


RANDOLPH COLLEGE

Sustainability & Climate Plan 2020

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Sustainability at Randolph College

Randolph College is consistently recognized nationally for our continued commitment to pursuing sustainability. From being one of the first colleges to sign the Talloires Declaration in 1990 to signing the Climate and Resilience Commitments, we have committed our campus to responding to a changing climate and being good stewards of our environment.

The concept of sustainability incorporates the desire to improve the quality of life for our communities without compromising the needs of future generations. Our work in sustainability must be economically feasible, aim to reduce our environmental impact, and be centered on improving equity for all people. The implementation of Randolph College's campus-wide Sustainability Plan is an opportunity for us all to consider how we can participate in creating a more equitable and resilient future.

The Randolph College Sustainability Plan is the College's blueprint for cultivating and maintaining a more sustainable campus community. The Plan is designed to be considered within the College's financial and organizational context.

Sustainability projects are championed by a network of individuals and groups seeking to forward these goals and encompasses environmental science and studies classes, the Sustainability Council, sustainability interns, and one staff position to oversee and coordinate activities. The Sustainability Council was founded in 2000 as the Environmental Issues Working Group and it serves as a limited authority for driving action on sustainability and climate action at Randolph College. The membership of the Council is intentionally broad, featuring members in a variety of disciplines, departments, and administrative offices enabling balanced advising.

Vita Abundantior

Vita Abundantior - life more abundant. Randolph College strives for a vibrant student experience that enables students to consider what abundance is and how to imagine and pursue an abundant life. Recognizing the abundance and fulfillment in our own lives is a life-long journey that resonates with the principles of sustainability and resilience.

President Bateman continuously promotes the path toward an abundant life and the pursuit of sustainability. In his words, "If you are not working to make your organization sustainable, it cannot survive." Unfortunately, we face immense problems in making our society sustainable because there are people and organizations who fail to grasp this fundamental truth. "Not all organizations are working in the right direction," President Bateman says, "but I am proud of our efforts at Randolph College to help to create a sustainable world."

The College has remained at the forefront of global sustainability movements and continues to adapt to expanding ideals. For example, we were the first college in Virginia to become a certified Bee Campus USA. Our students have historically provided the research and persistence that enables the College's pursuit of sustainability initiatives. Students have initiated offering reusable take-out containers at the dining hall, demonstrated the financial benefit to switching to more efficient lighting, and cultivated the Organic Garden to be what it is today.

The College prioritizes diversity in thought, a commitment to under-represented populations and to providing students with opportunities. These commitments are demonstrated throughout the campus, in co-curricular programming, coursework, and internships that provide our community with opportunities to engage and promote sustainable ideals.

Choosing to create a more sustainable community directly aligns with sustaining our institution which prepares students to engage the world critically and creatively, live and work honorably, and experience life abundantly.

Moving Forward

Randolph College's sustainability planning facilitates responsible management of College resources, promotes community engagement, and improves the quality of the campus environment.

Our Sustainability plan will weigh the return on investment and environmental impacts of these initiatives in an effort to support the College's goals and ideals. Personal choices and actions account for one part of resource efficiency, but infrastructure is a complementary part of the whole. We will work within our community to sustain responsible management of our energy, water, physical, and financial resources through strategic education campaigns. Reducing financial expenditures through innovative resource allocation will create powerful responses to climate change.

Issues of the modern world require a global mindset, yet individuals are increasingly isolated by a digital world. Meaningful connections to the wider world empowers students as citizens, builds empathy and identity, and provides perspective and place beyond academics and social media. Interaction with the community beyond the College further connects curriculum with application and allows students to engage in solution-building practices. While institutionally-supported community engagement and service learning promotes the wellbeing and education of students, it further promotes distinction for Randolph College, formally aligning its values with demonstrable and promotable action.

We understand that the environment is only as healthy as our smallest counterparts and that the quality of the environment is measured in ecological value. The design and maintenance of the campus landscape will promote native plants and responsible land management. Focus will be placed on natural land management of enhanced value to wildlife, ensuring proper habitats for native insects and birds that provide for all aspects of their life cycles to the benefit of us all.

