



OUR ENVISIONED FUTURE

The Strategic Plan for the
College of Agriculture and Life Sciences

2013-2020

The future will
always present
challenges –
but with those
challenges come
opportunities.



Welcome

I am proud of the College of Agriculture and Life Sciences (CALs) at NC State University and all that the college represents. We are fortunate to have exceptional faculty and staff, and we work together to provide an unparalleled experience for our students. We have tremendous capabilities to perform cutting edge research on our main campus and at our 18 research stations located throughout the state. Our Cooperative Extension network is one of the largest in the country, allowing us to disseminate knowledge effectively to all 100 North Carolina counties.

In addition to having a world-class college, we are fortunate to be centrally located in one of the most agriculturally diverse states in the U.S. and physically close to a vibrant agricultural and life science community in the Research Triangle Park.

Our opportunity is now.

Over the course of a year, we worked with many stakeholders to develop “Our Envisioned Future.” Through the strategic planning process, the college developed our strategy for the future based on our heritage of the land-grant mission. During this process, we asked tough questions about what is needed to advance research, teaching, Extension and international programming. We challenged ourselves to consider how we can work together, how we can best attract and prepare our students and how we can help our stakeholders be successful.

Our journey began by connecting with our internal and external stakeholders. Through listening sessions held throughout North Carolina, the administrative team and I connected face-to-face with our stakeholders. They provided essential information and ideas about where the college is today and where our college could be in the future. This provided the groundwork needed for college leadership to continue the effort and build our college strategy.

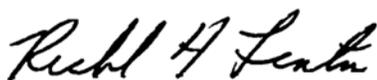
As the journey progressed, the college carved a clear yet challenging path forward. First, and most importantly, our college will continue its focus on providing the best possible experience for our students and our stakeholders in North Carolina. They are the target and purpose of everything that we do. We will improve the college by maximizing the outcomes of our people, our programs and our partnerships. CALs has a long history of being a partnership-driven college, and we will continue to grow this strong partnership foundation as we move forward. The college will also focus on how we operate, behave and work. As we continue to build our college, we will focus on fostering collaborative and interdisciplinary teams that can integrate the missions of research, teaching, Extension and international programs most effectively.

In the near term, the college will focus on five strategic areas, which we are calling our Core Strategic Themes. We will use the Core Strategic Themes as a foundation, continuously evaluating our success in these areas and modifying them, as needed, as part of our evolving college strategy.

The Five Core Strategic Themes Are:

- Enhancing the production, quality, accessibility and profitability of food, plant, animal and bioenergy products for North Carolina, the nation and the world;
- Ensuring environmental stewardship and sustainability of air, land, soil and water resources;
- Creating a food supply that is safe, secure, healthy, affordable and of high quality;
- Improving human health and well-being for individuals, families and communities; and
- Preparing students and stakeholders for leadership and success in the global workforce.

There is no doubt that this is a critical time for agriculture and life sciences. Our college will have opportunities to solve grand challenges that impact us locally, within the state of North Carolina, nationally and globally. Our new journey is just beginning. I look forward to enjoying our envisioned future with all of you.



Richard H. Linton, Dean
College of Agriculture and Life Sciences
NC State University



Introduction

The future will always present challenges, but with those challenges come opportunities. The College of Agriculture and Life Sciences is looking to the future. This Strategic Plan is designed to help us meet the challenges and take advantage of the opportunities the future holds. This plan, developed under the leadership of Dean Richard Linton with input from our many stakeholders, is a collective representation of our mission, vision and values and creates a foundation that will serve the college for years to come.

We believe the college has a role to play in shaping the future both globally and locally.

The United Nations' Food and Agriculture Organization (FAO) predicts, and many observers agree, that the world's population will rise from 7 billion people today to 9 billion people by 2050. The FAO estimates that food production must increase 70 percent to feed the world's population in 2050. This challenging increase will have to be accomplished at a time when resources such as fresh water are declining and the amount of arable land is limited.

Clearly, agricultural sciences will play a major role in developing the technology and agricultural practices needed to feed the world in 2050. Life sciences will also play a critical role in fighting diseases and pests that afflict plants, animals and people, in addition to developing knowledge and technology that protect our environment.

