3.3 Space Utilization

Main Building

Fall 2015
Existing Space Utilization
Classrooms and Labs

Utilization Key

- 0 - 20%
- 21 - 40%
- 41 - 60%
- 61 - 80%
- 81% +
3.3 Space Utilization

700 wing, Law Enforcement Center, Power Sports, Truck Driving

Fall 2015
Existing Space Utilization
Classrooms and Labs

Utilization Key

0 - 20%
21 - 40%
41 - 60%
61 - 80%
81% +
3.3 Space Utilization

100, 300, 700 wings - upper

Fall 2015
Existing Space Utilization
Classrooms and Labs

Utilization Key

- 0 - 20%
- 21 - 40%
- 41 - 60%
- 61 - 80%
- 81% +
3.4 Building Conditions Photography

Main Building

51 Main Building hallway 100 wing

52 Main Building gym classroom 120

53 Main Building classroom 501A

54 Main Building classroom lab 501B
3.4 Building Conditions Photography

Main Building

55 Main Building diesel mechanic shop 502

56 Main Building hallway 500 wing

57 Main Building diesel mechanic shop 504

58 Main Building Powersports room 503

59 Main Building Powersports room 505

60 Main Building hallway 100 wing
3.4 Building Conditions Photography

Main Building

61 Main Building front desk main entrance

62 Main Building hallway at 100/300 wing

63 Library Entry

64 Library Suite
3.4 Building Conditions Photography

Main Building

65 Main Building Library 305A

66 Main Building campus cafe 304

67 Cafe Game Room student lounge 304A

68 Main Building ATCC Foundation Bookstore

69 Employee lounge 309

70 Interactive TV classroom 311
3.4 Building Conditions Photography

Main Building

71 Main Building hallway 600 wing

72 Welding shop classroom lab 607

73 Main Building classroom 606

74 Mechatronics classroom lab 604
3.4 Building Conditions Photography

Main Building

75 Main Building classroom lab 602

76 Main Building student lounge 603A

77 Main Building carpentry classroom/lab 601

78 Main Building mechatronics classroom 610

79 Main Building Mechatronics open laboratory 614

80 Machine Tool Shop classroom lab 617
3.4 Building Conditions Photography

Main Building

81 Machine Tool Shop classroom lab 619

82 Machine Tool Shop classroom lab 621

83 Main Building hallway south side of 600 wing

84 CHEM/BIO classroom lab 407
3.4 Building Conditions Photography

Main Building

85 CHEM/BIO classroom lab 407

86 Biology classroom lab 412

87 Biology classroom lab 412

88 General Lecture classroom 410

89 SIM open laboratory 402

90 Main Building hallway 300 wing

ATCC - Facilities Master plan
Existing Building Conditions - Building Conditions Photography
3.4 Building Conditions Photography

Main Building

91 Communications Art & Design class lab 326

92 Communications Art & Design class lab 326

93 Communications Art & Design class lab 326

94 Medical Laboratory Technician class lab 105
3.4 Building Conditions Photography

Main Building

95 Medical Laboratory Technician class lab 105

96 Medical Laboratory Technician class lab 103

97 Medical Laboratory Technician class lab 103

98 Nursing classroom 208

99 Main Building hallway 200 wing

100 Main Building hallway 100 wing
3.4 Building Conditions Photography

700 wing and south 700 wing

101 Hallway looking west 700 wing

102 Classroom 755

103 Classroom 755

104 Classroom 752
3.4 Building Conditions Photography

700 wing and south 700 wing

105 Open computer lab 750

106 Computer Voice Networking Laptop Lab 748

107 Student center lounge 744

108 Student center lounge 744

109 Cafe lounge

110 Cafe lounge
3.4 Building Conditions Photography

700 wing and south 700 wing

111 SO700 Office Suite office services 741

112 Auditorium classroom 743B

113 Auditorium classroom 743A

114 Quiet Area/Lounge lounge 756Q
3.4 Building Conditions Photography

700 wing and south 700 wing

115 Quiet Area/Lounge lounge 757Q
116 Reflection Room 756
117 Computer Lab classroom lab 759
118 CVNP Cisco Lab classroom lab 764
119 Smart Board Studio research lab 766
120 Classroom lab 765
3.4 Building Conditions Photography

700 wing, south 700 wing and law enforcement center

121 Student life lounge 702
122 Computer lounge 700D
123 Public corridor 700 wing looking east
124 Game room 702
3.4 Building Conditions Photography

