

Shelters

3. *What size area do you have for the shelter?* Most shelters don't come in a standard size. Modular systems can be customized to meet just about any size requirement.

4. *Is there a unique architectural requirement where it has to match or blend in with something in the environment?* Cohen gives the example of a shelter on Lakeshore Drive in Chicago. "It was in front of a Postmodern building, kind of blue-green-gray, and the windows in the shelter were broken up in an unusual way to look more like the building. We also did a job in Massachusetts that had to be white with gray windows that were horizontal. We must have submitted 19 shades of white so the architects could find just the right white to match the building."

5. *What height should the roof be?* Keep in mind that even a flat roof will be pitched slightly for drainage.

6. *How far away will the shelter be from the curb?*

After the basics have been taken care of, the manufacturer will want to get down to more detail. You should have in mind what types of windows you want, what

type of finish, roof, and accessories.

Here's a list of some of the most common options in each category:

WINDOWS

• *Acrylic.* The advantage to acrylic is that it tends to be inexpensive, is easily available, can be cut to size, and is somewhat resistant to breakage. Disadvantages include that it can be scratched and, over long periods of time, may deteriorate as a result of exposure to ultraviolet radiation. Care must also be exercised in cleaning to prevent damage.

• *Polycarbonate plastic.* Polycarbonate is readily available, can be cut to size, and is almost impossible to break. It also offers the highest degree of vandal-resistance in terms of breakage. Disadvantages include that it is the most easily scratched, it requires deeper than normal framing because of its flexibility, and is most easily damaged by graffiti. It is also more expensive.

• *Mar resistant polycarbonate.* It has all the attributes of regular polycarbonate but adds increased resistance to abrasion. It has some degree of ultraviolet stabilizers, and is also the most expensive.

• *Glass.* Tempered glass is the most popular. Advantages include that it is almost impossible to scratch, the price is close to acrylic (it is actually the least expensive in very high quantity), it provides the best optical quality, and is the easiest to clean. Disadvantages are that it is easily broken and is the hardest to get replacements for, since it must be made to order.

• *Wire glass or laminated resistant glass.* Rarely used.

FINISHES

• *Anodized finish.* Finishes come in silver, light, medium or dark bronze, or black.

• *Powder coat paints.* Paints are environmentally correct, durable, and offer a wide range of colors.

ROOFS

• *Bubble skylight roof.* Bubble roofs can be molded with tinted or translucent plexiglass, and they get stronger when molded into a dome shape. They bring light in from above, help shed the rain or snow, and are reasonably priced. In most typical shelters, the roof can be molded in one piece so it is simple to install or repair.

• *Flat roofs that are aluminum or fiberglass.* These are the lowest cost roofs, but they also require some shimming or pitching the shelter for drainage. May be considered aesthetically less pleasing.

• *Pyramid skylight and "barrel vault" (semi circular with ribs) and hipped roofs.* These can be glazed like a skylight, or sheathed with metal, like a standing seam copper roof. Attractive, but most expensive to build, install, and repair.

It might surprise many customers how important the choice of a roof and other design characteristics can be. Says Cohen, "I witness all the time bus shelters where people are not standing in the shelter. They may stand outside to see if the bus is coming, or just to keep from getting claustrophobic. The shelter should be designed with windows all around for visibility. Flat roofs are usually opaque, but ones made with skylights are more cheerful to stand in. Even if they are enclosed, they should be made to feel as open as possible."

ACCESSORIES

- Display panels incorporated into windows for bus route maps or schedules
- Benches
- Lighting
- Heating
- Graphics or logo on roof fascia or wall panels
- Base skirts to close off bottom air space
- Top air space
- Leaning rail
- Additional handicapped accessibility, including an internal base detail, a bench that doesn't go the full length of the shelter, or a smaller front windscreen to create a larger entrance.

As a final note, Cohen suggests that when customers call, it is a big help to the manufacturer to know the budget and for the customer to be willing to discuss it at the time of the call. This way, the manufacturer doesn't come back with a price that's out of line, and the process can be expedited up front by finding alternatives that fit within the budget.

And give the manufacturer adequate lead time. Sixty to 90 days is the average turnaround, he says. "Most people don't realize how long it takes."

Shelter Shelter Shelter



When it comes to Bus and Transit Shelters we are #1! Columbia has been specializing in shelters for 40 years! Our shelters are in use from coast to coast and all around the world. May we build shelters for you too? Please contact:

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