At the local level, North Carolina agriculture continues to be among the state's major economic engines. Food, fiber and forestry industries account for more than 17 percent of North Carolina's gross state product, or \$77 billion annually. These industries account for 642,000 of North Carolina's 3.8 million jobs. North Carolina's diverse agriculture includes major commodities such as pigs and poultry, and crops such as corn, cotton, soybeans and tobacco. In addition, we produce commodities ranging from sweet potatoes to fresh water prawns. CALS has historically supported North Carolina agriculture, providing research and Extension programs that support the economy and academic programs that create a well-prepared work force.

In addition, North Carolina's biotechnology industry accounts for 237,665 direct and indirect North Carolina jobs and generates \$59 billion in economic activity, according to a 2013 Battelle Technology Partnership Practice study. The college's life sciences programs support this important segment of the North Carolina economy.

This plan also honors North Carolina State University's land-grant tradition.

The Morrill Act, which made the creation of land-grants like NC State possible, called for the institutions "to teach such branches of learning as are related to agriculture and the mechanic arts." Agriculture and life sciences have been part of NC State since the university's founding in 1887. Extension and research programs, made possible by the Smith-Lever and Hatch acts respectively, were added over the years.

Today, the College of Agriculture and Life Sciences, more than any other part of the university, is the embodiment of the land-grant academic, research and Extension model. Yet the college has changed – and it will continue to change.

Perhaps the most significant change to impact the college recently was the creation of a new College of Sciences (COS) at NC State. This new college includes faculty and programs from CALS and the College of Physical and Mathematical Sciences. A number of CALS faculty members, notably those in biological sciences, microbiology, toxicology and genetics, moved to COS along with roughly half the CALS student population. The creation of the College of Sciences and its impact on CALS made strategic planning all the more necessary.

The strategic planning process began in the fall of 2012. CALS laid out an ambitious timeline and delivered the plan within six months. Dean Linton enlisted the help of an internationally-renowned strategic planning consultant and engaged an administrator to oversee the planning process. Plan development progressed through four phases: information-gathering, ideation, writing and implementation, which is ongoing.

The information-gathering phase began with a series of open-invitation listening sessions throughout the state. Dean Linton interacted with more than 1,000 internal and external stakeholders face-to-face and an additional 150 stakeholders via the CALS strategic planning website. These essential supporters provided thoughts, ideas and suggestions. The goal was to learn from our stakeholders, understand where the college is today and where our opportunities for growth will be in the future.



Introduction con't

From the stakeholder feedback, several consistent issues emerged. The issues centered on being more innovative across research, teaching, Extension and international programs, and creating a culture built upon leadership, mentorship, diversity and partnership.

The second phase of planning, ideation, involved bringing all of the assembled information together to systematically lay out the future road map for CALS. At a two-day session, CALS department heads led groups made up of internal and external stakeholders to discuss the key issues raised during the listening sessions. Congruently, the strategic planning project team molded the college's mission, vision and core values.

Next came the writing phase, consisting of additional workshops to draft the full strategic plan. The strategic plan for the College of Agriculture and Life Sciences was released in July 2013. The plan was aligned to support the larger University goals outlined in the University strategic plan adopted in 2011.

The CALS plan is inclusive and dynamic, allowing it to evolve with the college over time. It outlines CALS strengths, priorities and opportunities for long-term growth and success. Most importantly, more than 1,150 students, staff and stakeholders were involved in the overall development of the plan, truly making it a plan for the people and the state of North Carolina.



Core Purpose/Vision

Create social and economic prosperity and well-being for the state, nation and world through agriculture and life science discovery, learning and engagement.

Mission

The College of Agriculture and Life Sciences at NC State leads partnership-driven discovery, learning and engagement. We prepare students, create and apply unbiased knowledge through advances in science and technology and drive economic development to improve the quality of life in North Carolina, our nation and the world. We fulfill the land-grant mission by embracing an interdisciplinary approach to achieve new scientific breakthroughs that translate into discoveries and meet grand challenges involving food, farming, fiber, feed, families, health, energy, water and the environment.

Core Values

We value the land-grant mission.

Integration of research, teaching and Extension advances effective and impactful learning, discovery, translation, application and engagement.

We value and insist on ethical behavior.

Accountability to students, stakeholders and ourselves ensures that our discoveries and contributions are credible and respected.

We value diversity and equal opportunities.

Diversity of our college community including faculty, staff and students enhances our success and promotes individual and collective growth and development.