700 wing, south 700 wing and law enforcement center

125 General Lecture classroom 708
126 General Lecture classroom 708

127 Link: south 700 wing to Law Enforcement Center
128 Physical Skills Lab 796

129 Physical Skills Lab classroom lab 796
130 Public corridor Law Enforcement Center
3.4 Building Conditions Photography

Law Enforcement Center

131 Weight Room classroom lab 776

132 Entrance area

133 Radio Dispatch classroom lab 792

134 Radio Dispatch classroom lab 792
3.4 Building Conditions Photography

Law Enforcement Center

135 CSI Lab classroom lab 794

136 CSI Lab classroom lab 794

137 Tactical Warehouse research lab 795

138 Tactical Warehouse research lab 795

139 Tactical Warehouse research lab 795

140 Tactical Warehouse research lab 795
3.4 Building Conditions Photography

Truck Driving Building

141 Looking east down public corridor 800

142 TRDR classroom 802

143 TRDR classroom 802

144 Simulator Lab open laboratory 803
3.4 Building Conditions Photography

Truck Driving Building

145 Simulator Lab open laboratory 803

146 Lounge 804

147 Lounge 804

148 Shop classroom lab 807

149 Shop classroom lab 807

150 Shop classroom lab 807
3.5 Building Condition Summary

### Repair & Replacement

**2011** | 2012 | 2013 | 2014 | 2015
---|---|---|---|---
$0.00$ | $0.10$ | $0.50$ | $0.60$ | $0.60$

**R & R** | **R & R /SF**
---|---

### Energy: kBTU/SF

**Goal: 2% Annual Reduction**

**2011** | 2012 | 2013 | 2014 | 2015
---|---|---|---|---
30 | 40 | 50 | 60 | 70

### Energy: $/SF

**System Goal: .05**

**2011** | 2012 | 2013 | 2014 | 2015
---|---|---|---|---
0.00 | 0.10 | 0.20 | 0.30 | 0.40

### Gross Square Footage

**2011** | 2012 | 2013 | 2014 | 2015
---|---|---|---|---
480,000 | 490,000 | 495,000 | 505,000 | 510,000

### Enrollment

**2011** | 2012 | 2013 | 2014 | 2015
---|---|---|---|---
130 | 130 | 130 | 130 | 130

### Blended Room Utilization

**F '12** | **S '13** | **F '13** | **S '14** | **F '14** | **S '15**
---|---|---|---|---|---
0% | 20% | 40% | 60% | 80% | 100%

### Blended Seat Fill

**F '12** | **S '13** | **F '13** | **S '14** | **F '14** | **S '15**
---|---|---|---|---|---
0% | 20% | 40% | 60% | 80% | 100%

### Notes

- Data available 1998 - present (some years hidden)
- GSF - Other: 2-yr housing (FDLTCC, HCC, ICC, RCC, VCC), J. Neumier (MSUM), Alumni House (WSU), Rec. Stadium (RCTC)

---

March 2017 • Facilities Master Plan
Building Condition Summary • Existing Building Conditions
Alexandria Technical & Community College’s Full Year Equivalent Enrollment (FYE) increased from 2009-2013 but has since declined to near 2,100, aligning with historic (2006-2008) numbers.

Roughly 10,000 square feet (or 2% of total square feet) has been mothballed or demolished between its peak in 2012 and today.

Total space utilization for S15 is roughly 58%, the campus has seen a steady decline that mirrors the system averages.

Total dollars spent on Repair & Replacement (R&R) has varied significantly from year to year. Increased spending on R&R in 2013 allowed the college to return its FRRM Backlog to 2010 numbers.

Energy consumption per square foot (kBTU/SF) has been decreasing in recent years.

Spending on energy per square foot (Energy: $/SF) has decreased since 2010, trending away from the system average, representing a savings of $40-50,000 per year.

Facility Condition Index (FCI) has declined since its peak in 2007, but has remained relatively uniform, near .17 since 2010.

The FRRM Backlog has not significantly changed since 2010.

Alexandria Technical and Community College’s campus value has increased steadily and is currently (2015) valued at $166,347,000.

ATCC’s current ten year renewal is estimated at $13,479,000.

Total Project Funding, including capital and HEAPR projects, has totalled $33,579,733 since 1998 FY.

Significant Capital Projects include a New Office Technology Building funded in 2002 and a Law Enforcement Center funded in 2008.
### Building Condition Summary

