



material handling  **logistics conference**
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Collection Storage And Retrieval Technology Comparison

Track 7 Session 8



Supply Chain  **Forward.**

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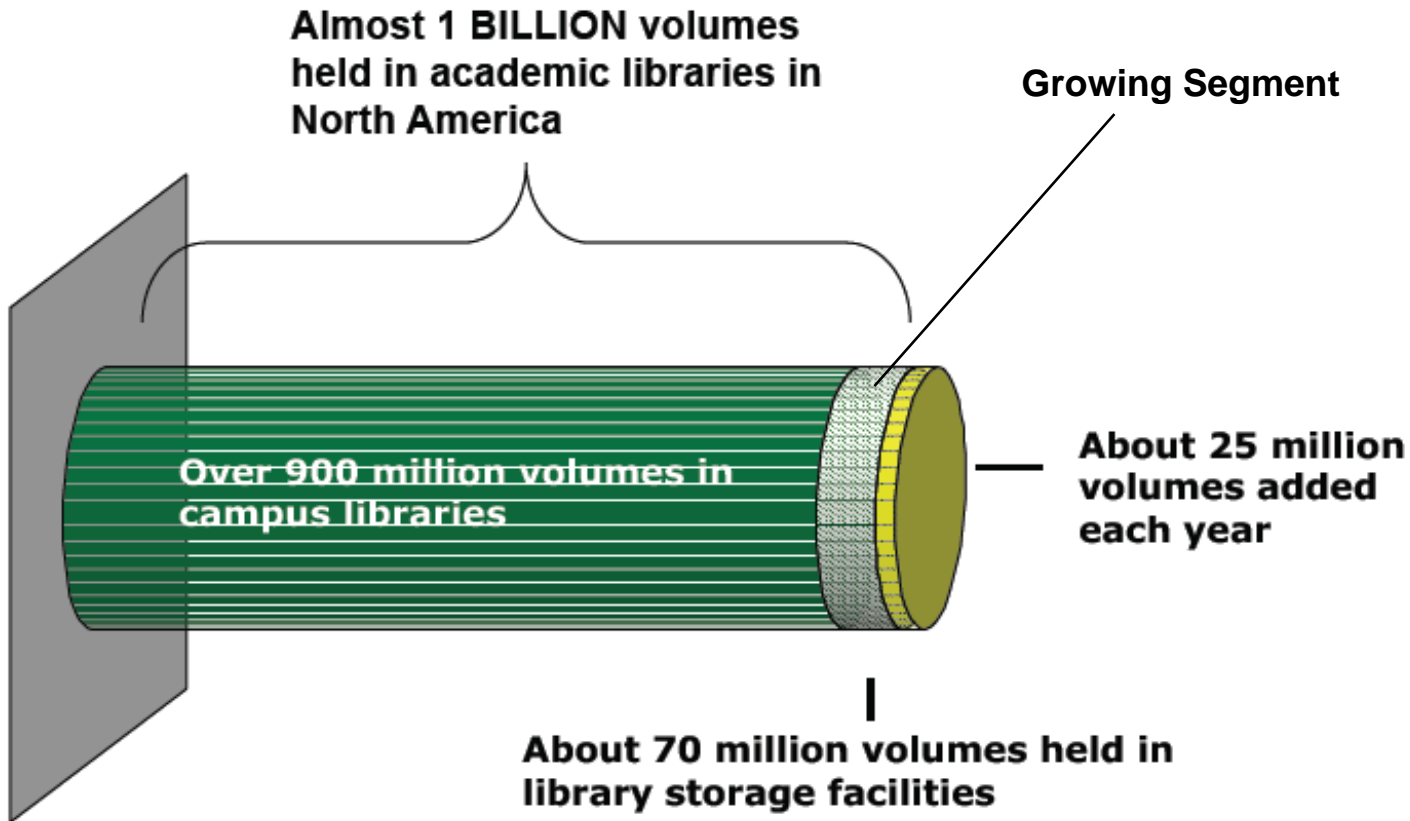
Abstract

