Mobile Wellness Center Design Competition

"To Elevate the Dignity of the Individual"
Architecture and Engineering (Updated 4/24/14)

1st PRIZE $3000
2nd PRIZE $1500
3rd PRIZE $750
4th PRIZE $375
5th PRIZE $165

Teams of two to four students to design prototype for 100 Mobile Wellness Centers for truck stops throughout the United States. Designs must include facilities for:
- Private psychological counseling
- Private medical check-ups (Primary Care)
- Public and Private spiritual guidance
- Public physical well-being

JUDGING CRITERIA
- 20% Functionality
- 30% Space Utilization (Interior, Exterior, Surface, Site)
- 20% Aesthetics (Cultural, Massaging, Exterior, Interior)
- 10% Sustainability (Energy, Waste, Repair, Maintenance)
- 10% Versatility
- 10% Cost Effectiveness

DETAILS (See Dr. Wunderlich’s Public Folder for all documents):
1) BUDGET: $9,000 using Lowes.com and Rebury.com; whatever possible; labor costs paid system set in budget. Also use Grainger, Harbor Freight (for specialty items like hydraulics), and Corrugated Board Specialties (for modern high-quality visibility if needed). Look at the following websites for product materias that could make a creative solution to the space constraints:
- Armstrong Vinyl: www.armstrong.com
- SRP @ www.srp.com
2) STANDARDS: U.S. standard ADA, HIPPA, AA, ASHRAE building and vehicle codes. See Primary Care design criteria: [Link]
3) SPACE: Exterior size 39’ X 39’ or 39’ X 39’. Must meet dimensions of 30’ X 30’ or 39’ X 39’. Interior size 24’ X 24’ or 39’ X 39’. Design the floor plan around the interior size. Outside dimensions vary in size and degree. Design for various site conditions and lot configurations; a typical site plan is in the documents folder – assume rooftop will supply bathrooms, fuel, etc. 90 foot burning radius for trucks. Assume truck will be located away from trucks’ traffic flow.
4) HVAC: Environmental conditions should be similar to that of a typical U.S. office building during working hours. Trailers must operate in a variety of climates from the 100°F dry heat of South Valley in summer to the sub-zero temperatures of the Twin cities in winter. A refrigeration system must be installed for medical supplies and foods; necessary insulation, valves and required kickers are for Walls, Floor, and Ceiling.
5) Plumbing: Medical facilities will need a sink, and you may not have access to water and wastewater from the Travel Center. Other plumbing may be designed by sink, shower, dishwasher, and if you can fit in your budget.
6) INFORMATIX Technology: Assume high-speed internet access. A high-speed digital conferencing capability must be designed on the trailer (for teleconferencing, group scheduling, exercise & wellness classes, etc.).
7) ELECTRICAL: Assume per trailer 500 watts square foot support is to be ten and 120 volt AC provided; however, you can assume alternate power sources (e.g. generator, etc.)
8) WEIGHT: Total finished trailer cannot weigh more than 60,000 pounds (selecting trailer is 15,000 pounds)
9) TRUCK ASSISTANCE: Day with travel crew delivered to site (you don’t only: 1) for Coroners’ Arc), Hydraulic, alternative power generation, etc.)
10) Assumptions need to be realistic: (e.g., no carpentry)
11) Dealing with structural implications of how you perceive space for trailer windows, doors, space extensions, etc.
12) Presentation for final is optional in your design.
13) Remember that medical facilities will provide on-site, first aid, etc.
14) Don’t worry about structural implications of how you perceive space for trailer windows, doors, space extensions, etc.

Present your design in a 20 minute multimedia presentation (must include a poster) on Wednesday, May 7th at 11:00am in Glibble Auditorium. Contact Dr. Joseph Wunderlich (wunderlich@TOWN.EDU) for further information.
MOBILE WELLNESS CENTER DESIGN COMPETITION
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To Elevate the Dignity of the Individual
MOBILE WELLNESS CENTER DESIGN COMPETITION
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Five teams created conceptual designs including:

- Spiritual guidance
- Psychological counseling
- Medical check-ups
- Physical well-being
  - (Somewhat optional)
MOBILE WELLNESS CENTER DESIGN COMPETITION

1\textsuperscript{ST} PRIZE $3000
2\textsuperscript{ND} PRIZE $1500
3\textsuperscript{rd} PRIZE $750
4\textsuperscript{th} PRIZE $375
5\textsuperscript{th} PRIZE $180
MOBILE WELLNESS CENTER DESIGN COMPETITION

JUDGING CRITERIA:

– Functionality
– Space Utilization (Interior, Exterior, Surface, Site)
– Aesthetics (Cultural, Messaging, Exterior, Interior)
– Sustainability (Energy, Water, Repairs, Maintenance)
– Versatility
– Constructability
MOBILE WELLNESS CENTER DESIGN COMPETITION

BUDGET:

$80,000

Using Lowes.com, Bestbuy.com, Grainger, Harbor Freight (for specialty items like hydraulics), and Conestoga Wood Specialties (for custom high-quality cabinetry if desired)

Labor costs paid by others and not in budget.
MOBILE WELLNESS CENTER
DESIGN COMPETITION

STANDARDS:

US : ADA, HIPPA, AIA, ASHRAE, building and vehicle codes

Primary Care Medical design criteria:
https://www.transformed.com/
MOBILE WELLNESS CENTER
DESIGN COMPETITION

