Capital Outlay
Process Review

for the

New Mexico
Higher Education Department

NEW MEXICO HIGHER EDUCATION DEPARTMENT

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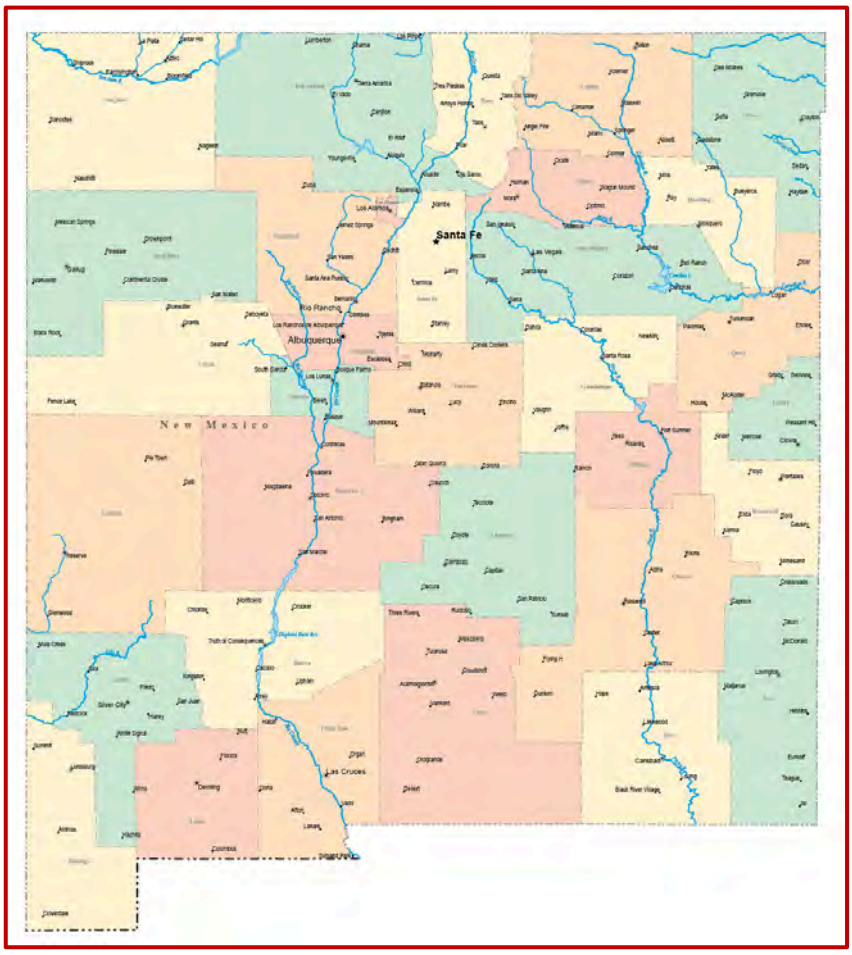
State Funded Institutions in New Mexico



Research Universities	Year	Location
New Mexico Institute of Mining & Tech	1889	Socorro
New Mexico State University	1888	Las Cruces
NMSU Agricultural Science Centers		
University of New Mexico	1889	Albuquerque
UNM Medical School		Albuquerque
UNM HSC		Albuquerque
Comprehensive Universities		
Eastern New Mexico University	1934	Portales
New Mexico Highlands University	1893	Las Vegas
Northern New Mexico College	1909	Española
Western New Mexico University	1893	Silver City
Branch Community Colleges		
ENMU Roswell	1958	
ENMU Ruidoso	1958	
NMSU Alamogordo	1959	
NMSU Carlsbad	1950	
NMSU Dona Ana	1973	
NMSU Grants	1968	
UNM Gallup	1968	
UNM Los Alamos	1956	
UNM Taos	1923	
UNM Valencia	1978	
Independent Community Colleges		
Central New Mexico Community College	1965	Albuquerque
Clovis Community College	1961	Clovis
Luna Community College	1979	Las Vegas
Mesalands Community College	1966	Tucumcari
New Mexico Junior College	1956	Hobbs
New Mexico Military Institute	1983	Roswell
San Juan College	1969	Farmington
Santa Fe Community College	1945	Santa Fe
Tribal Colleges		
Diné College	1968	Shiprock
Institute of American Indian Arts	1962	Santa Fe
Southwestern Indian Polytechnic Institute	1979	Albuquerque
Navajo Technical College	1971	Crownpoint
Other		
New Mexico School for the Blind and Visually Impaired	1903	Alamogordo
New Mexico School for the Deaf	1887	Santa Fe

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Mr. Hoehne:

GHaubold Consulting is pleased to transmit this CAPITAL OUTLAY PROCESS REVIEW *for the* NEW MEXICO HIGHER EDUCATION DEPARTMENT.

Our firm undertook three tasks to complete the study and reach these recommendations. We first met with all thirty-two public postsecondary institutions to document their existing capital renewal processes and review how their facility management systems are used in support of the prioritization of capital needs. We reviewed cloud-based software programs and methodologies used by Higher Education Departments and Commissions in other states to manage and track public postsecondary institutional facilities as well as how the schools compile and furnish this data. Finally, we investigated methodologies adopted by other states in managing and prioritizing their capital funding recommendations, including cloud-based software solutions used in housing institutional data and prioritizing capital funding recommendations.

This was a detailed and in-depth undertaking. GHaubold Consulting met with finance and facilities staff at each public postsecondary institution in the state to review and document details of their capital renewal prioritization process, visited with eighteen vendors to evaluate software offerings, and mined an extensive network of contacts to take a holistic look at best practices in the capital outlay process in higher education and beyond.

I believe that this report addresses the issues we were asked to review for the New Mexico Higher Education Department, and it is our sincere wish that your department and higher education in New Mexico benefit from our efforts.

Our consulting engagements over the years for other universities proved to be valuable experience, and we were also able to gain numerous insights through our extensive contacts with APPA, the association of higher education facilities officers.

The dedication of those who serve on the front lines and manage assets for the state is extremely impressive, and we are proud to have the opportunity to document their efforts.

This report consists of the following sections:

Executive Summary: provides an overview and synopsis of the information that is subsequently detailed in the full report.

Existing Institutional Processes: documents the existing institutional capital renewal processes and discusses how the facility management systems are used in the prioritization of capital needs.

Software Analysis: reviews cloud-based software programs and methodologies used by Higher Education Departments and Commissions in other states to manage and track public postsecondary institutional facilities as well as how the schools provide this data.

Other States: looks at methodologies adopted by other states in managing and prioritizing their capital funding recommendations, including cloud-based software solutions used in housing institutional data and prioritizing capital funding recommendations.

Summary: discusses alternatives available to the New Mexico Higher Education Department and the reasoning behind the recommendations.

Recommendations: details our recommendations for the Higher Education Department to use as a guide for the critical decisions needed to move forward.

Resource references are provided in the **Citations**, as we made use of the extensive amount of published material.

Last but certainly not least, I would like to express our appreciation to the personnel at each of the schools for their cooperation, and we especially appreciate your guidance as well as your patience when we needed it most.

Sincerely,

Glen Haubold
Principal, GHaubold Consulting

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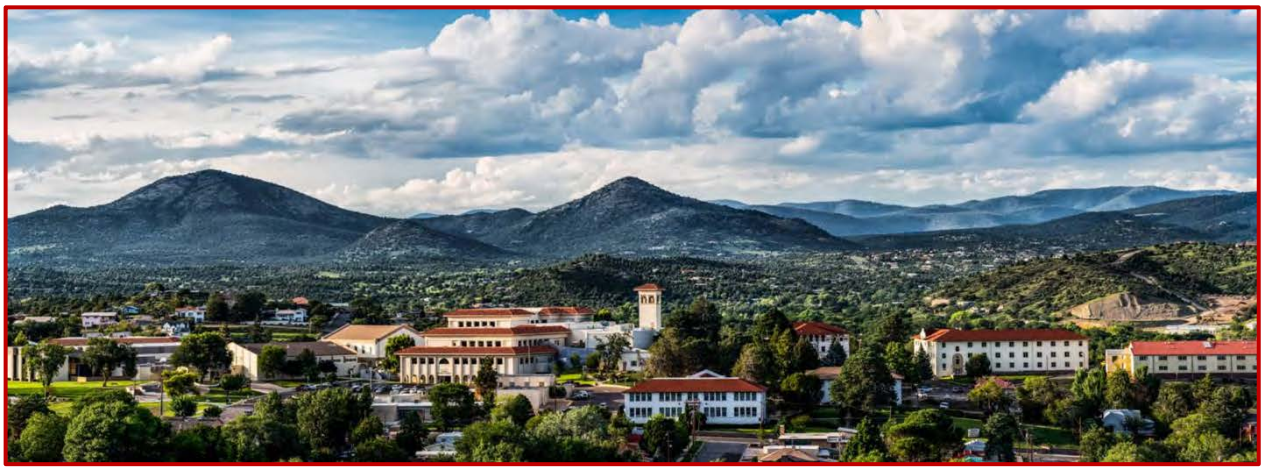


Western New Mexico University

UNM Valencia

1 Executive Summary

GHaubold Consulting (GHC or the "Consultant") endeavored for a holistic approach that analyzed every aspect of the capital outlay process as well as how the pieces fit together. Additional details on the highlights and the rationale for each recommendation may be found in subsequent sections.

Goals of the Study

The goals of the New Mexico Higher Education Department (NMHED) first and foremost were to be inclusive and review the existing capital renewal processes at all thirty-two institutions. In addition, how the institutional facility management systems are used in the prioritization of capital needs was documented. GHC met in person with as many institutions as possible and made sure that all were interviewed. Eleven campus visits were made. GHC had separate interviews with the staff of the University of New Mexico (UNM) Hospital and the UNM Health Sciences Center, and a discussion was added to include the process for the New Mexico State University (NMSU) Agricultural Science Centers (ASCs).

GHC reviewed cloud-based software programs and methodologies used by Higher Education Departments and Commissions in other states to manage and track public postsecondary institutional facilities as well as how the schools provide this data. Finally, the Consultant reviewed methodologies employed by other states in managing and prioritizing their capital funding recommendations, including cloud-based software solutions used in housing institutional data and prioritizing capital funding recommendations.

Significant Highlights

A separate section is provided for each of the three areas within the scope of work. These are the significant highlights.

- Every institution has developed plans for capital renewal with input from campus constituents, although some programs and processes are more comprehensive and formal than others. At a few schools, these plans are not committed to paper but still are articulated well. The Consultant was impressed with the level of planning that is being accomplished.
- Facility condition is an essential factor of capital renewal if not the most important, and approximately 60% of the Instructional and General (I&G) facility space in New Mexico has been formally assessed as to physical condition. The facilities staff at the smaller schools have identified their needs, although the tools to prepare a formal assessment are not in place.
- Other states use many different methods to prioritize projects, although nearly all are based on multiple factors such as facility condition, program requirements, energy, accessibility, life safety, and at least in one case, operating costs.

- Sixteen campuses selected SchoolDude for management of work orders, and fourteen utilize Ad Astra for classroom scheduling and classroom utilization. There is a substantial amount of data available and many systems in place that may be leveraged going forward.
- In other states, the higher education agency plays a more active role in the process by scoring projects, auditing space, and providing incentives for improved utilization.

Recommendations

Additional details on these recommendations may be found throughout the report.

- A project prioritization system should be implemented that will provide for an objective basis to rank proposed projects. This system will allow for emphasis and direction to be adjusted through the criteria. For example, if renewable energy becomes a statewide priority, increasing the weight on that criterion will provide the impetus for project design to emphasize this element. A formal rubric that awards points for projects submitted by institutions that document their condition assessments and update their Facility Master Plans will provide an incentive to the schools to improve their information systems.
- There are standards for facility assessments, utilization calculations, and suggested elements for Facility Master Plans. Because of this, GHC recommends that NMHED select a software vendor for project prioritization separately from any assessments. This approach will allow for the use of data that has already been compiled. The institutions could then continue to choose the methodology and vendor to accomplish their assessments and Master Plans through competitive procurement, if the prescribed process is followed.
- Facilities staff were universally concerned about the deterioration of campus facilities to the point of impacting the educational mission, and the Consultant recommends restoring Building Repair and Renewal (BRR) funding as a budgetary line item. Also, GHC recommends that 1% of each appropriated capital outlay be added to the institutional BRR allocation to begin to fund capital renewal fully.
- NMHED is assuming a more active role in capital renewal by commissioning this study, and GHC recommends that this effort continue. In many other states, space and utilization audits are scheduled routinely in addition to the coordinating agency providing oversight by scoring and ranking projects. These are best practices that would benefit higher education in New Mexico if implemented. NMHED will need a minimal increase in staff to accomplish these tasks, but the increased efficiencies will justify the expense.

Although the documentation must improve, each institution has completed a significant amount of long-term capital renewal planning, and in that respect, this initiative to document the existing institutional systems is timely. The relationship between the institutions and NMHED has never been better, funding appears to be available, and this is an opportune time to make improvements to the capital outlay process in New Mexico.

2 Existing Institutional Processes

GHC met with every public postsecondary institution in the State of New Mexico to document the process used by each when compiling their capital outlay request. These interviews gathered information about the software used, the assessment tools in place, and the factors considered as the submissions are formulated.

Goal 1: Document existing facility management systems and their use

The overarching goal was to prepare documentation detailing existing facility management systems and how each institution uses these systems for prioritizing their capital needs.

Background

It has long been recognized that there is a significant opportunity to improve the higher education capital outlay process in New Mexico. In 2006, NMHED hired Parsons/3DI to prepare a Facilities Condition Index (FCI) for all public higher education Instructional and General (I&G) facilities. The FCI would then be used to guide the institutions in their plans and to support financial requests for capital outlay. This effort had barely left the starting block when it became apparent that maintenance and upkeep of the database were dependent on a continual effort by institutional staff with ongoing funding by the legislature, and neither of these came about after the 2008 recession. In addition, there were other key shortcomings with this approach that will be discussed throughout this report.

In 2006, the I&G facilities in every postsecondary public institution were assessed

Each institution has developed an internal process, although some of these are more formal than others. Decreasing enrollment in most universities has led to a focus on space utilization and renovation of existing space, which was one of the original goals of developing the FCI.

The institutions have been following NMHED direction

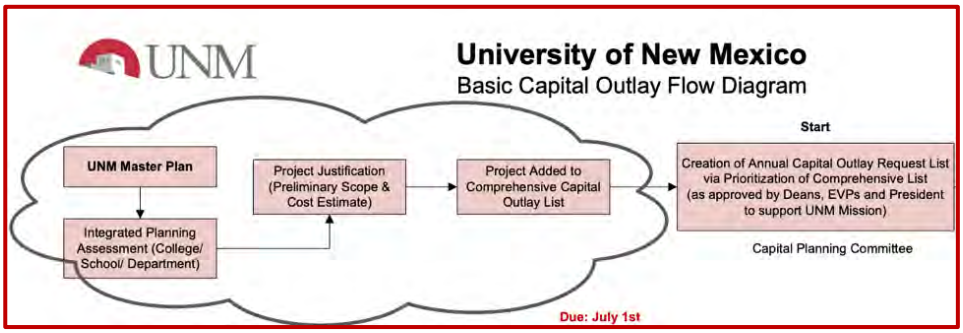
GHC endeavored to really learn how each school develops the annual capital outlay request, what software systems are in place to track deficiencies and utilization, and how spending decisions for capital renewal are made. This information was used to guide the Consultant's recommendations for improvements to the capital outlay process.

