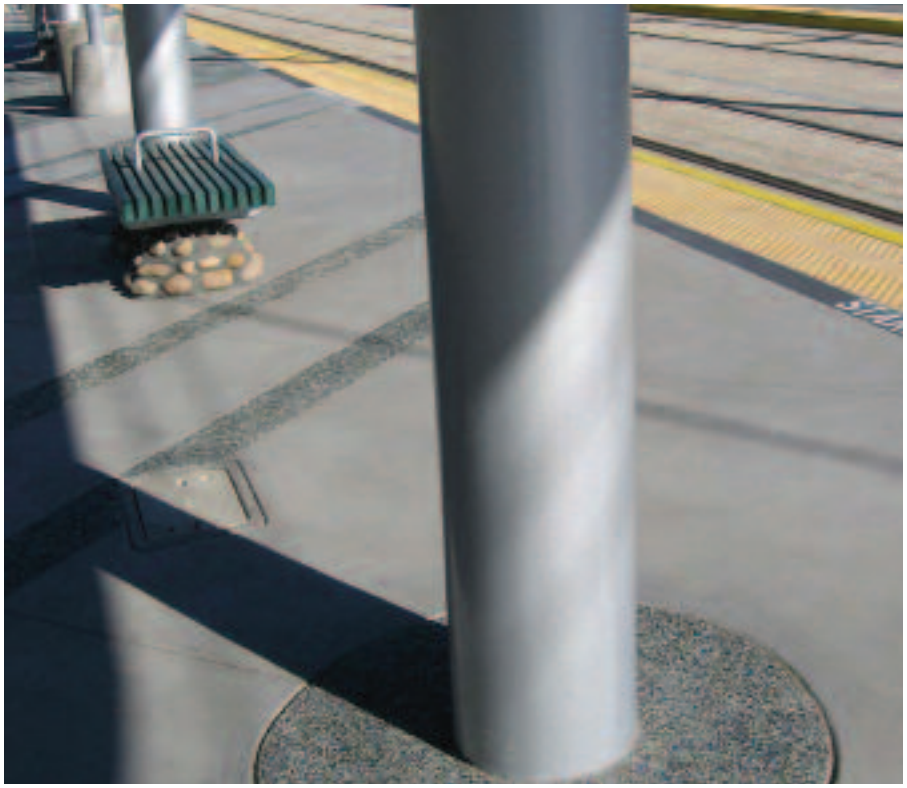

*Figure 3.* Diagonal lines of recycled glass add variety to the platform.

foundry that did the sand-cast process. The positive is pressed into moist clay sand and hot metal is poured in. Because the process is so crude, a lot of clean up is necessary. To carve the words into the oil clay, I used simple tools and added a few decorative embellishments and sculptural massing. It was important to me that a blind person could run their fingers on the undulating surface to have an art-like informational experience (Figure 4). Some of the plaques are bronze, some are brass, and others are aluminum. They are mounted on a sturdy pole attached to a concrete foot and are placed in close proximity to the associated plants, so that the commuter can readily recognize and associate with them.

After the plants were installed, we used local, decomposed (stabilized) granite mixed in with cobble stone mulch to conserve water. We used a stabilizer to the decomposed granite to make it difficult to dislodge the cobble stones from the mulch. We did add soil amendments to some of the planting holes, however, we did not add any fertilizer at time of planting.

## PLANT MANAGEMENT PLAN

Native plants are still not the norm for landscape design in urban areas, so workers must be trained or have reference information on how to properly care for them. I have written a training manual for the native plantings, to be used by the San Diego transit maintenance workers. Las Pilitas Nursery, a native plant nursery (Escondido, California), assisted me in the development of this manual, which describes the practical horticultural requirements of the plants. Installers and maintenance workers need to understand that native plants are unlike ornamental plants and their care may differ. They need to be instructed on how to properly irrigate the plantings so they receive the right amount and frequency of water during initial establishment but are not overwatered thereafter.

Because the budget is extremely limited for maintenance and upkeep, I am working to involve local people in the upkeep of the landscape. Ideally, a group could adopt the station as an ongoing project. I am also trying to entice tribal basket weavers in the San Diego area to do the pruning. I had taken a basket-making class from Lorene Sisquoc, a local tribal basket maker, so I could authentically make the plaque for deer grass. I found out that some of the older women were having a hard time locating stands of deer grass and other species that had not been sprayed with pesticides. Immediately, I decided to plant deer grass and to give them the address so they could harvest it safely. Involving the local community ensures that the last important steps of the process are carried out: caring for the plantings and creating the desire in others to care for the plantings.

## SUMMARY

Working on a project like this takes creativity and fortitude to do things differently. Here are some important points to

