Remote Condition and Maintenance Cost Assessment of the
Washington State Art Collection, 2011
by Peter Malarkey, Jessica Kottke, and Janae Huber

Project Summary
In 2011, conservator team Peter Malarkey and Jessica Kottke performed a unique assessment of the Washington State Arts
Commission’s state art collection, one of the largest and oldest
collections of public art in the United States. The collection
includes 4,500 artworks located at public schools, colleges,
universities, and state agencies across Washington. The as-
essment — of works that range in scale from 2D works on
paper to major landscape installations to technology-based art-
works — answered the fundamental question: what resources
are needed to care for this large, diverse, and geographically
spread collection?

The team and Arts Commission agreed that an object-by-
object assessment was not presently feasible. Thus the
assessment that was carried out applied a combination of
statistical analysis and experience-based, subjective rea-
soning to a statistical subset of the state art collection. When
applied to the collection as a whole, it gives the Commission
a picture of the needs of its large and vulnerable group of
artworks. The resulting report has been the foundation for nu-
merous management decisions and has resulted in additional
resources allocated for the collection’s care.

Project Background
Founded in 1974, the tax-funded collection consists of over
4,500 individual artworks by artists of regional and national
significance. It is distributed across 36 of 39 Washington
counties with artworks sited in public schools, community
colleges, universities, and a variety of state agencies. The
artworks occur in a range of scales and media including wood,
stone, metal, paper and paint-based media, plastic,
glass, organic material, and digital technology. Funding for
conservation of the collection is capped by the State Leg-
islature at $100,000 biennially, making care of this diverse
collection a particular challenge.

The Commission’s collections policies maximize the acces-
sibility and visibility of artworks within Washington’s commu-
nities and maintain its original mission of conservation
and development of the state’s artistic resources. In order
to operate within the conservation cap and maximize its re-
sources the Commission began, in recent years, strengthen-
ing its preventative conservation policies and procedures to
more effectively manage the collection.

The development of preventative conservation models and
the implementation of a preliminary conservation review
during artwork acquisitions have decreased the Commis-
sion’s reliance on costly, reactive preservation efforts and
facilitated the long term success of the collection by increas-
ing supervision, information gathering, and quality control
of newly acquired artworks.

To further implement these strategies, the Commission hired
conservators Kottke and Malarkey to assess the overall con-
dition of the collection in order to give some idea of what
might be needed to perform necessary short term conserva-
tion and maintenance and to help develop a realistic budget
for ongoing preservation. The assessment that the team
developed provides a profile of expected overhead for the
Commission which covers hands-on treatment, administra-
tion, and transportation for the artworks based on size, ma-
terial scope, age, and geographical distribution.

To approximate a cost range for the conservation and main-
tenance of objects in the collection, the team developed
minimum and maximum treatment overheads, in hours, for
individual artworks in a sample set of 8% of the collection,
or 347 pieces. This was then scaled to represent all 4,500
pieces. Most fact finding for the sample set of artworks was
based on individual records in the state’s MIMSY database
and office documentation and was corroborated by site visits
to 28 artworks.

While neither the contract nor the methodology were con-
ceived as a strict statistical cost analysis, the outcome of the
process has revealed the extent of overdue conservation and
maintenance costs and has provided a useful tool for the
Commission’s ongoing management and budgeting initiatives.

Summary of Overheads
To arrive at an overall condition and cost assessment for
each piece in the sample set, the team applied current best
practices as defined by the AIC and considered basic con-
servation treatments such as reframing, new vitrines, opera-
tional inspections, cleaning, recoating, stabilization, damage
repair, and loss compensation.

The base overhead was estimated, not in terms of financial
cost, but rather in the potential number of hours expected
for treatment, administration, and travel associated with
each piece based on its sitting and geographic location. This
hourly approach provided a basis for applying real-world
administrative variables such as inflation, varying contract-
ed professional rates, in-house versus contracted labor, and
fluctuating travel factors such as fuel and mileage costs, and
the grouping of multiple artworks into a single travel circuit.

To achieve current approximate treatment costs, this hourly
basis had rates applied, of $35/hour for administration and
in-house labor, and $100/hour for contracted labor. Variation
factors, described below, were applied to account for large
unknowns about the artworks’ actual conditions.

The team built a sample set to approximate the overall col-
lection makeup based on eight characteristics with the great-
est impact on the durability and condition of the artworks:

- size
- material type
- age
- agency type (i.e. public school, college, university, or state agency)
- geographic location
- portability
- indoor/outdoor siting
- and whether artwork was on view or in storage.

The pieces selected for the sample set also needed to be well
described in the database, whose records are not robust due
to incomplete reporting during the early years of heavy ac-
cessioning by the Commission.
Remote Condition and Maintenance Cost Assessment of the Washington State Art Collection, continued

**Estimating Overhead**

The team applied two similar and simple formulas which are distinguished from one another by the application of three distinct variation factors in the second formula.