Key Points

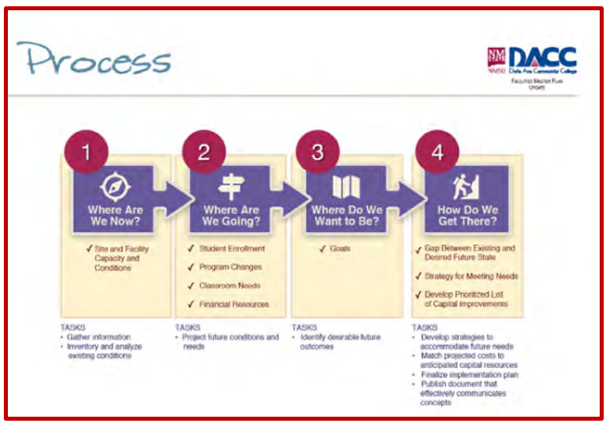
As the Consultant began meeting with the institutional staff, numerous commonalities surfaced. NMHED sought to acquire details about software systems, and GHC discovered that many schools have a similar approach with the same vendors.

Planning and tracking systems range from manual to the very complex

UNM and NMSU have comprehensive and complex processes for managing facilities information and tracking deficiencies, and this information is used to develop their capital outlay requests. The planning process for state capital outlay ranged from a very detailed, formal, and comprehensive process at the two largest universities to weekly and monthly discussion meetings at the smaller schools.



UNM's process is published on its website, and NMSU has a documented formal process that includes input from all constituents.[1]



Doña Ana Community College (DACC) has a particularly clear visual to explain the steps involved in developing its capital outlay plans.

Central New Mexico Community College (CNM) approaches this transparency differently and publishes its entire project list.[2]

The Consultant discovered that every institution either had a plan that at minimum listed facility deficiencies or had the genesis of a plan, and nearly all schools had either employed an external design professional or were about to. That so many schools are engaged in proactive planning is directly

attributable to the efforts of NMHED to emphasize its importance; many finance and facilities staff told GHC that, "We're listening to NMHED."

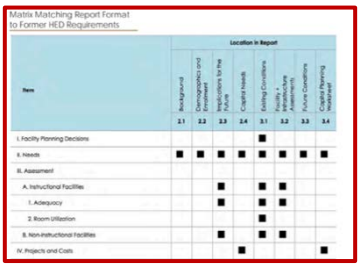
The affiliated community colleges present a special case. Eastern New Mexico University (ENMU), NMSU, and UNM have "branch" or "affiliated" community colleges, and each has its own facilities staff. Each community college receives some level of business and technical services from the larger institution but also operates with some degree of autonomy, as each report to a local board. As this relates to the process for requesting capital funding, the condition assessments at UNM and NMSU include the branch community colleges, and the facilities staff lean on the technical expertise of the central institution at the two larger schools.

Branch community colleges rely on the flagship campus technical staff

A planning process that solicits campus input exists at every school that was interviewed, although a number of these plans are not as formal and transparent as best practices would dictate.

Master Planning

NMHED stresses the importance of having a Facilities Master Plan, and the institutions have been paying attention to this admonition, as more than 95% of the schools have an up-to-date Master Plan or are developing one. GHC would issue a qualifier that the level of granularity and detail provided in the Master Plans differs significantly. Some plans have detailed utilization and deficiency information, while others speak more to the vision of the administration.



Because there is not a standard for the elements to be included in the campus Master Plans, some schools have little more than Five-Year Project Plans while others have prepared extensive facility deficiency lists that are used for planning.

Defining elements to be included in a Master Plan is a best practice

Condition Assessments and Deficiencies

UNM recently employed Sightlines to perform a facility assessment of all I&G facilities in their system and will be completing a condition assessment of Auxiliary buildings next.

GHC was impressed with the level and detail of assessments that exist

NMSU retained the FCI data from the 2006 Parsons/3DI assessment, updated the information to include projects that impacted the facilities condition index, and imported the data to their AssetWorks/AiM Facility Management System Assessment and Needs Analysis (ANA) module. Once this was done, the update process has proved to be cumbersome, and staff are struggling to make further updates.

The Sightlines effort for the UNM System identifies the different needs, and it should be noted that NMSU has employed Sightlines since 2010 for data benchmarking even though their formal condition assessment has roots in the Parson/3DI study.

Santa Fe Community College (SFCC) and CNM have detailed reports of facility deficiencies, as does New Mexico Junior College (NMJC). New Mexico Highlands University (NMHU) has numerous condition inventories on spreadsheets for components such as elevators, roofs, and heating, ventilating, and air-conditioning systems (HVAC).

In between the complexity of the systems at the largest universities and the simplicity of the processes at the smaller schools, most of the thirty-two schools use external architects and engineers to produce deferred maintenance project lists that serve as the basis for capital outlay requests. San Juan College (SJC), CNM, and Clovis Community College (CCC) have all created in-depth deferred maintenance project lists that weigh several factors in determining priorities. Many of the institutions have creatively engaged vendors through purchasing cooperatives for these services.

Architectural Research Consultants (ARC) completed a facility assessment for CNM and created a cloud-based tracking database for checking off the deficiencies as corrections are made. Half a dozen colleges have used ARC for similar although less comprehensive efforts. The use of a third-party firm provides additional expertise that the facilities staff need while adding credibility and accuracy to the cost estimates.

Nearly every school has some form of a software tracking system for deficiencies, although in many cases, this recordkeeping is accomplished on a spreadsheet.

Facilities Condition

Several schools have developed an FCI or in the case of UNM and Sightlines, a Net Asset Value (NAV). Facilities Condition Index is calculated as the maintenance needs divided by replacement value, where 1.0 would indicate that needs are equal to the replacement value and the facility should be demolished. As used by Sightlines, NAV is the replacement value less the ten-year repair need divided by the replacement value. Simplified, the NAV is the percent of "good" in the building and is the inverse or reciprocal of the FCI.

Net Asset Value or NAV is basically the reciprocal of FCI

As with any comparative measure, the baseline data must be measured using the same criteria. For example, replacement cost is sometimes calculated as an average cost per square foot, which ignores the reality that laboratories cost more to construct than classrooms. If one school calculates the FCI using one basis for replacement cost while another uses a different method, any comparison is skewed.

Portfolio	NAV Range
Capital Upkeep	90-100%
Repair & Maintain	70-89%
Systemic Renovation	50-69%
Transitional	Below 50%
Grand Total	

However, these comparisons are only meaningful if it is necessary to differentiate with detailed granularity between projects at the different schools. Sightlines would suggest that UNM facilities be grouped into the four categories in the table to the right according to NAV, and then sub-grouped by Reliability, Asset Preservation, Economic Opportunity, and Program Improvement. Transitional Facilities would thus receive no investment, allowing these funds to be used strategically for other needs.

NMSU could employ the same strategy using its data, and the comparisons become problematical only if FCI or NAV are being used as an absolute to determine whether a UNM or NMSU project was the more desirable. Once facilities are sorted into categories such as "Capital Upkeep" or "Repair and Maintain," the FCI is used in ranges rather than decimal points.

Good	< 5 FCI
Satisfactory	5-15 FCI
Fair	16-30 FCI
Poor	31-45 FCI
Unsatisfactory	> 50%

It should be noted that the Postsecondary Facilities Inventory and Classification Manual (FICM) uses five categories or ranges of FCI.[3] This table to the left illustrates the FICM classifications.

It is worthwhile to point out that those schools that have detailed deficiency lists can calculate their FCI relatively easily simply by adding up the deficiencies, multiplying the gross-square-feet (GSF) by the same average replacement cost per GSF as NMSU and UNM, and dividing the former by the latter.

FCI = Maintenance Needs divided by Replacement Cost

FCI and NAV are measures of facility condition. Replacement cost and deficiency repair cost values must use approximately the same basis for the two measures to be comparable. There are standards for assessments and for the calculation of replacement costs that can be adhered to.

Space Management and Classification

Space management is a broad term that encompasses space classification or use. At the most basic level, institutional space may be classified as I&G and non-I&G GSF. When the GSF is divided by the number of students, the resulting ratio is the amount of instructional floor space per student, a broad measure of the efficiency of an academic facility.

NMHED has published a Space Policy that references the FICM for greater granularity, and examples are categories such as classroom, laboratory, auxiliary, and non-assignable GSF. This data has a myriad of analytical uses and is required in some instances, such as in the calculation of Facilities and Administrative (F&A) rates.

UNM uses FAMIS for space management, while NMSU uses the Assetworks module, AiMCAD. NMSU completed a detailed space benchmarking study in 2016 that included UNM as a peer institution.

The other institutions all use Banner or in some cases, spreadsheets. It should be noted that the process for calculation of the F&A rates differs according to the amount of research performed by the

institution, and thus UNM and NMSU have more stringent reporting requirements than others.

(Note: Principles for determining costs applicable to grants, contracts, and other agreements between the Federal Government and institutions of higher education are detailed in **The Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards**.)[4]

Classroom Utilization

Numerous institutions use Ad Astra for course scheduling, evaluating section offerings, and calculating classroom utilization

Both large research schools use Ad Astra for student registration and classroom scheduling. This software can provide large amounts of strategic data that can be used to evaluate the number of sections for a given course and to confirm that a pathway to a four-year degree exists in the current class offerings. Ad Astra can also produce utilization statistics in classroom hours as a percentage of total hours available and seats filled as a percentage of total seats in the classroom, which is useful facility planning information.

The number of institutions using Ad Astra would appear to make a classroom utilization initiative attractive. Manual calculations are relatively simple for those schools that have Banner or EMS, a scheduling software used by NMJC. As with FCI, the basis for the calculations must be standardized for the comparisons to be valid.

Classroom utilization is a subset of the broad measure of GSF per full-time-equivalent student (GSF/FTE). NMHED has provided guidance on calculations for the denominator, although several schools expressed concerns that their space classification records could use improvement.

Classroom utilization is reviewed anecdotally at some institutions, prepared manually at NMHU, and not considered at all by others. Utilization is a component of approximately half a dozen of the Master Plans. As facilities across the state continue to age, this information will only become more useful and is relatively simple to collect when every institution is using the same process and standards.

NMSU uses one single software package with different modules while UNM has specialized software vendors

Work Order Management

UNM uses TMA specifically for work order management, while NMSU employs the Assetworks suite of programs for all its computerized facility management needs.

At the other end of the spectrum, smaller institutions use manual work orders and Excel spreadsheets to track deficiencies for preparation of the capital outlay request. Over one-half of the schools are using SchoolDude by Dude Solutions for work order management, and Dude Solutions has a product that assists with the management of capital outlay.

SchoolDude is used to manage maintenance by half of the schools in NM higher education

In addition, GHC understands that SchoolDude is the system being used for work order management at all public primary and secondary school systems in the state and that this software allows for a grading system to be established for performance.

Institutional staff are concerned about deteriorating facilities and infrastructure

Building Repair and Renewal (BRR)

Regardless of whether the systems employed are manual work management with paper and pencil or fully automated assessment programs, GHC found the staff at every institution to be dedicated and concerned about the issues facing higher education. Lack of resources to address deferred maintenance and the enrollment decline were repeatedly brought forward. In addition, there is universal concern that the shortfall of renewal funding will eventually lead to an inability to provide the physical academic resources necessary to support the educational mission.

After discussion, GHC and NMHED decided to include questions about BRR expenditures in the interviews. After all, BRR is simply a funding mechanism for capital renewal.

BRR = Building Repair and Renewal

In 2011, the **Financial Reporting for Public Institutions** manual was modified such that institutions were no longer required to request "permission" for BRR flexibility in House Bill 2, a practice that had started in response to the budgetary exigencies from the recession. What this meant was that the universities had latitude regarding BRR expenditures and some schools subsequently used

these funds to relieve other budgetary pressures while others did not. BRR is no longer a separate budgetary item dedicated to deferred maintenance.

The amounts are not large, particularly since the formula had not been adjusted in years when the change was made. Most of the smaller schools told GHC that these funds were generally reserved for emergency maintenance repairs, while UNM, CNM, and NMSU have a process in place that targets infrastructure and equipment replacement based on problems identified through the work order system.

Implications for Software Selection and Assessments

One objective of this study was to exhaust every effort to use systems and information that are already in place. With a portfolio that ranges from complex research institutions using multiple software packages to the small college still tracking work orders with paper and spreadsheets, this goal is admittedly a challenge. NMSU has the data from the 2006 assessment updated through FY2017; UNM just completed a facilities assessment as did CNM. These three institutions together constitute approximately 60% of the GSF in the NMHED inventory. A good start has been made.

Many deficiency assessments have been completed

Summary of Institutional Processes

Best practices in project prioritization are that multiple factors be weighed or scored so that elements are weighed objectively. To have an exciting vision for new programs is one thing, but the institutions have a considerable investment in plant and equipment that should be protected.

Given recent enrollment decreases and expected flat to modest future enrollment change, ARC determined that there is sufficient instructional space to meet anticipated program requirements to 2035. Consequently, the focus of the capital plan update was to:

- Renew facilities and infrastructure, including replacing the physical plant facility
- Provide student housing to support student recruitment efforts
- Continue strategies to improve utilization, functional adjacencies, and community engagement.

Client: San Juan College
Schedule: 2019

A transparent scoring system provides an objective methodology for selecting capital outlay projects for recommendation.

The condition of a facility is a significant factor when it comes to prioritization. Infrastructure is particularly critical since it is impossible to teach if conditions are uncomfortable or the electricity has failed. However, other deficiencies should be weighed; code and environmental concerns, suspected hazmat issues, Americans with

Disabilities Act (ADA) compliance, life safety and security systems, and technology are all factors that influence capital outlay decisions. Energy improvements frequently will pay for themselves.

The Sightlines effort for the UNM System identifies the many different needs, and it should be noted that NMSU has employed Sightlines since 2010 for data benchmarking and capital outlay expenditures, even though its formal condition assessment has roots in the Parson/3DI study.

SFCC and CNM also have extensive detail listed in their facility inventory, as does NMJC. NMHU has numerous deficiency lists at the component level.

The table that follows details the software systems used by New Mexico postsecondary public institutions and **Appendix F** has a summary of the interviews with each institution.