- ▶ **Open shelving within a library remains a standby popular choice for collection storage and patron retrieval. As print volume continues to evolve, collections grow and preservation becomes a priority, alternative technologies arise that can help improve collection management and use of library space. This session will detail the storage and retrieval options available today together with their relative features and benefits.**

Agenda

- ▶ **Collection Management –**
 - ◆ **History and Trends**
 - ◆ **Introduction to Print Volume Management**
 - ◆ **Planning & Metrics That Matter**
 - ◆ **Library Storage System Comparisons**
- ▶ **Key Takeaways**
- ▶ **Next Steps**
- ▶ **Questions**

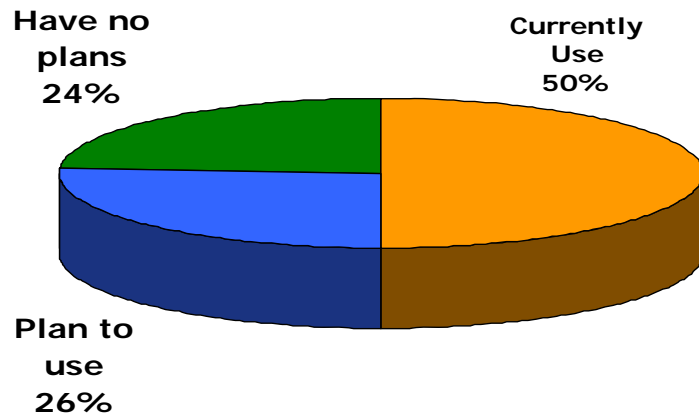
Current Status & Forecast



[1] – Lizanne Payne, Washington Research Library Consortium, May 4, 2008

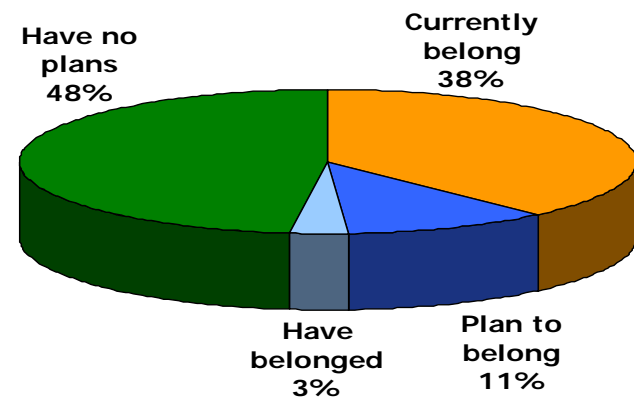
Industry Feedback on Collection Management

Does your library currently use collection analysis tools to help evaluate and manage your collection? (N=88)



Collection Management

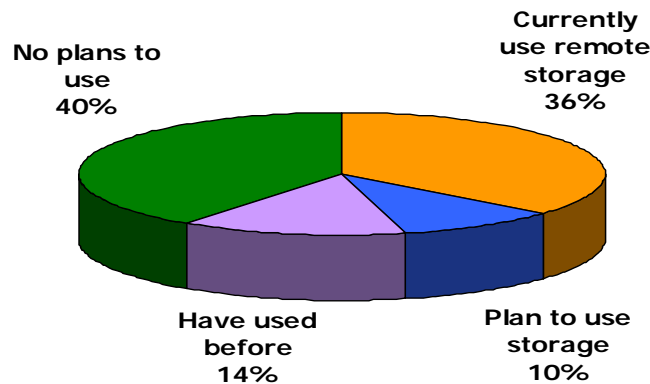
Does your library currently belong to a cooperative collection development group? (N=88)