The first formula was used for estimating minimum overhead for an artwork:

\[
\text{Estimated Minimum Treatment Cost} = (\text{Sales Tax} \times \text{Estimated Treatment Cost}) + \text{Administration} + \text{Documentation} + \text{Travel} + \text{Risk Factor}
\]

The second formula was used for the maximum estimated overhead for the same artwork:

\[
\text{Estimated Maximum Treatment Cost} = (\text{Sales Tax} \times (\text{Estimated Treatment Cost} \times \text{Risk Factor})) + [\{(\text{Administration} + \text{Documentation}) \times \text{Administrative Variation Factor}\} + (\text{Travel} \times \text{Travel Variation Factor})]
\]

**Variation Factors**

**Administrative variation**

Administrative variation was given an additional 10%, to account for unknowns or administrative time variables such as email accumulation, repeat phone calls, varying paperwork, etc.

**Travel variation**

Travel variation was set at 30%, to account for variations in fuel costs, traffic, road problems, etc. The travel overhead associated with care of the collection is currently estimated at 35% of the total cost, though this would be mitigated by grouping of projects into one trip.

**Risk variation**

The more complicated variation was set for the risk factor. The team defined risk as the amount of potential threat possible for a given piece, based on elements of its construction, its age, its location, and the deaccession history of the agency responsible for the piece, based on failed condition or actual loss.

In order to approximate the amount of potential risk to a piece’s ongoing good condition, the team devised a weighted chart where points representing risk could be set for eight criteria. Each criterion was assigned up to 6 possible risk points, with some exclusion possible. For example, an artwork less than 10 years old was denied the highest risk potentials, while an older piece was denied the lowest risk potentials due to the likelihood of some damage or deterioration. Similarly, a piece sited out of doors was denied low risks, based on the overall more rapid deterioration of outdoor pieces, while indoor-sited works were denied the highest risk potential.

For each piece, the total risk points were tallied, and fell among three risk categories based on their sum. The three risk categories were assigned a different variation factor to be added to the base formula. As such, a piece with a risk total of between 8 and 19 was assigned a risk variation of 20%, a piece with a risk total of 20 to 33 was given a variation factor of 40%, and a higher risk-rated piece, of between 34 and 45 was assigned an additional overhead of 60%, or over half, of its minimum estimated treatment overhead.

Each of the 347 pieces in the sample set was rated according to this method and formed the basis of calculating total potential labor, travel, and administrative overheads for the collection as a whole.

**Overhead Calculation Table**

On the opposite page is the worksheet the team used to remotely estimate the potential minimum and maximum overheads for treating an artwork. This process incorporated available database information, hard copies of any existing evaluations or treatment records, and subjective thought based on the conservators’ experience working with public art and what could be known about the siting of each piece.

The upper table consists of a conservative estimate, in hours, to determine a piece’s minimum expectable treatment time, which served as a base. The lower table was used for risk calculation and was applied to the minimum overhead, to establish a maximum expectable treatment overhead computed in hours. The section on the following page covers administrative and travel costs.

Indoor siting was permitted less potential risk than outdoor siting, to reflect deterioration from environmental elements.

Material risk was based on the inherent fragility of a given artwork’s medium or construction.

The age of the artwork had corresponding risk possibilities, in ascending risk based on age.

Being off view meant that the piece was either in storage at a Commission facility (minimum risk) or that it was either damaged beyond exhibitable condition, or potentially misplaced within the site.

Information quality reflected the amplitude of risk that could be applied based on how much guesswork about condition was actually needed—the less knowledge about a piece, the greater assumed risk.

Complexity refers to moving parts or variable components, such as mixed media or electronic pieces.

Portability refers to the possibility that the piece has been relocated to a more vulnerable position within the site, or has potentially been misplaced.

The four agency categories refer to the condition-based deaccession histories of the agencies, and the likelihood that a piece’s condition had been correspondingly compromised.
Location: Washington State University, Pullman, WA

<table>
<thead>
<tr>
<th>Minimum Treatment Estimate</th>
<th>Subtotal</th>
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<tr>
<td>Location related work including setup and takedown</td>
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<tr>
<td>Stabilize</td>
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<tr>
<td>Clean object: surface. Work Speed: (eg 4 sqft/hr)</td>
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<tr>
<td>Clean object: abrasions</td>
<td>1</td>
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<tr>
<td>Structural damage repair</td>
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<tr>
<td>Loss compensation, replace parts</td>
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<tr>
<td>New coating</td>
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<tr>
<td>Conservation Materials</td>
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<tr>
<td>Framing/vitrine without UV</td>
<td>6</td>
</tr>
<tr>
<td>Framing/vitrine with UV</td>
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<tr>
<td>Add UV plex</td>
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<td><strong>Subtotal</strong></td>
<td><strong>13.5</strong></td>
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<th>Risk Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Subtotal</th>
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<td>Indoor</td>
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<td>Outdoor</td>
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<td>Material</td>
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<td>Age: 0 to 9</td>
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<td>Age: ‘20 to 29</td>
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<td>Age: ‘30+</td>
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<td>Off view</td>
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<td>Information quality: No idea</td>
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<td>Information quality: Some idea</td>
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<tr>
<td>Information quality: Some detail</td>
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<td>Complexity</td>
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<td>Portability</td>
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</table>