Software Systems Used

Institutions	Capital Planning	Space Management	Utilization	Work Orders
Research Universities				
New Mexico Institute of Mining & Tech	ARC for MP	Banner	Banner	SchoolDude
New Mexico State University	Assetworks	AiM CAD	Ad Astra	Assetworks
NMSU ASC	Assetworks	AiM CAD	Anecdotal	None
University of New Mexico	Sightlines	FAMIS	Ad Astra	TMA
UNM Medical School	Smart Sheet	FAMIS	Anecdotal	TMA
UNM HSC	Sightlines	FAMIS	Ad Astra	Ticket system
Comprehensive Universities				
Eastern New Mexico University	NMHED 5 Year Plan	Banner	Notebooks	TMA
New Mexico Highlands University	Studio INSITE	Spreadsheet	Spreadsheet	TMA
Northern New Mexico College	Meetings	Banner	Banner	SharePoint
Western New Mexico University	Studio D MP	Banner	Banner	SchoolDude

Software Systems Used
(continued)

Institutions	Capital Planning	Space Management	Utilization	Work Orders
Branch Community Colleges				
ENMU Roswell	ASA / ARC	Banner	Banner	TMA
ENMU Ruidoso	5 Yr Plan	Banner	Banner	Spreadsheet
NMSU Alamogordo	NMSU MP	Assetworks	Ad Astra	SchoolDude
NMSU Carlsbad	NMSU MP	Assetworks	Ad Astra	SchoolDude
NMSU Doña Ana	ARC MP	Assetworks	Ad Astra	SchoolDude
NMSU Grants	NMSU MP	Assetworks	Ad Astra	SchoolDude
UNM Gallup	ARC / Sightlines	FAMIS	Ad Astra	SchoolDude
UNM Los Alamos	Sightlines	FAMIS	Ad Astra	SchoolDude
UNM Taos	Sightlines + 3 year plan	FAMIS	Ad Astra	Spreadsheet
UNM Valencia	Sightlines	FAMIS	Ad Astra	SchoolDude
Independent Community Colleges				
Central New Mexico Community College	ARC Detailed	Banner	Ad Astra	Footprint
Clovis Community College	Greer Stafford	Banner	Banner	Helpdesk
Luna Community College	Wilson and Company	Manual	Manual	Manual
Mesalands Community College	will have	Banner	Banner	OS help desk
New Mexico Junior College	DPS MP	Banner	EMS	In House
New Mexico Military Institute	5 Year Capital Plan	Banner	Anecdotal	SchoolDude
San Juan College	ARC Detailed	Banner	Ad Astra	Samanage
Santa Fe Community College	ARC MP	Banner	Ad Astra	SchoolDude
Tribal Colleges				
Diné College	Dyron Murphy	Anecdotal	Anecdotal	SchoolDude
Institute of American Indian Arts	Dyron Murphy	Anecdotal	Anecdotal	OS Ticket
Southwestern Indian Polytechnic Institute	Anecdotal	Anecdotal	Anecdotal	SchoolDude
Navajo Technical College	Anecdotal	Anecdotal	Anecdotal	SchoolDude
Other				
New Mexico School for the Blind and Visually Impaired	5 Year Plan (ext)	Anecdotal	Anecdotal	SchoolDude
New Mexico School for the Deaf	5 year plan (ext)	Anecdotal	Anecdotal	SchoolDude

NMSU Alamogordo

Eastern New Mexico University

3 Software Analysis

Goal 2: Review available software

To restate this task, GHC reviewed cloud-based software programs and methodologies used by Higher Education Departments and Commissions in other states to manage and track public postsecondary institution facilities. GHC looked at data and information housed within systems, how institutions provide the data, and the reporting capability of the software used so that a recommendation could be made to NMHED for a comprehensive process.

There are two basic approaches to the capital outlay process from the standpoint of Higher Education Departments. The first and most widely used is for the institutions to determine their needs through an internal process and then generate the capital outlay request. The Higher Education Department or Commission typically directs the format for the submission and may subsequently audit the background information, but the institution is responsible for the compilation and maintenance of the data that supports the submittal. This request is subsequently judged either objectively through a scoring and ranking process or a subjective evaluation.

With the second, occasionally used approach, the coordinating agency manages the compilation of the data and then selects the projects. GHC would note that even then, in some instances, this direction may be provided by a "System Office" that fulfills the oversight role.

A discussion of the processes used by other Higher Education Departments and Commissions may be found in the following section, **Other States**.

GHC began with a potential vendor list provided by NMHED and then added other firms as additional information was developed. Eighteen software products were ultimately reviewed in detail. Some vendors demonstrated software that could be used with both methods while others were willing to customize their offerings, and some products were particularly specialized in one area or another.

An assessment of all higher education facilities was completed in 2006 but lapsed without ongoing funding and a mechanism for updates

Background

As mentioned in **Section 2**, **Existing Institutional Processes**, NMHED contracted with Parsons/3DI in 2006 to complete a full assessment of all I&G facilities in the New Mexico postsecondary public institution system. This assessment was performed at the building system level, and a cloud-based database was created. Before institutional training could be completed, the recession of 2008 and changes in state government sent NMHED in a different direction, and the database was never deployed. These events, however, should not obscure the fact that a methodology and continued funding to update the information were incomplete as well. In addition, the assessments were hastily completed without institutional buy-in. This review by GHC was performed with that background in mind.

Observations and Key Takeaways

Most of the facility management software is created for facility operations, presumably because the market is greater than it is for forecasting and asset management. In addition, there is software that has specific purposes such as Ad Astra, which is specifically designed for "helping colleges and universities effectively manage finite space and faculty resources." Ad Astra specializes in class scheduling and the evaluation of course and section offerings. Another system GHC reviewed was capable of "intuitive energy tracking and sustainability analysis that makes energy conservation and management a streamlined, efficient, and simple process."

GHC was instructed to investigate the software systems used by New Mexico postsecondary public institutions so that synergies might be identified, and that any recommendation must be accompanied by a methodology for updating the data.

Numerous vendors suggested a broader solution that would include a facilities condition study of all state higher educational facilities as well as software that would score and rank the facilities by category. Sightlines just finished a complete assessment of all UNM I&G buildings, including their affiliated community colleges, and will be doing the same for the UNM Auxiliary spaces next.

NMSU retained and updated the Parsons/3DI data, and then uploaded the information to the Assetworks ANA module although staff are finding the FCI challenging to update. NMSU already uses Sightlines for benchmarking and has a limited Auxiliary facility assessment in place. GHC understands that the Facilities Management Division of the New Mexico General Services Department uses Assetworks ANA.

CNM demonstrated its full assessment program with deficiencies listed at the component level for GHC. This database is hosted by ARC and is easily updated as projects are finished. ARC has also completed a similar effort for the Albuquerque Public Schools. ENMU-Roswell just published a detailed Master Plan as the interviews for this report were being conducted, and their plan also includes a full condition assessment by ARC. Note that "Facility Summaries" establishes an internal score and a category for FCI (Poor, Fair, Good).

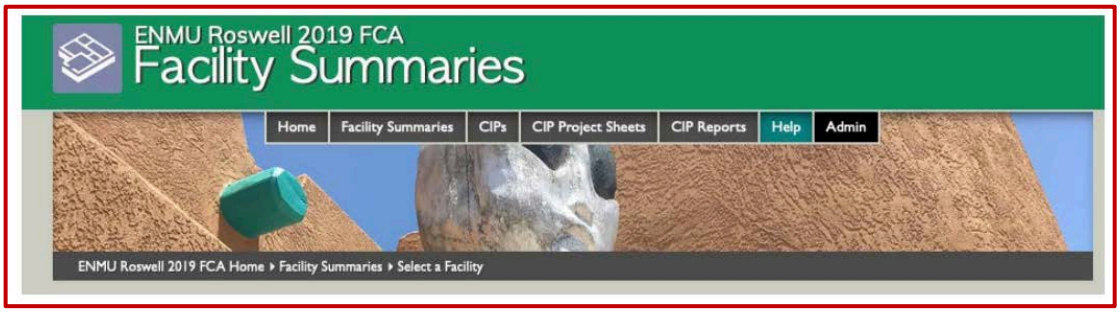


Exhibit 19: ENMU–Roswell's Condition Assessment Summary

Map No.	ID NO	Facility	Age*	GSF**	ARC Score: Site	ARC Score: Physical Plant	ARC Score: Ade-quacy	ARC Score: ARC Score %	ARC Score: ARC Grade	FCI Score	FCI Rating	Project Budget
2	840	Administrative Center	35	15,895	81	88	81	83.80%	B	0.19	Poor	$1,821,628
13	810	Arts and Science Center	65	32,087	84	85	82	83.50%	B	0.12	Poor	$2,993,935
10	750	Aviation Maintenance Technology	41	28,460	75	85	79	80.20%	B	0.18	Poor	$6,140,877
4	816	Campus Union Building	69	19,393	82	82	74	79.00%	C	0.09	Fair	$1,370,792
7	845	Central Mechanical/ Security Building	36	6,370	78	79	77	77.80%	C	0.04	Good	$1,002,365
12	749	Child Development Center	33	4,708	83	85	73	80.60%	B	0.02	Good	$277,762

Taken together, CNM, UNM, ENMU-Roswell, and NMSU constitute approximately 60% of the GSF in the higher education system. NMJC just completed an assessment, and SFCC and SJC are doing the same.

Facilities Assessments

In other words, many of the schools have formally evaluated their facilities while most have done so informally, and it would be duplicative to procure software to complete an assessment when many systems with extensive information are already in place. Staff at several schools with only a few buildings pointed out that the condition assessments could be accomplished with in-house personnel. NMHED should provide oversight to the capital outlay process and guide the institutions but avoid assuming their responsibilities.

Rank	Software / System
1	Architectural Research Consultants
2	Dude Solutions
3	Facility Optimization Solutions
4	ISES
5	Assetworks
6	Sightlines
	Megamation
	FMX
	Dematic Sprocket
	AkitaBox
	Archibus
	Lucid
	Hippo CMMS
	iOffice
	ATG
	4Tell Solutions
	Ad Astra
	Maximo

Summary of Software Analysis

The table to the left lists the different software systems that were evaluated, and the initial ranking assigned by GHC to each.

GHC recommended that interviews be conducted with the top six firms to aid with the final selection, and HED agreed.

These six semi-finalists were then invited to make presentations to NMHED and GHaubold Consulting. Because the two firms have worked closely together on projects elsewhere, Assetworks suggested that a single presentation by ISES would suffice to represent their product, as their firm prefers to focus on software. Consequently, five interviews of an hour were held during the last week of October.

In advance of the interviews and presentations, each vendor was provided with an agenda to help them prepare. The firms were asked to provide an example of similar hosted data, suggest options for data input from institutions, and discuss the format requirements for the institutional data. The process for making updates, adding criteria, and implementing weights for scoring was to be demonstrated. The potential providers were instructed that the last ten minutes of the presentation could be used to suggest alternatives.

Pages were extracted from manual processes in Oregon and Texas and were provided as an example of processes to automate. Vendors were asked to discuss if there was a way to have institutions enter data and have the system preliminarily score and rank the projects. NMHED and the Consultant wanted to hear about the merits of including every building on a campus versus only the projects being considered.

The following table summarizes the results of the interviews.

Vendor/Software	Could do better	Do well
ARC	▪ Dashboards are not as developed as others ▪ Firm is smaller with fewer resources	▪ Probable lowest first cost and quickest implementation ▪ Completed studies for many NM institutions ▪ Extensive experience in NM public education
Dude Solutions	▪ Graphics and dashboards are not quite as impressive as others	▪ Product appears to be complete and capable of all tasks ▪ Sixteen institutions use Dude Solutions products ▪ Willing to partner in all respects
FOS	▪ Most of their work has been elsewhere ▪ Flexibility and ability to customize needs further investigation	▪ Energy dashboard is excellent, product is flexible ▪ Objective scoring system is excellent
ISES	▪ Most of their work has been elsewhere ▪ Appears less flexible than others	▪ Dashboard is excellent ▪ Large scale assessment experience
Sightlines	▪ Project scoring product is not ready without a firm release date scheduled ▪ Uncertainty around using open source data ▪ Not a software company	▪ Experienced with benchmarking and assessment ▪ Completed UNM's System assessments and NMSU Las Cruces operational, capital, and energy consumption benchmarking

Information Management

There were questions about the use of data provided by the institutions or from other professionals. However, universities regularly provide information to the Integrated Postsecondary Education Data System (IPEDS), accrediting organizations, the higher education facilities officers association, and a myriad of other agencies including NMHED. Most schools have a specific office or offices assigned to this role.

Institutions are custodians of large datasets

The use of a third-party to normalize data does not guarantee the elimination of errors, since the institutions are the ones responsible for compiling and managing the information. GHC recently completed an assessment for a university in another state and made a significant correction to its Sightlines report. This error was not the fault of Sightlines but came about as a result of a lack of understanding by the institutional staff as to the definition of the data being requested.

Data definitions are important to maintain accuracy

Because the institutions are well-versed in developing comparative data and management information, and as the Consultant knows that these efforts are executed with a high level of integrity, GHC believes that the accuracy of information provided by facilities and finance staff as well as outside consultants is significantly more dependent upon clear and concise definitions than the use of a single proprietary vendor.

Analysis and Commentary

After the presentations, Dude Solutions, ARC, and Sightlines rose to the top of the list.

Principal Glen Haubold has first-hand experience with the capabilities of three of the vendors from NMSU. At one time, NMSU considered converting the branch campuses from Dude Solutions software to Assetworks AiM so that campuses in the system would use the same facilities management system. This was not done because Dude Solutions was meeting the needs of the community colleges and in some ways exceeded the capabilities of Assetworks. NMSU commissioned an ADA Study through ARC, who

has also completed the DACC Master Plan and several updates. NMSU has used Sightlines ROPA Services for operational benchmarking, capital planning, and energy consumption comparisons since 2010. This familiarity with three of the finalists was very helpful for providing insights as the review moved forward.

Institutions are comfortable managing data when definitions are clear and precise

The Consultant would mention that there may be some synergies that develop later after a software vendor is selected. Dude Solutions is being used for work management at sixteen institutions and has a comprehensive capital forecasting module. ARC has worked in multiple planning and assessment capacities for many institutions in New Mexico, both in higher education and in public education. Sightlines has over 400 institutions in their database for benchmarking, including UNM and NMSU. However, the scope of this work was to assess software to be used for evaluating the capital outlay process.

GHC essentially ranks Dude Solutions and ARC as equal, followed by Sightlines. The Consultant is confident that either of the first two firms can accomplish the goal at this time.

Dude Solutions

Dude Solutions software is in use at sixteen institutions

Throughout the discussions and presentations, Dude Solutions was the easiest to work with. This mirrors what the community colleges, special schools, and tribal college personnel say about the firm. The software has good dashboards, and there is a wealth of operational data available since many New Mexico schools use Dude Solutions for work order management. Dude Solutions did not push this, however, because it was not asked for. Dude Solutions also has the capability to furnish complete assessments and capital forecasting at the institutional level.

There could be some intriguing options that develop later, as many of the institutions use Dude Solutions software for other purposes. GHC understood that public education in New Mexico takes advantage of several of these packages, such as energy management and scoring for maintenance responsiveness.

ARC has had assignments at CNM, DACC, ENMU-Roswell and NMSU

ARC

ARC was added to the software for consideration after viewing their deficiency tracking system at CNM. The ARC software is capable of factoring in different elements and developing a score with minimal modifications, which could create real cost savings. The snippet from the ARC ENMU-Roswell report closely matches what is envisioned for the improvements to the capital outlay process.