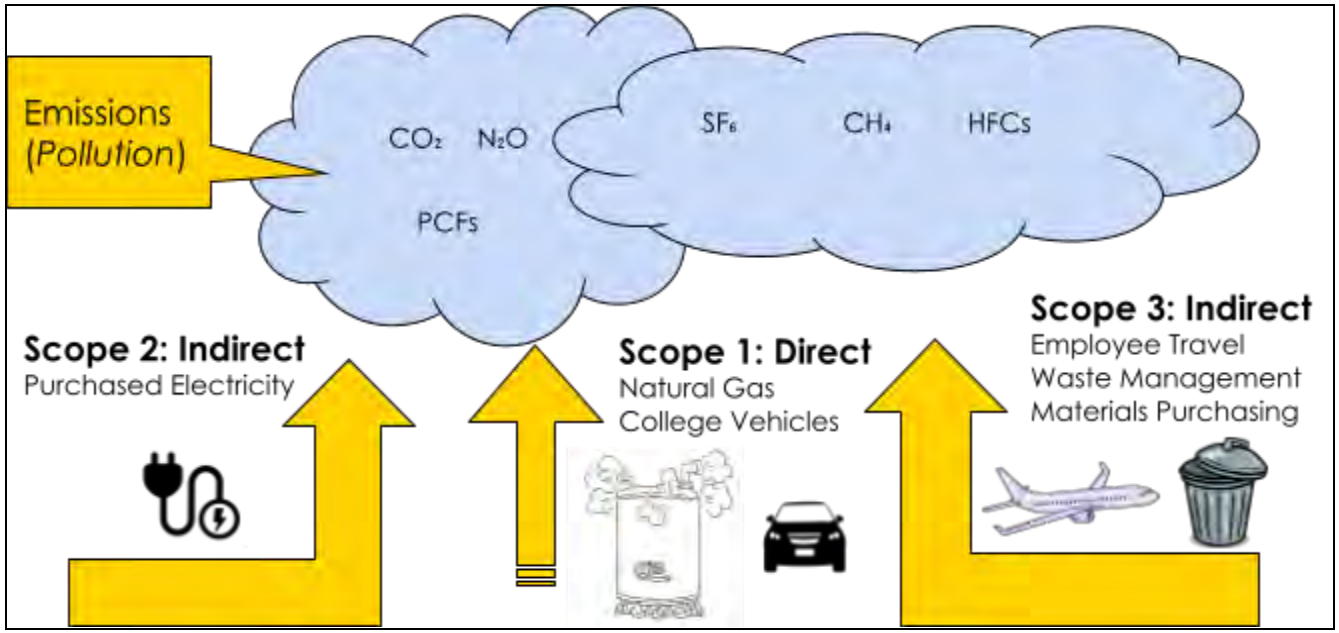
Sustainability & Climate Plan

The Plan incorporates long-term development allowing for flexibility as circumstances or opportunities (See Appendix 2 for more details on identified opportunities and challenges) may change. Long-term goals identified within the Plan may alter to coincide with campus growth and community changes.

The short-term and intermediate goals create a scaffold of progressions to achieve our long-term goals. Short-term goals & strategies are intended to function or be completed within five years. Abbreviations listed after individual goals reference the Presidents'

Climate Leadership Commitment, resilience dimensions, and Climate Action scopes, as well as academic strategic planning goals (see Appendix 1 for more information).

Full-Picture Climate Planning



Generating a Climate Action Plan is a requirement of our commitment to pursuing carbon neutrality and improved climate resilience as indicated by our status as signatories to Second Nature's Presidents' Climate Leadership Commitments.

Carbon neutrality refers to balancing a measured amount of carbon emissions with offsets to reach net zero carbon emissions. Achieving this requires maximizing energy efficiency and pursuing renewable energy options, remaining emissions must be balanced with campus carbon sequestration or the purchasing of commercial carbon offsets. We have been tracking carbon emissions since 2008. Carbon tracking is divided into three scopes of emissions.