Cooperative Collection Development

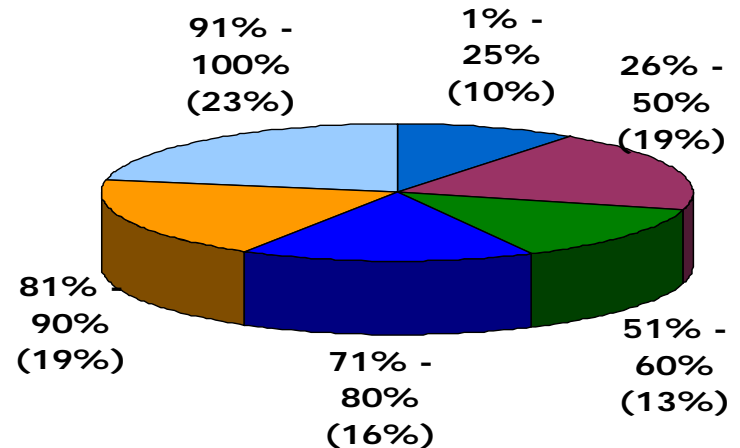
Industry Feedback on Collection Management

Does your library currently move materials into remote storage, which is stored in a separate location from your main collection? (N=88)



Remote Storage

Approximately, what percentage of your remote storage facility is full? (N=31)



Storage Filling Up

Print Volume Management

► How print volumes are being managed:



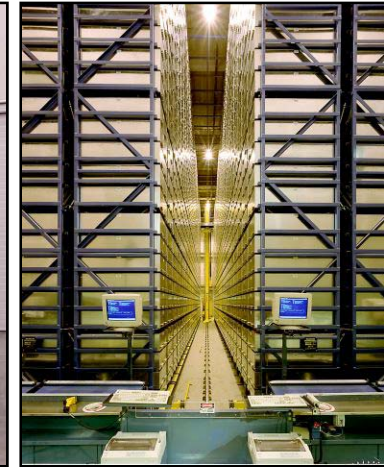
Open Shelving



Compact Shelving



Warehoused Storage
(Harvard Model)

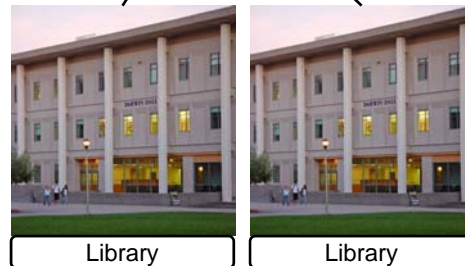


Automated Storage
(ALS Model)

Overflow Print Volume Management

► How overflow volume is being managed:

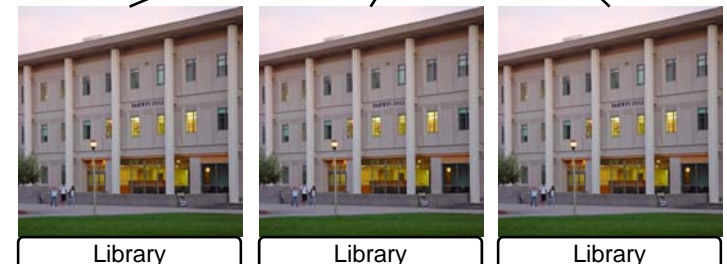
Shared Storage



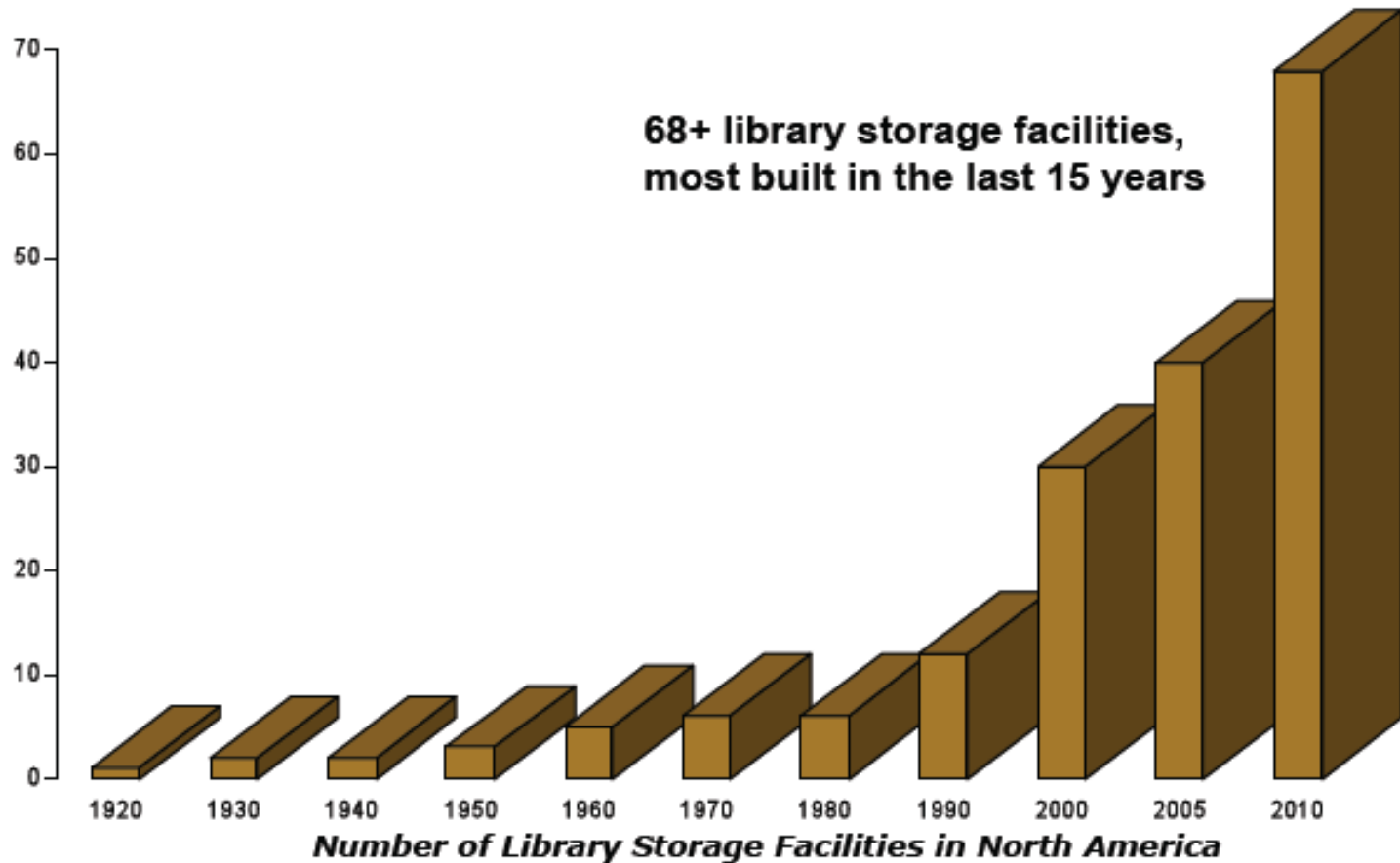
On Site / Individual Storage



Shared Print Archive

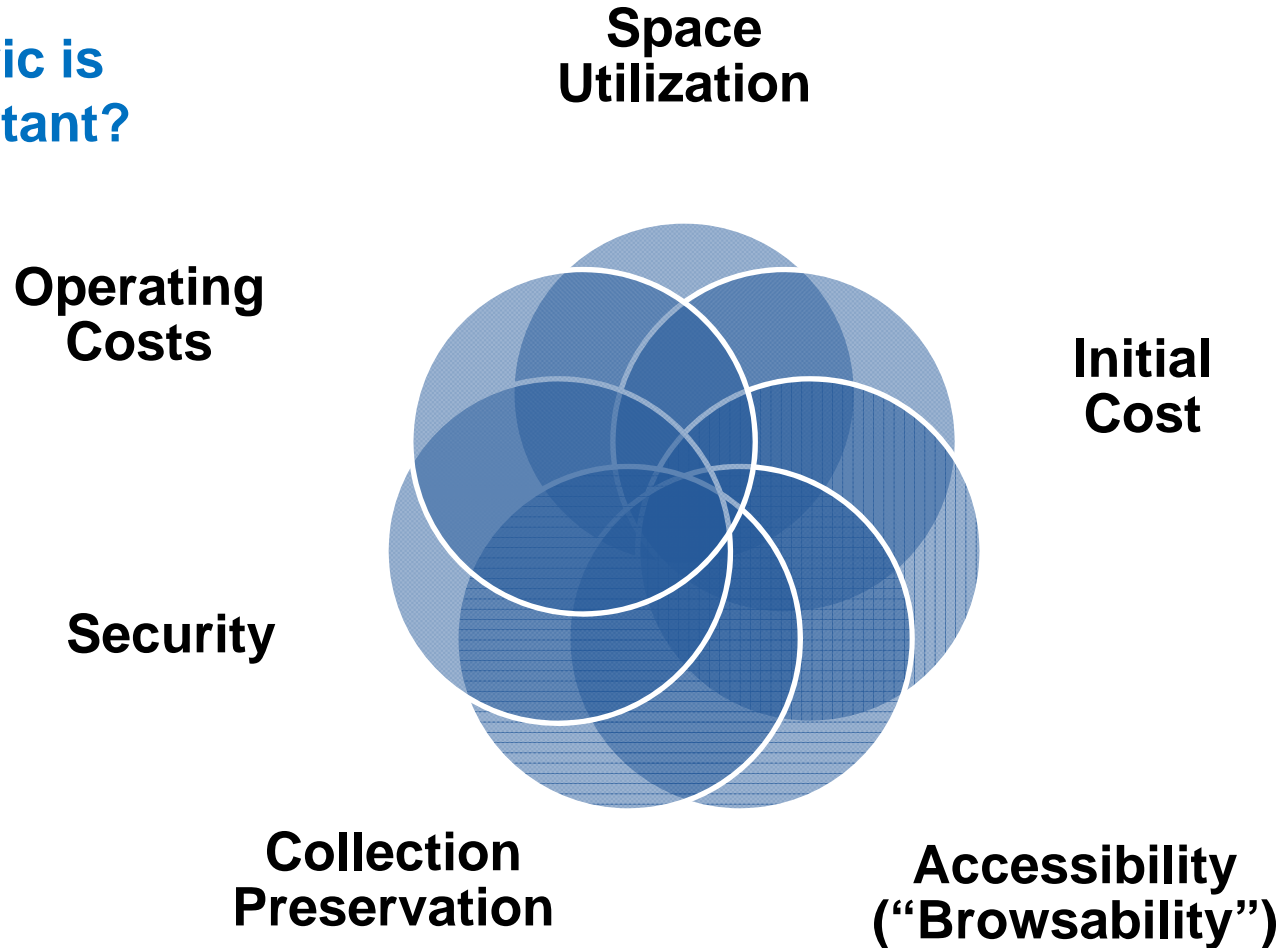


Growth & Forecast of Library Storage Facilities



Storage Planning – Metrics That Matter

Which metric is
most important?



A Comparative Look at Various Storage Models

- ▶ **Open Shelving**
- ▶ **Compact Shelving**
- ▶ **Harvard Model**
- ▶ **ALS – Browseable Shelving System**
- ▶ **ALS – Archival Box Storage System**
- ▶ **ALS – Bin Storage System**
- ▶ **ALS – Portable Tote System**

Open Shelving

▶ Pros

- ◆ Patron “browse-ability”
- ◆ Immediate accessibility

▶ Cons

- ◆ High cost associated with low space utilization (~2.6 LF per SF)
- ◆ Preservation liability associated with open access
- ◆ Reduced inventory control

▶ Application

- ◆ Volumes with regular inquiries and circulation



Compact Shelving

▶ Pros

- ◆ Semi “browse-ability”
- ◆ Good accessibility
- ◆ Improved storage density (~5.9LF per SF)