ARC has worked with many engineering and architectural firms in the state, and the firm's knowledge would be extremely useful in developing standards for utilization, facilities condition, ADA assessments, and program evaluation. NMHED IT staff offered the comment that the ARC software was "robust and very secure."

ARC is an expert in classroom utilization, which is an area that NMHED might investigate. ARC is the only New Mexico firm.

Sightlines has completed a facility assessment for UNM and benchmarking for NMSU

Sightlines

Sightlines recently completed a facility assessment for the UNM I&G facilities and will be doing the same for the Auxiliary buildings. Some of the potential scoring software was not ready when presentations were made, and Sightlines emphasized that "We are not a software company." Sightlines has a project scoring methodology but NMHED might find it to be less flexible and robust than the others when it does become available.

Sightlines has long offered excellent benchmarking software with numerous subscribers. The limitation of this approach, however, is that comparisons are limited to peers selected by Sightlines from enrolled institutions, and these may not be the institutional peers.

After the recent acquisition by Gordian, Sightlines may be able to develop synergies with construction cost information. Sightlines has also gathered a significant amount of data from their assessments at UNM and their capital outlay benchmarking for NMSU.

4 Other States

The final component of this review is an examination of alternative methodologies in planning for capital outlay that includes cloud-based software solutions used in housing institutional data and prioritizing capital funding recommendations.

Goal 3: Provide an analysis of different methodologies for the Capital Outlay process

This objective of GHC was to provide a report to NMHED on the methodologies utilized by Higher Education Departments and Commissions in other states to prioritize and recommend capital funding to their legislature, with the review to include cloud-based software solutions used in housing institutional data and prioritizing capital funding recommendations.

To be certain, higher education is structured differently in every other state and there are many ways to accomplish this task, which can make comparisons challenging. Nonetheless, there are best practices employed elsewhere that may benefit New Mexico Higher Education, and the most relevant of these are detailed here.

Background

GHC Principal Glen Haubold has been active in APPA, the higher education facilities association, since the early 1980s and has served on their Board of Directors. GHC has completed studies for universities in Ohio, Massachusetts, Montana, and Florida, and is extensively familiar with different methodologies used in Texas over the last two decades.

Analysis and Observations

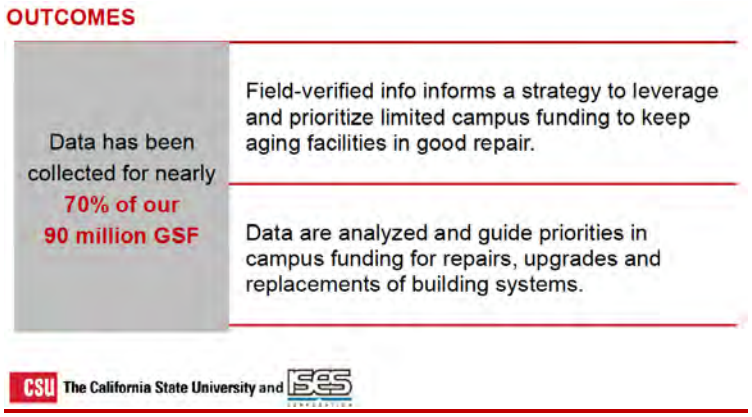
Information was gathered from multiple sources and a network of contacts was questioned as to best practices in the capital outlay process. There are volumes of material on this subject, consequently, references and quotes are liberally employed to source additional material for the interested reader.

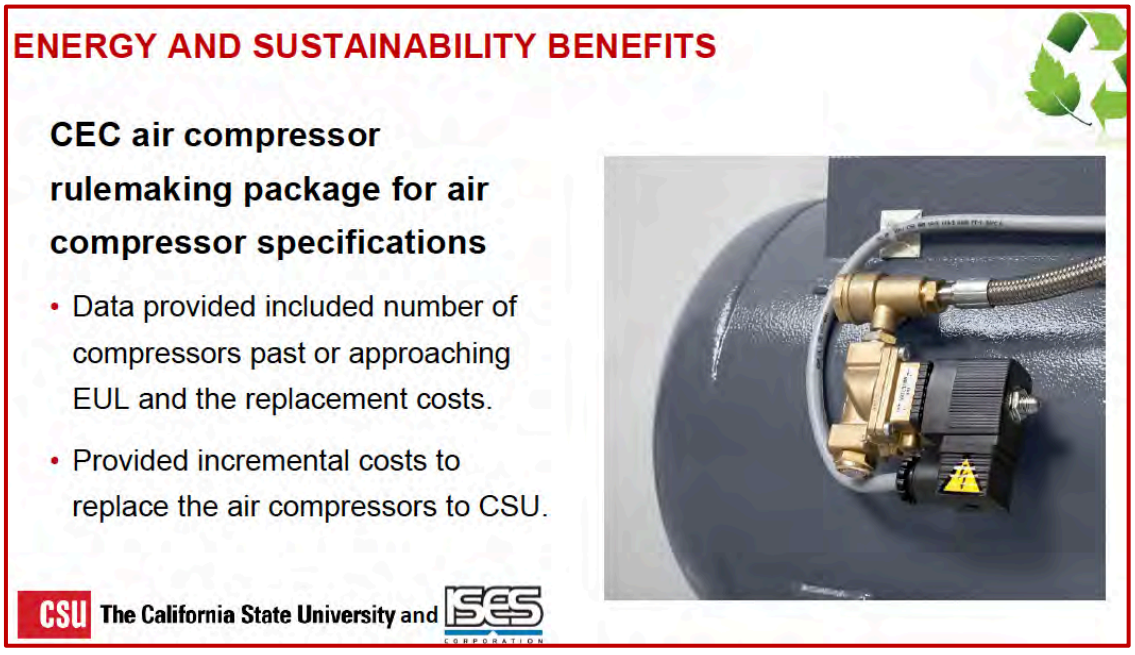
California

One of the vendors that was interviewed was able to provide numerous details and insights regarding the capital outlay planning process in California.

California State University has completed a formal facilities assessment of nearly 70% of the GSF in their system.

The California State University System scores projects and has completed a statewide condition assessment





This information is then used to develop a scorecard and includes points for factors such as energy, sustainability, and environmental. In the example above, an incentive is provided for replacing air compressors. A key takeaway is that the process is used to drive progress towards state-wide goals.

Another noteworthy aspect of this approach is that the oversight of the process occurs at what might be called the "System Level," as the assessment is managed by the California State University System. This would be comparable to UNM, CNM, or DACC using the assessment information for their multiple campuses. It should also be pointed out that the software is used primarily for making infrastructure replacement decisions and is not used to consider new programs across the state.

Colorado

The Colorado Commission for Higher Education (CCHE) manages the planning process for institutions in higher education and the Office of the State Architect must approve the plan. This office also has guidelines for Master Plans.[5]

The Capital Development Committee of the General Assembly reviews the capital construction budget requests submitted for funding consideration by the Governor's Office of State Planning and Budgeting and the CCHE, and subsequently makes recommendations to the legislature.[6]

Georgia

Each state university campus creates and maintains a list of proposed capital projects, prioritizing with a methodology that is specific to their campus. Large and small capital projects are both included on the list.

The project requests are collected and considered at the campus level by leadership and constituents. The final project list is sent to the Board of Regents (BOR) for the state system on a manual form that includes project details.

The BOR reviews all the capital project requests from each institution and prioritizes the list from a system perspective. The BOR then sends the prioritized list to the state legislature for their consideration and discussion.

Georgia has a system prioritization process

Projects are only rarely added to the request after consideration by the legislative committees, and the final prioritized list is forwarded to the Governor for final consideration and approval. The Governor retains the final approval for the budget and for all funded capital outlay projects.

Louisiana

The Louisiana State University (LSU) Office of Planning Design and Construction delineates their process:

> "Louisiana funds major renovations and new construction on campus through the capital outlay process. As a requirement of the State Capital Outlay process, LSU annually submits a prioritized five-year plan for capital improvements to the State Legislature through the Board of Supervisors and Board of Regents. This plan is the result of intensive, university-wide planning efforts that include the Office of the President, the Office of Facility Services, the Facility Design and Development Committee, the Office of Academic Affairs and the Office of Finance and Administrative Services, with the President serving as the final decision maker.
>
> LSU submits the Capital Outlay five-year plan each year to the LSU System Office in July for approval in August. Combined and prioritized with the other LSU campuses, the LSU System Capital Outlay five-year plan is then submitted to the Board of Regents in September for approval in October. The Board of Regents prioritizes all projects and creates a Higher Education Capital Projects Plan which is submitted to the State Division of Administration by November 1 of each year. During the spring legislative session, individual capital projects are authorized for funding by the State Legislature. A listing of individual projects that are authorized for funding is placed in House Bill (HB) 2.

A takeaway is that this is largely a manual process as relates to documentation

> Major capital projects listed as "New Projects" on the university's Capital Outlay 5 Year Plan are mainly focused on renovations to existing facilities, rather than constructing new facilities, in an effort to preserve LSU's historic buildings and actively reduce identified deferred maintenance items. Projects which actively support student services (i.e., Residential Life projects, University Recreation, etc.) are funded through revenue bond projects with the debt being serviced."[7]

Louisiana also has a mechanism for providing an advance for construction dollars to help accelerate the construction process, and the state uses a specialized report to track all expenditures, appropriations, and lines of credit.

Missouri just completed a comprehensive review of all facilities

Missouri

According to their website, Facilities Planning and Development (FPD) within the University of Missouri System Office of Finance provides "support to the campuses in the planning, design, and construction of facilities to maximize resources and minimize risk for the university."[8]

The office also serves as the university's building code authority (AHJ) and as the contracting officer for design and construction. FPD prepares and coordinates the Annual Capital Project Plans and the submission of the annual State Capital Appropriations Request. This past year, Missouri completed an assessment of all institutional space for the purposes of developing a realistic capital budget that addresses the deferred maintenance backlog.

According to the report:

> "In early 2018, the Commissioner of Higher Education directed staff to undertake a comprehensive review of public college and university facilities around the state. This review serves as an update to the 2009 report. The overall goal of this review is to assess the "state of the state" of higher education facilities and to review and understand the trends and issues institutions face."[9]

Montana

In 1972 a constitutional change created the Board of Regents to govern higher education in the state. The 1972 Constitution grants "full power, responsibility, and authority to supervise, coordinate, manage and control the Montana University System to the Board of Regents."[10]

At one time, Montana required new higher educational facilities to also be accompanied by an operating increase in budget to fund maintenance at the appropriate level, and this requirement made approving capital outlay measures a challenge. [11]

Montana emphasizes ongoing maintenance

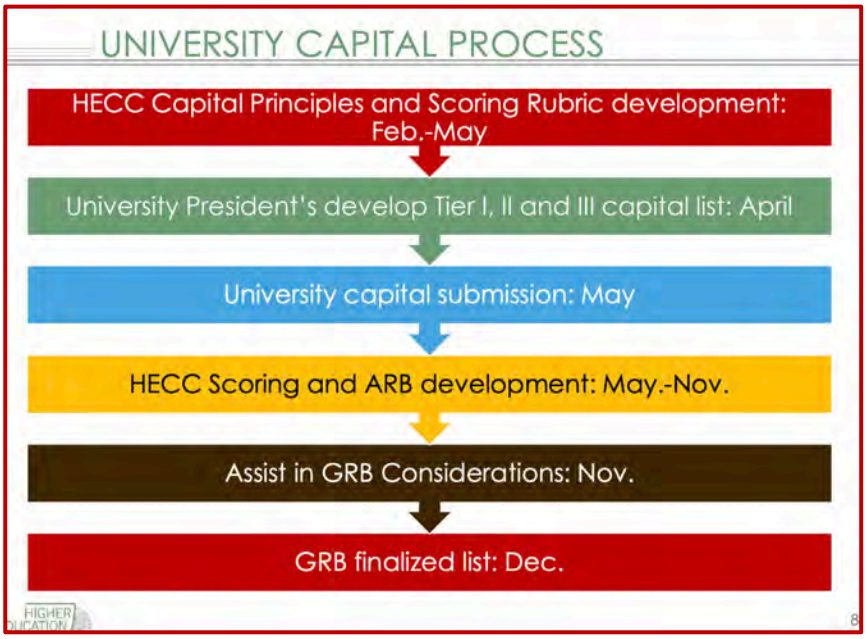
Montana State University won a national award for creating a team with in-house staff that develops FCI data to inform long-range planning, budgeting and prioritizing activities related to building renewal and deferred maintenance projects.[12]

Oregon

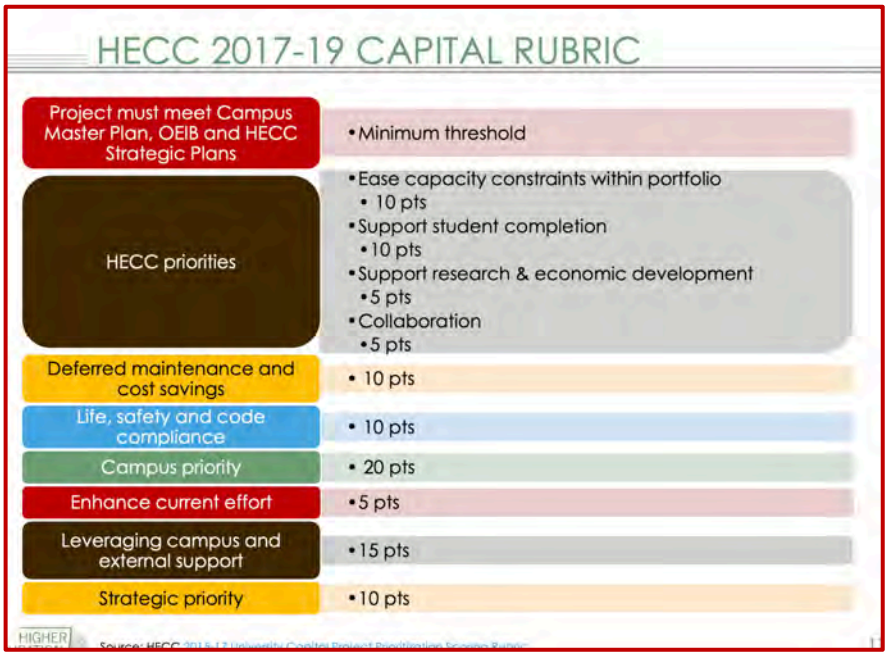
Oregon recently implemented both a process and rubric for prioritizing capital outlay requests received from higher education. According to the Executive Director of the Higher Education Coordinating Commission (HECC):

> "The criteria included in the HECC's Capital Policy Statement – and operationalized through its Capital Rubric – emphasize the priority that the Commission has placed on reducing deferred maintenance backlogs and creating incentives to reduce future deferred maintenance needs. As described in the Capital Policy Statement, universities must submit to the HECC a plan for supporting the ongoing operational and maintenance needs of current and proposed capital assets, including deferred maintenance and building renewal, if they seek to expand their capital portfolio. Additionally, the Policy Statement notes that the HECC will advocate for a level of state-paid capital debt that is adequate to provide institutions with the most cost-effective means of addressing deferred maintenance, life-safety, and code compliance need."[13]

These two graphics that follow illustrate the process and the scoring rubric (note: the acronyms are Agency Recommended Budget (ARB) and Governor's Recommended Budget (GRB).



