

FOUR CAMPUSES UNITED **ALL FOUR: COLORADO**

Strategic Planning Deferred Maintenance and Sustainability



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

Process



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

Four Strategic Pillars

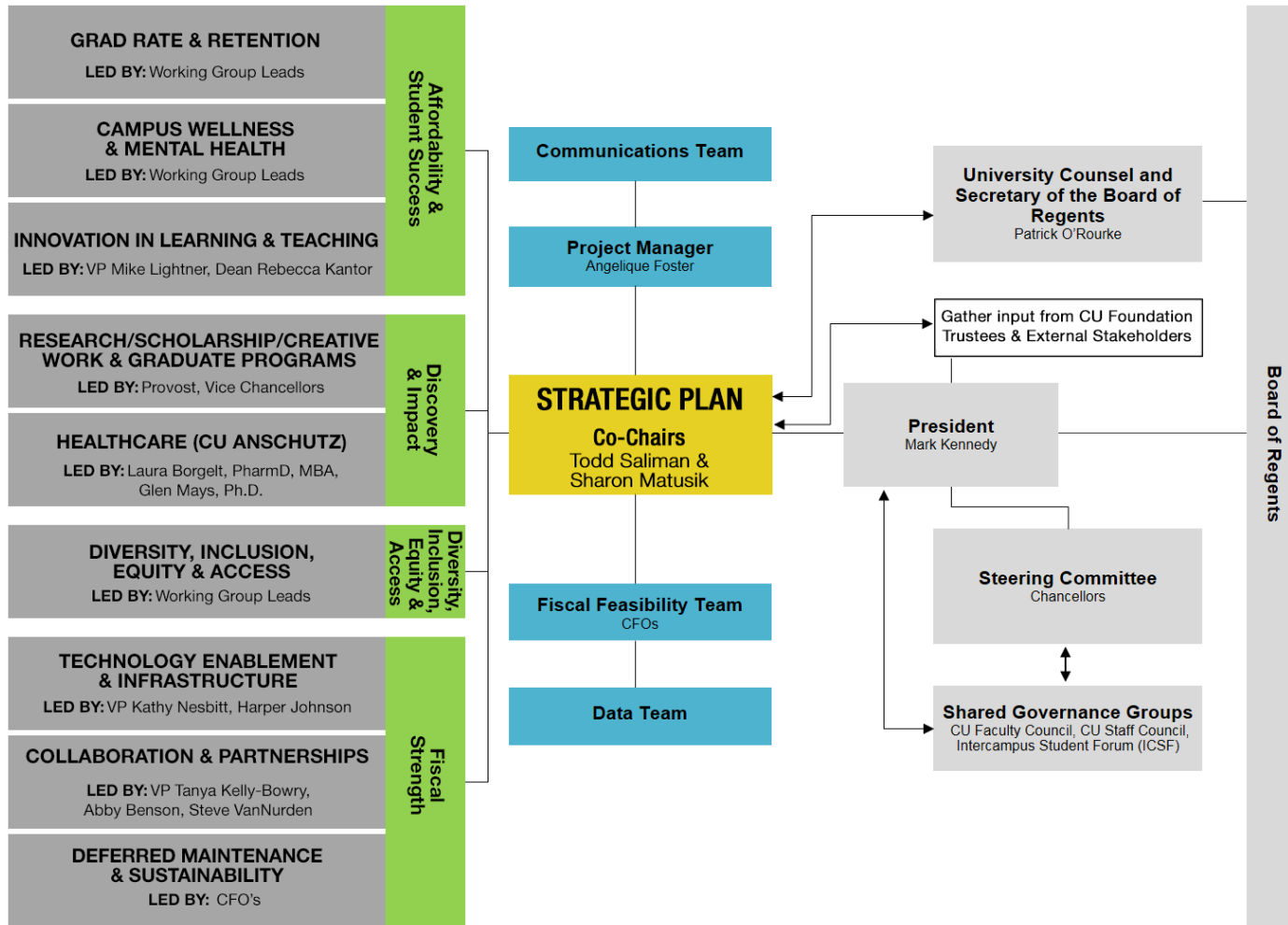


University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

FOUR CAMPUSES UNITED

Four Strategic Pillars



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

FOUR CAMPUSES UNITED

Deferred Maintenance & Sustainability Working Group

Chair: Todd Saliman, Vice President and Chief Financial Officer, CU System

Jay Campbell, Executive Director of Facilities Management, CU Denver | Anschutz

Terri Carrothers, Executive Vice Chancellor for Administration & Finance and Chief Financial Officer, CU Anschutz

