• **1984**: Miller Dunwiddie – Study on Public Spaces
• **1988**: Miller Dunwiddie – Comprehensive Plan and implementation
• **2001**: Pre-Design for Interior Restoration of the Capitol
• **2007**: Pre-Design Update and Conceptual Design
• **2007**: Capitol Restoration Working Group
• **2008**: Asset Preservation Work – Exterior Dome
• **2011**: Asset Preservation Work – Deterioration

**28 Years of Planning**
117 years ago a The Board of State Capitol Commissioners came together to make a 100 year decision.

“We built the State Capitol on the theory that nothing was too good for Minnesota.”

_Cass Gilbert, Jan. 1901_

Today the State of Minnesota has a similar opportunity. The Legislature has not only the responsibly to preserve the past but to protect and assure the Capitol’s future.
The Report from the Capitol Preservation Commission outlines the overall actions of the Commission and recommendations to the legislature as identified in the following documents:

• **Comprehensive Master Plan**
  – 20 year or longer view of the Capitol. Includes restoration, preservation and maintenance; long term planning.

• **Preliminary Pre-design**
  – Restoration focused towards the immediate actions to preserve the Capitol.

• **Design Guidelines and Imperatives**
  – Informative document that address specific critical design elements that are the most important elements of the restoration.
Challenges

1. **Focus on fixing of the building** – The Governor challenged the Commission to be Good Stewards.

2. **We are at a tipping point** – The Capitol has reached a point in its life, where restoration is critical to extend the life of the building and reduce costs for the next 100 years.

3. **Work within the footprint of the building** – No expansion beyond the Cass Gilbert Building.
Guiding Principles

1. Architectural Integrity
   • It is critical to preserve the integrity of the building and its great architecture.
   • Not everything must be absolutely returned to the 1905 plan.
   • The building must work for the next 100 years.
   • Consideration should be given to how Cass Gilbert had planned it in 1905.

2. Building Function
   • The building must work to improve and support the function of Government.

3. Life Safety and Security
   • The Capitol must be safe from security threats, fire and deterioration of systems.
   • It must provide for accessibility of all Minnesotans.
   • The building needs to be current on life safety codes.
Findings of the Planning Process

- The stone exterior is deteriorating rapidly.

- The mechanical systems are at the end of their useful life.
  - Maintenance issues
  - No direct source of outside air in the rotunda
  - The plumbing systems are at risk of leaking
  - Much of the plumbing system is not accessible

- The electrical systems are inadequately sized.
  - Electrical service to be upgraded to 480 volts
• **Life-safety systems need to be improved.**
  – No smoke control system
  – Limited sprinkler system
  – Exit stairwells are not code compliant
  – Security design and technology to mitigate security vulnerabilities
  – The Capitol needs to be safe for all

• **Technology systems need to be improved.**
  – Wiring is haphazardly strung/installed
  – Below the level of service now needed

• **Accessibility is inadequate or nonexistent.**
  – 100 years ago, access for the disabled not considered
  – Needs modernization with respect to accessibility
Committee Rooms need to be better organized.
  Meeting spaces should accommodate public viewing of the proceedings

The Public struggles to find Legislators located in the Capitol.
  The physical location of offices should be improved for public access

Accommodations for visitors should be improved.
  School buses and school children to visit Capitol
  To witness and participate in the sessions

Communications between the Senate and House Chamber.
  Currently the building does not support movement between the bodies

Restoration of the Capitol.
  Should be a 100 year building life expectancy
Mechanical and Electrical Approach

- Modern systems require connectivity throughout the building. The challenge is make connections where none were intended.
  
  - Outside Connections
  - Equipment Locations
  - Horizontal Distribution
  - Vertical Distribution
Capitol Preservation Commission
Planning Process

**Basement**
- Reuse existing mechanical Space
- Provide for additional mechanical space
- Use Cass Gilbert vertical distribution Concept.

**Ground through 3rd**
- Expand on use Cass Gilbert vertical distribution Concept.

**Attic and Roof**
- Capture existing space for mechanical and electrical space
- Create new space
- Develop new horizontal duct runs
- Provide ventilation at roof
Mechanical Systems

• Two System Approach:

  – **Mixed Air System** – A traditional approach of re-circulating building air mixed with a portion of fresh air. Requires standard size ductwork and equipment.

  – **De-coupled Cooling Systems** – A new more efficient approach delivers a high concentration of fresh air for ventilation. Less air is circulated requiring smaller equipment and ductwork. Devices located in each room provide more individual temperature control.
Reduced Useable Square Footage

The restoration will impact the usable square footage of the Capitol:

- **Mechanical & Electrical** – Cass Gilbert’s original vertical shafts will be used and new one will be created in close proximity.
- **Restrooms** – Code requires additional facilities and accessibility. New restroom space will impact each floor.
- **Exit Stairways** – Code requires a safe and secure means of egress from the upper floors of the Capitol.

<table>
<thead>
<tr>
<th>Useable Area Lost (SF)</th>
<th>Basement</th>
<th>Ground</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Useable Area Lost MEP</td>
<td>0</td>
<td>1900</td>
<td>2576</td>
<td>998</td>
<td>648</td>
<td>6122</td>
</tr>
<tr>
<td>Useable Area Lost Stair &amp; Toilets</td>
<td>1800</td>
<td>365</td>
<td>1451</td>
<td>1353</td>
<td>959</td>
<td>5928</td>
</tr>
<tr>
<td><strong>Total Useable Lost Space</strong></td>
<td><strong>1800</strong></td>
<td><strong>2265</strong></td>
<td><strong>4027</strong></td>
<td><strong>2351</strong></td>
<td><strong>1607</strong></td>
<td><strong>12050</strong></td>
</tr>
</tbody>
</table>

*This equates to about 7% of useable space*
Schedule Goals

• Minimize time chambers and direct support areas are unavailable.