More than 95.5% of the College's electricity is produced from landfill gas collection and hydropower through a power purchase agreement. The remaining electricity is provided by the regional utility Appalachian Power. Heating on campus is produced through a series of satellite natural gas boilers located across campus. Up until 2018, the campus operated a central boiler plant and in 2019 the College signed a power purchase agreement to offset the emissions associated with our current boiler system for providing heat on campus. College-sponsored travel and commuting are not tracked, resulting in limited accuracy of reported Scope 3 emissions. Aramark provides food service campus and reporting of related emissions began in 2019. Detailed and complete greenhouse gas inventories are completed annually. They are publicly available through the Second Nature Reporting Platform.

Short Term Goals (0-5 years)

Goal	Metric & Target	Target Year	Current Value	Estimated Cost	Benefits	Strategies for achieving this goal
Establish a summer sustainability internship program (ES-NA; SEG-EP; SEG-RCA; SEG-EC; G3-O15)		2022	-	$2,500 per intern	Provide cross-disciplinary opportunities to enrich the student life experience for retention.	- Host summer internship without pay. - Evaluate cost savings attributed to work conducted by the intern. - Partner with Institutional Advancement to secure funding to offer paid internships. - Expand internship to multiple opportunities.
Establish an open-access textbook and resource handbook (E-IF; ES-WM; SEG-EC; G3-O12; CAP-S2)		2022			Reduce financial burden on students to limit challenges to persist at the College for financial reasons. Reduced waste and waste hauling costs associated with single-use textbooks.	- Host one educational workshop for faculty annually. - Determine an annual estimate of textbook and class resource costs per student. - Establish incentives for faculty to adopt open access & affordable resources. - Determine and promote what faculty are currently doing.
Expand the Rummage Room and Free-Textbook Library (EF-IF; ES-WM; SEG-EC; G3-O12; CAP-S2)		2022	Free - Textbook Library		Facilitate item transfers to provide students with access to needed goods while reducing waste and financial burden.	- Complete renovation of new Rummage Room location in accordance with PepsiCo grant. -
Improve alternative transportation options (CAP-S1; I-TR; I-TS)		2022		Approx. 200$ per bike	Enhanced recruitment and enrollment, more parking space, fewer emissions, and exercise and recreation for students.	- Establish guidelines for replacing bike share bikes. - Consider GLTC city bus passes. $500 per pass annually, but bulk deals could be negotiated. - Provide commuters with connection to possible/optional carpool buddy. - Explore carshare options yearly
Establish a fiscally sustainable graduate-level,		2023	-		Improve enrollment to attract and retain more students by identifying an	

practical sustainability certificate program (SEG-EC; G3-O12;E-IF)					emerging market.	
Establish improved habitats at a minimum of 250 sq. ft. annually (CAP-S1; ES - NA; ES-CP)	9,000 sq. ft.	2025	7,750 sq. ft.	$400 (annually)	Preserve and generate landscapes that revive the health of vital pollinators. Generate student opportunities for internships and reduce maintenance expenses.	*Improved habitats include areas that promote biodiversity.* - Publish a Campus Tree Inventory. - Maintain Bee Campus USA and Tree Campus USA certification. - Publish a publicly available native plant list. - Install botanical identification tags and educational signage. - Add additional rain garden(s).
Communicate new initiatives and sustainability work to community (ES-NA; SEG-RCA; G1-O4;SEG-EP; SEG-EC; G1-04)	15 signs	2025	10 signs	$750	Increase the amount of communication about resiliency initiatives and the likelihood of student involvement in climate resilience work on campus	- Install 10 additional signs to communicate initiatives to the community. - Host one outreach event each semester. - Conduct one tabling event each semester. - Conduct an annual survey.
Improve student engagement with intercultural topics and activities to generate a vibrant student experience. (SEG-EP; SEG--D; G1-O4)		2025				- Collaborate with the Office of Identity, Culture, and Inclusion to facilitate bi-annual intercultural expression and conversation. -

Mid Term Goals (6-15 years)

Goal	Metric & Target	Target Year	Current Value	Est. Cost	Benefits	Strategies for achieving this goal
Reduce electricity consumption by	6,420 MWh	2030	8,561 MWh	$700,000 (without	Reduction in annual electricity cost by	- Retrofit existing lighting with higher-efficiency options at a rate of one building annually.