<table>
<thead>
<tr>
<th>BUILDING/WING</th>
<th>GSF</th>
<th>CRV</th>
<th>BACKLOG</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(GROSS SQ. FT.)</td>
<td>(CURRENT REPLACEMENT VALUE)</td>
<td>(MAINT. BACKLOG $)</td>
<td>(FACILITY CONDITION INDEX)</td>
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<tr>
<td>100, 300, 400 WINGS</td>
<td>145,894</td>
<td>45,862,000</td>
<td>11,370,000</td>
<td>0.25</td>
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<tr>
<td>1100 BUILDING (MSNRY)</td>
<td>8,100</td>
<td>2,669,000</td>
<td>155,000</td>
<td>0.06</td>
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<tr>
<td>200 WING ADDITION</td>
<td>20,000</td>
<td>6,589,000</td>
<td>1,404,000</td>
<td>0.21</td>
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<td>500 WING ADDITION</td>
<td>44,507</td>
<td>14,664,000</td>
<td>4,230,000</td>
<td>0.29</td>
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<tr>
<td>600 WING - INCLUDES CARPENTRY SHOP 601</td>
<td>72,173</td>
<td>23,233,000</td>
<td>4,860,000</td>
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<tr>
<td>700 BLDG. (OFFICE EDUC / NORTH 700)</td>
<td>18,588</td>
<td>6,124,000</td>
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<td>0.11</td>
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<tr>
<td>COMPUTER SCIENCE (SOUTH 700)</td>
<td>54,000</td>
<td>24,825,000</td>
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<tr>
<td>DIESEL PARTS STORAGE</td>
<td>120</td>
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<td></td>
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<tr>
<td>FACILITIES STORAGE (MSNSTG)</td>
<td>1,500</td>
<td>175,000</td>
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<td>FIRING RANGE/COVER</td>
<td>5,200</td>
<td>1,635,000</td>
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<tr>
<td>GARAGE 1 (ALEXANDRIA TC)</td>
<td>3,000</td>
<td>351,000</td>
<td>37,000</td>
<td>0.11</td>
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<tr>
<td>GARAGE 2 (ALEXANDRIA TC)</td>
<td>3,000</td>
<td>351,000</td>
<td>37,000</td>
<td>0.11</td>
</tr>
<tr>
<td>GARAGE 3</td>
<td>572</td>
<td>105,000</td>
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<td>0.00</td>
</tr>
<tr>
<td>GARAGE 4</td>
<td>576</td>
<td>105,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>GARAGE 5</td>
<td>624</td>
<td>114,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>GARAGE 6</td>
<td>624</td>
<td>114,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>GARAGE 7</td>
<td>352</td>
<td>64,000</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>GROUNDS EQUIP. STORAGE</td>
<td>256</td>
<td>50,000</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>INTERIOR DESIGN CENTER (900)</td>
<td>11,322</td>
<td>3,645,000</td>
<td>445,000</td>
<td>0.12</td>
</tr>
<tr>
<td>LAW ENFORCEMENT (SMALL) STORAGE</td>
<td>453</td>
<td>83,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>LAW ENFORCEMENT BAR ROOM TRAINING</td>
<td>685</td>
<td>133,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>LAW ENFORCEMENT CENTER</td>
<td>59,264</td>
<td>25,995,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>LAW ENFORCEMENT CRIME HOUSE</td>
<td>952</td>
<td>306,000</td>
<td>20,000</td>
<td>0.07</td>
</tr>
<tr>
<td>LAW ENFORCEMENT GAS HOUSE</td>
<td>371</td>
<td>68,000</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>LAW ENFORCEMENT MAZE</td>
<td>1,598</td>
<td>502,000</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>LAW ENFORCEMENT VEHICLE STORAGE</td>
<td>5,689</td>
<td>665,000</td>
<td>4,000</td>
<td>0.01</td>
</tr>
<tr>
<td>LE FEMA HOUSE (TACTICAL TRAINING)</td>
<td>840</td>
<td>NO DATA</td>
<td></td>
<td></td>
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<tr>
<td>RECEIVING / STORAGE</td>
<td>12,000</td>
<td>1,572,000</td>
<td>0</td>
<td>0.00</td>
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<tr>
<td>TBD 800 (TRUCK DRIVING)</td>
<td>15,190</td>
<td>5,005,000</td>
<td>2,033,000</td>
<td>0.41</td>
</tr>
<tr>
<td>TH 10 (LE CRIME_SCENE PRACTICAL)</td>
<td>1,170</td>
<td>377,000</td>
<td>14,000</td>
<td>0.04</td>
</tr>
<tr>
<td>TH 12,13</td>
<td>3,000</td>
<td>966,000</td>
<td>193,000</td>
<td>0.20</td>
</tr>
</tbody>
</table>

**CAMPUS TOTAL:** 491,620 166,347,000 25,481,000 0.15
SECTION 4: FRAMEWORK FOR DEVELOPMENT
4.1 Development Overview

Several online surveys were used to get input from students, faculty and staff.

Below is a summary of one of the key questions. These findings show that users are least satisfied with Collegiate/Collaborative spaces on campus. The master plan directives that follow seek to remedy this.

How satisfied are you with each of the following on-campus spaces?

<table>
<thead>
<tr>
<th>Space</th>
<th>Very dissatisfied</th>
<th>Somewhat dissatisfied</th>
<th>Neither satisfied nor dissatisfied</th>
<th>Somewhat satisfied</th>
<th>Very satisfied</th>
<th>Not Sure/Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Classrooms</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>13.3%</td>
<td>6.7%</td>
<td>46.7%</td>
<td>33.3%</td>
<td>0.0%</td>
</tr>
<tr>
<td>General Labs (Bio, Chem, etc.)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>20.0%</td>
<td>46.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Specialized Labs/Shops (Diesel, Mechatronics, Nursing, Auto Repair, Carpentry, etc.)</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>13.3%</td>
<td>20.0%</td>
<td>0.0%</td>
<td>26.7%</td>
<td>20.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>General Student Support Spaces (Tutoring, Registrar, Finance, etc.)</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6.7%</td>
<td>13.3%</td>
<td>13.3%</td>
<td>46.7%</td>
<td>13.3%</td>
<td>6.7%</td>
</tr>
<tr>
<td>Library/Learning Resource Center</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6.7%</td>
<td>6.7%</td>
<td>26.7%</td>
<td>40.0%</td>
<td>20.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Collegiate Spaces (Commons, Lobbies, Recreation, Cafeteria, Coffee Shop, etc.)</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6.7%</td>
<td>40.0%</td>
<td>6.7%</td>
<td>26.7%</td>
<td>20.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Collaborative Group Work/Study Areas</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
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<tr>
<td></td>
<td>13.3%</td>
<td>53.3%</td>
<td>13.3%</td>
<td>0.0%</td>
<td>20.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Faculty/Staff Offices and Student/Faculty interaction spaces (non-classroom/lab)</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>6.7%</td>
<td>20.0%</td>
<td>13.3%</td>
<td>40.0%</td>
<td>20.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
PRINCIPLES AND INITIATIVES

