JANUARY/FEBRUARY 2007

Fabric ARCHITECTURE

THE ARCHITECTURAL RESOURCE FOR DESIGNING WITH FABRIC

TRAVELING LIGHT

Refurbishing Dresden's train shed

LEEDing the way with fabric

Playing under the sun, sensibly

AIA Learning Units: Stormwater management

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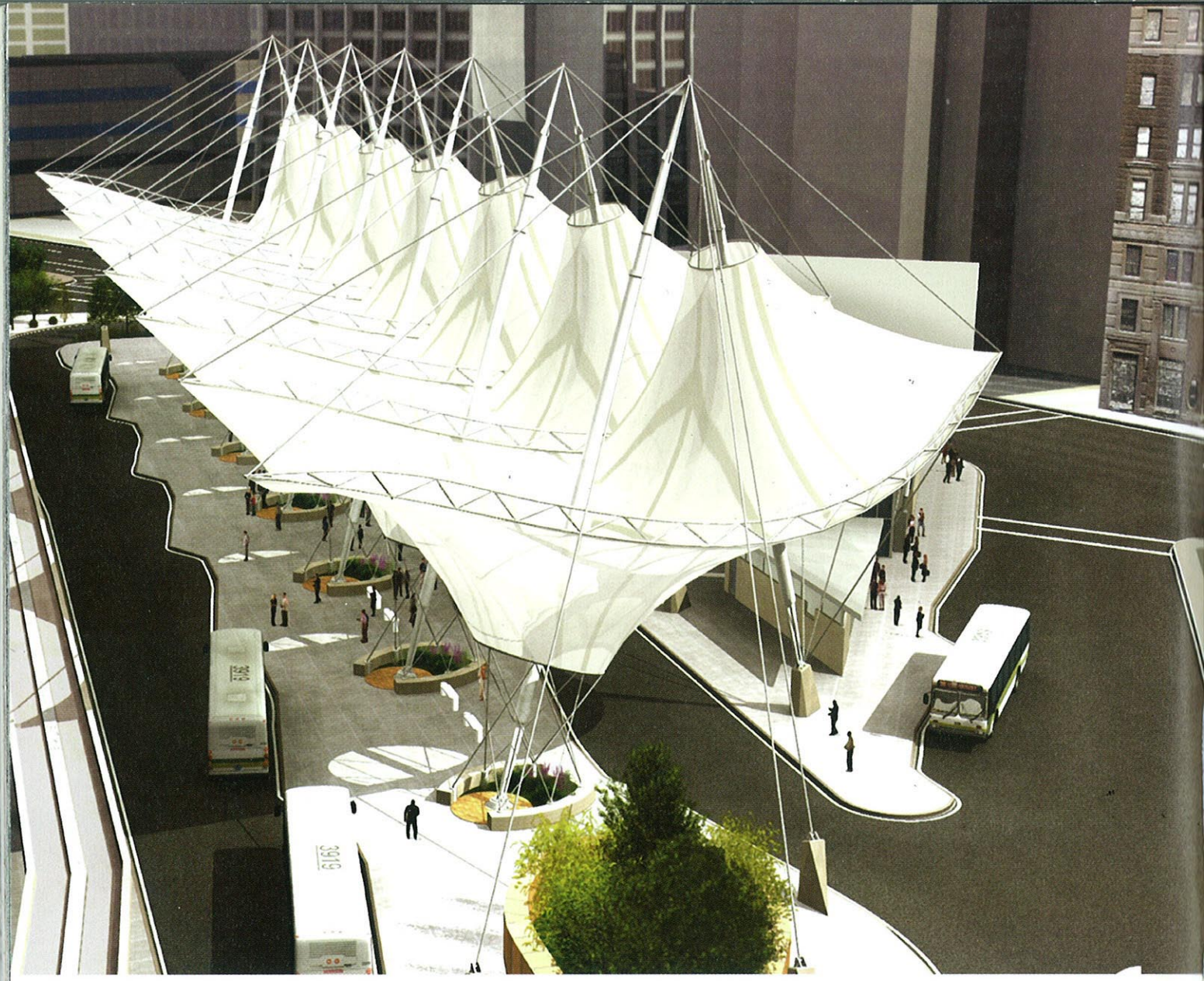
Industrial Fabrics Association International