▶ Cons

- ◆ Preservation liability (on par with open shelf)
- ◆ Inventory control (on par with open shelf)
- ◆ Comparative cost per Volume

▶ Application

- ◆ Secondary volumes with fairly regular inquiries and circulation



Harvard Model

▶ Pros

- ◆ Lower cost per volume associated with Improved storage density (~8.6LF per SF)
- ◆ Isolated environmental controls

▶ Cons

- ◆ Poor accessibility – generally off site with next day delivery to patron
- ◆ No “browseability”

▶ Application

- ◆ Volumes with infrequent inquiries and circulation



ALS – Browseable Shelving System

▶ Pros

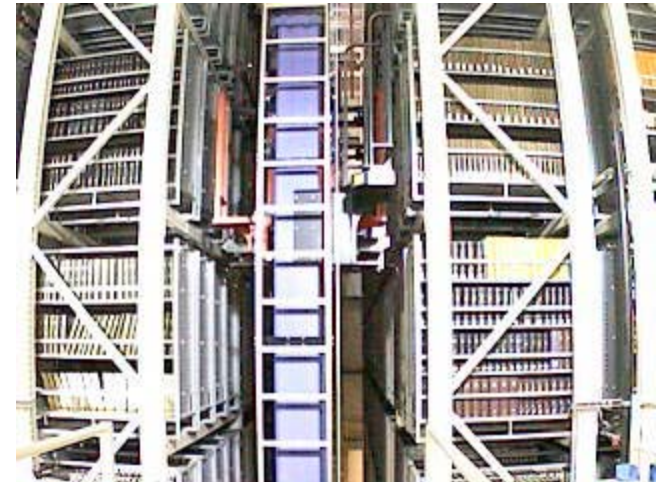
- ◆ Lower cost per volume associated with Improved storage density
- ◆ Isolated environmental controls
- ◆ Call number “browsability”

▶ Cons

- ◆ Lower Density
- ◆ Higher cost per volume

▶ Application

- ◆ Volumes with infrequent inquiries and circulation



ALS – Archival Box System

▶ Pros

- ◆ Lower cost per volume associated with Improved storage density (~7.5 LF per SF)
- ◆ Isolated environmental controls
- ◆ Lower cost per volume

▶ Cons

- ◆ No “browsability”
- ◆ Lower Throughput

▶ Application

- ◆ Volumes with infrequent inquiries and circulation



ALS – Bin Storage System

▶ Pros

- ◆ Lower cost per volume associated with Improved storage density (~18.6 LF per SF)
- ◆ Isolated environmental controls
- ◆ Higher throughput
- ◆ Higher storage density

▶ Cons

- ◆ No “browsability”
- ◆ Higher cost per volume

▶ Application

- ◆ Volumes with infrequent inquiries and circulation



ASRS – Portable Tote System

▶ Pros

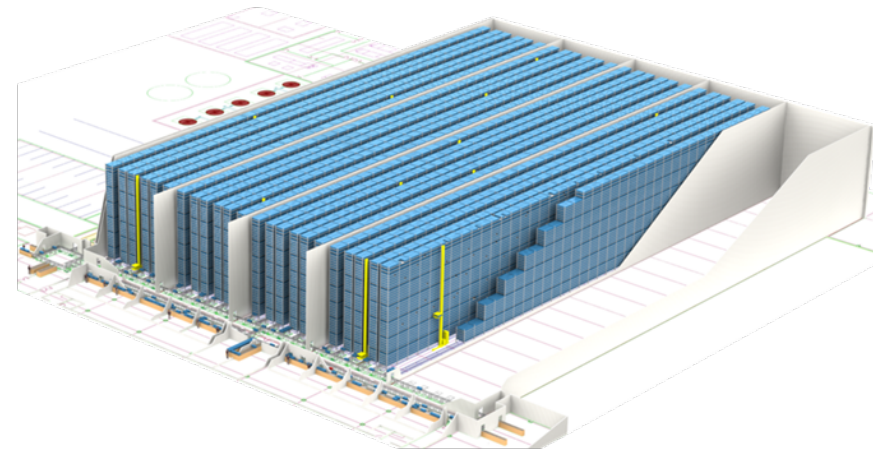
- ◆ Lower cost per volume associated with Improved storage density (~14.9LF per SF)
- ◆ Isolated environmental controls