We value a student focus and student success.

Broad educational experiences prepare our students to be leaders, improve communities and meet future societal challenges.

We value and cultivate partnerships.

Collaborating with internal and external partners strengthens our programs, enabling us to be successful in solving societal grand challenges.

We value programmatic impact.

Fostering a climate for discovery, innovation and application of knowledge empowers us to be proactive and relevant to the needs of our stakeholders.

We value excellence in scholarship, leadership and service.

Excellence in all endeavors creates an atmosphere that encourages achievement and builds leadership to advance our university, communities, state, nation and the world.

We value discovery and lifelong learning.

Encouraging students, faculty, staff and stakeholders to be critical thinkers and life-long learners generates the skills needed to succeed and develop innovative solutions to societal grand challenges.

We value open and respectful exchange of ideas.

Creating collaborative solutions in a climate of respect and dignity for all individuals results in robust and rich discoveries and innovations.

Our Envisioned Future

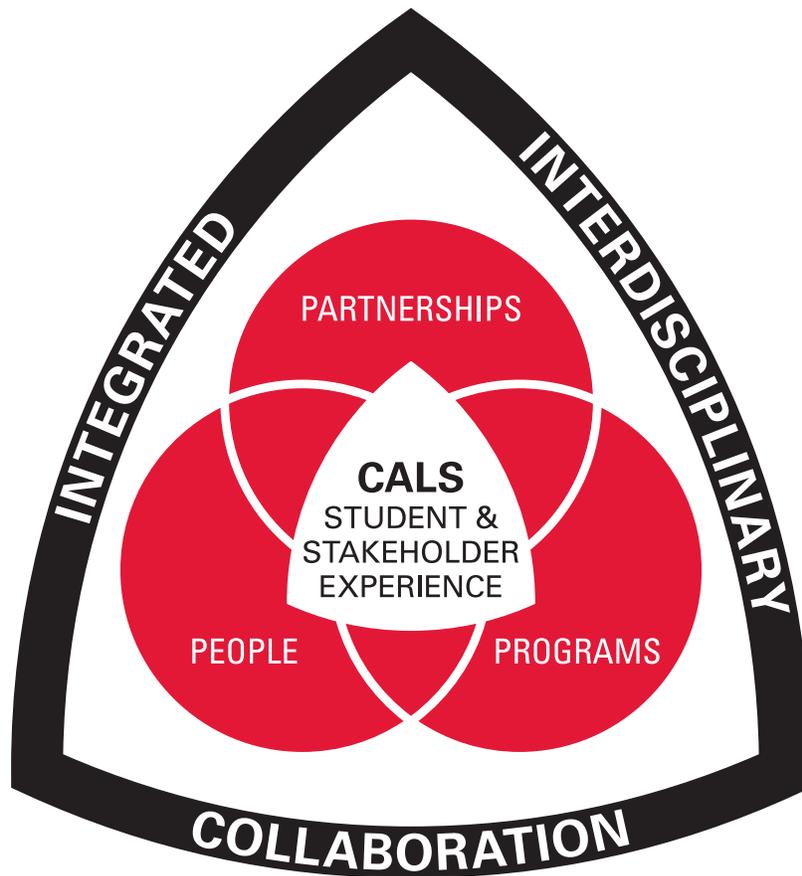
A strategic plan is a path, a roadmap to reach a destination. When we began the strategic planning process, we first determined our destination — the future we envision for the College of Agriculture and Life Sciences.

As we carefully crafted our envisioned future, we focused on who we intend to serve and how we can effectively meet the current needs of these groups.

If you look at the graphic on the next page, the inner white triangle represents the center of all we do — the experience that both our students and stakeholders have with the college.

We will work through the partnerships we form, our programs and most of all through our people to provide the most enlightening, productive experience possible for our students and our stakeholders.

As we interact with our students and stakeholders through our people, programs and partnerships, we will endeavor to accomplish five core strategic themes. As we address these themes, we will do so in a way that is integrated, interdisciplinary and collaborative.



Five Core Strategic Themes

1. Enhancing the production, quality, accessibility and profitability of food, plant, animal and bioenergy products for North Carolina, the nation and the world;
2. Ensuring environmental stewardship and sustainability of air, land, soil and water resources;
3. Creating a food supply that is safe, secure, healthy, affordable and of high quality;
4. Improving human health and well-being for individuals, families and communities; and
5. Preparing students and stakeholders for leadership and success in the global workforce.