SPACE:

Finished floor is 48 inches above ground

EXTERIOR:  53' - 0" long, 8' - 6" wide , 13' - 6" high
INTERIOR:   52' - 6" long, 8' - 4" wide,    9' - 2" high

Can design sections that extend out and up

Websites for creative solutions to the space constraints:
   - Armstrong World Industries www.armstrong.com
   - SPI @ www.winrocspi.comand
SITE DESIGN:

Use of surroundings will vary in size and degree

Design for varied site conditions and lot configurations

Assume rest-stop will supply bathrooms and food

50 foot turning radius for trucks

Assume truck located away from truck traffic flow
MOBILE WELLNESS CENTER DESIGN COMPETITION

HVAC:

Must operate in a variety of climates (from 120F+ degrees of Death Valley, to sub-zero tundra of the Yukon)

A refrigerator must be included for medical supplies (not food)

Consider insulation R-values and required thicknesses for Walls, Floor, and Ceiling
PLUMBING:

Medical Professional will need a sink

May possibly not have access to water and wastewater from the Travel Center
INFORMATION TECHNOLOGY:

Assume high-speed internet available.

A high-def large teleconferencing capability must be designed into trailer (for televised sermons, group-counseling, exercise & wellness classes, etc.)
MOBILE WELLNESS CENTER DESIGN COMPETITION

ELECTRICAL:

Assume 10 watts per square foot supplied to trailer

Can propose alternate (maybe renewable) energy generation and storage.
CONCERT STAGE DESIGN

A RELATED TALK JUST BEFORE PRESENTATIONS BY MOBILE WELLNESS CENTER CONTESTANTS

By Anthony M. Bird
birda@etown.edu
THE COMBINATION OF TWO PASSIONS
STAGING

• Temporary platform

• Tait Towers: One of the biggest names in stage production 10 MILES FROM ETOWN – in LITITZ
STAGING

- Physical staging
- Lighting
- Sound
- Control system
Electric Factory
- Indoor
- Capacity: 3,000

Starland Ballroom
- Indoor
- Capacity: EXPANDABLE

Hershey Arena
- Outside arena
- Capacity: 7,200
THE FINAL DESIGN
STAGE DISSECTION

- Modular Tower Design for easier transport and setup
- Non-interactive backdrop
- Screens
- Speaker placement inside towers
MOBILE WELLNESS CENTER DESIGN COMPETITION

5th PRIZE $180
MOBILE WELLNESS CENTER
DESIGN COMPETITION

5th PRIZE $180

• Student interviewed 150 truckers!
MOBILE WELLNESS CENTER DESIGN COMPETITION

4th PRIZE $375
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3rd PRIZE $750
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DESIGN COMPETITION

1ST PRIZE  $3000
MOBILE WELLNESS CENTER DESIGN COMPETITION

1ST PRIZE $3000
ORIGINAL DESIGN

- Movable trailer walls that will unfold into a raised floor for the chapel space.
- What looks like a transparent sheet over the chapel area will actually be a fabric membrane that is insulated and will attached to the solid structure.
NEWEST DESIGN
The Mobile Wellness Center will be placed in an area that will be easily accessible to all the drivers, as seen below.
FOLDING PROPERTIES
DESIGN

Roof and Walls of Chapel

• Light-weight fabric membrane with insulation properties for easy set-up and tare-down, and also functional for detachable shelter.
DESIGN

Interior

Mobile Chapel/Doctors office/Psychological Counseling
DESIGN

Space utilization

Physical Health

Mental Health

Spiritual Health
PHYSICAL HEALTH

Water-saving sink and Biohazards disposal containers for working with patients and medicines. The water tank will be placed on the cab face of the trailer. This is an attempt to be eco-friendly and medically safe.
MENTAL HEALTH

Psychological Counseling room/Chaplin’s office

Main Lounge/Waiting room
SPIRITUAL HEALTH

A nondenominational sacred space for the truck drivers
2014/15

ETOWN COLLEGE WELLNESS CENTER DESIGN COMPETITION

J. Wunderlich, PhD

Director of the Design and Technology-Transfer Studio Engineering, Computing, and Architectural Programs

Elizabethtown College
MANY YEARS OF RELATED PROJECTS IN OUR DESIGN STUDIO
Wunderlich, J.T. and Wunderlich, J.J. (2013). Green architecture and environmental design using rapid-prototyping social-networking sandbox tools, followed by professional architectural software. *Asian Conference on Sustainability, Energy & the Environment (ACSEE 2013)*, June 6-9, Osaka, Japan. [TALK PAPER](#)

Wunderlich, J.T. and Wunderlich, J.J. (2013). Green architecture and environmental design using rapid-prototyping social-networking sandbox tools, followed by professional architectural software. Asian Conference on Sustainability, Energy & the Environment (ACSEE 2013), June 6-9, Osaka, Japan. TALK PAPER

2014/15
WELLNESS CENTER DESIGN COMPETITION

MANY YEARS OF RELATED PROJECTS IN OUR DESIGN STUDIO
2014/15

Etown College Wellness Center Design Competition

Green Architectural Engineering (EGR343)

Conceptual Architecture (FYS100)

Architectural Design Studio I & II (EGR/ART499 A&B)