25% (CAP-S2; E-IR; G4-O16; G4-O18)			(FY19)	rebates)	$256,000 to assist in eliminating the structural deficit and reduce the share of the endowment draw rate. Improve occupant experience due to improved efficiency and updated equipment.	- Upgrade pneumatic temperature controls for all buildings. - Install occupancy detecting lighting options in communal spaces and hallways. - Create an annual outreach campaign regarding building operations including energy saving measures. - Adjust building thermostats when not in use.
Reduce wastewater production by 25% (I-SR; I-HN; I-WSC; I-WSI; E-IR; G4-O18)	12,050 HCF	2030	16,072 HCF (FY19)	$250,000	Reduction in annual water cost by $35,000 to assist in eliminating the structural deficit. By reducing our water usage, we reduce stress on aquatic ecosystems.	- Install pressure assist toilets everywhere applicable. - Upgrade public faucets to aerosolized heads. - Ensure proper performance and sizing of tankless water heaters in all facilities. - Launch a water conservation campaign to stimulate behavior change.
Achieve 45% waste diversion from landfills (I-HN;E-WM;E-IR; HW-SP;CAP-S1; SEG-RCA;SEG-EC)	Percent of waste recycled, donated, or otherwise diverted.	2030	3%	$15,000	Ensure the financial sustainability of the College by reducing waste-related expenditures. Foster positive interactions between Randolph and local nonprofits. Recycling hauling is 42% less expensive.	- Add water bottle filling stations ($1,000 ea). - Establish post-consumer waste composting. - Establish a food recovery program for donating surplus to organizations committed to reducing food insecurity in Lynchburg. - Expand Rummage Room program to facilitate donation of clothing and textiles to appropriate partnering nonprofits. - Expand open access resource use and the Free-Textbook Library. - Replace paper towels with hand dryers.
Replace campus fleet vehicles to more efficient or hybrid/electric (CAP-S; I-TR)		2030				- Generate an estimate of fuel efficiency of existing vehicles. - Develop a list prioritizing vehicle replacement. - Evaluate feasibility of transitioning vehicles to golf carts for select Buildings & Grounds staff.
Expand the existing green revolving loan fund		2030	$150,000			-

Long Term Goals (16+ years)

Goal	Metric & Target	Target Year	Current Value	Est. Cost	Benefits	Strategies for achieving this goal
Install cogenerators on campus boilers (I-ER)	One cogen per boiler	2040	0	$20,000 per gen	Six year payoff saves money in the long term, conserves gas, & increases on campus generating capacity.	- Evaluate boilers to determine if they are eligible. - Install cogenerators as possible.
Produce crops in Organic Garden for campus dining (ES-NA)		2040		$10,000	By growing our own crops, we take stress off of large scale farms as well as reduce the emissions from transporting goods.	- Increase production of high output crops with greenhouse addition.
Replace impermeable surfaces (ES-CP)	143,000 sq. ft.	2050	8,000 sq. ft.	$715,000	As climate change causes more precipitation in our region, reduced flooding and ice on campus will be beneficial to our community. This type of surface needs to be replaced less frequently and will respond to disaster events more efficiently.	- As parking lots need to be repaired or replaced, install more permeable alternatives to asphalt
Install a greywater reclamation system		2035		$7,000 per building	Reduced wastewater production reduces water utility costs.	- Reclaim greywater from water fountains and sinks where possible

Appendix 1: Cohesive Planning - Goal Codes

Climate Action Plan

The three scopes of carbon emissions are identified throughout the Sustainability and Climate Plan following the identified goals.