NC STATE

College of Agriculture
and Life Sciences

1

CALS will be a world leader in addressing grand challenges in food, agriculture, energy and the environment.

2

CALS will promote a college-wide culture of partnership-driven, integrated and interdisciplinary teams that are recognized for solving local, state and global grand challenges.

3

CALS will create innovative public-private partnerships that enhance college programs, capacity and infrastructure, which will enable the university community and stakeholders to prosper.

3 PILLARS BUILT ON 12 GOALS

Pillars of Excellence

Three overarching areas of leadership and proficiency for CALS were identified and deemed “Pillars of Excellence.” The Pillars represent where CALS aspires to be in both form and function. The Pillars are built upon 12 Goals. The Goals help carry out the charge of the three Pillars; they provide fundamental support. CALS will evaluate the support structure regularly and evolve to meet anticipated changes in global grand challenges.

PILLAR 1

CALS will be a world leader in addressing grand challenges in food, agriculture, energy and the environment.

Objective:

1. Increase impact of CALS by establishing internal and external shared vision for addressing grand societal challenges

Strategies:

- a. Redesign business center support structure
- b. Develop partnerships to create and implement strategies and programs to address the grand challenges
- c. Establish funding opportunities for ideas that are responsive to the core strategic themes

PILLAR 2

CALS will promote a college-wide culture of partnership-driven, integrated and interdisciplinary teams that are recognized for solving local, state and global grand challenges.

Objectives:

1. Enhance capability to respond to emerging issues by formation of integrated and interdisciplinary teams
2. Increase awareness of faculty expertise and impacts

Strategies:

- a. Create a dynamic structure and process for the formation of "issue teams"
- b. Invest resources to support the formation and operation of "issue teams"
- c. Inventory faculty and college expertise

PILLAR 3

CALS will create innovative public-private partnerships that enhance college programs, capacity and infrastructure, which will enable the University community and stakeholders to prosper.

Objectives:

1. Increase understanding and appreciation of college needs and capabilities among external stakeholders
2. Decrease administrative hurdles and barriers that limit innovative public and private partnerships

Strategies:

- a. Develop a template for communicating opportunities for partnerships
- b. Review, refine and adapt existing policies and procedures to promote partnerships
- c. Establish point person or unit to coordinate and facilitate partnerships
- d. Evaluate partnership potential when setting college priorities
- e. Recognize and reward faculty efforts that contribute to the development of partnerships

12 Goals

The Goals of the college provide a foundation to focus the future of CALS strategically over the next seven years. They are dynamic and will be continuously refined to meet the needs of CALS stakeholders.

GOAL 1

CALS faculty will be nationally and internationally recognized for their research, teaching and Extension.

Objectives:

1. Increase program support for CALS research, teaching and Extension
2. Increase availability and access to technology
3. Increase quality and quantity of facilities
4. Increase number of successful grant applications

Strategies:

- a. Invest college support and resources to increase success rate of extramural funding
- b. Identify and increase funding opportunities
- c. Invest resources into people, facilities and technology
- d. Develop a college-wide plan for facility and equipment upgrades

GOAL 2

CALS will exhibit an inclusive and diverse environment where faculty, staff and students can reach their full potential.

Objectives:

1. Increase personnel and initiative support for the Office of Diversity, Outreach and Engagement
2. Increase positive perceptions of organizational climate as being diverse and inclusive
3. Increase percentage of under- represented faculty, staff and students
4. Increase recruitment, retention and success for underrepresented faculty, staff and students

Strategies:

- a. Develop a recruitment strategy for and invest resources in underrepresented faculty, staff and students
- b. Create a system of awards, metrics and accountability for diversity
- c. Identify new sources for increased funding and staff support
- d. Actively promote and encourage participation in diversity programs
- e. Develop a program to increase the hiring of underrepresented faculty

GOAL 3

CALS will recruit and retain top-ranked faculty and staff.

