

# Environmentally Preferable Transportation Products in Alameda County

Throughout the nation, local and state transportation departments have approved for use high quality road and highway products made with recycled materials. These agencies are purchasing a variety of products, including recycled content traffic cones, traffic barricades, channelizers, delineators, parking stops, sound barriers, object markers, reflective glass beads and much more.

- ◆ Over a dozen recycled items are found on the California Department of Transportation’s **“Pre-qualified and Tested Signing and Delineation Materials”** list. (For Caltrans approved products made with recycled content, please refer to the attached resource.)
- ◆ The California Department of General Services offers contracts for recycled plastic speed bumps and reflective glass spheres (beads) made from recycled materials.

**These transportation products have been found to deliver high performance and often reduce installation and maintenance costs.**

## Transportation Products Containing Recovered Materials

The U.S. Environmental Protection Agency (EPA) recommends minimum recycled content levels to look for when purchasing transportation products, as shown in the table below. Rather than specifying just one level of recycled content, ranges are offered that reflect actual market conditions.

EPA’s Recommended Content Levels for Transportation Products	
Transportation Products	Recovered Material Content
<b>Traffic Cones</b>	
Plastic (PVC and LDPE)	50-100%
Crumb Rubber	50-100%
<b>Traffic Barricades (type I and II only)</b>	
Plastic (HDPE, LDPE, PET)	80-100% postconsumer/100% total
<b>Parking Stops</b>	
Plastic and/or Rubber	100% postconsumer
Concrete Containing Coal Fly Ash	Generally, 20-30%, but could be up to 40%. 15% when used as a partial cement replacement as an admixture in concrete
Concrete Containing Ground Granulated Blast Furnace Slag	25-70%

<b>Traffic Control Devices</b>	
Channelizers	
Plastic	25-95% postconsumer
Rubber (base only)	100% postconsumer
Delineators	
Plastic	25-90% postconsumer
Rubber (base only)	100% postconsumer
Flexible Delineators	25-85% postconsumer

## Traffic Cones



Traffic cones are used to direct traffic or indicate a road hazard. Postconsumer plastics (PVC or LDPE) are used in the upper portion of the cones. Crumb rubber or plastics can be used in the base or stabilizer.

*“These light-weight orange cones are great. They’re easy to work with and may eliminate some potential back injuries. It is also a pleasure to have purchased recycled materials.”*

Sergio Ramirez, System Collection Lead,  
Castro Valley Sanitary District

## Barricades

Traffic barricades are used to redirect or block traffic usually associated with highway construction or repair. Barricades can be made from wood, steel, plastic or a combination of these materials. Many manufacturers have switched to the use of recycled materials in both the supporting frame and rails of the barricades.

*“Our recycled plastic barricades have worked quite well for the last 4-5 years. They hold up better than metal, and there's no rust or corrosion. They don't become potential projectiles when hit, and they're light and easy to use.”*

City staff, City of Oakland

## Traffic Control Devices (Delineators, Channelizers)



**Delineators** are temporary pavement markers available in a variety of shapes and sizes. Most of the recycled delineators are manufactured from postconsumer plastics, such as PET (soda bottles) or polycarbonate plastic (CDs). Delineator bases are either steel stakes that are driven into the ground or rubber to support the delineator on the road surface. Flexible delineators have stakes that are driven into the ground to strengthen their flexibility when struck by a vehicle.

**Channelizers** are relatively large barrels or drums that direct traffic around areas of road repair and construction. Channelizers can be constructed from postconsumer plastics and/or rubber (usually in the base for weight and stability).

## Case Study — Performance, Flexibility and Safety

The City of Livermore in California has been using several recycled content traffic control devices successfully, namely traffic cones, barricades and traffic calming devices (or flexible curb systems).

Cones with recycled rubber bases and barricades made from recycled plastic are used for special events and for traffic control work zone safety.

The traffic calming devices are removable, providing City staff the flexibility to assess whether or not such devices would actually slow the speed of automobiles in several residential neighborhoods. After many months, staff concluded that these devices, made from recycled rubber tires, performed as needed - slowing cars down and increasing the safety of neighborhood children. The curb systems will continue to be reused and tested in other areas of the City before the City decides on permanent curbing and landscaping.

*For more information on traffic calming devices, contact Carlo Sendaydiego of the City of Livermore's Engineering Department, (925) 960-4517.*

## Parking Stops, Speed Bumps/Humps, and Chock/Wheel Blocks



Parking stops are used in parking areas to mark parking spaces and to keep vehicles from rolling beyond a designated area. Recycled content parking stops are generally made from recycled plastic, rubber or concrete containing recovered materials (coal fly ash or ground granulated blast furnace slag).