Principles

- Create more places for collaborative learning
- Create a more contemporary and inviting entry
- Connect key places on campus
- Express the College Brand
- Reconfigure selected existing classrooms/labs

Initiatives

- Respond to future 18th Avenue connection that will bisect campus
- Make campus more legible and inviting to visitors
- Consolidate student services and primary social and support spaces
- Consolidate and concentrate selected departments and programs
- Enhance collaborative learning opportunities
- Create more flexible and adaptable space
- Address needed deferred maintenance,
- Repurpose underutilized space
- Demolish unused and unusable space
- Improve classroom and lab performance characteristics (size, configuration, furnishings, technology)
Through the master plan update process, Alexandria Technical & Community College identified a number of projects that will address changes driven by both internal and external forces. In addition to facility updates needed to support programs that will prepare students to meet rapidly changing workforce demands, the college must respond to major infrastructure developments proposed by the City of Alexandria.

The college has proposed selling two properties. One of the properties identified to sell is a 3.67 acre parking lot located along the south side of 17th Avenue (West of Foundation Hall), west of Jefferson Street. Additionally the college has expressed interest in selling a 41 acre site located along Pioneer Road, approximately 1/2 mile east of campus. The college would like to take advantage of an opportunity to purchase approximately 20 acres of vacant land immediately adjacent to, and to the east of the main campus.

The City of Alexandria plans to extend 18th Avenue to connect Nokomis Street and Broadway. Once the extension is completed, 18th Avenue will become a major thoroughfare, and will have significantly increased traffic. The increase in traffic presents several safety concerns. Current pedestrian infrastructure near 18th Avenue is inadequate and unstructured.

Despite safety concerns and increasing the separation between north and south campus elements, Alexandria Technical & Community College recognizes that an increase in traffic flow provides an opportunity to improve college visibility. In order to capitalize on the opportunity presented by increased traffic flow, the college is proposing to relocate the campus entry to 18th Avenue. The new entry will replace an aging and understated primary campus entry that fronts Jefferson Street, and will incorporate a large structured plaza. The plaza will strengthen the connection between north and south campus elements, while providing additional pedestrian infrastructure and promoting safe crossing behavior. The relocation of the primary entry provides the college with an opportunity to improve wayfinding and update Student Services, Admissions, Financial Aid, and Registration facilities which are currently fragmented and difficult to locate.

The existing Diesel and Power Sports facilities, located in the 500 Building, provide inadequate space to realize program growth potential. With the expected increase in traffic flow, maneuvering trucks and diesel equipment into the current Diesel shop will become difficult. The current shop spaces are cramped, and do not provide adequate space to meet the demands of a rapidly changing industry. As a result of the 18th Avenue extension, the existing Diesel shop facility will occupy the most prominent corner of campus. The college has recognized the need to relocate the Diesel and Power Sports shop spaces to the south of 18th avenue. Additionally the college has expressed a need to provide expanded and updated shop facilities in order to meet changing industry demands and remain competitive with peer institutions.
Alexandria Technical and Community College is proposing the creation of a new Transportation Center near the current Truck Driving Building. This facility will provide modern shop space needed to strengthen and expand the successful Diesel and Power Sports Programs. The proposed site for a future Transportation Center relocates the Diesel and Power Sports Programs closer to the current Truck Driving and Motorcycle Shop facilities, uniting similar programs on campus. Through the relocation process, classroom, shop, and storage areas can be rightsized to take advantage of the potential to share space between transportation oriented programs. The proposed location also relocates the primary diesel equipment circulation space away from the street and onto the campus grounds where adequate space will be available to maneuver vehicles and equipment without impeding traffic on 18th Avenue.

Once the Diesel and Power Sports facilities have been relocated, the 500 Building will be available for other uses. The available space in the 500 Building presents the college with a tremendous opportunity to support other uses. The college is planning to repurpose the current Diesel and Power Sports shop space into a new primary campus entry. By reorienting the main campus entry to front 18th Avenue, Alexandria Technical & Community College will increase campus visibility, wayfinding, and access, while generating new energy at its core and unifying the north and south campus elements. The new primary entry, as proposed, would support a new Student Services One-Stop, Administrative Offices, Cafeteria, Library, Bookstore, and Campus Store. By creating a Student Services One-Stop the college will dramatically improve wayfinding and visibility of services and amenities used by students and visitors. The relocation of the Cafeteria, Library, Bookstore and Campus Store, will help create active and inviting multi-use space.