Objectives:

1. Expand the definition of scholarship in the reappointment, promotion and tenure process to include combined impacts in research, teaching, Extension and international programs
2. Increase interdisciplinary and cross-function awards and recognitions
3. Increase salary competitiveness for faculty and staff
4. Expand the award and recognition program for faculty and staff

Strategies:

- a. Establish more named and endowed professorships, scholarships, fellowships and other development opportunities
- b. Promote a culture that recognizes differences in scholarship among disciplines and the three components of the land-grant mission
- c. Create an innovative rewards system to encourage high recruitment and retention of top-ranked faculty and staff

GOAL 4

CALS will deliver innovative leadership development programs that are in worldwide demand.

Objectives:

1. Increase college's portfolio of leadership programs
2. Increase promotion, awareness and coordination of existing leadership programs
3. Increase leadership opportunities for students, faculty and staff
4. Increase emphasis on advising and mentorship to encourage participation in leadership programs

Strategies:

- a. Identify, inventory, publish and market all existing leadership programs available to the entire CALS community
- b. Conduct needs assessment and establish additional leadership program opportunities as needed locally, nationally and internationally
- c. Assess delegation of leadership and responsibilities college-wide
- d. Create incentives to enhance enrollment in leadership programs

GOAL 5

CALS will create a robust professional development program.

Objectives:

1. Increase the number of proactive leaders
2. Increase incentives and rewards for faculty and staff professional development participation
3. Increase student development support
4. Increase leadership and professional development opportunities and success

Strategies:

- a. Market existing leadership and professional development programs
- b. Partner with appropriate leadership organizations and external CALS stakeholders to create novel, innovative leadership development programs that are CALS-specific
- c. Invest resources for travel, professional development, and faculty/staff/student development support

GOAL 6

CALS will establish regional agreements with other universities for interdisciplinary programs.

Objectives:

1. Increase incentive structure for integrated and collaborative research
2. Increase opportunities to streamline processes for efficiency
3. Increase knowledge among stakeholders of the importance of state support
4. Expand leadership support for collaboration across universities

Strategies:

- a. Develop policies and procedures that encourage interstate and intrastate collaborations
- b. Develop additional opportunities for interdisciplinary and inter-institutional agreements to solve regional challenges

GOAL 7

CALS integrated programs will improve North Carolina's economy.

Objectives:

1. Increase interdisciplinary and integrated programs
2. Increase participation in integrated programs and incorporate integrated program metrics into the reappointment, promotion and tenure process that incentivize a team-based culture
3. Decrease barriers for participation in and completion of integrated programs
4. Increase sustained funding for integrated programs
5. Increase number of and participation in cross-disciplinary graduate student programs

Strategies:

- a. Design a process to identify and create thematic and emerging areas of integrated programs
- b. Establish new funding, resource allocation and support for graduate students in cross-disciplinary programs
- c. Establish a process for cluster, cross and joint hires in the college
- d. Establish criteria for how faculty positions connect to the college's strategic plan
- e. Create integrated program metrics for inclusion into departmental and college reappointment, promotion and tenure and post-tenure rules
- f. Identify additional funding sources to support integrated programs

GOAL 8

CALS will enhance K-12 Science, Technology, Engineering and Math (STEM) education and science literacy in North Carolina.

Objectives:

1. Increase coordination with university K-12 STEM efforts
2. Increase 4-H, agricultural education, FFA and STEM school programs and integration with North Carolina Department of Public Instruction
3. Increase number of K-12 STEM programs in the college
4. Increase number of faculty participating in K-12 STEM through increased incentives
5. Increase coordination of college K-12 STEM activities

Strategies:

- a. Improve integration of CALS STEM programs with existing courses of study in K-12 STEM
- b. Create incentive-based programs that encourage faculty to participate in K-12 STEM programs
- c. Establish college-level relationships with K-12 STEM related partners in the University
- d. Identify and increase funding for K-12 STEM programs
- e. Expand on and coordinate current college K-12 STEM activities

GOAL 9

CALS will provide pathways for high school graduates from rural North Carolina to complete successful enrollment in CALS and timely graduation.

Objectives:

1. Increase competitiveness of applicants from rural areas
2. Increase admissions opportunities of undergraduates
3. Increase student support and advising

Strategies:

- a. Establish new paths for admission
- b. Seek funding opportunities for new admissions programs
- c. Fund programs to increase awareness of CALS degree programs among high school guidance counselors and community college transition counselors

GOAL 10

CALS will have the highest student retention, graduation and job placement rates in the University of North Carolina system.

