

CHARLES ROSE ARCHITECTS INC

PROJECT^{data}

ZERO NET ENERGY BUILDING

John W. Olver Transit Center

Greenfield, Massachusetts USA

Commissioned by: Federal Transit Administration

Scope: Hub for bus and other transit services; government offices occupy top floor; future train depot. First zero-net-energy transit center in the United States; funding from the American Recovery and Reinvestment Act (ARRA); 24,000 SF. With a 7,300 SF photovoltaic array; 22 geothermal wells; on-site wood-pellet boiler.

The John W. Olver Transit Center is designed to generate through renewable sources all the energy that it uses, meaning its net-energy consumption over the course of a year will be zero. At its core, the building contains a number of seemingly contradictory impulses. Charles Rose Architects was mindful of citizens' desires for a building that linked to Greenfield's history and was a highly innovative carbon-neutral building, which our ARRA stimulus funding allowed us to do. The materials we chose for the exterior—brick, copper and locally sourced stone—are a respectful nod to the downtown business district and its stately dark-brick buildings. Yet the transit center represents a radical departure from those energy-guzzling structures, anticipating the future and President Obama's executive order requiring that all new federal buildings achieve net-zero by 2030. The dark brick cladding the western side may pay homage to Greenfield's past, but its main purpose is green: a high-tech strategy in managing the building's exposure to afternoon sun. In parts, the brick dissolves and the façade becomes a kind of skin; these patterns are computer-generated and control the amount of heat entering the building's interior in summer and winter. And while brick and stone imbue the center with a rooted-in-place quality, the building's form conveys a sense of fluidity—a visual cue of the building's purpose. Our design bends the building toward the northern end, which gives the center a sense of motion or perhaps a current running through the structure. If successful, it will generate currents of change: local officials are looking to the transit center to spark downtown revitalization and sustainable development.

Materials: Copper; brick; bluestone; concrete; walnut; bronze; stainless steel; steel; acoustical plaster; terrazzo.

Completed: 2012

Cost: \$10,900,000

“Linda Dunlavy, executive director of the COG [Council of Governments], beams about the project.... ‘I love the challenges that it puts on us as a staff to behave more responsibly and sustainably,’ Dunlavy said, ‘and I love the technologies and techniques that are going to be used. It’s really a large part of our job at the COG to think about the future and how we can help our region and our towns have a better, comfortable future. This is a model of what can be achieved and what we should be working toward for the future.’”

Richie Davis, “Aiming for Zero Net Energy: Transit Hub will Use Power it Makes,” *The Recorder*, May 2011

Publications:

Morgan, William. “Civic Pride: Bold Design, Green Technology, and Community Service combine to Create a Public Building Worth Boasting About,” *Design New England*, July/August 2012.

Tuthill, Paul. “New Transit Center Named for Retiring Massachusetts Congressman,” WAMC Northeast Public Radio, May 4, 2012.

Hershel, Ray. “Country’s First Zero-Net Transit Facility Dedicated in Greenfield,” WGGB ABC 40/Fox 6, May 4, 2012.

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Schaeffer, Julie. “Challenging Modern Aesthetic Trends: Charles Rose Architects Challenges the Trend Toward a Minimal and Boxy Return to Modernism,” *Green Building & Design*, Volume 1, No. 3, October 2010.

Klettke, Russ. “Charles Rose Architects: Relationship to Landscape and Culture Define Firm’s Work,” *American Builders Quarterly*, Fall 2009.



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