David Chadwick, Senior Director, CU Real Estate Services, CU System

Chuck Cook, Associate Treasurer, Director of Liability Management, CU System

Ryan Davis, Senior Budget Director, CU Anschutz

Kori Donaldson, Senior Director for Capital Construction and Planning, CU System

Todd Haggerty, Associate Vice Chancellor Budget, CU Denver

Carla Ho-a, Chief Financial Officer, CU Boulder

Chuck Litchfield, Vice Chancellor Administration and Finance, UCCS

Kent Marsh, Associate Vice Chancellor of Campus Planning and Facilities Management, UCCS

Keith Molenaar, Associate Dean for Research, College of Engineering and Applied Science, CU Boulder

Pat O'Rourke, Executive Vice Chancellor and COO, Strategic Resources & Support, CU Boulder

Jennifer Sobanet, Senior Vice Chancellor for Administration & Finance, CU Denver

David Turnquist, Associate Vice Chancellor for Facilities Management, CU Denver

Dan Wilson, Treasurer, Chief Investment Officer and Associate Vice President for Budget and Finance, CU System

Sustainability Advisors:

Michaela Butler (Student), CU Denver

Josh Hellman (Student), UCCS

David Kang, Vice Chancellor for Infrastructure and Sustainability, CU Boulder

Kayla Kutter, Sustainability Procurement Program Manager, CU System

Kelly Maden, Senior Finance Analyst, CU System

Jarrett Smith, Sustainability Manager at CU Denver & CU Anschutz Medical Campus

Travis Torline (Student), CU Boulder

Dana Zack (Student), CU Anschutz Medical Campus



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

FOUR CAMPUSES UNITED

Deliverables



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

Deliverable 1

Identify opportunities

Deferred Maintenance

- Benchmarks
- Facility Condition Audit

Sustainability

- Supply chain
- Facilities
- Emissions



Deliverable 2: Deferred Maintenance

Identify Metrics and Goals

Deferred Maintenance

Metric: Facility Condition Index (FCI)

Goal: Average campus FCI of 85.



