



Winning bus shelter design created by the "Fab Collab" team from Architectural Studies

Green Travel—Right at Home

Architectural Studies Students Help Design New Bus Shelters

CONSTRUCTION HAS BEGUN on new Columbia bus shelters designed by a team of Mizzou students whose blueprint features sustainable technologies and local artwork.

MU Architectural Studies assistant teaching professor, Michael Goldschmidt, says of the student design, "It's very sustainable and ecological. The major materials are either recycled, locally available or rapidly renewable."

Columbia officials plan to build between 30 and 40 new shelters for the city's COMO Connect bus system during the next two years. Federal funding will cover more than \$375,000 of the project's cost, according to Steven Sapp, Columbia Public Works Department public information specialist. The city will pitch in nearly \$94,000 more for the new shelters, most of which will be built this year, says Sapp in an e-mail.

The new bus shelter design was created by Duy Tran, Lindsay Webb, Ryan (RJ) Baldwin and Chase Johnson, who teamed up in Goldschmidt's Sustainable Technologies and Systems class in the spring of 2014 to develop the proposal. Their concept, one of seven submitted by the 43 juniors

and seniors in Goldschmidt's course, earned top honors from both community leaders and residents during several months of public voting. All the designs followed a list of city criteria, covering matters ranging from sustainability to accessibility.

Goldschmidt notes that the winning team—called the "Fab Collab"—designed a shelter with a number of well-applied sustainable features. Along with its sustainable raw materials, the shelter design includes solar panels to power nighttime lights and "green roof" systems on which plants will grow.

The shelters also will offer a venue for local art. Removable panels will be able to display what team members term a "living art gallery" to catch the eyes of bus riders. "It's very open to what local artists can provide," Goldschmidt says.

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- Exercisers performing both cardiovascular and strength workouts can switch the order of their exercise. That small change may make the overall workout feel considerably different.
- Keep different company during a workout. Either head to the gym at a different time than usual, or vary workout partners
- Modify any one of a number of small variables in a weightlifting routine. Weightlifters can make routines feel different by varying the number of repetitions within a weightlifting set or the amount of time between sets, Ball says. Different machines may work the same muscles while providing variation, he notes. Or change the environment—go to a different gym.
- Increasing the number of sets in a weightlifting routine

may produce physical as well as psychological benefits, Ball adds. Untapped fibers within a muscle group may be called upon and strengthened as muscles become fatigued. "With multiple sets, the theory is that we use different muscle fibers than we use with one set," Ball says. "It might help us recruit some of those hard-to-recruit muscle fibers."

- Do different types of cardiovascular workouts. "Don't always go out for a three-mile run," advises Ball; cycle or swim instead sometimes. Runners also may find it more interesting to change their speed for a distance, or intersperse walking with running.
- Treadmills are a way to vary the exercise of walking, Ball notes. There's plenty of variation within treadmills, ranging from manual to motorized treadmills to treadmill desks.