## A Cost Study for Parking Stops — Finding Value and Savings

When purchasing parking stops, here are a few things to keep in mind. Recycled plastic car stops may be:

- ◆ easier to install and cost less to ship because of their lighter weight,
- ◆ easier to maintain (they don't crack, break or need repainting),
- ◆ more durable, and
- ◆ lower cost over the life of the products, despite higher initial costs.

One study found that over a ten-year period, a traditional concrete car stop might cost six times more than a recycled plastic car stop. The table on the next page demonstrates these findings.

# Life Cycle Cost Example

- Assumptions:
1. Life of concrete stop is 3 years in northern climates.
  2. Inflation is projected to be 4% per year.
  3. Minimum wage labor is used for painting and installation.
  4. Retail price for 100-quantity purchase.
  5. Cost of hardware is included in the original purchase cost.

Source: *Buy Recycled Training Manual* - Sixth Edition.  
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Traditional Concrete Stop											
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total
Original Purchase Cost	\$14.00	-	-	-	-	-	-	-	-	-	\$14.00
Installation	\$4.00	-	-	-	-	-	-	-	-	-	\$4.00
Painting	-	\$3.00	\$3.12	\$3.24	\$3.37	\$3.51	\$3.65	\$3.80	\$3.95	\$4.11	\$31.75
Replacement Cost	-	-	-	\$16.86	-	-	\$18.88	-	-	\$21.15	\$56.89
Replacement Labor	-	-	-	\$5.00	-	-	\$5.60	-	-	\$6.27	\$16.87
Total Cost of Ownership											\$123.51
Total Cost of 100-space Parking Lot											\$12,351
Recycled Plastic Stop											
Original Purchase Cost	\$25.50	-	-	-	-	-	-	-	-	-	\$25.50
Installation	\$3.00	-	-	-	-	-	-	-	-	-	\$3.00
Total Cost of Ownership											\$28.50
Total Cost of 100-space Parking Lot											\$2,850.00
TOTAL COST SAVINGS											\$9,501.00

**Speed bumps** are used to calm or slow vehicle traffic down to 5-15 miles/hour and can be made from recycled plastic or rubber. Speed bumps are generally 10-12 inches wide in the driving direction and 2-4 inches tall. On the other hand, **speed humps** are 12 -14 feet long in the vehicular driving direction and about 3 inches high. Speed humps are designed for 25-40 miles/hour. Speed humps can be made from recycled rubber.

*Since 1995, the City of Portland has tested and now successfully uses rubber speed humps. The rubber speed humps meet their criteria for slowing auto traffic on residential streets. Many other uses have been identified for the product. For a list of uses and additional information, visit [www.trans.ci.portland.or.us/trafficalming/devices/speed/rubber1.htm](http://www.trans.ci.portland.or.us/trafficalming/devices/speed/rubber1.htm).*

**Chock/Wheel Blocks** placed against vehicle tires help prevent vehicles from moving. Most recycled wheel blocks contain 80-100% postconsumer recycled plastic or rubber.

## Sample Specifications for Transportation Products

*The Commonwealth of Massachusetts, Operational Services Division*, uses the following procurement language for recycled plastic transportation products:

### ***Mandatory Product Specifications***

The following products must contain the following minimum recycled content:

- ◆ Parking stops, 80% postconsumer plastic and/or rubber
- ◆ Speed bumps, 80% postconsumer plastic and/or rubber
- ◆ Barricades, 80% postconsumer plastic
- ◆ Chock/wheel blocks, 80% postconsumer plastic and/or rubber
- ◆ Delineators, 25% postconsumer for plastic parts, 100% postconsumer for rubber base
- ◆ Channelizers, 25% postconsumer for plastic parts, 100% postconsumer for rubber base

### ***General Contract Specifications***

All Contractors must agree to:

- ◆ Provide products that meet all specified minimum recycled content requirements; recycled content shall be based on the dry weight of the raw materials, exclusive of any additives such as adhesives, binders, coloring agents, or UV inhibitors.

### ***Definition***

"Postconsumer content" means a finished material which would normally be disposed of as a solid waste, having reached its intended end-use and completed its life cycle as a consumer item, and does not include manufacturing wastes.