The process is above; the rubric is below.



State University of New York (SUNY)

The State University Construction Fund is responsible for design, construction, acquisitions, and improvements to SUNY's building and infrastructure assets on its thirty-two campuses and three teaching hospitals.

According to their website, the SUNY Office for Capital Facilities at SUNY provides oversight for capital programs, energy management, sustainability, renewable energy, energy procurement, and Environmental Health and Safety.[14] The Assetworks suite of programs is used as the software system.[15] The trustees of the state university of New York approve and submit capital outlay projects to the legislature.

Texas

Until recently, Texas required institutions to submit a custom spreadsheet titled MP2 to list all deficiencies; schools that listed a deferred maintenance total exceeding 5% of replacement cost were ineligible for Higher Education Assistance Funds for capital renewal under the assumption that the institution had been spending the funds elsewhere. Texas has since dropped the requirement for the MP2 because of the staff time involved and the challenges of equitable comparisons.

Texas scores and ranks Tuition Revenue Bond (TRB) projects

Tuition Revenue Bonds (TRB) are requested every two years and approved by the Legislature, although there have been some recent changes to this process. Texas also has Space Usage Efficiency (SUE) standards, and institutions that fail to meet utilization minimums may be penalized with less funding.

Texas has a scoring system for TRB projects that uses factors such as urgency, program, and support of state initiatives. This system is in place to provide an objective basis for awarding capital outlay projects and the scoring is performed by a committee selected by the Texas Higher Education Coordinating Board (THECB).

GHC wanted to cite a particularly useful reference that was used in the preparation of this section: *Tuition Revenue Bonds; An Analysis of the History and Use of TRBs in Texas from 1971-2016*, Trevor McGuire (2018) [16]

Instead of developing an alternative, the TRB authorization process should be systematized, with TRB authorizations conditioned on an assessment of how well each institution utilizes its existing space and its potential for providing online education.

Virginia

In a presentation to the Capital Outlay Subcommittee of the Senate Finance Committee, the Director of the State Council of Higher Education for Virginia (SCHEV) explained that his agency is charged with developing policies, formulas, and guidelines for the fair and equitable distribution of public funds among the public institutions of higher education. SCHEV is also responsible for developing a uniform, comprehensive data information system designed to gather information and to review biennially and approve or disapprove all changes in the inventory of educational and general space. [17]

His presentation also references these key points:

- The National Association of College and University Business Officers (NACUBO) recommends an annual capital reinvestment rate of between 1.5% and 3.5% of the present replacement value.
- The annual capital reinvestment rates set by the U.S. Government Accountability Office vary from 1% for the U.S. Air Force to 4% for NASA.
- The first priority of any agency or institution requesting capital outlay appropriations shall be maintenance reserve funds.[18]

The Director also presented a chart illustrating the steps of the prioritization process.

How SCHEV Priority Is Determined

Step 1	Collect room inventory and space utilization data from institutions
Step 2	Analyze space need based on actual and projected enrollments
Step 3	Analyze classroom and laboratory utilization rates
Step 4	Obtain facility condition information by building, institution and campus
Step 5	Establish list of projects approved for pre-planning or planning in the Appropriation Act
Step 6	Assess each project requests based on Steps 2-5
Step 7	Give each project a priority rating based on Step 6

Synopsis and Comparisons with New Mexico

Nearly every Higher Education Department and Commission process that GHC reviewed was based on the agency providing guidance and requirements, while the institutions retain authority and responsibility for compiling their data and managing their facilities. In preparing this report, the Consultant also used information from *Public Higher Education Capital Funding: A Survey of 37 States*, Texas Council of Public University Presidents and Chancellors.[19]

GHC draws contrasts with the process in New Mexico in the following areas.

Project Prioritization

Most all states have a process for capital outlay prioritization that exists at the agency level so that the legislature can have an objective means of comparing project requests during deliberations. GHC would note that NMHED annually holds the Capital Outlay Summer Hearings where the projects are discussed and frequently amended before legislative recommendations are made, and this existing process has had considerable success with providing incentives that achieve desirable outcomes.

A prioritization process is more than just providing an objective basis for selecting projects, however, and another important advantage is that a rubric for scoring projects provides incentives to institutions to support state initiatives. Interestingly and particularly relevant to this review, Texas recently dropped the requirement for the MP2 deficiency list because of the challenges with accuracy and the resources required to compile the information but did retain and update their scoring rubric. Texas has a "blind" scoring process for the TRB submission evaluation and Oregon has just initiated a capital outlay project scoring rubric.

Generally, the software used at the agency level is a customized enterprise level data base, although several campus systems have used a single facilities management system vendor.

Renewal Stewardship

GHC will make the unequivocal statement that the condition of facilities and infrastructure is a concern for every other agency in higher education. At one time, Montana mandated that all new facilities be accompanied by an increase in operating funding, and the consequences of this requirement were that capital renewal became dependent upon gifts. Texas would not fund facilities capital outlay until the deferred maintenance at each campus was bought down to 5% or less. Virginia insists that deferred maintenance be the first institutional priority to qualify for additional funds.

On the other hand, New Mexico had once mandated that BRR be used solely for deferred maintenance but removed the restriction. Most of the scoring criteria that was reviewed included the reduction of deferred maintenance as a goal.

Role of Coordinating Agency

In the states that were surveyed, the coordinating agency has staff that are engaged in an active role. Virginia and Texas have implemented classroom utilization measures. Space audits for overall space efficiency are routine in Texas; in fact, NMHED at one time performed limited space audits.

New Mexico has lower thresholds for capital outlay project approval with more layers than most other states. One state offers a line-of-credit to allow construction to start immediately instead of waiting for the sale of bonds.

Consistent Funding

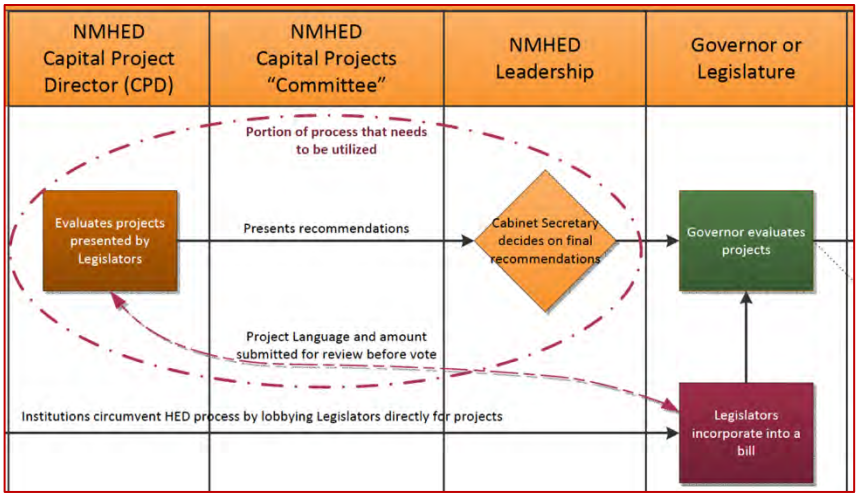
New Mexico is fortunate in that the General Obligation Bonds (GOB) have been a reliable and consistent source of funding for many institutions. After reviewing numerous other state processes and methodologies, GHC can only conclude that NMHED has done a very good job with the resources that have been provided.

Central New Mexico Community College
Rio Rancho Campus

Doña Ana Community College
East Mesa Campus

5 Summary

The Consultant takes a holistic view of the overall process because all steps must coordinate for an effective outcome.



With some trepidation, GHC acknowledges that there is an annual conversation about the individual appropriations granted to each legislator. Since those requests usually only peripherally involve NMHED, the Consultant will include the comment that there could be more funds available to buy down deferred maintenance if these small projects did not detract from available funds. Improvements to the capital outlay process will present an opportunity to reduce this circumvention of the NMHED process.

Options Considered

The 2006 assessment has been mentioned several times, as the challenge with any facility assessment is the methodology to update and maintain the information. As it turns out, one of the unexpected outcomes of this review was the significant amount of useful facility information that has been developed. NMHED should not supplant the institutional authority but rather augment it with incentives.

After reviewing information from other states, it becomes apparent that recognition of the need to address deferred maintenance is gaining traction nationwide. Climate concerns, renewable energy, and safety are becoming priorities. Duplicate programs and utilization have become watchwords. As a rule, the coordinating agencies are taking an active leadership role in providing guidance to higher education with their investments in facilities.

The facilities staff at the institutions in New Mexico have been listening to the admonitions about better planning. One of the options GHC considered was to select a single vendor for a comprehensive assessment of all public postsecondary facilities, but that is unnecessary since nearly two-thirds of the facility space within the NMHED purview has been recently assessed. After reviewing the Scope of Work, GHC was charged with making the most efficient use of existing information and identifying best practices in capital outlay, and the Consultant strongly believes that the following recommendations will do precisely that.

Northern New Mexico University

New Mexico Highlands University

6 Recommendations

There is always the option for "doing nothing" and continuing "as-is." After a review of the software and capital outlay project process in other states, it is an accurate statement that NMHED and New Mexico have created and developed a solid capital outlay mechanism that has successfully led to an increased focus on existing space and reduced deferred maintenance. Most schools have a current Facility Master Plan, and many have an assessment. However, there is an opportunity to improve on and accelerate this progress.

There is also the option for conducting a full state-wide facilities assessment as was done in 2006, although the Consultant would have no reason to expect anything other than the same dismal outcome. The California State University System is trying a modified version of this approach, and concerns were expressed privately to GHC about keeping the data current. This methodology is expensive, not sustainable, and unnecessary; the New Mexico public postsecondary schools have developed a substantial amount of excellent planning information that can be used.

GHC thus offers these recommendations based on the three primary areas of the Scope of Work.

- **Develop and Implement Project Prioritization**

NMHED should invest in software that will assist with scoring and ranking institutional capital outlay projects using formal criteria. By implementing an objective scoring methodology, the institutions will be encouraged to develop projects that support and advance the state and NMHED initiatives. For example, if renewable energy becomes a priority, renovations, renewals, and building modifications that support this goal can be scored higher. Using objective processes that provide incentives for desirable behavior is a best practice in many other states. A formal rubric will drive the schools to develop proactive analyses beyond "spreadsheets."

Most states have a process for project prioritization, with Oregon and Texas using criteria to score and rank submissions. GHC should note that NMHED annually holds the Capital Outlay Summer Hearings, where the projects are discussed and frequently amended. There has been some success in providing incentives already, and this recommendation will build on and accelerate the achievement of the desired results.

During the annual planning cycle, each institution prepares a five-year plan and a capital outlay request, with many of the institutions ultimately receiving a favorable recommendation.[20] The central administration of the three university systems should play a larger role in aligning facility capital projects with those of the flagship campus. There are several ways that incentives can be generated, the simplest being the awarding of points for alignment with the Strategic Plan.

GHC recommends asking the systems to calculate a preliminary score for their projects with the new criteria prior to submission.

Software

The software implementation should be independent of campus assessments, leaving responsibility for facility and infrastructure information with the institutions. This approach will make use of existing data, allow for competitive procurement, and provide independence for each campus to accomplish the task. The individual public postsecondary institutions retain the independent authority to manage and maintain real property, although the scoring rubric elements will provide incentives to achieve the desired goals and objectives.

Guidance on Standard Elements

There should be a standard for the elements to be prioritized or included in the Master Plans. Some schools have little more than Five-Year Project Plans, while others have facilities assessments and utilization targets that are incorporated as goals. Many of the Master Plans incorporate excellent facility deficiency lists that are used for planning. After reviewing methodologies employed elsewhere, a set of standards to be included for Master Planning is a solid best practice. The GHC vision and recommendation is that NMHED would eventually develop formal recommendations for standard elements in a Master Plan. The University System of Georgia has done this. These following critical elements should be standardized first.

- Overall Space Utilization

  Accurate space information is the denominator for space utilization, and the Consultant believes that HED should undertake an effort to encourage the institutions to improve the space surveys through an audit process. A goal could be a Space Projection Model such as the THECB prepares.[21]

- Classroom Efficiency and Utilization

  Schools where the registrar uses Ad Astra and EMS have access to this classroom utilization information, and NMHU calculates their numbers manually. Many states include classroom utilization as a criterion in the capital outlay process. With over half the schools in New Mexico using this software, NMHED could review the existing data and set targets. For example, the "standard week" must be the same for each institution that calculates classroom efficiency. This element relates to the capital outlay process in that an excess of space can be identified, and better use of space can be accomplished through efficient scheduling.

- Facilities Condition

  Facilities Condition Index and Net Asset Value are measures of facility condition. Replacement cost and repair cost values must use the same basis for the measures to be comparable between groups of data, but there are standards for assessments.[22] [23]

  What this means is that assessments completed per the standards are comparable. There has already been a significant investment by the institutions in facility condition studies, and approximately 60% of the GSF in the state higher education inventory has been evaluated already. GHC believes that adopting a standard and allowing the institutions to meet requirements for assessments would have several advantages:
  - Existing data can be used without additional expense;
  - Small schools can complete their own FCI if they choose; and,
  - Competitive procurement can be employed.

  The National Association of College and University Business Officers (NACUBO) is silent as to standards for the FCI but does say that "The FCI's real value emerges in planning and policy discussions: Overlaying the FCI with space use and academic program requirements for academics can clarify building priorities."[24] While FCI is essential to consider, it is but one element of prioritization. NMHED can incorporate different levels of assessments into the criteria if desired.

♦ **Reinstate and Update the Building Repair and Renewal Process**

NMHED should advocate for a return to the mandate that BRR be expended only for the reduction of deferred maintenance and thus lowering FCI (or increasing NAV). This requirement could be imposed if the institution is to be considered for additional capital outlay funds. Institutions at one time received dedicated Building Repair and Renewal funds, but the formula had not been updated in years, and the calculations were based on replacement costs from the 1990s. These funds were originally intended for repair and renewal, but after the rule change removed the restrictions, institutions were able to use these funds at their discretion. GHC would add that most schools strive to use BRR only for capital renewal or for emergency repairs, although a best practice is a dedication of these funds to renewal stewardship.

There have been several attempts to restructure the allocation formula, but the simple and most efficient way would be to require a 1% increase in the amount of allocated BRR with each capital outlay bond appropriation. For example, if the institution is awarded $20,000,000 for a renovation, then the BRR allocation would receive an annual recurring increase of $200,000. Over time, this would result in a BRR funding amount of 1% of the campus replacement cost value, a generally accepted minimum for stewardship.

- **Increase the NMHED Role**

GHC recommends that NMHED increase its oversight role. A best practice is for the coordinating agency to have staff that conduct periodic audits and reviews of institutional data.

