



# STORAGE SOLVED

**THE CHALLENGE:** When a library as famous and well visited as the St. Louis Central Library (St. Louis, MO) undergoes a massive renovation, great care and consideration must go into the planning process. The iconic building was constructed in 1912 based on the Italian Renaissance style and was frequently visited by people from all over the world. But the historic majesty of the structure could not make up for the lack of modern amenities necessary for a library to thrive in the 21st century.

## RESTORED. REPURPOSED. REVIVED.

SMART STORAGE ASSISTS IN THE REVITALIZATION OF THE 101 YEAR-OLD ST. LOUIS PUBLIC LIBRARY'S CENTRAL LIBRARY.



There were several challenges that needed to be addressed as the planning began. There was an absence of technology integration in the building, as well as a lack of communal spaces for patrons to use for study and collaboration. Areas that have become essential to a library's success as a community resource, like computer labs, teen spaces and even meeting rooms, were missing from St. Louis Public Library's Central Library.

The library also needed to address several safety hazards caused by the outdated central stack area, which was constructed from a steel-framed, self-supporting structure. This structure was made up of metal shelving uprights bolted together one on top of the other, into multiple tiers (floors) separated only by opaque glass tile floors that suspended right off the steel shelving posts.

Picture a house of playing cards, where the different "floors" are built off of the different "walls" made of cards.

Due to the nature of the self-supporting structure's construction, there was a small gap between the base of the metal shelf and the start of the glass floor. A person could stand on the seventh floor of the stack area and look all the way down through the gap to see the ground level. Because there was no separation between tiers, other than glass, this was a major fire hazard. If there were a fire, it would spread quickly and with no resistance all the way up from the lowest tier to the highest.

The second issue with this particular stack system was seismic. In St. Louis, the closer the building sits in relationship to the river, the greater reinforcement is needed to prevent any damage from seismic activity. This system, not unlike a house of cards, not unlike the proverbial house of cards mentioned earlier, would be unstable in the event of an earthquake.





### THE SOLUTION

With so many challenges to overcome, the St. Louis Public Library integrated many different shelving solutions into their renovation project in order to open up space for repurposing and create a sleek, modern appearance in the historic building.

The Library knew the Peterson Group, the local Spacesaver Representative (now Bradford Systems), and Spacesaver, from previous projects completed for their Public Library system over the last 35 years. In fact, the Central Library project was preceded by a substantial high-density mobile storage project completed in their off-site facility. This system is made up of cantilever shelving and half-height laminate end panels. As a closed access building, the units could be functional vs. highly aesthetic. This helped reduce costs while still maximizing the available space.

During the two-and-a-half year construction project, the 4 million-volume collection was moved into both a temporary off-site warehouse, purely used for storage during the renovation, and into the off-site facility permanently operated by the library (mainly used for storage of low-use material and research) and located just three blocks from the Central Library.

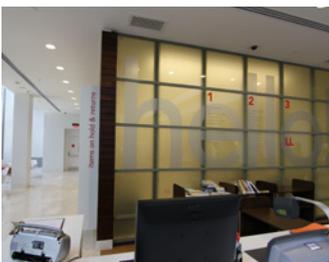
During this time, the self-supporting structure was completely removed from the building and new floors constructed and outfitted with Spacesaver mechanical assist high-density mobile shelving. The library repurposed some of the original glass floor tiles and used them as a wall on the ground level.

Static Spacesaver cantilever shelving was used throughout the public access areas of the library for easy browsing by patrons. Cantilever shelving is the most common system used in libraries, due to the on-site reconfigurability.

Several custom features were also integrated into the final design of the various shelving units throughout Central Library:

LED lighting was installed onto the Spacesaver cantilever-shelving units throughout many areas of the library, including the Fine Arts, Science and Technology and Rare Books rooms. This required a special base for the cantilever units onto which the vertical lighting fixtures could be affixed. These fixtures not only look like a part of the shelving (painted in the same finish) but are used to light the aisles, in lieu of adding any additional room lighting that might detract from the

An image of the original central stacks interior showing metal shelving and glass floor tile.



Original glass floor tiles re-used as an interior wall.

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Where old meets new: restored wooden shelving flanks the perimeter, while Spacesaver metal shelving with custom backlit glass sits in the interior of the room.



historic chandeliers and ornate ceilings. The LED lighting is also extremely energy efficient and lower in cost to operate than traditional florescent bulbs.

Custom glass end panels were used in the areas with LED lighting integrated into the shelving. The glass panels are subsequently illuminated – making the stacks look almost like works of art themselves and create a design feature unique to the St. Louis Central Library.

Special red, acrylic end panels were used on the cantilever-shelving units in the showcase space on the main level of the library called The Center for the Reader.

Glass end panels were also installed on the cantilever shelving used in the media room. Because these cantilever shelves were designed with pullout drawers to store disks and other media like DVDs, no lighting was integrated.

In the children's area, cantilever shelving was outfitted with a custom base, wrapped in solid surface and then placed on heavy-duty casters so that the area is completely reconfigurable on the fly by the library staff.

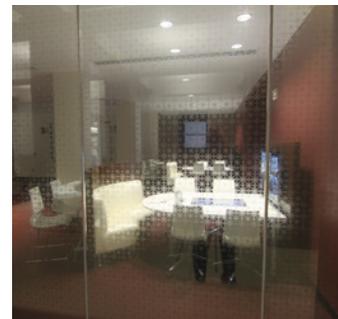
In many of the reading rooms, the original bookcases lining the walls were restored and put to use, but in some cases the wooden shelves were cracked or damaged. Shelves were "harvested" from the Government, Business Law & Languages room and used to fill any gaps. Spacesaver then provided metal cantilever shelving to sit inside the original wooden cubbies.

There is also static cantilever shelving installed in the off-site



Fully adjustable, metal cantilever shelving was installed inside the original wooden cubbies where the damaged wooden shelves were removed.





storage facility on the first and second floor. Though mobile was used on the lower level, only static could be installed on the higher floors due to load capacity. End panels were omitted altogether to save on costs, since the public would not see the inside of this private facility and aesthetics were not a concern.

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The Central Library re-opened during the St. Louis Public Library's centennial year of service. This now 101-year-old library is a blend of old and new, where ornate wooden ceilings and dramatic chandeliers meet high-tech computer labs, sleek glass walls and exposed concrete floors.

The use of high-density mobile shelving enabled the library to consolidate the collection from their seven-tiered central system onto just three interior mezzanine-like floors, plus the basement level of the library. Not only does the new stack space meet fire and seismic codes, it is brighter and easier to navigate.

The high-density mobile storage used throughout the library also helped open up existing spaces for new functions. There is now a teen room, which incorporates study areas, lounge seating, and even a small theater-like TV viewing area. The library also added a café, a book club meeting room, and a studio for movie, music and video game access.

Another stunning addition to the library was a full size auditorium for concerts and live theater. This space is located on the basement level, and through some ingenuity, replaced the original coal bin room.

Each new element has helped renew the library as a cultural center for the city of St. Louis.

To learn more about Spacesaver library storage solutions and how a Spacesaver Storage Specialist can help you overcome your storage challenges, please visit [www.spacesaver.com](http://www.spacesaver.com) or call **1-800-492-3434**.



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