The repurposing of the 500 Building also presents an opportunity for combining and rightsizing relocated program elements. Additional space within the 500 Building could be demolished to provide additional parking spaces for visitors, staff and current students. The current outdoor storage area and parking for the Diesel Program could be repurposed into a plaza along 18th Avenue, providing improved pedestrian infrastructure and an outdoor dining and collaborative area for students.

Through the process of relocating elements housed in the primary campus entry, a number of spaces throughout campus will become available for other uses. The college is proposing that these spaces are repurposed to create a Health Sciences Wing and consolidate other academic programs that are housed in the current 200 Building and fragmented throughout campus. Rightsizing initiatives can be implemented during the relocation and consolidation process. The eastern portion of the 200 Building is slated for demolition once vacated.
4.2 Analysis and Change Drivers

FUTURE EXTENSION OF 18TH AVENUE

EXISTING CONDITION - Currently 18th Ave terminates at Jefferson

ANTICIPATED FUTURE CONDITION - City plans to extend 18th Ave to Broadway, becoming a major thoroughfare
4.2 Analysis and Change Drivers

RELOCATION OF ENTRY

EXISTING CONDITION - Original primary building entry is focused only toward Jefferson St, is set back, understated, and outdated.

RECOMMENDED FUTURE CONDITION - Main campus entry responds to increased traffic on 18th Ave, maintains its presence on Jefferson St, and becomes open, active and inviting.
4.2 Analysis and Change Drivers

CONSOLIDATION OF TECHNICAL PROGRAMS AND STUDENT SERVICES

EXISTING CONDITION - Programs and student services are scattered and not showcased.

RECOMMENDED FUTURE CONDITION - Consolidate technical programs and establish new entry with Student Services, Cafeteria, Admissions, Financial aid, and Registration.
4.2 Analysis and Change Drivers

POTENTIAL REPURPOSING

EXISTING CONDITION - Underutilized spaces, and dated 200 Building east wing.

RECOMMENDED FUTURE CONDITION - Rightsize, repurpose, raze/demolish underutilized spaces. Repurpose old gym area, relocate strong programs to optimal locations and improve green space.
4.2 Analysis and Change Drivers

PEDESTRIAN SAFETY

EXISTING CONDITION - The increase in traffic on 18th Avenue will bisect the campus and create a need for improved sidewalks and crosswalks.

RECOMMENDED FUTURE CONDITION - The development of a structured plaza space at the new primary entry unifies campus elements and creates defined pedestrian crossing areas.
EXISTING CONDITION - The outdoor storage for the Diesel program is bound by 18th Avenue. An increase in traffic will create a difficult and potentially unsafe condition when vehicles are being moved.

RECOMMENDED FUTURE CONDITION - Relocate outdoor storage for Diesel program to the southern half of campus, eliminating the need to use 18th Avenue when moving vehicles and equipment.
4.3 Project Phasing

Existing Condition

The current main campus entry is oriented toward Jefferson St and does not have a strong public presence. Student services, admissions, financial aid and registration are fragmented and difficult to locate. Commonly used classroom and lab spaces are not consolidated within the top programs. As 18th Street becomes a major artery, the current Diesel Facility will be positioned at the most prominent corner of campus.

Phase I

1. Undertake a predesign study for new Transportation Center to include the relocation of existing Diesel shops and backfill with one-stop student services, registration, financial aid, and entry.
4.3 Project Phasing

Phase II

1. Construct new Transportation Center
2. Relocate Diesel program into new Diesel Building
3. Remodel existing Diesel shop space to become new public face of campus,
4. Relocate Powersports shop to Transportation Center
5. Initiate pre-design phase for re-model of existing Student Services, Cafeteria, Admission, Financial Aid, etc.

Phase III

1. Relocate Student Services, Cafeteria, Admissions, Registration, Financial Aid, etc. into newly remodeled space
2. Remodel existing Student Services, Cafeteria, Admissions/Financial Aid/Registration to create a consolidated Health Sciences Wing

Classroom/Lab  Student Service, Cafeteria, Kitchen, Commons  Admission, Registration, Financial Aid  General Office  Demolition
4.3 Project Phasing

Phase IV

1. Relocate Health Sciences labs and classrooms into newly consolidated Health Sciences Wing, relocate general office and classroom space into former student services spaces

2. Relocate Customized Training classroom to 100 Wing

3. Demolish eastern portion of 200 Building

4. Continue to develop additional green space upon completion of building demolition

Final Condition

The final condition represents a campus plan that takes advantage of the extension of 18th Ave, through an open, active and inviting presence. Student Services, Admissions, Registration, Financial Aid become an accessible one-stop for prospective and current students. Programs benefit from optimized classroom space usage and consolidation.
4.3 Project Phasing

Long Term Plan

Dining/Serving/Kitchen
New Primary Entry
Student Services & Admissions One-Stop
Library
Campus Store & Bookstore
Health Sciences
New Transportation Center
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose

ATCC - Facilities Master plan
Framework for Development - Project Phasing

8.3 Project Phasing

Long Term Plan

Dining/Serving/Kitchen
New Primary Entry
Student Services & Admissions One-Stop
Library
Campus Store & Bookstore
Health Sciences
New Transportation Center
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
Repurpose
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Repurpose
Repurpose

ATCC - Facilities Master plan
Framework for Development - Project Phasing
## Prioritization of Future Projects