Space audits are routine in Texas and at one time NMHED performed space audits of institutions. Developing and overseeing standards for capital outlay facility planning elements will likely require a small staff increase but would pay significant dividends with cost savings and increased efficiency. A higher education Strategic Plan could be considered.

The high-level objective of these recommendations is to facilitate the alignment of limited capital resources with the overarching goals, strategies, priorities, and aspirations for higher education in New Mexico. The NMHED capital outlay process will be effective only with the confidence of the institutions, the Legislature, and the Governor in the criteria and methodology. GHaubold Consulting is honored to be asked to play a role in improving this process.

Santa Fe Community College

A Acknowledgements

GHC wishes to acknowledge the New Mexico public higher education finance and facilities personnel who gave their time to help compile the information required to complete this study.

New Mexico Institute of Mining and Technology
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ENMU Roswell
Karen Franklin
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New Mexico Highlands University
Sylvia Baca
Northern New Mexico College
Andy Romero
Patricia Espinoza
Western New Mexico University
Kevin Matthes
Camilla Rice
Clovis Community College
Norman Kia
Mindy Watson
Luna Community College
Matthew Cordova
Mesalands Community College
Jim Morgan
New Mexico Junior College
Dan Hardin
Charley Carroll
Will Gleason (DPS)
Navajo Technical College
Ronald Begay
Jason Arviso
Central New Mexico Community College
Clint Elkins
Marvin Martinez
UNM Gallup
Ron Petranovich
UNM Los Alamos
Bob Harmon
UNM Taos
Jessica Sanchez
UNM Valencia
Rick Goshorn
New Mexico School for the Deaf
Harold Moya
Trevor Brennan
Institute of American Indian Arts
Peter Romero
New Mexico Military Institute
Kent Taylor
San Juan College
Chris Harrelson
Ed DePlas
Santa Fe Community College
Henry Mignardot
Diné College
Leon Jackson
Southwestern Indian Polytechnic Institute
Garrick Harlan

As always, the administrative assistants arranged for the right people to be in the right place at the appointed time, and we appreciate their efforts. Whatever level of quality that was achieved by this report was made possible by the guidance and leadership provided by Gerald Hoehne, Capital Projects Director at NMHED.

New Mexico Junior College Pannell Library Addition and Renovation
Photo by Patrick Coulie Photography

B Interview Schedule

GHC visited personally on campus with eleven institutions and interviewed nineteen in person. Fourteen sent written responses to these questions below.

1. *Please tell us about your current facility management software and how it is used to assist your institution with prioritizing your capital project planning and funding needs.*
2. *What process do you use for deciding how to make the capital outlay request?*
3. *What process is used to determine the BRR projects?*
4. *What software do you use for work orders? Do you use this software or another to help determine how to spend your renewal funds?*
5. *How do you track capital and renewal needs? Do you have a list by building?*

Follow-up emails were sent for clarification when needed.

Institutions	Date
Research Universities	
New Mexico Institute of Mining & Technology	8/27/19
New Mexico State University	8/14/19
NMSU ASC	email
University of New Mexico	8/26/19
UNM Medical School	8/26/19
UNM HSC	9/4/19
Other	
New Mexico School for the Blind and Visually Impaired	8/27/19
New Mexico School for the Deaf	8/30/19
Branch Community Colleges	
ENMU Roswell	9/10/19
ENMU Ruidoso	8/22/19
NMSU Alamogordo	email
NMSU Carlsbad	9/17/19
NMSU Doña Ana	8/12/19
NMSU Grants	email
UNM Gallup	8/27/19
UNM Los Alamos	8/28/19
UNM Taos	8/23/19
UNM Valencia	8/28/19

Institutions	Date
Tribal Colleges	
Diné College	8/28/19
Institute of American Indian Arts	8/30/19
Southwestern Indian Polytechnic Institute	9/20/19
Navajo Technical College	phone message
Independent Community Colleges	
Central New Mexico Community College	8/20/19
Clovis Community College	9/4/19
Luna Community College	9/6/19
Mesalands Community College	9/3/19
New Mexico Junior College	8/21/19
New Mexico Military Institute	8/29/19
San Juan College	9/9/19
Santa Fe Community College	8/21/19
Comprehensive Universities	
Eastern New Mexico University	8/28/19
New Mexico Highlands University	8/29/19
Northern New Mexico College	8/27/19
Western New Mexico University	8/14/19


NEW MEXICO SCHOOL
FOR THE BLIND & VISUALLY IMPAIRED
ALAMOGORDO • ALBUQUERQUE • STATEWIDE OUTREACH
TOP WORKPLACES 2018
ALBUQUERQUE JOURNAL
WATKINS EDUCATION CENTER


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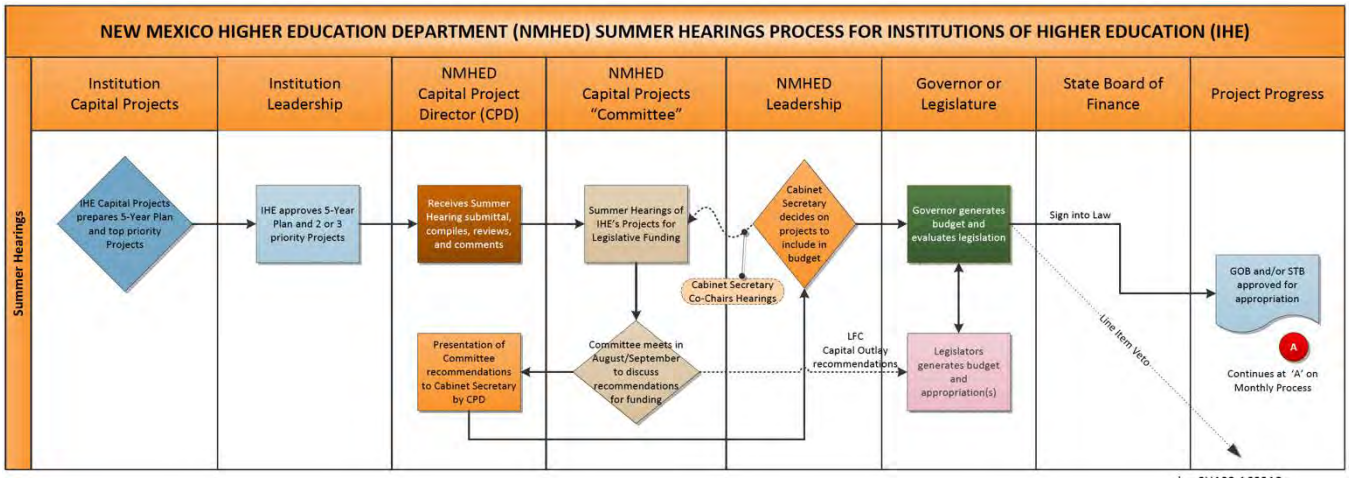
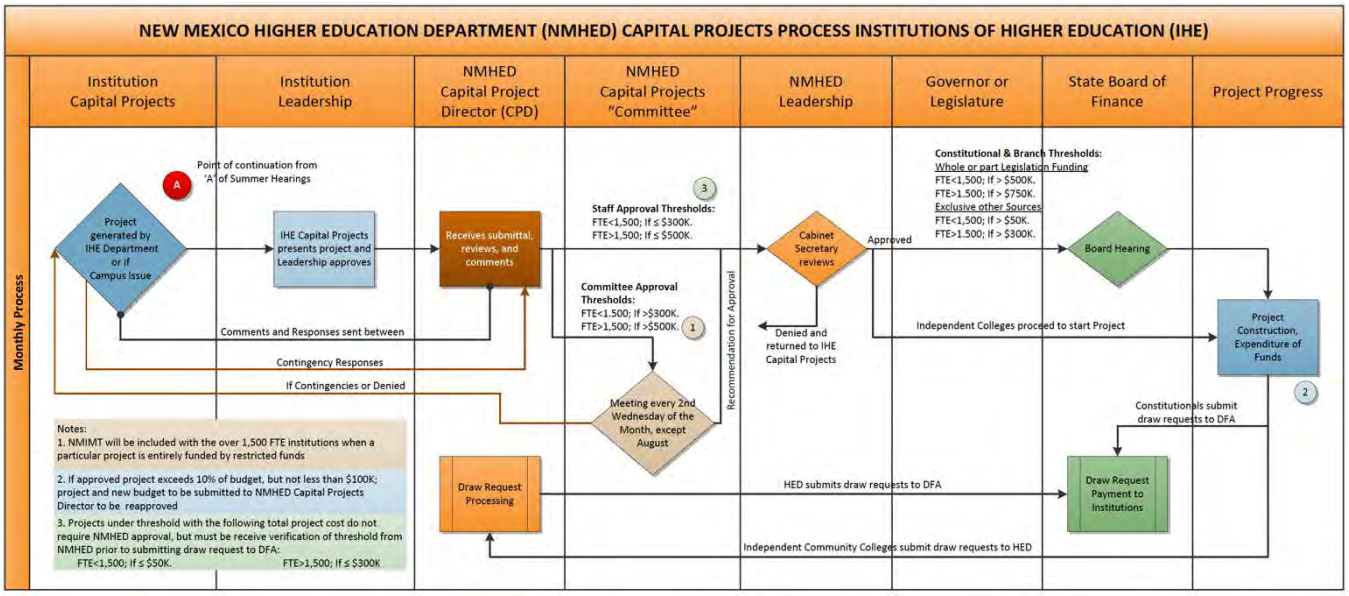
SCHOOL for the DEAF
1885

C Existing Capital Outlay Process





New Mexico Institute of Mining and Technology

Luna Community College

D Acronyms Used

ADA	Americans with Disabilities Act
AHJ	Authority Having Jurisdiction
ANA	Assessment and Needs Analysis
ARB	Agency Recommended Budget
ARC	Architectural Research Consultants
ASC	Agricultural Science Center
BOR	Board of Regents
BRR	Building Repair and Renewal
CCC	Clovis Community College
CCHE	Colorado Commission of Higher Education
CEC	California Energy Commission (CA slide)
CNM	Central New Mexico Community College
DACC	Doña Ana Community College
DPS	Dekker Perich Sabatini
ENMU	Eastern New Mexico University
F&A	Facilities and Administrative
FCI	Facilities Condition Index
FICM	Facilities Inventory and Classification Manual
FPD	Facilities Planning and Development (MO)
FTE	Full Time Equivalent
GHC	GHaubold Consulting
GOB	General Obligation Bond
GRB	Governor's Recommended Budget (OR)
GSF	Gross Square Feet
HB	House Bill
HECC	Higher Education Commission (OR)
HVAC	Heating Ventilating and Air Conditioning
I&G	Instructional and General
IPEDS	Integrated Postsecondary Education Data System
LSU	Louisiana State University
NACUBO	National Association of College and University Business Officers
NAV	Net Asset Value
NMHED	New Mexico Higher Education Department
NMHU	New Mexico Highlands University
NMJC	New Mexico Junior College
NMSU	New Mexico State University
SCHEV	State Council of Higher Education for Virginia
SFCC	Santa Fe Community College
SJC	San Juan College
SUE	Space Utilization Efficiency (TX)
SUNY	State University of New York
THECB	Texas Higher Education Coordinating Board
TRB	Tuition Revenue Bid (TX)
UNM	University of New Mexico

Southwestern Indian Polytechnic Institute

E About the Consultant

Mr. Glen Haubold

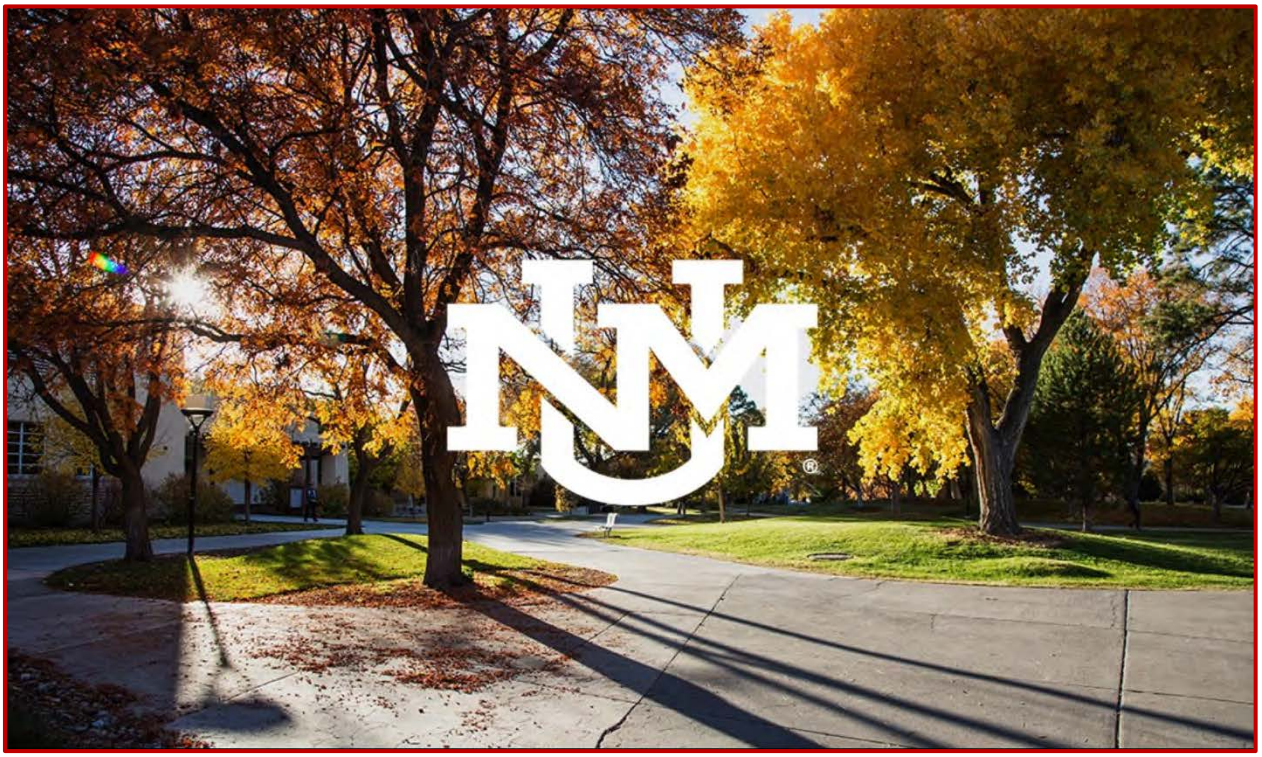
Glen Haubold has over 45 years of experience in facilities management, nearly all of which has been in higher education. He has been employed at Texas Christian University, Texas Woman's University, at the University of North Texas, and recently retired as the Associate Vice President for Facilities at New Mexico State University.