## Traffic Paint

There have been two efforts nationally to identify environmental criteria for ready-mixed, waterborne acrylic traffic line paint that can be applied to either asphalt concrete or portland cement concrete pavements. One was a 1997 project by the Department of Defense (jointly with US EPA), the Environmentally Preferable Pilot Parking Lot Project ([www.epa.gov/opptintr/epp/pubs/dodfct.pdf](http://www.epa.gov/opptintr/epp/pubs/dodfct.pdf)). Another was a 2003 study by INFORM comparing state government specifications for traffic paint. The environmental criteria from these two efforts basically pointed to the following criteria:

- ◆ Water-based
- ◆ Lead free
- ◆ Chromate free
- ◆ 125-150 g/L VOC Content (max)
- ◆ Complying with State air quality laws at the time

## Sample Specifications for Traffic Paint

In 2004, the Alameda County General Services Agency used the following language in their specifications for the Public Works Agency's Paint/Traffic Stripes Request for Quote.

Paints shall conform to all applicable Federal, State and local regulations for air pollution control, including but not limited to the South Coast Air Quality Management District Rule 1113 regarding The Architectural Coatings and State Implementation Plan for California which contains rules limiting the content of VOC in traffic coatings to one hundred twenty-five (125) grams per liter.

All ready-borne, rapid dry paint, white, yellow, red, green and black shall be chromium free and shall not contain any hazardous materials at levels that would cause the paint (when dry) to be classified as a hazardous waste under Title 22, Division 4, Section 6621.20 of the California Code of Regulations (CCR).

## Vendor and Product Resources

- ◆ A sample listing of transportation products made with recycled content (many approved by Caltrans) — ***delineators, traffic cones, barricades, channelizers, parking stops, speed bumps, sound barriers, object markers, and reflective glass beads/spheres*** is included in the Appendix at the end of this Fact Sheet. Local sources for these products are listed.
- ◆ For local agencies interested in Caltrans approved products, check the ***California Department of Transportation's List of Prequalified and Tested Signage and Delineation Materials***, updated regularly. This list does not indicate which products have recycled content and which do not.  
([www.dot.ca.gov/hq/esc/approved\\_products\\_list/](http://www.dot.ca.gov/hq/esc/approved_products_list/))
- ◆ ***U.S. EPA Environmentally Preferable Purchasing Database***, including contract language and specifications, environmental standards and guidelines, lists of vendors and product brands, and other useful sources of information  
([www.epa.gov/opptintr/epp](http://www.epa.gov/opptintr/epp))

## Additional Resources

There are many, many resources available to help identify recycled content products and their performance, see sample bids and specifications, and read case studies of successful programs.

- ◆ ***The Alameda County Waste Management Authority and Recycling Board*** offers technical assistance and grant funding for applicable recycled content product purchasing. Click on "***Buying Recycled & Environmentally Friendly Products***" at the Agency's website ([www.stopwaste.org](http://www.stopwaste.org)) for an annotated list of resources and links to other environmental purchasing websites and documents.
- ◆ Contact ***Rachel Balsley*** at [rbalsley@stopwaste.org](mailto:rbalsley@stopwaste.org) for information about the StopWa\$te Partnership for technical assistance and funding for Alameda County businesses. See also [www.stopwaste.org/partnership/](http://www.stopwaste.org/partnership/)

- ◆ Contact **Debra Kaufman** at [dkaufman@stopwaste.org](mailto:dkaufman@stopwaste.org) for information about environmental purchasing technical and financial assistance to local governments in Alameda County.
- ◆ Contact the **Alameda County Recycling Hotline**, toll-free at **1-877-STOPWASTE (786-7927)** for information about recycling and waste prevention opportunities in Alameda County.

**Disclaimer**

The information provided in this Fact Sheet should be considered by public agency and business purchasers who are interested in buying environmentally preferable products. It is provided as a public service by the Alameda County Waste Management Authority and Recycling Board in an attempt to provide environmental benefits and reduce costs. The information on products listed is supplied by the manufacturers. Listing in this Fact Sheet is not a recommendation or an endorsement. This Fact Sheet is not a substitute for the exercise of sound judgment in particular circumstances and is not intended as recommendations for particular products or processes.

This Fact Sheet was last updated in April 2004 by Beth Eckl, environmental consultant, and Kies Strategies on behalf of the Alameda County Waste Management Authority and Recycling Board.

## Appendix

# **Sample of Recycled Content Transportation Products and Sources**

The product types are specific to Caltrans specifications. Ask the distributor for alternative recycled content product types that may better suit your needs.