### IMPLEMENTATION STRATEGY

<table>
<thead>
<tr>
<th>Description</th>
<th>TIMEFRAME</th>
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<tbody>
<tr>
<td></td>
<td>PHASE I: 0 - 2</td>
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<tr>
<td>Update campus landscaping</td>
<td>X</td>
</tr>
<tr>
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<tr>
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<tr>
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<td>Re-organize Tactical Training Site to minimize visual impact</td>
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<tr>
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</table>
4.5 Future Project Highlights

NEW TRANSPORTATION HUB
4.5 Future Project Highlights

NEW TRANSPORTATION HUB

The Diesel Mechanic program at Alexandria Technical & Community College is a premiere program with great potential for growth. Current Diesel Shop facilities, located in the 500 Building, are crowded and do not provide the flexibility needed to provide training required by current trends in a rapidly changing industry. The current location of the Diesel Shop space will create difficult and potentially dangerous conditions once 18th Avenue is expanded and the traffic flow increases.

Storage facilities for the Diesel program include an outdoor parking lot on the corner of 18th Avenue and Jefferson Street. The process of moving equipment from the storage area, into and around the current shop space will obstruct the traffic flow on 18th Avenue. Once the 18th Avenue extension is completed, the Diesel shop and associated outdoor storage area will occupy a busy, and highly visible corner of campus.

The Powersports Technician program at Alexandria Technical College has the potential to benefit from renewed and consolidated facilities. Current shop space needs can be re-evaluated and storage space could potentially be shared with other transportation related programs. Currently there are shops located in several areas on campus, including the 500, 600, and 1100 Buildings. As a result of having multiple shop locations within a single program, there are redundant spaces. The creation of a new Transportation Hub will provide spaces necessary to support program growth, and help the Alexandria Technical & Community College Powersports Program remain a leader among peer institutions. A new Transportation Hub could unify similar program elements, reduce redundant and unneeded space, while creating a more cohesive, collaborative learning environment.

The creation of a new Transportation Center near the current Truck Driving Building will provide the space needed to relocate and consolidate the Diesel and Power Sports programs. The new Transportation Center addresses current space deficiencies experienced by the Diesel and Power Sports programs. Program consolidation and constructing new space allows the college to initiate rightsizing initiatives. Rightsizing initiatives can help the college reduce unnecessary space through repurposing or demolition.
4.5 Future Project Highlights

RENOVATE 500 BUILDING
4.5 Future Project Highlights

RENOVATE 500 BUILDING

Once the extension of 18th Avenue is completed, the 500 Building will occupy the most prominent and highly trafficked corner on campus. Alexandria Technical & Community College recognizes that the increase in traffic flow presents opportunities and challenges. The college has identified a need to improve the primary entry and improve wayfinding. The creation of a student services one-stop would greatly improve wayfinding, enhance the college brand, and would benefit current and potential students.

Through the creation of a new Transportation Center that house the Diesel and Powersports shop spaces, and by abandoning an underutilized gymnasium, the 500 Building will become available to repurpose. By reorienting the primary campus entry to front on 18th Avenue, the increased traffic flow will become a campus asset, and the north and south campus elements will have greater unity.

A student services one-stop could be created within the renovated 500 Building. In order to create an active, multi use space, the college is proposing to relocate and rightszie the existing library, food service, Bookstore & Campus Store spaces to the 500 Building. The combination of the one-stop and active programming will create a vibrant node at the center of campus. This will unite the north and south campus elements, and promote the college brand.

To further express the college brand and create an inviting contemporary entry, an outdoor collaborative plaza space will be created in the current outdoor diesel storage area. This plaza creates a buffer between the traffic on 18th Avenue and provides an opportunity to integrate additional pedestrian infrastructure elements, ensuring students can move between the north and south campus elements easily and safely. This space also provides the college with an opportunity to provide outdoor collaborative areas for students, something that is currently lacking on campus.

Through rightsizing initiatives, unneeded square footage within the existing 500 Building can be identified and demolished as part of the renovation process. The existing eastern parking lot could be extended over the demolition area to provide additional parking. This parking will offset the small number of spaces lost through the creation of the outdoor plaza space along 18th Avenue.
Health Sciences Wing (Above):
Alexandria Technical & Community College has identified a need to develop a Health Sciences Wing that will consolidate and strengthen premiere programs. Currently the programs that would be relocated to the Health Sciences Wing occupy aging facilities. To ensure the college can continue to keep pace with peer institutions, current facilities must be improved.

Remodeling space becoming available as a result of the 500 Building renovation will allow the development of the Health Science Wing without the need to construct additional space on campus. By updating outdated facilities and providing additional student collaboration spaces, the college can keep pace with industry developments and peer institutions.

Through the creation of the Health Sciences Wing, and additional tactical renovation efforts on campus, spaces with high maintenance needs can be improved or made available for demolition or repurposing.