Abbreviation	Carbon Emissions Category	Including:
CAP-S1	Scope 1 Emissions	- direct emissions from sources that are owned and/or controlled by the institutions.
CAP-S2	Scope 2 Emissions	- indirect emissions from sources that are not controlled or operated by the institution, though the emissions are produced to support campus activities. The most noteworthy of which are purchased electricity emissions.
CAP-S3	Scope 3 Emissions	- other emissions related to institution operations.

Climate Resilience

The five dimensions of climate resilience that align with the Presidents' Climate Leadership Commitments are detailed in the table below. Resilience planning requires considering current opportunities and shortcomings, while preparing for future conditions. These codes are useful in clarifying how particular sustainability goals align within our planning to mitigate and adapt to climate change over time.

Abbreviation	Campus Resiliency Dimension	Pursuing:
Infrastructure		
I-SR	Housing & other buildings structural risks	- Buildings in good condition with up-to-date maintenance and preemptive maintenance. - Vulnerability assessments conducted - Utilize resilient building standards
I-HN	Housing & other buildings human needs	- Frequent emergency alert system testing & plans updated & visibly posted. - Campus buildings are accessible. - High level of satisfaction with campus housing and buildings.
I-TR	Transportation resources	- Strong public transportation that is reliable, affordable, and accessible - Vulnerability assessments and improvement plans for transportation systems and roads - Electric vehicles and/or car share programs - Sufficient telecommuting/teleconferencing options
I-TS	Transportation safety	- Safe, reliable, well maintained roads that meet or exceed state standards

		- Strong, tested evacuation plans and reliable alternate routes - Significant campus bicycle infrastructure
I-EE	Energy self-sufficiency & efficiency	- Mostly renewable energy/energy efficient actions toward energy independence - Self-sufficient energy for several days if wider power outages - Detailed greenhouse gas emission tracking - Meeting state renewable energy goals - Thermal energy envelope tests show percent of energy escapes
I-ER	Energy stability & reliability	- No power disruptions - Modern energy infrastructure with sufficient redundancies
I-WSC	Water supply management of consumption	- Strong tracking process - Coordinated campus/community water efficiency program - Sufficient water supply - Alternative water acquisition that contributes to emergency supply(e.g. rainwater collection and storage) - Emergency supply for at least five days
I-WSI	Water supply management of infrastructure	- Strong stormwater system (no flooding) with permeable surfaces - Well-sited water treatment system that uses ecosystem services - Community department for water quality/management effectively improves infrastructure and incentivizes water efficiency
I-EP	Emergency preparedness	- Strong campus/community coordination and reliable access to resources - Sufficient hazard mitigation plan/ emergency response plan - Many emergency responders with disaster relief/training protocols - More than one shelter with water/food/power sources for 3-5 days
Economics		
E-IF	Institutional finances	- Strong scholarship/affordable tuition programs - Stable or increasing budget/endowments/fundraising/expanding faculty/staff/programs - Public budget/investment transparency - Campus connects with and benefits local economy

		- Consistent alumni giving
E-IR	Investments in resilience	- Resilience project funding is prioritized - Strong, replenishable emergency contingency funds - Sufficient natural disaster insurance - More than fifty percent socially responsible inventing and diverse - Sufficient capacity to manage presidents climate leadership commitment - Effective green revolving fund (or comparable)
Ecosystem Services		
ES-NA	Natural areas knowledge & management	- Strong knowledge, education, and monitoring of climate change impacts on local ecosystems - Coordination with community to restore natural areas - Controlled invasive species
ES-CP	Campus property land use & public access	- Several connected green spaces that are marked, safe, well-utilized and publicly accessible - Resilient land use and public access integrated into long term plans - Appropriate use of land and plans to correct poorly sited spaces/buildings
ES-WM	Waste Management	- Thorough waste tracking - Effectively utilized recycling/trash/compost bins in many convenient locations with posted information - Meeting annual goals for waste reduction - Phased out single-use materials and most/all purchased materials are sustainable
Social Equity & Governance		
SEG-EP	Civic engagement & participation	- High percentage of students involved in campus/community activities - Student Senate (or comparable) has diverse participation and is integrated into decision making - Many clubs/extracurricular/volunteer options - Variety of student led initiatives
SEG-D	Diversity	- Diverse campus body with inclusive recruiting from different demographics