**Total Risk Value (9 to 46)** 15

**Risk Factor**

(Low Risk Factor: 8 to 20 = 1.2) (Medium Risk Factor: 21 to 33 = 1.4) (High Risk Factor: 34 to 46 = 1.6)

**Risk Factor**

1.2

**Sales Tax**

1.086
Remote Condition and Maintenance Cost Assessment of the Washington State Art Collection, continued

<table>
<thead>
<tr>
<th>Administration</th>
<th>Subtotal</th>
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<tr>
<td>Reports</td>
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<td>Photodocumentation</td>
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<td>MIMSY data entry</td>
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<tr>
<td>Communication</td>
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<tr>
<td>Variation factor</td>
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<tr>
<td>Total</td>
<td>3.85</td>
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<table>
<thead>
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<th>Travel</th>
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<tr>
<td>Travel staff 1</td>
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<tr>
<td>Travel Staff 2, if any, based on size</td>
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<tr>
<td>Lodging</td>
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<tr>
<td>Truck rental for pieces over 48” in any one length</td>
<td>10</td>
</tr>
<tr>
<td>Per diem</td>
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<tr>
<td>Variation factor</td>
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<tr>
<td>Total</td>
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<table>
<thead>
<tr>
<th>Estimated Cost</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>63.69</td>
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</table>

Site Visits
The team visited 28 different artworks at 12 locations, located in each of three different travel radii representing 2 hour, 4 hour, and 6 hour one-way trips from the administrative center.

Before visiting each artwork at the sites, the conservators estimated the amount of treatment time for each piece according to remotely available information and using the worksheet shown above. On the actual site visits the artworks were observed and estimated based on their true conditions and environments. The process provided a comparison between the remotely estimated and actual artwork conditions, by verifying the pertinence of the actual estimating criteria, and by giving a basis for the weighting of the risk fields.

The site visits also showed the variety of conditions and ways the artworks were being used, or in some cases, not used, as in the case of a group of digital/interactive artworks that were being stored with spare furniture and were no longer operable or serving their intended function as artworks.

Conclusions
The assessment report was not intended as a curatorial tool, but did include general recommendations for improved collection maintenance. Based on the analysis, the team was able to substantiate the following observations for administrative purposes:

- The collection is historically under-resourced.
- Overdue collection care compounds conservation costs.
- Collection care is enhanced by communication with centralized partner agency administrators (e.g. school districts), rather than onsite art location staff (e.g. school staff). This method improves both institutional memory and agency accountability.
- Public schools and community and technical colleges represent the highest risk agencies.
- Maintenance costs for larger, three-dimensional pieces are lower, per acquisition dollar, than for small, two-dimensional pieces.
- Obligations by partner agencies regarding site supervision and inventory reporting are generally underperformed.

Conclusions the team provided to the Commission were that the long-term success of preserving state-owned artwork depends upon improved funding for all activities pertaining to the preservation of the collection, improved co-stewardship between the Commission and partner agencies, and enhanced enforcement of obligations and agreements by partner agencies. In addition it was demonstrated that the Commission needed to increase hands-on professional staff time for travel, inventory, and care of artworks.

A second contractor built upon these conclusions with a focus on management and curatorial recommendations. Since the completion of this and the second report, the Commission has advanced its care of the collection in a number of ways: the Commission’s Conservation Technician position has increased from part to full time; the related travel and tool/equipment budgets have increased; collections staff now has a dedicated workspace space for conservation, mounting, and repair projects; the first comprehensive physical inventory of the collection is in the planning stages; the deaccession policy has been changed to support the formation of a standing deaccession committee; condition questions and response times for the regular electronic inventory have been improved; warrantee periods for newly acquired artworks have been increased; collection records are being prepared for a web-based searchable database, improving access to information on a year round basis for the public and partner agencies.

These accomplishments—while modest in the face of a collection of 4,500 objects spread across nearly 70,000 square miles—are all the more noteworthy given the economic recession and its effects on state government. The Commission as a whole experienced a 55% cut in state funds since 2009. Demonstrating the need for a greater investment in the State Art Collection and its care will continue to be a priority for collections staff, agency leadership, and board as they navigate changing standards in care and the very active public environments in which the artworks reside.