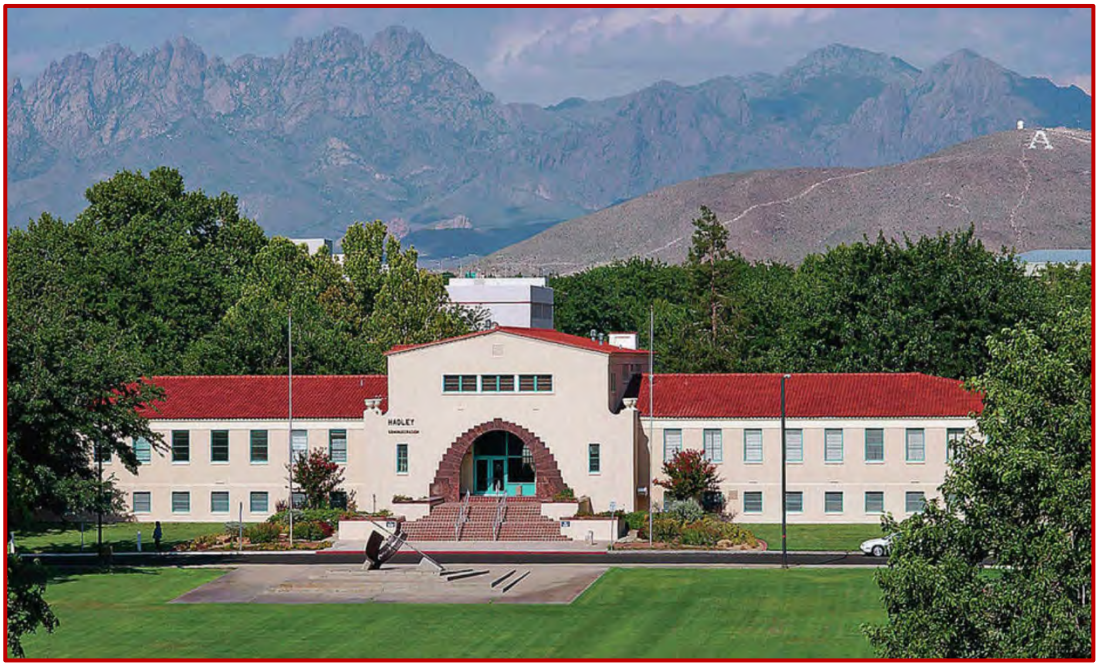
Mr. Haubold has served on the national level at APPA as the Central Region representative to the Information and Research Committee and on the APPA Board of Directors. Other experience includes tenure as the Secretary in Rocky Mountain APPA, and Mr. Haubold received the APPA Pacesetter Award in 2013 and the Meritorious Service Award in 2018. New Mexico State University was awarded the APPA Award for Excellence in 2016.[25]

Mr. Haubold co-authored a research paper titled, "Recovery and Recharge in Higher Education."[26] This publication developed into a chapter in the APPA Body of Knowledge, the text that serves as the foundational text for APPA's Institute for Facilities Management, as well as the body of knowledge needed to pursue APPA's Certified Educational Facilities Professional (CEFP) credential.

GHaubold Consulting

GHaubold Consulting team experience includes an engagement as a sub-consultant to Casagrande Consulting on a Facilities Management Study for Montana State University, the completion of a Grounds Management Study for the University of Massachusetts at Dartmouth, and the development and management of Request for Proposals for Grounds Management and for Custodial Services at Ringling College of Art + Design in Sarasota, Florida. Principal Glen Haubold is currently assisting the University of Dayton Facilities Management and Planning organization through a partnership with FM EXCEL.





New Mexico State University

F Interview Summaries

The Consultant communicated with every public postsecondary institution in New Mexico Higher Education to complete this report. NMHED should be commended for this dedication to inclusivity, and as a partner in the effort, GHC went to great lengths to meet in person with as many facilities and financial staff as was possible given the schedule. Out of the thirty-four possible meetings, GHC made a visit to eleven campuses. It should be noted that while NMHED lists thirty-two institutions, UNM Health Science Center and UNM Hospital were treated separately for the purposes of documenting the capital outlay process, as were the Agricultural Science Centers (ASC) at NMSU.

Research Institutions

NMHED classifies universities in its system as Research and Comprehensive and categorizes the Community Colleges as Branch and Independent. This latter designation relates to whether the community college is affiliated with one of the four-year universities, although each of the community colleges also has a local governing board. Eastern New Mexico University (ENMU), NMSU, and UNM have branch community colleges. NMHED also provides coordination for four tribal colleges and two special schools.

New Mexico Institute of Mining & Technology (NMT)

NMT is categorized as a research institution although staff pointed out that the university was much smaller in size than its two larger counterparts, UNM and NMSU. NMT prioritizes projects by age of facility, system, and need, and noted that enrollment has been declining. A steering committee manages capital outlay requests and the school is focusing on an energy audit by Ameresco. BRR projects are selected with an annual evaluation process using work orders for guidance, and SchoolDude is the work order system. Facilities staff meet with academic areas and overlay work orders onto their requests. Facilities and Administrative rate calculations are made using information from Banner, the university enterprise software system. NMT is currently completing a space benchmarking study.

New Mexico State University (NMSU)

NMSU builds their capital outlay request through a detailed and formal process that solicits input from all major departments on campus. Every college and organizational unit are encouraged to have a single top request and identify a project champion to "make the case" for the project. These requests are then presented before the University Administrative Council, and the President and Provost are the ultimate decision-makers. As with UNM, a new process may be in the works, since the Chancellor, President, Strategic Financial Officer, Provost, and VP for Research are all new to the school. NMSU uses the AssetWorks suite of facility management modules for issuing and tracking work orders and for space management, and NMSU has purchased the Assessment and

Needs Analysis (ANA) module for tracking deficiencies. NMSU has found the ANA module to be cumbersome and is discussing other assessment options with Sightlines.

NMSU has affiliated branch community colleges in Alamogordo (NMSU-A), Carlsbad (NMSU-C), and Grants (NMSU-Grants), as well as multiple locations in Doña Ana county through Doña Ana Community College (DACC).

NMSU Agricultural Science Centers (ASC)

NMSU is the land grant university serving New Mexico, and NMSU employs a similar process for preparing the capital outlay request for the ASCs. Input is solicited from the site Superintendent and the Agricultural Experiment Station Associate Director and Director. The BRR expenditures for the ASCs are initially identified by each site Superintendent to the Associate Director and Director of the Agricultural Experiment Station System. The Facilities and Services Project Development and Engineering group creates a budgetary estimate for the overall renovation and project needs.

University of New Mexico (UNM)

UNM has an extensive capital outlay process that is well documented and published on their website. Input is solicited from all constituents, and these requests roll up to the Capital Project Leadership Team (CPLT). The committee is chaired by the chief financial officer and the Provost. UNM has a Master Plan that includes the Health Science Center and uses FAMIS for space management at the component institutions. TMA is used for work orders, and work order records are used to strategically target BRR expenditures, however, BRR is not "paired" with Capital Outlay at this time.

Ad Astra is used for enrollment and classroom utilization. Sightlines just published their preliminary findings for UNM's Facilities Condition Assessment and UNM is now developing a Facilities Maintenance Master Plan, which will help inform the UNM BRR process. Most but not all the UNM branch community colleges use Ad Astra, and all were included in the Sightlines effort. UNM is discussing the implementation of a new process with the acronym FIN, for Facilities Investment Needs. UNM plans to assess the Auxiliary facilities next and told GHC that the mechanism or frequency for updating the Sightlines information has yet to be determined.

UNM has branch community colleges in Gallup, Los Alamos, Taos, and Valencia.

UNM Hospital

The UNM Hospital uses a similar but different process from the main campus in that Smartsheet is used for the submission of projects. The UNM Hospital is an auxiliary that has separate funding

and their staff provided GHC with a list of entities that review their projects.

1. Centers for Medicare and Medicaid Services (CMS); CMS regulation 482.41 requires hospitals to be constructed, arranged, and maintained to ensure the safety of the patient, and to provide facilities for diagnosis and treatment and for special hospital services appropriate to the needs of the community.
2. The Joint Commission (TJC) accredits and certifies; TJC sets its standards and establishes elements of performance based on the CMS standards. CMS has approved the Joint Commission as having standards and a survey process that meets or exceeds the established federal requirements.
3. New Mexico Department of Health (DOH); DOH is responsible for licensing and certifying of all health facilities in New Mexico (NMAC 7.1.7). Health compliance officers inspect all licensed and certified facilities to ensure safety and health of individuals. Life safety code surveyors conduct fire safety inspections. A licensed architect and architect technician review and approve health facility construction plans. UNMH is responsible for notifying this Bureau in a timely manner of any changes in program, location, or administration, as well as any alterations to the facility when subject to life safety code requirements.
4. Facilities Guidelines Institute (FGI); This an independent organization that develops guidance for the planning, design, and construction of hospitals and outpatient facilities. DOH requires the current 2018 edition of FGI Guidelines for new construction and renovation of hospital and associated clinics.

UNM Health Science Center (HSC)

The UNM HSC is the teaching component for UNM as opposed to the Hospital, which is a self-supporting Auxiliary. The HSC uses a similar capital outlay process as the UNM main campus. Work orders are accomplished through requests to the main campus.

Comprehensive Institutions

Eastern New Mexico University (ENMU), Northern New Mexico University (NNMU), New Mexico Highlands University (NMHU), and Western New Mexico University (WNMU) constitute the Comprehensive Institutions. ENMU has two affiliated branch community colleges, one in Roswell and another in Ruidoso.

Eastern New Mexico University (ENMU)

ENMU has a strong independent renewal program and has accomplished $225 million in capital renewal in the last sixteen years. The university constructed a new stadium with student fees. Staff pointed out that the campus has achieved $350,000 in annual energy savings through their efforts and is paying less than $1 per gross-square-foot. All the allocated BRR has always been spent on

BRR and staff emphasized their stewardship. Few formal systems are in place; most of these successes have been the result of conservative leadership and careful planning. ENMU does not have a formal Facility Master Plan nor is classroom utilization data tracked. SchoolDude and Banner are the primary software systems.

New Mexico Highlands University (NMHU)

NMHU is like several other schools in that quite a bit of planning is accomplished with spreadsheets. Roof condition is tracked, HVAC system modifications are planned, and numerous buildings have been renovated. Staff emphasized that the Auxiliary buildings are in poor condition. NMHU makes more use of contractors in planning than do most schools. J3 (a roofing firm) has developed a roofing plan, Thyssen Krupp has assessed the elevators, and NMHU meets regularly with Trane to review HVAC issues. Studio Insight helped prepare a five-year Facility Master Plan in 2017.

TMA is used for work order management. NMHU hires a commissioning agent for projects and contracts with a construction manager for construction in excess of $1 million. The Physical Plant is working on a Strategic Plan. Space utilization is tracked comprehensively using a spreadsheet.

The Consultant did ask about planning work that is accomplished with in-house staff, and this response was provided:

> We immerse ourselves in the design of new HVAC systems. We have found that engineers design for a building they are not familiar with nor have ever been in, and their designs are typically turn-key, super expensive, and difficult to maintain. Therefore, NMHU staff, along with an engineer and consultant to NMHU, get highly involved in the design of HVAC systems. We ensure all the past maintenance issues are being considered, unit CFMs are calculated with some scalability, size of equipment is scrutinized, and combine mini-split systems and rooftop units to maximize efficiencies, comfort, and performance. We are now installing a Trane Variable Refrigerant System at Rodgers Hall.

Northern New Mexico College (NNMC)

Northern New Mexico detailed some of their financial challenges. The staff receive BRR for emergencies, but generally are not able to plan projects due to lack of funds. The work order system is an in-house system built around SharePoint. When it becomes time to prepare the capital outlay request, staff meet with the President and Vice President and review the BRR at the same time.

Western New Mexico University (WNMU)

The facilities staff at WNMU meets weekly with the President; the physical plant leadership is relatively new. WNMU just completed a Master Plan with the help of Studio D. There is no space

management system other than Banner. SchoolDude is used for work orders, and staff cited roofs, roads, and HVAC as being problematic. Staff are looking to the Performance Contract to address some of the issues with HVAC, and WNMU is partnering with the city to stretch dollars on roads.

Inadequate HVAC systems were cited by WNMU and many of the other schools as being cause for concern. BRR had been tapped for other uses in the past, but WNMU has returned to using most of the BRR allocation for repair and renewal. Interestingly, WNMU is about to demolish an old residence hall named Regents Row, as is NMSU.

Branch Community Colleges

To a large degree, the branch community colleges depend upon the main campus for technical support, although most have a large degree of autonomy when it comes to identifying needs for the request for capital outlay.

ENMU Roswell

A Facilities Master Plan created with the help of ASA (an architectural firm) and ARC was just published. TMA is used for maintenance requests. The campus resides on a decommissioned Air Force base with a central plant and has approximately eight capital projects listed as priorities, one of which is a building to house the physical plant. Banner is the campus software system. The Capital Outlay process is collaborative with input from leadership and the two boards.

ENMU Ruidoso

ENMU Ruidoso has one building, and correctly pointed out that "one size does not fit all." The work order system is manual, and Banner is the campus software system. The staff is intimately familiar with facility issues in their building.

NMSU Alamogordo

NMSU-A determines its capital outlay needs and then works with the technical staff in Facilities and Services on the main campus in Las Cruces to prepare the request. NMSU-A uses SchoolDude for work orders, and Ad Astra for classroom utilization. The main campus tracks space utilization through AssetWorks, the facilities management software for the NMSU System. This is the process at NMSU-A for determining capital outlay needs:

> Several times a year, the President, the Vice President for Business Affairs, and the Facilities Director meet to discuss the capital outlay needs. Ideas that may impact the future infrastructure of the campus are addressed quickly. BRR is generally used for unplanned mechanical, electrical, or structural issues.

NMSU Carlsbad

NMSU-C determines the campus capital outlay needs and then works with the technical staff in the main campus Facilities and Services to prepare the request. NMSU-C uses SchoolDude for work orders and Ad Astra for classroom utilization. The main campus tracks space utilization through AssetWorks, the facilities management software for the NMSU System.

NMSU Doña Ana (DACC)

DACC operates campuses at Gadsden, Sunland Park, and Chaparral, as well as the East Mesa and Espina campuses in Las Cruces. DACC also has the Workforce Center in Las Cruces. DACC has a very detailed Facility Master Plan prepared by ARC that lists projects for both state and local funding. The DACC plan considers funding sources and utilization and has detailed projections about future needs.

NMSU Grants

The NMSU Grants President and Manager of Facilities Services meet to discuss the capital outlay needs annually. Additionally, there is consultation with the Business Manager III. These discussions center on near- and long-term needs of the institution based upon credit program offerings. NMSU Grants is the smallest community college campus in the NMSU System and does not have licensed personnel. Although the campus has been fortunate, there are periodic and unanticipated needs for repairs. Over the years, the process of placing priorities on the "five-year plan" has been updated as needs change. If there is a more pressing need in one area or facility versus another that may be listed as a priority, staff will recommend shifting the priority to address the most urgent need first.

The usual practice is to use BRR funds for an unanticipated mechanical failure, internal line (gas or water) break, or damage that compromises the integrity of a roof. This money is used to handle immediate unplanned issues that most often are electrical, mechanical, or structural.