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus

FOUR CAMPUSES UNITED

Deliverable 2: Deferred Maintenance

Identify Metrics and Goals

	Cost to Get FCI of General Fund Deferred Maintenance Backlog to 85	Cost to Get FCI of Non-General Fund Deferred Maintenance Backlog to 85	Current Campus FCI		Cost to Achieve 10% Reduction in Current Backlog by 2025	Estimated FCI after 10% Reduction	Cost to Achieve 25% Reduction in Current Backlog by 2025	Estimated FCI after 25% Reduction	Cost to Achieve 50% Reduction in Current Backlog by 2025	Estimated FCI after 50% Reduction	Cost to Achieve 100% Reduction in Current Backlog by 2025	Estimated FCI after 100% Reduction
CU Boulder	\$ 878,050,000	\$ 460,092,982	60.0	Annual Growth	\$ 93,670,009		\$ 93,670,009		\$ 93,670,009		\$ 93,670,009	
				Annual Cost to Reduce Backlog by Goal Percentage	\$ 26,762,860		\$ 66,907,149		\$ 133,814,298		\$ 267,628,596	
				Annual Cost	\$ 120,432,868		\$ 160,577,158		\$ 227,484,307		\$ 361,298,605	
CU Boulder Subtotals				5-Year Cost (Annual Growth)	\$ 468,350,044	60.0	\$ 468,350,044	60.0	\$ 468,350,044	60.0	\$ 468,350,044	60.0
				5-Year Cost (Annual Growth + Backlog)	\$ 602,164,342	62.5	\$ 802,885,789	66.3	\$ 1,137,421,535	72.5	\$ 1,806,493,026	85.0
CU Denver	\$ 35,389,213	\$ 6,321,629	88.0	Annual Growth	\$ 83,422		\$ 83,422		\$ 83,422		\$ 83,422	
				Annual Cost to Reduce Backlog by Goal Percentage	\$ 834,217		\$ 2,085,542		\$ 4,171,084		\$ 8,342,168	
				Annual Cost	\$ 917,639		\$ 2,168,964		\$ 4,254,506		\$ 8,425,590	
CU Denver Subtotals				5-Year Cost (Annual Growth)	\$ 417,108	88.0	\$ 417,108	88.0	\$ 417,108	88.0	\$ 417,108	88.0
				5-Year Cost (Annual Growth + Backlog)	\$ 4,588,193	88.3	\$ 10,844,819	88.8	\$ 21,272,529	89.5	\$ 42,127,950	91.0
CU Anschutz	\$ 35,951,120	\$ 12,840,063	81.0	Annual Growth	\$ 2,293,186		\$ 2,293,186		\$ 2,293,186		\$ 2,293,186	
				Annual Cost to Reduce Backlog by Goal Percentage	\$ 975,824		\$ 2,439,559		\$ 4,879,118		\$ 9,758,237	
				Annual Cost	\$ 3,269,009		\$ 4,732,745		\$ 7,172,304		\$ 12,051,422	
CU Anschutz Subtotals				5-Year Cost (Annual Growth)	\$ 11,465,928	81.0	\$ 11,465,928	81.0	\$ 11,465,928	81.0	\$ 11,465,928	81.0
				5-Year Cost (Annual Growth + Backlog)	\$ 16,345,046	81.4	\$ 23,663,724	82.0	\$ 35,861,520	83.0	\$ 60,257,111	85.0
UCCS	\$ 69,693,515	\$ 9,503,267	81.0	Annual Growth	\$ 1,583,936		\$ 1,583,936		\$ 1,583,936		\$ 1,583,936	
				Annual Cost to Reduce Backlog by Goal Percentage	\$ 1,583,936		\$ 3,959,839		\$ 7,919,678		\$ 15,839,356	
				Annual Cost	\$ 3,167,871		\$ 5,543,775		\$ 9,503,614		\$ 17,423,292	
UCCS Subtotals				5-Year Cost (Annual Growth)	\$ 7,919,678	81.0	\$ 7,919,678	81.0	\$ 7,919,678	81.0	\$ 7,919,678	81.0
				5-Year Cost (Annual Growth + Backlog)	\$ 15,839,356	81.4	\$ 27,718,874	82.0	\$ 47,518,069	83.0	\$ 87,116,460	85.0
Grand Totals for all Campuses				Total Annual Cost	\$ 127,787,387		\$ 173,022,641		\$ 248,414,731		\$ 399,198,909	
				Total 5-Year Cost (Annual Growth)	\$ 488,152,758		\$ 488,152,758		\$ 488,152,758		\$ 488,152,758	
				Total 5-Year Cost (Annual Growth + Backlog)	\$ 638,936,937		\$ 865,113,206		\$ 1,242,073,653		\$ 1,995,994,547	



Deliverable 2: Sustainability

Sustainability

Metric: Energy Use Intensity (EUI)

Goal: 50% reduction in EUI by 2025.*

Energy Use Intensity (EUI)					Goal
	Baseline (kBtu/GSF)	Base Year	2019 Actual	Percent Change from BL	50% Reduction by 2025
CU Boulder	30	2005	22	-26.7%	15
CU Denver	91	2007	64	-29.7%	46
CU Anschutz	307	2006	167	-45.6%	154
UCCS	180	2006	120	-33.3%	90
System	77	2006	70	-10.2%	39

**Goal revised for Deliverable 3.*



Deliverable 2: Sustainability

Sustainability

Metric: Greenhouse gas emissions

Goal: 35% reduction in total greenhouse gas emissions by 2025.*

Greenhouse Gas Emissions					Goal
	Baseline (MTCO ₂ e)	Base Year	2019 Actual	% Change from Baseline	35% Reduction by 2025
CU Boulder	135,600	2005	128,800	-5.0%	88,140
CU Denver	4,252	2007	4,835	13.7%	2,764
CU Anschutz	52,388	2006	64,081	22.3%	34,052
UCCS	17,531	2006	23,787	35.7%	11,395
System	2,162	2006	1,270	-41.3%	1,405

In addition to the five-year goal of 35% reduction in greenhouse gas emissions, the working group also set a mid-range goal of 50% reduction by 2030 and a long-range goal of 100% reduction by 2040.”

**Goal revised for Deliverable 3.*



Deliverable 2: Sustainability

Identify Metrics and Goals

Sustainability

Metric: Percent “eco-spend” of catalog purchases.

Goal: 10% of total catalog purchases by 2025 and 15% of total catalog purchases by 2030.*

Eco-Spend Purchases	Baseline (FY2019-2020)	Goals	
		2025	2030
Eco-Spend Purchases, \$	\$3,300,000		
Eco-Spend Purchases, %	5% of catalog purchases	10% of catalog purchases	15% of catalog purchases

*Metric/goal not selected for further study.