Site Improvements (Right):
Site improvement projects throughout the campus will make use of under-used outdoor areas to develop spaces for students to study, collaborate, and socialize with peers and faculty. This initiative provides an opportunity to beautify the campus landscape, and promote the college brand. Improvements in pedestrian infrastructure will aid wayfinding and ensure safe circulation throughout the campus.
SITE IMPROVEMENTS AROUND CAMPUS
## 5.1 Project Costs, Schedule, and Funding

<table>
<thead>
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<th>Description</th>
<th>PHASE I: 0 - 2</th>
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<th>PHASE III: 7 - 15</th>
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5.2 Energy Efficiency Plan and Sustainability Efforts
EXECUTIVE SUMMARY

The Minnesota State Colleges and Universities (MnSCU) on behalf of Alexandria Technical & Community College (ATCC) retained Martin Pevzner Engineering, PA to evaluate the existing HVAC systems at the Alexandria Technical & Community College campus located at 1601 Jefferson St, Alexandria, MN, determine available options for their replacement, identify the best solution, and document everything in a comprehensive report. This document represents the requested report.

The study covers the following buildings:
- Main Building (Wings 100-600)
- 700 North Building
- 700 South Building
- Law Enforcement Training Center
- Truck Driving Building
- Concrete Mason Building

The mechanical systems addressed in this study include the central plant heating and cooling equipment, hydronic piping distribution, terminal heating equipment, air-handling systems and controls.

The building ages range from 3 to 50 years old. Some of the buildings use the original HVAC equipment that has exceeded its life expectancy and no longer meets code requirements. The newer buildings include state-of-the-art mechanical systems that require only minor improvements. The college is faced with an important decision to replace and/or upgrade the mechanical systems. We have analyzed various equipment and system options. Below is a summary of our recommendations.

Heating Water Systems

The following upgrades are recommended for the central plant heating equipment:

1. **Main Building**: The original steam boilers will be replaced with (3) Fulton Vantage-4000DF high-efficiency condensing boilers. The dual-temperature tunnel distribution system will be replaced with new overhead piping. The initial phase of the project will connect the new boiler piping to the existing tunnel dual-temperature piping system. The subsequent phases will extend the piping to the new air-handling equipment. When all of the original air-handling equipment is replaced all tunnel piping will be eliminated (either left in place or removed depending on funding availability).

2. **700 North Building**: The existing boiler plant consisting of three atmospheric boilers and pumps will be eliminated. The building’s hot water system will be re-connected to the 700 South boiler plant.

3. **700 South Building**: The existing boiler plant consisting of two Fulton pulse high-efficiency condensing boilers and one LES dual-fuel non-condensing boiler will be expanded to...
accommodate the extra load of the 700 North Building. The two Fulton pulse boilers will be replaced with (2) Fulton-3000DF high efficiency condensing dual fuel boilers. The LES boiler will remain. The pumping capacity will be increased to match the capacity of the new boilers. Most of the existing piping between the 700 South and 700 North buildings installed during a recent Phase 2 Steam Project will be reused.

4. Law Enforcement Training Center (LEC): The existing boiler plant will remain but receive minor valving/control changes.

5. Truck Driving Building: The old atmospheric boilers and pumps will be replaced with two new high-efficiency condensing boilers and pumps.

6. Concrete Mason Building: The existing boiler and infloor heating system will remain.

The use of high-pressure steam from the neighboring PDSWM plant as an alternate source of heat has been evaluated for campus heating. High-pressure steam was brought into the LEC building in 2010-2011 where it is converted to hot water. The hot water piping has been extended from the LEC Building to the 700 South and 700 North Buildings.

The proposed steam purchase rate in the PDSWM contract is tied to the total open market price of natural gas from CenterPoint Energy including transportation costs, various charges and taxes. The formula used in the calculations also includes an average boiler efficiency that penalizes the college relative to the actual College’s boiler efficiency. As a minimum, this efficiency should be negotiated at a higher fixed value or perhaps using a variable value tied to the water temperature reset schedule; if this energy source is used.

Also, since the amount of steam produced at the PDSWM plant is limited by the amount of waste heat available the proposed contract prioritizes delivery of steam to a 3M plant and Douglas County Hospital. So the steam delivery to the college is not guaranteed and could be interrupted at any time. This requires the college to have a full capacity boiler plant. One suggestion might be to negotiate a fixed amount of steam to be used each year perhaps in the spring and fall at a favorable price – if possible. Operation of the College boilers will be less expensive than buying steam based strictly on economics. The College may consider using steam at its own discretion, during emergency conditions, or when the boilers are serviced.

Central Cooling Systems

The following upgrades are recommended for the central cooling systems:

1. Main Building: The 46-year old centrifugal chiller including the cooling tower and pumps will be replaced with two 200-ton air-cooled chillers on grade, on the east side of the 600 Wing. A completely new chilled water distribution system including overhead piping and pumps will be provided. The initial phase of the project will connect the new chillers to the existing tunnel
1.6 Energy Efficiency

HVAC System Replacement Study

dual-temperature piping system. The consequent phases will extend the overhead piping to the
new and some existing systems.

2. 700 North Building: The old air-cooled reciprocating chiller will be replaced with a new air-
cooled screw or scroll chiller on the same roof platform.

3. 700 South Building: The existing roof-mounted air-cooled chiller and chilled water distribution
system will remain. Some control functions will be added.