• Government must be able to be function well at all levels during the restoration (in the Capitol Building or in swing space).

• Acceptance of some inconvenience for the public good.

  Governor Dayton, in the 2012 State of the State address, said that this vote would be one of the most self-less votes of their career – to kick us out of the building for 4 years if necessary.
Schedule Milestones

- **July 2012** – Start Design
- **July 2013** – Start Relocation
- **September 2013** – Start Construction
- **September 2016** – Finish Major Construction
- **December 2017** – Finish Interior Finish Work
Construction Sequence

• **Plan** - The current plan is to sequence the work by starting with the work associated around the Chambers and working out from the chambers to other parts of the Capitol.

• **Goals** -
  1) The chambers will be used for each session,
  2) The legislature will work in the building for a long as possible, and
  3) To minimize disruption to legislative process.

• **Process** - All sequencing options will be evaluated and a final sequencing plan will be developed by Dec. 2012 once the CM@r is under contract and has evaluated scope and schedule
Preserving the Architectural Integrity

- Restoration of the Capitol
- Restoration and Preservation of the State’s most significant historical monument and a working State Capitol for the next 100 years
Preserving the Architectural Integrity

Exterior Envelope

• Repairs to the Exterior Stone
• Window Replacement
• Roof Replacement
Benefits to Minnesota

Preserving the Architectural Integrity

Mechanical Systems
• Provide for a more comfortable environment for all
• Ventilation of Rotunda and other public spaces

Electrical Systems
• Improved energy efficiency
• Greater technology capacity
• Public accessibility WiFi
Benefits to Minnesota

Preserving the Architectural Integrity

- Restore and repair the damaged decorative arts within the Capitol
Benchmarking. Benchmarking is a process that uses information from other State Capitols, comparing their scope and costs, allows for identification of what the restoration might cost prior to defining the full scope of the restoration project.

Cost Benchmarking – What did they spend?
• Escalation at 2% per year from 2007 to 2011
• Escalation at 4% (+/-) per year from 2011 to 2015
• For Estimating Purposes, 2015 picked as Midpoint of Minnesota Capitol Preservation Work

Scope Benchmarking – What did they buy regarding?
• Adjusted Scope
• Our Guiding Principles:
  – Architectural Integrity
  – Building Function
  – Life Safety
### Capitol Preservation Commission

#### Cost

<table>
<thead>
<tr>
<th>State Capitol</th>
<th>Renovated Square Footage</th>
<th>Escalated to 2015</th>
<th>Adjusted Program</th>
<th>Adjusted $/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas Capitol</td>
<td>300,000 SF</td>
<td>$205 million</td>
<td>$187 million</td>
<td>$624/SF</td>
</tr>
<tr>
<td>Michigan Capitol</td>
<td>225,000 SF</td>
<td>$94 million</td>
<td>$94 million</td>
<td>$416/SF</td>
</tr>
<tr>
<td>Ohio Capitol</td>
<td>273,000 SF</td>
<td>$184 million</td>
<td>$184 million</td>
<td>$674/SF</td>
</tr>
<tr>
<td>Texas Capitol</td>
<td>360,000 SF</td>
<td>$318 million</td>
<td>$223 million</td>
<td>$620/SF</td>
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<tr>
<td>Utah Capitol</td>
<td>310,000 SF</td>
<td>$265 million</td>
<td>$152 million</td>
<td>$492/SF</td>
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<tr>
<td>Virginia Capitol</td>
<td>117,000 SF</td>
<td>$105 million</td>
<td>$98 million</td>
<td>$736/SF</td>
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<tr>
<td>Wisconsin Capitol</td>
<td>240,000 SF</td>
<td>$203 million</td>
<td>$203 million</td>
<td>$848/SF</td>
</tr>
<tr>
<td><strong>AVERAGE</strong></td>
<td><strong>260,725 SF</strong></td>
<td><strong>$196 million</strong></td>
<td><strong>$163 million</strong></td>
<td><strong>$600/SF</strong></td>
</tr>
<tr>
<td>Minnesota Capitol*</td>
<td>387,000 SF</td>
<td>$337 million</td>
<td>$198 million</td>
<td>$523/SF</td>
</tr>
</tbody>
</table>

* This is a benchmark only and is not intended to be a cost estimate for the renovation. Cost estimate will be completed as part of the pre-design and project definition phase.
The restoration of the Capitol is estimated to cost $241,000,000 in FY2012 dollars.

- The benchmark average cost per square foot was $600, not including swing space, furniture, fixtures, and equipment costs.

- At $241,000,000, the restoration of the Minnesota State Capitol is estimated to cost $625 per square foot.
An appropriation of $241 Million allocated as follows\(^0\):

- **FY2013**: $77.4 Million* - Design/Exterior/Sequence A: Attic
- **FY2014**: $69 Million - Sequence C: West/North
- **FY2015**: $41.6 Million - Sequence B: East
- **FY2016**: $53 Million - Sequence D: Public Space

\(^0\) Operating costs not included.

* Includes $2 million general fund for relocation.