Product information is supplied by the manufacturers and is not verified. Exercise sound judgment and research products for your specific application. The information listed is subject to change and does not represent all available sources for products. Refer to the resources provided in this Fact Sheet for additional information.

*The information in this Appendix was last updated in April 2004.*

### **Delineators – Flexible**

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	%Recycled/Made From What?/Other Environmental Info	Distributors for the Bay Area
<b>Bunzl/Davidson FG 400 and 500 Guide Posts</b>	Bunzl/Davidson, Flexi-Guide Models 400 and 566	Class I, one piece drivable flexible	Bunzl Extrusion Tacoma Inc. East Tacoma, WA (800) 822-7528 Contact: Peter Speer <a href="http://www.bunzlextrusion.com">www.bunzlextrusion.com</a>	5% postconsumer/ 50% total recycled (recycled polycarbonate plastic)	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig
<b>Bunzl/Davidson FG 400 and 500 Guide Posts</b>	Bunzl/Davidson, Model FG 560 (with 450 mm U-Channel base)	Class I, special use flexible type	Bunzl Extrusion Tacoma Inc. East Tacoma, WA (800) 822-7528 Contact: Peter Speer <a href="http://www.bunzlextrusion.com">www.bunzlextrusion.com</a>	5% postconsumer/ 50% total recycled (recycled polycarbonate plastic)	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig

## ***Delineators – Flexible (cont.)***

<b>Recycled Products Available</b>	<b>Caltrans Prequalified and Tested Products</b>	<b>Type</b>	<b>Company</b>	<b>%Recycled/Made From What?/Other Environmental Info</b>	<b>Distributors for the Bay Area</b>
<b>All FlexStake Ground Mount Series</b>	FlexStake Model 654 TM	Class I, one piece drivable flexible	FlexStake Fort Meyers, FL (800) 348-9839 Contact: Cindy Horton <a href="http://www.flexstake.com">www.flexstake.com</a>	Minimum 51% postconsumer (PET, polycarbonate plastic)	SC Signs and Supplies Anaheim, CA (877) 731-7446 Contact: Brian Lagenwalter  Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig
<b>All FlexStake Ground Mount Series</b>	FlexStake, Model 604	Class I, special use flexible	FlexStake Fort Meyers, FL (800) 348-9839 Contact: Cindy Horton <a href="http://www.flexstake.com">www.flexstake.com</a>	Minimum 51% postconsumer (PET, polycarbonate plastic)	SC Signs and Supplies Anaheim, CA (877) 731-7446 Contact: Brian Lagenwalter
<b>All GreenLine Delineators and Markers</b>	GreenLine Models HWDI-66 and CGDI-66	Class I, one piece drivable flexible	Carsonite International Early Branch, SC (800) 648-7974 Contact: Ernest Joyner <a href="http://www.carsonite.com">www.carsonite.com</a>	50% postconsumer/ 100% total recycled (polycarbonate plastic-ground up CDs)	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston
<b>All GreenLine Delineators and Markers</b>	GreenLine Models HWD and CGD (with 450mm U-Channel base)	Class I, special use flexible	Carsonite International Early Branch, SC (800) 648-7974 Contact: Ernest Joyner <a href="http://www.carsonite.com">www.carsonite.com</a>	50% postconsumer/ 100% total recycled (polycarbonate plastic-ground up CD's)	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston

## Delineators – Portable

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	%Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Roadmarker “Stacker”</b>	Roadmarker “Stacker”	Conical Delineators, portable	The Roadmarker Company Reno, NV (800) 331-2332 <a href="http://www.roadmarker.com">www.roadmarker.com</a>	Recycled LDPE cone from reground parts (ask for recycled; not consistently used) Recycled rubber base (ask for recycled; postindustrial only; not consistently used); takes back old product for recycling	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston
<b>Channelizer Cone</b>	Not listed	Portable, stackable	Work Area Protection St. Charles, IL 800-327-4417 Contact: Tom Bednar	95-100% recycled rubber base	Flash Safety Oakland, CA (510) 836-0861 Contact: Mike Farmer
<b>Traffic Delineator, TD 5000, 5100</b>	42” Ring Top Stackable Cone listed under “Traffic Cones”	Open top, ring top, comes in different sizes	Three D Traffic Works Burbank, CA (877) 843-9757 Contact: Frank <a href="http://www.trafficwks.com">www.trafficwks.com</a>	90% postconsumer LDPE base 100% postconsumer rubber base	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig

## Delineators - Guard Railing

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	%Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>All FlexStake sizes</b>	FlexStake Model 102 GR	Guard Railing Delineator, wood post type	FlexStake Fort Meyers, FL (800) 348-9839 Contact: Cindy Horton <a href="http://www.flexstake.com">www.flexstake.com</a>	100% postconsumer (polycarbonate plastic)	SC Signs and Supplies Anaheim, CA (877) 731-7446 Contact: Brian Lagenwalter

## Traffic Cones

Recycled Products Available	Meets Caltrans Standard Specs	Type	Company	%Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Traffic Cone</b>	No; Cones have 1/8 inch larger hole at bottom, affects stacking with Caltrans approved brands	Various sizes, one piece	Work Area Protection St. Charles, IL 800-327-4417 Contact: Tom Bednar <a href="http://www.workareaprotection.com">www.workareaprotection.com</a>	7-8% postconsumer (mostly in base/stabilizer) Made from PVC	Flash Safety Oakland, CA (510) 836-0861 Contact: Mike Farmer
<b>28" Traffic Cone</b>	No; the approved portable delineator ("Stacker") listed above is similar and approved	2-part system; conical top and rubber base	The Roadmarker Company Reno, NV (800) 331-2332 <a href="http://www.roadmarker.com">www.roadmarker.com</a>	Recycled LDPE cone from reground parts (ask for recycled; not consistently used). Recycled rubber base (ask for recycled; postindustrial only; not consistently used); takes back old product for recycling; can replace top conical part when worn.	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston
<b>42" Ring Top Stackable Cone</b>	Yes, as a conical delineator	2-part system; conical top and rubber base	Three D Traffic Works Burbank, CA (877) 843-9757 Contact: Frank <a href="http://www.trafficwks.com">www.trafficwks.com</a>	90% postconsumer LDPE in cone, 100% recycled rubber base	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig

## Barricades

Recycled Products Available	Meets Caltrans Standard Specs	Type	Company	%Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Roadmarker Barricade</b>	Yes	Type I, Plastic	The Roadmarker Company Reno, NV (800) 331-2332 <a href="http://www.roadmarker.com">www.roadmarker.com</a>	Approx. 20% post-consumer/50% total, recycled HDPE, vendor takes back and recycles	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston

## Barricades (cont.)

Recycled Products Available	Meets Caltrans Standard Specs	Type	Company	%Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Traffic Barricade TD 2100</b>	Yes	Type I and Type II, depending on reflective sheeting	Three D Traffic Works Burbank, CA (877) 843-9757 Contact: Frank <a href="http://www.trafficwks.com">www.trafficwks.com</a>	30% postconsumer plastic, 65% secondary materials	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig
<b>Workguard Barrier System</b>	Not applicable	Safety barricade	Three D Traffic Works Burbank, CA (877) 843-9757 Contact: Frank <a href="http://www.trafficwks.com">www.trafficwks.com</a>	100% postconsumer rubber base	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig

## Channelizers

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	% Recycled/Made from What?/ Other Environmental Info	Distributors for the Bay Area
<b>All FlexStake Channelizers, Surface Mount</b>	FlexStake Channelizer Model 703 and 753 TM	Surface Mount	FlexStake Fort Meyers, FL (800) 348-9839 Contact: Cindy Horton <a href="http://www.flexstake.com">www.flexstake.com</a>	100% postconsumer (polycarbonate plastic)	SC Signs and Supplies Anaheim, CA (877) 731-7446 Contact: Brian Lagenwalter  Bay Area Barricades Concord, CA (925) 686-1089 Contract: Craig
<b>All GreenLine Models, Surface Mount</b>	GreenLine Model SMD-36	Surface Mount	Carsonite International Early Branch, SC (800) 648-7974 Contact: Ernest Joyner <a href="http://www.carsonite.com">www.carsonite.com</a>	50% postconsumer (polycarbonate plastic)	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston

## Channelizers (cont.)

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	% Recycled/Made from What?/ Other Environmental Info	Distributors for the Bay Area
<b>Channelizer Drum</b>	Not listed	Portable	Work Area Protection St. Charles, IL 800-327-4417 Contact: Tom Bednar <a href="http://www.workerprotectionarea.com">www.workerprotectionarea.com</a>	95-100% postconsumer recycled rubber base	Flash Safety Oakland, CA (510) 836-0861 Contact: Mike Farmer
<b>Safe-Lane Traffic Channeling System</b>	Yes, as a lane separation system	Permanent or temporary installation	Recycled Technology, Inc. Tualatin, OR (800) 455-6287 <a href="http://www.recycledtech.com">www.recycledtech.com</a>	95% postconsumer recycled rubber in base/curbing	Daly Sales San Jose, CA (408) 269-9902 Contact: Bill Daly
<b>Bunzl/Davidson Flexi-Guide FG 300 Curb System</b>	Yes, as a lane separation system	Modular lane separation system	Bunzl Extrusion Tacoma Inc. Tacoma, WA (800) 822-7528 Contact: Peter Speer <a href="http://www.bunzlextrusion.com">www.bunzlextrusion.com</a>	Base and curb are minimum 5% recycled thermoplastic	Bay Area Barricades Concord, CA (925) 686-1089 Contact: Craig

## Flexible Barrier Curbing

Recycled Products Available	Caltrans Prequalified and Tested Products	Type	Company	% Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Flex-Curb Flexible Barrier Curbing (or Traffic Calming Device)</b>	Not applicable	Temporary or permanent device	Recycled Technology, Inc. (RTI) Tualatin, OR (800) 455-6287 <a href="http://www.recycledtech.com">www.recycledtech.com</a>	96% postconsumer recycled rubber	Daly Sales San Jose, CA (408) 269-9902 Contact: Bill Daly

## Parking Stops and Speed Bumps

Recycled Products Available	Company	% Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area	Purchasing Resources
<b>Plastic Car Stops and Speed Bumps</b>	Carsonite International Early Branch, SC (800) 648-7974 Contact: Ernest Joyner <a href="http://www.carsonite.com">www.carsonite.com</a>	100% recycled plastic	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston	
<b>Parking Stops and Speed Bumps</b>	The Plastic Lumber Company Murrietta, CA (909) 696-5771 (in CA) (800) 886-8990 (in OH) <a href="http://www.plasticlumber.com">www.plasticlumber.com</a>	100% postconsumer recycled plastic (HDPE)	Call manufacturer	CMAS contract #4-01-78-0015A; GSA Advantage GS-07F-0212L
<b>Car Stops and Speed Bumps</b>	Plastic Recycling of Iowa Falls Iowa Falls, Iowa (800) 338-1438 <a href="http://www.hammersplastic.com">www.hammersplastic.com</a>	100% postconsumer plastic	Quality Bin Victor, CA (209) 368-9709 Contact: Ken	
<b>Speed Hump</b>	Recycled Technology, Inc. (RTI) Tualatin, OR (800) 455-6287 <a href="http://www.recycledtech.com">www.recycledtech.com</a>	95-97% postconsumer rubber (from Pacific Northwest vehicle tires)	Daly Sales San Jose, CA (408) 269-9902 Contact: Bill Daly	

## Sound Barriers

Recycled Products Available	Company	% Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Carsonite Sound Barrier</b>	Carsonite International Early Branch, SC 800-648-7974 <a href="http://www.carsonite.com">www.carsonite.com</a>	Recycled scrap tires in the shell; 4 pounds of tire per sq. ft.; CA tires can be requested	Sierra Highway Safety Walnut Creek, CA (800) 558-5850 Contact: Bill Thurston

### Object Markers (t-shaped object, on raised islands)

Product	Type	Caltrans Prequalified and Tested Products	Company	% Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area
<b>Flexstake, Model 701KM</b>	Type "K" and Type "K-4"/"Q" Object Markers	Flexstake, Model 701KM	FlexStake Fort Meyers, FL (800) 348-9839 Contact: Cindy Horton <a href="http://www.flexstake.com">www.flexstake.com</a>	51% postconsumer recycled plastic	SC Signs and Supplies Anaheim, CA (877) 731-7446 Contact: Brian Lagenwalter  Bay Area Barricades Concord, CA (925) 686-1089 Contract: Craig

### Reflective Glass Beads/Spheres

Product	Type	Company	% Recycled/ Made From What?/ Other Environmental Info	Distributors for the Bay Area	Purchasing Resources
<b>Glass Beads/Spheres</b>	Type II Glass Spheres (50 lb/bag) per Specification 8010-004 dated October 1998	Potters Industries, Inc. Philadelphia, PA Attn: Debbie Gomery (800) 552-3237	100% recycled glass (preconsumer and postconsumer)	Potters Industries Plants Canby, OR (888) 821-2965  Kingman, AZ (800) 821-2968	Available on CA Master Agreement #1-99-80-01