Drive time

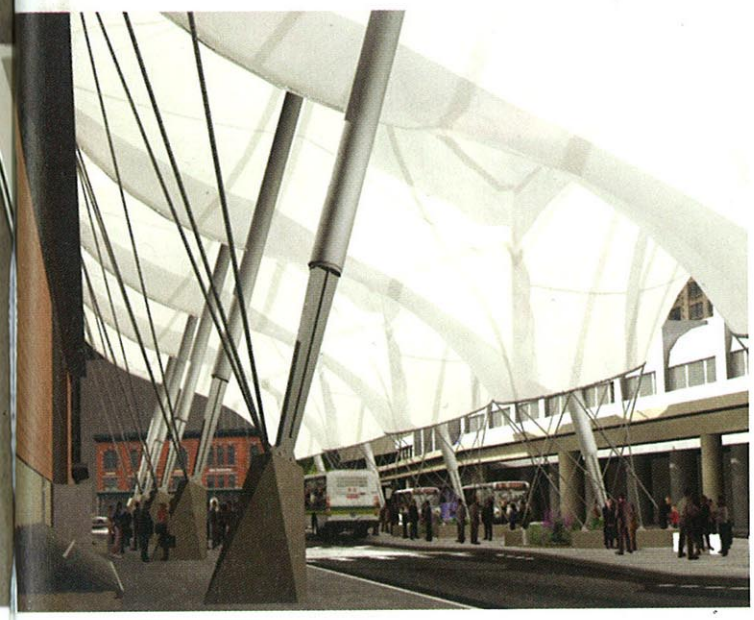
A proposed transit center in downtown Detroit, Michigan, aims to help revitalize a city neighborhood

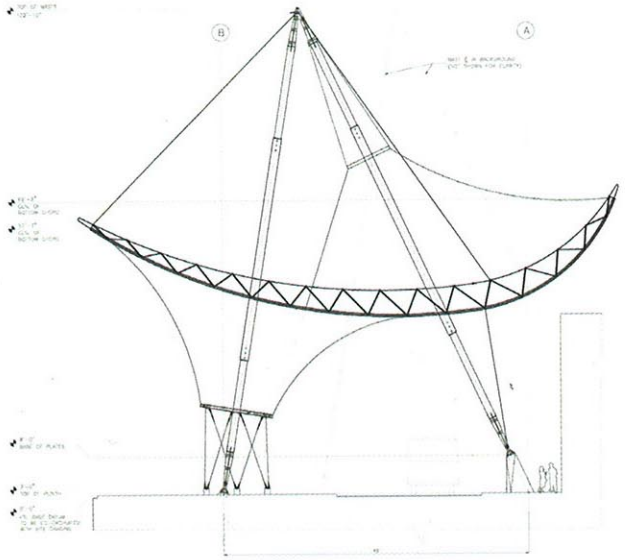
PHOTOS BY FTL Design Engineering Studio

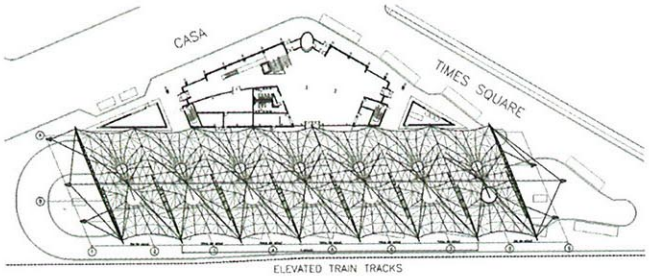
The Rosa Parks Transit Center is a fitting memorial to Mrs. Parks' momentous role in the freedom struggle of the 1960s. After all, it was Mrs. Parks' refusal to relinquish her seat on a bus in Montgomery, Alabama in 1955 that was the catalyst for the US civil rights movement leading to the tumultuous 60s. The proposed Detroit Transit Center design includes space to accommodate the routes of 16 downtown bus routes at a time, as well as amenities of retail and food services, a customer information center/ticket counter and other basic facilities for passengers in transition from one transit mode to another.

Comprised of two city blocks (bounded by one of Detroit's major "spokes," Grand River Ave., on the north), the center replaces a temporary Capitol Park transit station. Lead design architects Par-

DURABLE
FIRE RESISTANT
MAINTAINABLE
AFFORDABLE
SUSTAINABLE







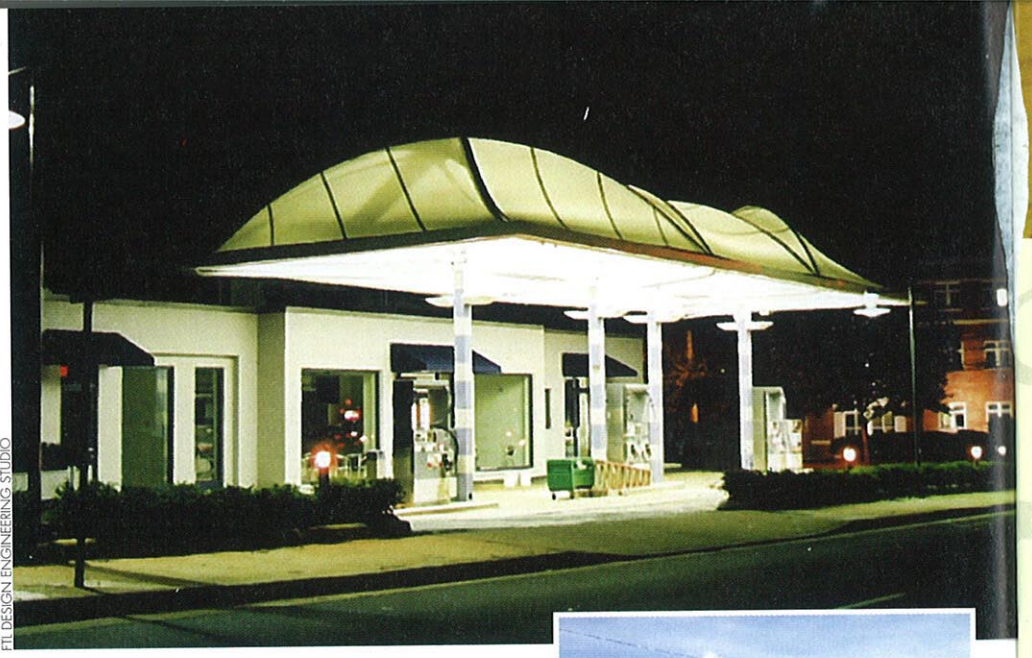
Above: Almost a structural tour de force, the caliper-like masts of the transit center hold both the up-facing and down-facing cones fixed in space. Each of the seven bays is framed on the sides by a curved truss that adds much to the dynamism of the roof. **Left and opposite page:** As luminous filters of light, the row of white cones define the transitional space where passengers queue up for rides and busses dock.