TABLE 1

*Native plants selected for the project.*

| Scientific name | Common name | Family | Stock type | Art plaques |
|---|---|---|---|---|
| *Arctostaphylos uva-ursi* (L.) Spreng. | kinnikinnick | Ericaceae | 19 l (5 gal) | *This plant, used as a diuretic medicine, gets its astringency from tannic acid.* |
| *Artemisia californica* Less. | coastal sagebrush | Asteraceae | 4 l (1 gal) | *Early miners used it to deter fleas.* |
| *Carex spissa* Bailey | San Diego sedge | Cyperaceae | 4 l (1 gal) | |
| *Cercis orbiculata* Greene | California redbud | Fabaceae | 225 l (24-in x 24-in x 24-in box) | *Girls tied redbud blossoms to their shoulders and waist for the spring ceremonial dance of womanhood.* |
| *Festuca* L. species | fescue | Poaceae | Direct seeding | |
| *Fragaria chiloensis* (L.) P. Mill. | beach strawberry | Rosaceae | 4 l (1 gal) | *If you can find it before another creature, this tiny berry is sweet and delicious.* |
| *Frangula californica* (Eschsch.) Gray ssp. *californica* | California buckthorn | Rhamnaceae | 4 l (1 gal) | |
| *Juncus textilis* Buch. | basket rush | Juncaceae | 4 l (1 gal) | *Juncus was used as a wrapping material with deer grass for baskets.* |
| *Muhlenbergia rigens* . (Benth.) A.S. Hitchc. | deer grass | Poaceae | 4 l (1 gal) | *Principal foundation material for coiled baskets (text with basket fragment)* |
| *Platanus racemosa* Nutt. | California sycamore | Platanaceae | 57 l to 730 l (15 gal to 36-in x 36-in x 36-in box) | *The sycamore was an indicator to California Natives that a stream or underground water was nearby.* |
| *Prunus ilicifolia* (Nutt. ex Hook. & Arn.) D. Dietr. | hollyleaf cherry | Rosaceae | 19 l (5 gal) | *Cahuilla Indians made soup by extracting the hollyleaf cherry kernel from the pit, crushing it, leaching it, and boiling.* |
| *Quercus agrifolia* Née var. *oxyadenia* (Torr.) J.T. Howell | coastal live oak | Fagaceae | 57 l to 1800 l (15 gal to 48-in x 48-in x 48-in box) | *The oak can live for 250 years. It takes 8 months for the acorns to mature. A family of 4 would gather 500 pounds for the next year. They would travel here and set up temporary camp to harvest the acorns, collecting them in conical baskets. They wore the baskets on their backs and supported them with head bands so they had both hands free to gather this important food. Acorns are 20% fat, 6% protein, 68% carbohydrates.* |
| *Rhus integrifolia* (Nutt.) Benth. & Hook. f. ex Brewer & S. Wats. | lemonade sumac | Anacardiaceae | 19 l (5 gal) | *To make a hot lemonade berry drink, the Native Americans would soak the berries in water, strain them to remove the fine hairs, and then boil the berries.* |

TABLE 1 (continued)

| Scientific name | Common name | Family | Stock type | Art plaques |
|---|---|---|---|---|
| *Ribes viburnifolium* Gray | island gooseberry | Grossulariaceae | 4 l (1 gal) | |
| *Romneya coulteri* Harvey | Coulter's Matilija poppy | Papaveraceae | 4 l (1 gal) | |
| *Rosa californica* Cham. & Schlecht. | California wildrose | Rosaceae | 4 l (1 gal) | *The rose's fruit, known as the hip, contains more vitamin C than oranges.* |
| *Rubus ursinus* Cham. & Schlecht. | California blackberry | Rosaceae | 4 l (1 gal) | |
| *Salix lasiolepis* Benth. | arroyo willow | Salicaceae | 19 l (5 gal) | *Kumeyaay used shredded bark to pad cradle boards in which women carried their babies.* |
| *Salvia apiana* Jepson | white sage | Lamiaceae | 4 l (1 gal) | *Before going hunting, the Dieguenos rubbed white sage on their bodies to eliminate odor.* |
| *Sambucus nigra* L. ssp. *canadensis* (L.) R. Bolli | common elderberry | Caprifoliaceae | 19 l (5 gal) | *Fresh elderberry leaves produced a light yellow dye for baskets.* |

*Figure 4.* A handmade plaque describes native plants.

keep in mind when developing and designing a native plant landscape.

- *Hire your crew based on their knowledge of native plants, not on the lowest bid.*
  Many city projects have mandated using the lowest bid, which does not always yield the most cost savings. All parties involved in the design process will benefit from learning about the species, their growth requirements, and the necessity of caring for the plants long after the project has been completed.

- *Be clear that you are not gardening but rather creating an ecological environment.*
  This is an important concept to carry from the initial planning phases to the ongoing upkeep and maintenance.

- *Don't mix species with different water requirements during the design and planting phases of a project.*
  Put riparian plants with other riparian plants and the more xeric requiring species in another area. Don't let anyone convince you that a barrier between them is appropriate, either for the plants or for the visual sense.

- *Make sure that all specifications on contracts are written as you want them.*
  It is important to give detailed terms in all project phases, from nursery stock size and quality to post-planting upkeep so that contractors know what is expected and can be held accountable to contract terms.

- *Know your plant supplier.*
  Checks and balances are mandated on federal projects. Find a nursery business with your values and use them as a source.

- *It's okay not to know something, as long as you research it and figure it out.*
  I was totally outside of my field, yet I discovered that research can be a lot of fun.

- *Know the area—really.*
  We were working with a creek area. We all knew it intellectually. In retrospect, taking a shovel to the site before designing the plantings would have shown standing water was present in some places. We could have designed accordingly.

- *Align yourself politically and build momentum.*
  Develop positive working relationships with all parties involved so they understand and share your vision to create an innovative project that enhances the local community.

- *Cross disciplines.*
  Invest some research time with geologists, ornithologists, photographers, engineers, musicians, and basket weavers.

- *Tell many people what you are doing so they can love it, too.*
  Here is a quote from Baba Dioum that I sandblasted on a light pole base on the platform. "In the end we will conserve only what we love. We love only what we understand. We will understand only what we are taught."

## REFERENCE

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