UNM Gallup

UNM Gallup relies on the main campus for technical assistance, as the campus has three hundred GSF and three FTE. Trane performs HVAC preventative maintenance and the campus has a sophisticated energy management system. TMA is the work order system at the main campus while SchoolDude is used by the branch, a scenario that is common throughout New Mexico higher education. ARC developed a 2016-2025 Facility Master Plan with full campus engagement and a parking lot survey is current. Roads are less than ten-years-old, and several million dollars have been spent on water lines in a partnership with the city. UNM Gallup is the oldest branch at UNM, and the Information Technology (IT) network has been completely redone. All the $500,000 plus BRR allocation is used for BRR projects and work orders guide this investment.

UNM Los Alamos

Los Alamos has eight buildings with approximately 100,000 GSF. A "Needs Ticketing" system for work orders was created in-house, and SchoolDude is being evaluated. The UNM main campus staff help with capital outlay and Yearout Mechanical is preparing an assessment for mechanical systems. The main campus is assisting with a security review, and these efforts will feed the capital plan. BRR is used for repairs, and since the campus occupies an elementary school built in the 1940s, the needs are great. Ad Astra is being evaluated.

UNM Taos

UNM Taos works closely with the main campus for planning the capital outlay requests. This same process is used to determine the BRR projects. UNM Taos does not use any specialized software and created an in-house ticketing system with work orders tracked via spreadsheet. All campuses were assessed with Sightlines and Taos was included.

UNM Valencia

UNM Valencia has semiformal plans in that the staff walk the campus regularly with the President. Fire suppression and life safety have been priorities and the Consultant was impressed to see the gunshot detection system in use. The Asset Essentials module was considered since the campus uses SchoolDude for work orders, and the school is looking at Ad Astra. Salary savings have been used for renewal projects. The staff regularly assesses the campus facility needs.

Independent Community Colleges

The independent community colleges are like the branch community colleges in that each has a local governing board, however, their facilities staff does not have the resources that branch community colleges have from the larger four-year schools.

Central New Mexico Community College (CNM)

CNM just completed a detailed facility assessment with assistance from Architectural Research Consultants (ARC). This project included an online database with deficiencies listed at a very detailed level that is easily updated by the campus staff. This information is used to prepare the capital outlay request as are data and records from Footprint, the campus work order system. CNM does use Ad Astra and can produce utilization information. CNM will be updating their Facility Master Plan with DPS.

Clovis Community College (CCC)

Clovis Community College uses an in-house ticketing system and employs GROUPLINK. The President and Board set the agenda for planning. CCC did have a concern about as-builts and expressed the opinion that an update to their floorplans might result in minor changes to their space

inventory. A four-hundred kilowatts solar array was installed as part of a $4 million-dollar energy performance contract with Siemens.

The campus has nearly completed a detailed facility plan created by Greer Stafford that included roofs, parking lots, electrical systems, and life safety systems, and the facilities are in reasonably good shape.

Luna Community College (LCC)

LCC has minimal software and uses a manual work order system. Staff meet with the Board of Regents and campus users annually and expressed their appreciation to the assistance HED provides. Wilson and Company assist with planning and estimating the campus projects.

Mesalands Community College

Mesalands uses OS Ticket for the work order system and generally uses open source software systems when possible. The campus just opened a student center that was converted from an old armory, and Parkhill, Smith, and Cooper has been used for planning and contract administration. Staff have developed Standard Operating Procedures for operation and are negotiating with Siemens on a renewable energy and microgrid contract that will use energy savings to repay the loan.

New Mexico Junior College

Dekker Perich Sabatini (DPS) and staff walked the Consultant through the new Facility Master Plan that lists deficiencies at the component level. EMS is used for scheduling, and an in-house system in place for workorders.

New Mexico Military Institute (NMMI)

NMMI has very little software for Facility Management Systems but does track the age of component equipment in a database. Facilities staff attend SchoolDude user conferences, but mostly use mental notes and records. Life Safety is a priority as are those repairs that will lead to recurring damage if left unaddressed. There is a board subcommittee for planning that determines the capital outlay requests. Guidance also comes from the 2020 Strategic Plan. The BRR allocation is $750,000 per year and is wrapped into operations. A roof spreadsheet is maintained.

San Juan College (SJC)

The current facility planning horizon is from 2016-2021 and the plan contains a deficiency list that identified funding sources from BRR, GOB, STB, or the General Fund. Many of these projects have been completed. There has been a shift in I&G programs, and ARC was brought back last fall to extend the existing plan. SJC has executed a $7.2 million performance contract with Johnson

Controls that includes lighting and controls, a new chiller plant, chilled and hot water loop improvements, HVAC unit replacements, energy management system upgrades, and waste management improvements. This project has a seventeen-year payback.

Samanage is the work order system and Ad Astra is used for space utilization standards. Plans are to complete a Facilities Condition Assessment.

Santa Fe Community College

The college aligns the maintenance, management, renovation, and construction of campus facilities by seeking various assessments and information from numerous sources. SFCC just completed a thorough Investment Grade Energy Audit that identifies critical needs for immediate repair or replacement and outlines specific timelines for system and equipment refurbishment, replacement, or upgrade based on energy efficiency and savings. The audit reviewed existing maintenance history, available blueprints, historical cost data, and energy audits prior to making recommendations for improvements.

The college has a 2017-2021 Master Plan that is continuously used to provide information and priorities for asset management and efficient capital planning, and this plan is scheduled to be updated in 2021 for the next five-year horizon. A Facility Condition Assessment (FCA) is planned that will help to evaluate and provide a condition index of all buildings and their systems. All SFCC structures will be reviewed for ADA compliance and energy efficiency enhancement opportunities.

SchoolDude is used to capture and assess critical infrastructure needs and safety priorities. The college also plans a mandatory transfer from I&G to the plant fund that is included when the institutional budget is approved. Prior to finalizing budget recommendations, the BRR funding is vetted through the SFCC Financial Review Committee, Executive Team, Vice Presidents, and President.

SFCC makes extensive use of consultants such as service provider Johnson Controls, and facilities audits like Siemens and the IGA. During the Master Planning process, meetings are held with various departments that use portions of the facility. Lists of needs are generated by departments with relation to specific buildings. The college maintains a master capital project list that is reviewed by the Executive Team, President, and Board on a regular basis. The list includes capital needs by description, project type, estimated costs, proposed funding source, schedule for completion, and other notes as a basis for recommendations of capital renewal needs.

Special Schools

The special schools are something of a hybrid between public education and higher education, and follow rules promulgated by both the Public Education Department (PED) and NMHED.

New Mexico School for the Blind and Visually Impaired (NMSBVI)

NMSBVI has employed an architectural firm through the Public-School Finance Authority (PSFA) and keeps a comprehensive set of facilities planning documents in a three-ring binder. The school is over 100 years old. The Public Education Department has selected SchoolDude for work order management and has established a grading system for maintenance staff performance. NMSBVI has leaned on HED for large items such as chillers.

New Mexico School for the Deaf (NMSD)

NMSD uses a periodic external assessment that considers condition and life expectancy. Water intrusion is a high priority. Older plans are updated every year and facilities staff meet with the superintendent every two weeks. The twenty-five-member crew keeps in touch with campus needs and uses SchoolDude for work orders. The five-year plan is a one hundred and fifty-page document completed by DPS that includes one hundred and three buildings. The campus has an orchard and was a self-sustaining campus at one time.

Tribal Colleges

Tribal colleges provide an opportunity for Native students to take their first steps towards earning a degree on or near the reservation communities.

Diné College

In 2013 Dyron Murphy completed a Facility Master Plan at all six campus locations in Arizona and New Mexico, and this plan extends to 2025. There is a Capital Improvements Investments Committee (CIIP) and the Facility Manager sits on this committee. SchoolDude is used for work orders and preventative maintenance.

Institute of American Indian Arts (IAIA)

The campus is the geographic center of the state and is student centric. The staff focuses on necessities instead of luxuries and strives to improve educational availability. Square footage has been added only in museums. Feedback is sought from student groups, faculty, the Chief Financial Officer, and the President. The work order system is OS Tickets and is used to identify recurring issues. IAIA does not have a large committee but manages by walking around; studio space is monitored and strategic priorities are set. Climate control is needed for collections. Stucco and roofs, HVAC conversions, LED lighting for external illuminations, and solar power for a greenhouse are recent projects. Dyron Murphy has completed the campus Facility Master Plan.

Navajo Technical College (NTU)

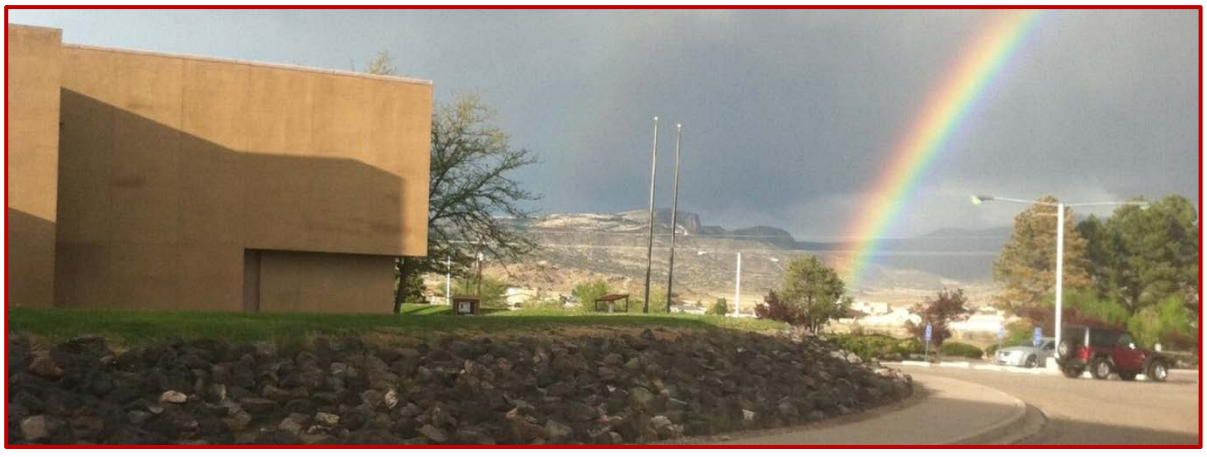
School Dude and a biannual Student Satisfaction Inventory survey are used to help plan the capital outlay requests. The process of analogous estimating is incorporated into the cost of the project. Historical data from similar projects becomes the basis for the cost estimate. The estimate can be adjusted for known differences between the projects. This cost projection occurs in the early phase of the project. Other methods that have been used are to acquire assistance from an architect the university used in the past or from the Navajo Housing Authority for access to predefined project architectural plans.

NTU's Facility Management system is SchoolDude, and the system assists in managing work orders. In addition, the software allows for the monitoring of utility consumption and its relative costs. Moreover, this system is used to create a preventative maintenance schedule. Alerts are sent when an item on the schedule needs attention.

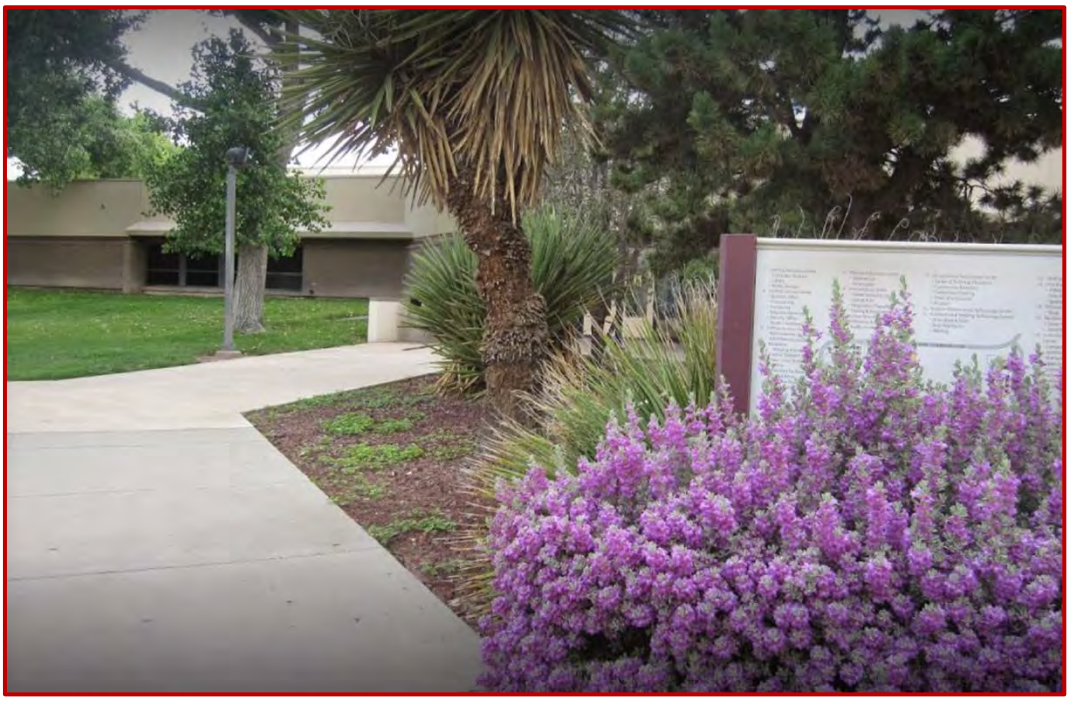
SchoolDude assists with identifying pending critical safety issues and helps to develop a solution by providing crisis-planning materials. Essentially, the system is used to gauge the situation in advance thus allowing time for strategic allocation of renewal funds. Each building is referenced in the system.

Southwestern Indian Polytechnic Institute

Key staff were on leave but GHC determined that SchoolDude is used for work orders from information on the website and telephone messages that were exchanged.



UNM Gallup



ENMU Roswell

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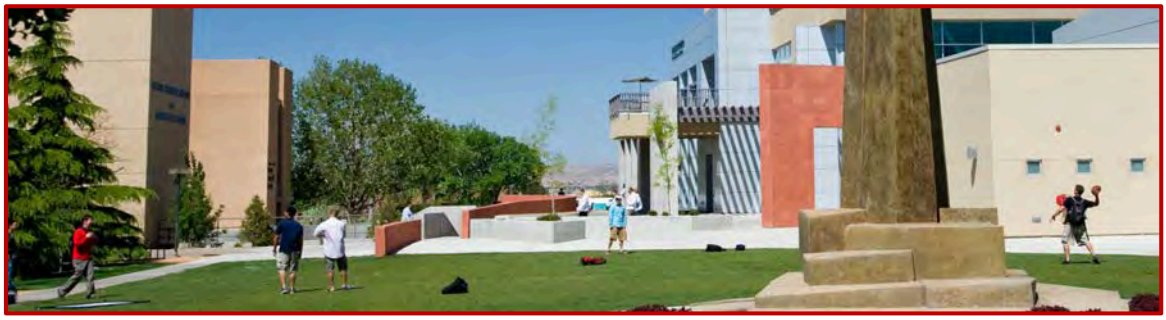

University of New Mexico Health Science Center

Diné College

Clovis Community College