		- lower than state average for poverty and unemployment - Low tensions perceived between different demographics - Many well attended diversity celebrations/activities and cohesive groups
SEG-RCA	Resilience communication & awareness	- Well-known emergency plans - Climate change risks are known & integrated into long-term plans - Frequent campus resilience conversations - Strong outreach, communication, & coordination between campus & community
SEG-EC	Education & curriculum	- Hands on sustainability & resilience fieldwork available to students - Opportunities for students to interact with the community are integrated throughout the curriculum - Strong education on public health implications of climate change - Many courses open to & utilized by the community
Health & Wellness		
HW-FSA	Food systems access	- Diverse, walkable grocery stores with backup generators & emergency provisions for at least 3-5 days - High percentage of food produced and consumed locally - Many residents grow & store food - Robust community garden spaces & programs
HW-FSE	Food systems equity	- High level of food security in community & neighboring communities - Food shelf is consistently well-stocked & resources available for the public - Sufficient healthy, culturally, & dietary appropriate options - Many well-utilized, effective, & affordable food programs
HW-CS	Health care & services individual & collective wellbeing	- High quality health insurance available to students, faculty, & staff - Strong, well-coordinated mental & physical health network on campus - Many well-attended physical recreation & social activities on campus - Well-stocked local pharmacy - Low crime rates & continually being evaluated and addressed
HW-SP	Sense of place	- Mission is well-known & is integrated into programs - Campus & community are connected and welcoming to each other

		- Cohesive alumni network with active roles & well-attended events - Many opportunities for faculty & staff community building

Academic Strategic Plan

The Randolph College Academic Strategic Plan, approved in 2019, details a list of objectives that take into account the College's current academic and co-curricular strengths, financial goals and constraints, anticipated demand, implementation costs, and anticipated yield. The Sustainability and Climate Plan has identified a number of goals that directly forward the objectives identified within the College Strategic Plan. These specific objectives are identified with the following abbreviations:

Abbreviation	Randolph College Strategic Plan Goal & Objective
Goal 1: Attract and retain more students.	
G1-O1	**Objective 1:** The College will increase its undergraduate enrollment base by an average of at least 5% per year for fall enrollments in years 2-3, resulting in a FT DS UG headcount of approximately 700. New MA programs will increase the total number of grad students from 50 to 100, resulting in a total DS headcount of approximately 800 by year 5 (2024).
G1-O3	**Objective 3:** The College will develop areas of special interest to serve as enrollment tributaries.
G1-O4	**Objective 4:** The College will undertake a brand refresh or re-branding process and will evaluate its marketing practices to develop a more consistent internal and external identity and improve marketing impact.
Goal 2: Enrich the student life experience.	
G2-O7	**Objective 7:** The College will build upon its commitment to diversity and inclusion in order to enhance the student experience and distinguish Randolph from peer and area institutions.
Goal 3: Explore changes in the academic program.	
G3-O12	**Objective 12:** The College will explore, and implement as appropriate, new academic programs that will appeal to current and emerging student markets.
G3-O15	**Objective 15:** The College will emphasize the theme of "opportunity" in its academic programming.
Goal 4: Ensure the financial sustainability of the College.	

G4-O16	**Objective 16:** The College will eliminate its structural deficit by Year 3, using a multi-pronged approach that includes maximizing net tuition revenue, bringing student-to-faculty and student-to-staff ratios closer to those of peer institutions, reducing fixed and variable expenses and exploring new sources of revenue.
G4-O18	**Objective 18:** The College will develop long-term strategies for reducing the endowment draw rate to prudent levels.

Appendix 2: Resilience Assessment

Conclusions from the Spring 2019 Randolph College and City of Lynchburg Resilience Assessment completed by the EVST 315: Energy & Society students.