4. Law Enforcement Training Center (LEC): The existing air-cooled chiller on grade and chilled
water distribution system will remain as is. Some control programming may be changed.

The use of PDSWM steam for main building cooling has been evaluated. Hypothetically steam is used to
produce chilled water in so-called steam absorption chillers. High-efficiency dual phase steam absorption
chillers require medium pressure (at least 30 psig) steam. The PDSWM steam is currently converted to
hot water in the LEC Building with provisions to extend the hot water piping to the main building in the
future. But we believe that the hot water was intended for heating use only and not for cooling as
expressed by facilities staff based on their discussion with the steam system designer. Hot water from
the steam converters cannot be used for main building cooling. It is our understanding that there was no
plan to extend the steam service to the main building. In order to use steam absorption chillers a new
high-pressure steam line would have to be brought into the main building, which would be extremely
expensive. The use of steam absorption chillers for main building cooling would require building a new
high-ceiling equipment room to accommodate the larger absorption chillers. This option and other non-
conventional cooling equipment options including gas-fired absorption chillers and engine-driven chillers
have been considered and were not found economically feasible.

Air-Handling Systems

Replacement of the air-handling systems is the most difficult part of the project as it will require running
new ductwork distribution in the occupied spaces and may involve some disruption to the college’s
operations. Below are proposed recommendations for the buildings’ air-handling systems:

1. Main Building: The main building has the most urgent need for upgrading its mechanical
systems. The building was designed for using wall unit ventilators and does not have much
vertical clearance for significant overhead ductwork. It is quite frankly impossible to do so. We
have evaluated various options for new central air-handling equipment and recommend installing
custom roof-mounted penthouse units with enclosed duct houses across the roof for main
ductwork distribution. This is the best option to provide central air-handling equipment
consistent with current industry practices and efficiency standards. We have used this solution
on several similar buildings recently.

Four custom penthouse units will be installed to serve most of the classroom and office spaces in
the main building (Wings 100-600). Three of them (100,300,400 Wings) will require the duct
houses. The fourth unit (600 Wing) will use overhead ductwork below the roof as there is plenty of vertical space. The penthouse units will use sensible and latent energy recovery wheel technology to utilize the considerable amounts of exhaust air (as required by code) waste heat for both heating and cooling. New ductwork and variable volume reheat boxes (VAV Reheat) terminal equipment will be provided.

The shop area air-handling systems will be modified as needed. The work will vary from full equipment replacement to minor control changes depending on the room specific needs. The outdoor air quantities will be revised for all of the areas in accordance with current code.

2. **700 North Building:** Three existing air-handling units in the boiler room will be replaced with a single VAV air-handling unit. The terminal equipment including the VAV boxes and reheat coils will be replaced with new boxes and coils. New DDC controls will be provided for the air-handling unit and terminal equipment.

3. **700 South Building and LEC:** The VAV reheat air-handling system will remain as is. The existing controls may need to be selectively modified and re-commissioned.

4. **Truck Driving Building:** This building will include replacement of the terminal VAV boxes and coils and air-handling unit controls. The 10-ton condensing unit will also be replaced.

5. **Concrete Masonry Building:** The masonry shop is currently lacking a ventilation system. A new indirect-fired makeup air unit and an exhaust fan will be provided. The 7.5-ton packaged gas/DX unit serving the classrooms will remain.

New Direct Digital Controls (DDC) will be provided for all new and existing HVAC equipment. Some of the systems (mainly in the 700 South Building and LEC) have Siemens DDC controls. We recommend multiple controls manufacturers should be allowed to bid on this project. If the project is awarded to another controls manufacturer the college will have two DDC control systems in place. This will allow for more favorable pricing on future expansion projects.

### Installation Phasing and Budgetary Costs

As the buildings have different needs with respect to the HVAC system upgrades, implementation of the recommended changes will be prioritized based on the funds available.

MnSCU has requested $2,500,000 from the Minnesota State Legislature for the initial phase of the project. The initial phase will include replacement of the central heating and cooling equipment as follows:

- Install new boiler plant for the main building (100-600 Wings)
- Install new chillers for the main building (100-600 Wings)
- Eliminate boiler plant in 700 North Building
- Provide boiler expansion in 700 South Building
- Replace chiller for 700 North Building
1.6 Energy Efficiency

HVAC System Replacement Study

Our conceptual cost estimate for this Phase I is $2,195,000 for the construction and a total project cost of $2,669,000.

The subsequent phases will include replacing the air-handling equipment and the expansion of the chilled and heating water systems. We estimate the Phase II construction cost consisting of multiple sub-phases over 5 years to be $6,481,000 and a total project cost of $8,382,000. Thus the total combined project cost would be roughly $11,000,000. The estimated costs include a 3% escalation rate over 5 years. These estimates are not detailed construction cost estimates but rather conceptual estimates to establish budgets that include non-construction related costs (engineering, construction testing, printing, moving/relocation, etc.) as well as a 15% contingency. This study made no attempt to evaluate the existence of asbestos; costs for removing asbestos were not included in the estimates. Phase II construction documents should be prepared to include the base bid and multiple add alternates to allow for phased construction based on the actual funds available.