sons Brinkerhoff Michigan Inc. (Lansing, Mich.) designed a "shed" that covers the seven bays of the transit shelter with a large, dramatic fabric canopy. Consultants to the project, Ashish Soni and FTL Design Engineering Studio, developed an elegant canopy that not only hovers 15m in space but also celebrates the act of transit. The canopy, a single element composed of 4,645m^2 PTFE-coated fabric, acts as skin, structure and space definer in an energy-packed form that suggests movement.

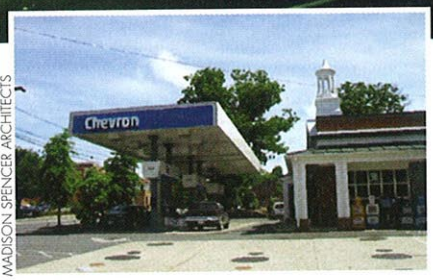
The dynamic roof is punctuated by a repetition of double cone modules, each module, or bay made of one large up-facing cone and a slightly smaller down-facing cone with both cones skewered by large steel masts joined at the top. These forms are both aesthetically interesting and practical as the cones act like giant scoops that direct precipitation earthward through the down-facing cone to the ground where it is collected at the base of the masts and dispersed. In the winter, snow accumulation is directed to each of these mast bases and contained by low, semicircular concrete curbs, until it can be hauled away by a city service.—*BNW*

PROJECT DATA

Client: City of Detroit, Department of Transporation
Architect: Parsons Brinkerhoff Michigan Inc.
Fabric roof design/engineering: Ashish Soni, FTL Design Engineering Studio
Fabric: PTFE-coated fabric
Expected completion: 2007



FTL DESIGN ENGINEERING STUDIO



MADISON SPENCER ARCHITECTS

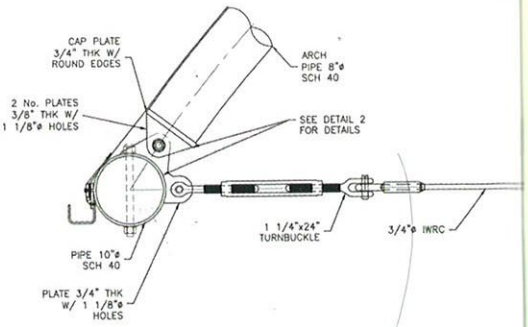
Pumping light (and gas)

Reusing an existing structure helped create a unique identity brand for this petrol station. Before and after views of a retrofitted Virginia gas and goods shop

Compared to conventional gas pump canopies—often laden with graphics and harsh lighting—the focal element of this Charlottesville, Virginia-based convenience store is a soft form with elegant curves. No graphics have been applied to the canopy, allowing the client, Fuel Co. Inc., to develop their brand through a unique roof. Fuel Co. wished to create a franchise for an urban gas station that served a higher market than typically found in convenience stores. They found their solution with the help of Madison Spencer Architects who proposed a lighted tensioned fabric roof.

Key to making the project work is the architects' reuse of columns from the existing store. Madison Spencer added structural tubing, (ranging in size from 101.6mm to 254mm in diameter), and stainless steel cables to help stabilize the new roof. The steel was erected in the fabricator's shop to ensure proper fit-up of all members prior to arrival on site. An integrated perimeter gutter with stainless steel downspouts, protects patrons from the elements.

Post-occupancy surveys have shown that the canopy alone has generated a noticeable amount of traffic from the convenience store patrons, both new and former. Some guests have even indicated they visit the place only to check out the new and interesting canopy. Ultimately, the canopy has become the store's primary retail branding element—as it should.



Edge clamping detail for fabric roof showing the perimeter gutter.

PROJECT DATA

Client: Fuel Co. Inc.
Architect: Madison Spencer Architects
Fabric roof (design, engineering): Ashish Soni, FTL Design Engineering Studio
Fabricator: SFP Engineered Fabric Structures
Fabric: Précontraint by Ferrari Textiles