Objectives:

1. Increase financial aid and scholarship opportunities
2. Increase preparedness of students
3. Increase ratio of professional advisors to students
4. Reduce barriers to transfer between degree programs
5. Increase number of teaching faculty and teaching space
6. Increase opportunities for students to improve life skills

Strategies:

- a. Evaluate how CALS facilitates entry and graduation of transfer students
- b. Identify and prioritize areas of need for additional faculty to increase course offerings and seat availability
- c. Assess where major preparedness impediments are for first-year students
- d. Evaluate and revise intra-campus transfer regulations
- e. Evaluate courses of study across programs to prepare for common first-year curriculum and study value and feasibility of freshmen enrollment into the college rather than individual degree programs
- f. Redesign and remodel teaching space

GOAL 11

CALS will be a preferred partner for federal and state agencies and legislators for policy research and education in food, agriculture, energy and the environment.

Objectives:

1. Increase understanding of regulatory research and policy rules and compliance
2. Increase relationships and access to policy makers, governmental agencies, foundations and granting agencies

Strategies:

- a. Create partnerships with federal, state and local agencies by developing key relationships
- b. Establish college-level leadership responsible for carrying out these strategies
- c. Position CALS to be the go-to institution for the training and education of stakeholders for mandated regulatory programs impacting food, agriculture and the environment

GOAL 12

CALS will expand our international presence and program activity.

Objectives:

1. Increase value of international programs in reappointment, promotion and tenure process
2. Increase support for, and percentage of, international students and faculty
3. Increase collaborative and individual international programs
4. Increase number of strategic partnerships with international institutions

Strategies:

- a. Inventory, evaluate and communicate individual international program initiatives to facilitate coordinated efforts
- b. Identify, prioritize and establish strategic roles and partners with key international institutions
- c. Identify new sources for increased funding and staff support
- d. Enhance value of international programs and establish metrics for reappointment, promotion and tenure and post-tenure review processes
- e. Establish financial support for international graduate students

Two Strategic Plans, One Future

The College of Agriculture and Life Sciences embodies the university's vision for the future. NC State released the university strategic plan in 2011. The university plan includes five goals that center on six core values: integrity, freedom, respect, responsibility, stewardship and excellence. The strategic plan for the university and the strategic plan for CALS are uniquely and strategically aligned to serve the same audience. The college strives to provide integrated, interdisciplinary programs that enable opportunities and collaborations that will advance the greater university mission.

NC State Goal 1: Enhance the success of our students through innovation.

CALS Response:

- CALS will enhance K-12 Science, Technology, Engineering and Math (STEM) education and science literacy in North Carolina (*CALS Goal 8*).
- CALS will provide pathways for high school graduates from rural North Carolina to complete successful enrollment in CALS and timely graduation (*CALS Goal 9*).
- CALS will have the highest student retention, graduation and job placement rates in the University of North Carolina system (*CALS Goal 10*).

NC State Goal 2: Enhance scholarship and research by investing in faculty and infrastructure.

CALS Response:

- CALS faculty will be nationally and internationally recognized for their research, teaching and extension (*CALS Goal 1*).
- CALS will recruit and retain top-ranked faculty and staff (*CALS Goal 3*).

NC State Goal 3: Enhance interdisciplinary scholarship to address the grand challenges of society.

CALS Response:

- CALS will establish regional agreements with other universities for interdisciplinary programs (*CALS Goal 6*).
- CALS integrated programs will improve North Carolina's economy (*CALS Goal 7*).

NC State Goal 4: Enhance organizational excellence by creating a culture of constant improvement.

CALS Response:

- CALS will exhibit an inclusive and diverse environment where faculty, staff and students can reach their full potential (*CALS Goal 2*).
- CALS will deliver innovative leadership development programs that are in worldwide demand (*CALS Goal 4*).
- CALS will create a robust professional development program (*CALS Goal 5*).

NC State Goal 5: Enhance local and global engagement through focused strategic partnerships.

CALS Response:

- CALS will be a preferred partner for federal and state agencies and legislators for policy research and education in food, agriculture, energy and the environment (*CALS Goal 11*).
- CALS will expand our international presence and program activity (*CALS Goal 12*).

Thank You

Our Strategic Planning Project Team was made up of department heads and other members of college leadership. A significant amount of time and effort was required of all team members to bring this plan to fruition. Without input and leadership from our project team this document would not be the robust strategic plan that it is today.

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