Dimension	Strengths	Vulnerabilities	Recommendations
Randolph College			
Infrastructure	- Renewable energy power purchase agreement - Transition to decentralized heating system that is more efficient	- Windows and building infrastructure are outdated - High risk for power outages	- Continue updating lighting and HVAC systems to improve efficiency - Replace single-pane windows with double-pane - Install additional generators
Economics	- Very healthy endowment fund for our size - Green Fund available for students to pursue sustainability projects - One staff position	- Challenges funding renovations - College is experiencing issues with attracting and retaining students	- Prioritize renovations that would reduce operation costs - Fund infrastructure improvements that have high rates of return
Ecosystem Services	- Permeable brick walkways & overflow parking - Bee Campus USA & Tree Campus USA commitments - Three off-campus biological reserves - High tree coverage - Air & drinking water quality	- Habitat fragmentation - Still a majority of impermeable surfaces - Invasive species and limited manpower to reduce - Lack of natural predators - Altered wildlife behavior,	- Increase tree coverage around campus - Additional permeable parking lots - Plant native species - Create removal plan for invasive species - Continue efforts to reduce ponding by expanding & enhancing rain

	- Stormwater collection - Sufficient green spaces		gardens
Social Equity & Governance	- Food security: food pantry, meal plan variety - Education: high academic standards, professor availability, strong career networking, & free tutoring services - Transportation: free weekend shuttles, free bike share, & carpool friendly	- Food security: lack of local food use - Education: Low diversity among faculty, especially compared to student body (38% non-white in 2019). - Transportation: highly car-dependent & limited parking	- Increase local food purchasing - Explore methods of increasing faculty diversity - Additional parking facilities
Health & Wellness	- School provides housing, food, and healthcare for all students	- Many buildings lack handicap accessibility	-When renovating buildings, ensure handicap accessibility -Improve healthcare accessibility through telecare systems -Update health and wellness resources and information -Increasing diversity among students by 15%
City of Lynchburg			
Infrastructure	- Plan to revamp all of Lynchburg's water infrastructure by 2023 - Stormwater assessment plan including plans to replace streets downtown with permeable alternatives - Strong drainage system & topographical form of the City reduces potential flood hazards	- The water system has pipes that date back to 1829 with limited funding for replacement - No plans regarding the expansion of the landfill - Frequent power outages - College Lake Dam overtopping leaves large portions of City vulnerable - Lack of affordable housing	- Continue creating and implementing these plans to update all aspects of Lynchburg's infrastructure - Removal of College Lake Dam - Increase affordable housing options

Economics	- Hazard mitigation plan - Part of the National Flood Insurance Plan (NFIP)	- Higher than the state average poverty rate - Nearly $21 million worth of buildings and infrastructure at risk of flooding	- Consider expanding disaster loans fund into a Hazard Relief Program - Secure external funding for infrastructure projects
Ecosystem Services	- Sufficient tree coverage - High air & drinking water quality - Green spaces with strong efforts to improve habitats - James River water rights - Gravity fed water system from Pedlar Reservoir	- Habitat fragmentation - Extensive impermeable surfaces - Major infestations of invasive species - High sediment contribution & portions of City reliant on combined sewage system - College Lake dam	- Increase tree coverage - Continue efforts to prioritize native species planting - Create removal plan for invasive species - Continue sewer system separation - Consider resiliency when writing building codes & ordinances
Social Equity & Governance	- Food security: Lynchburg grows, Daily Bread, & Farmer's Market (accepts SNAP) - Education: adequate public school system - Transportation: bike lanes, crosswalks, & GLTC	- Food security: food desert - Education: decline in test scores - Transportation: parking, GLTC reliability, & private vehicle reliance - High poverty areas overlap areas of high hazard risk	- Greater reliability and service area of public transport - Increase sidewalk network - Expand parking options
Health & Wellness	- Healthcare options - Lynchburg Grows providing access to fresh foods - Water access	- food desert, food being imported, lack of housing - Heat island effect	- more options for better food choices, options for housing for lower income people