Deliverable 3: Deferred Maintenance

Deferred Maintenance

Metric: Facility Condition Index (FCI)

Goal: Average campus FCI of 85.

1. Develop a uniform methodology across the campuses to assess facilities and calculate the deferred maintenance backlog. Report current replacement value (not insured value) to the state.
2. Allocate a percentage of the project cost for new buildings and full building renewals to a dedicated fund that can be used for future controlled maintenance.
3. Develop a funding plans by campus to pay down deferred maintenance backlog over the next five years.



Deliverable 3: Deferred Maintenance

Sample funding plan

Identify Action Steps

Anschutz Goals				
Reduction to Current Backlog by 2025	10%	25%	50%	100%
Cost	16,345,046	23,663,724	35,861,520	60,257,111
Projected Funding Available (Five -Year Total)				
Ongoing Campus Funding	5,500,000	5,500,000	5,500,000	5,500,000
One-Time Campus Funding	4,500,000	4,500,000	4,500,000	4,500,000
State -Funded Controlled Maintenance	2,500,000	2,500,000	2,500,000	2,500,000
Additional Funding Required	3,845,046	11,163,724	23,361,520	47,757,111
Potential Funding Sources to Meet Additional Funding Required (Five - Year Total)				
Additional State Support	-	-	-	-
Self-Funded Large Renovation	-	-	-	-
Student Fees Increase	-	-	-	-
User Charge Increase	-	-	-	-
Gifts or Donations	-	-	-	-
Debt Service Maturity	8,863,724	8,863,724	8,863,724	8,863,724
Grants *	800,000	800,000	800,000	800,000
Energy Savings	1,500,000	1,500,000	1,500,000	1,500,000
Required Debt	1,545,046	8,863,724	12,197,796	36,593,387
Annual Debt Payment on Total Remainder (20 years, 3.5%)	108,709	623,652	1,072,796	3,218,388
Five-Year Debt Payment on Total Remainder (20 years, 3.5%)	543,547	3,118,258	5,363,980	16,091,942

* Grants for Fitzimons Building windows

Note: To stop the growth of the deferred maintenance backlog and reduce the backlog by 25%, CU Anschutz Medical Campus must maintain current funding streams. Of primary importance is the Facilities & Administration revenue, a large portion of which is currently allocated to debt service payments on research buildings. As the current debt service payments mature, a portion of the funds will be re-allocated to address the Deferred Maintenance backlog. In addition, the campus must continue to focus on energy savings projects, many of which require significant up-front investments in order to realize hard dollar savings on operations.

In order to achieve the 25% reduction goal without issuing debt, the campus must prioritize the allocation of funds to the deferred maintenance backlog goal over other campus-wide financial commitments and initiatives.



Deliverable 3: Sustainability

Sustainability

Metric: Energy Use Intensity (EUI)

Goal: Energy Use Intensity (10% reduction from 2019 level by 2025)

1. Standardize the way that campuses calculate EUI.
2. Create or maintain a fund at the campus-level to finance green initiatives. When possible, finance with savings from energy efficiencies gained from other projects.
3. Upgrade 1800 Grant parking garage and stairwell lighting to LED
 - Cost: \$25,500
 - Timeline: 2020
 - Estimated impact: energy payback in 4.5 years



Deliverable 3: Sustainability

Sustainability

Metric: Greenhouse gas emissions

Goal: 15% reduction in total greenhouse gas emissions by 2025.

Greenhouse Gas Emissions		Goal
	2019 Actual	15% Reduction by 2025
CU Boulder*	128,800	109,480
CU Denver	4,835	4,110
CU Anschutz	64,081	54,469
UCCS	23,787	20,219
System	1,270	1,079

*CU Boulder may have a more ambitious goal once it completes its Energy Master Plan.



Deliverable 3: Sustainability

Identify Action Steps

Sustainability

Metric: Greenhouse gas emissions

Goal: 15% reduction in total greenhouse gas emissions by 2025.

1. Update Campus Climate Action Plans with focus on greenhouse gas emissions reductions by Earth Day 2022.
2. Look for opportunities to transition to green vehicle fleets, both on- and off-cycle.
3. Increase the renewable energy mix within your energy portfolio.
4. Replace current lab equipment with green lab equipment.



What's Next?



University of Colorado

Boulder | Colorado Springs | Denver | Anschutz Medical Campus