▶ Cons

- ◆ No “browsability”
- ◆ Higher cost per volume

▶ Application

- ◆ Volumes with infrequent inquiries and circulation



Comparison Matrix

	Space*	Initial Cost	Annual Costs**	Accessibility	Preservation	Security
Open Shelving	133,000 sq ft	\$13.00 per Vol.	\$120,000	Immediate	Poor***	Poor
Compact Shelving	67,000 sq ft	\$9.80 per Vol.	\$60,000	Semi Immediate	Fair	Fair
Harvard Model	13,500 sq ft	\$3.50 per Vol.	\$90,000	Next Day	Good	Fair (manual placement)
ALS – Browse-able Shelving	TBD sq ft	\$4.75 per Vol.	\$30,000	Within Minutes	Excellent	Excellent
ALS – Archival Box	25,000 sq ft	\$4.25 per Vol.	\$30,000	Within Minutes	Excellent	Excellent
ALS – Bin Storage	11,000 sq ft	\$3.90 per Vol.	\$30,000	Within Minutes	Excellent	Excellent
ALS – Portable Tote	133,000 sq ft	\$5.00 per Vol.	\$30,000	Within Minutes	Fair (plastic can outgas)	Excellent

* Square feet of space required to store 2M volumes

** Staffing required to manage 2M volumes

*** Preservation includes inventory control and accuracy

Key Takeaways

- ▶ **Collections continue to grow at an alarming rate**
 - ◆ **Libraries must adopt a collection management plan and create strategies for long term growth**
- ▶ **When considering storage facility alternatives remember the metrics that matter and decide which is most important to your organization**
 - ◆ **Space, Cost, Accessibility, Preservation, Security**
- ▶ **Become familiar with available solutions and determine how those solutions fit your metrics**

Next Steps –

How to Determine the Optimal Approach for your Collections

1. Data Analysis (Current & Forecasted)

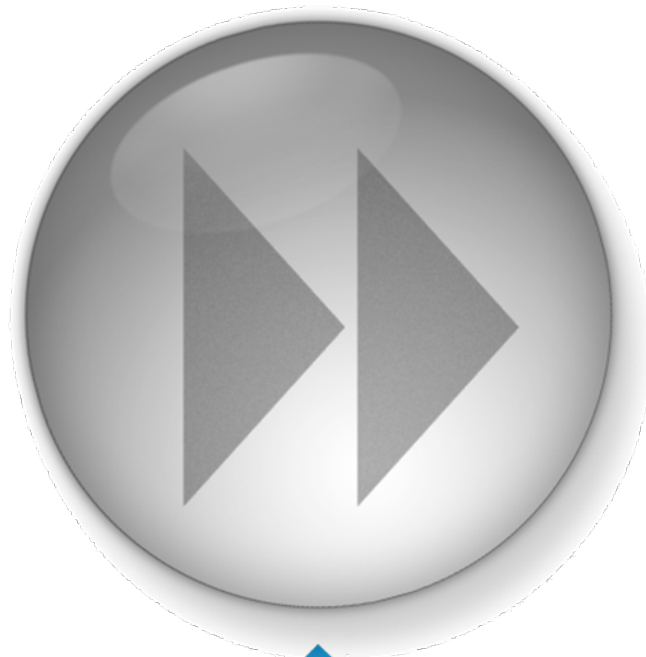
- Special volume
- Access rates
- Etc...

2. Cost Analysis / ROI

- Equipment Investment (Building, Land, etc)
- Labor
- Maintenance
- Soft Considerations (Preservation, Damage/ Loss/ Misplaced)

3. Simulation Modeling to Confirm Assumptions

4. Building Implications



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Questions?