Mitigating Rural Brain Drain in STEM-related fields in Louisiana and Montana

Melissa Gates and Kelly A. Schwager
Advisor: Dr. Ryan Balch
Peabody College, Vanderbilt University

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Executive Summary

Rural brain drain affects many geographic locations across the United States, as recent college graduates often seek entry-level positions and job opportunities in more urban environments (Artz, 2003; Carr & Kefalas, 2009; Sowl et al., 2022; Vazzana & Rudi-Polloshka, 2019). For our project, we looked at this challenge in our home states of Louisiana and Montana, specifically focusing on rural brain drain in STEM-related fields.

Our project design embraced the principles of improvement science and Networked Improvement Communities (NICs) to form a "colleagueship of expertise" (Bryk, et al., 2015; p. 9) and draw on input and experiences from similar-sized communities in the U.S. By considering NIC principles in our approach, this project offered an opportunity to collaborate, share learnings, and surface ideas that could lead to applied solutions tested in another geographic location. While our selected partner organizations, Lafayette Economic Development Authority (LEDA) and Montana Jobs Network, do not formally operate in a NIC, both have workforce development in their charter and face the challenge of brain drain in their respective communities.

To understand perceptions, factors, and incentives influencing the career and community choices of students and early career professionals in Louisiana and Montana, we chose to conduct a qualitative study to capture first-hand feedback and experiences that go beyond published data. While various community-specific findings emerged, we did find commonality across three areas, also reinforced in published research:

1. There is a lack of information (or in some cases misinformation) about STEM-related career opportunities in Louisiana and Montana. *This is a common finding across similar sized rural and small communities in the U.S.*

2. Social and geographic factors "pull" students and early career professionals to remain in Louisiana and Montana. *This is a common finding across similar sized rural and small communities in the U.S.*
3. While economic factors stand out as the reason students and early career professionals leave ("push"); economic incentives are cited as potential attractions that may influence them to stay. *This is also a common finding across similar sized rural and small communities in the U.S.*

Drawing on these findings and published research, the recommendations for our partner organizations landed in three categories: connect, promote, and accelerate.

1. **Connect**: Prioritize outreach to students at an earlier age and invest in programs that bring the community into schools throughout the various educational step-points, as well as support young professionals as they progress in their careers.
2. **Promote**: Utilize existing and new channels to shift perceptions and build awareness around STEM career paths, job opportunities, resources, and incentives that *already exist* in both Louisiana and Montana.
3. **Accelerate**: Invest in new programs that incent students and young professionals to stay and expand the pool of collaborators invested in tackling the challenge of rural brain drain and building the pool of STEM-talent to meet local hiring needs.

Partner Organizations

As we consider strategies to mitigate brain drain in Louisiana and Montana, this project seeks to understand factors influencing how students and young professionals pursuing STEM careers navigate career and community choices. Lafayette Economic Development Authority (LEDA) works to stimulate economic growth in Lafayette, Louisiana by providing resources to

employers and prospective employees. Montana Jobs Network supports skilled workforce development and helps Montana's next generation of technology workers launch successful careers in the state. Our project design embraced the principles of improvement science and Networked Improvement Communities (NICs); and our selected partner organizations both face challenges of brain drain in their respective communities. While Montana and Louisiana are not operating formally in a NIC, there is opportunity, through this project, to collaborate, share learnings, and surface ideas that could lead to applied solutions tested in another geographic location.

Networked Improvement Communities (NICs)

Networked Improvement Communities (NICs) are built on the sharing of "promising practices" and have had success in addressing local issues from a broader perspective (Bryk, et. al., 2015; LaMahieu, 2015). The term "networked improvement" has its roots in the technology sector. Software engineer and inventor Dr. Douglas Engelbart coined the term in relation to his work in the software and engineering field (Englebart, 2003; LeMahieu, et al., 2017). In Engelbart's terms, "an improvement community is any group involved in a collective pursuit to improve a given capability or condition" (Doug Englebart Institute, n.d., p. 1). Examples include a professional association, a community of practice, consortium, humanitarian initiative, initiatives to reform education, healthcare, government, corporate initiatives, or a medical research community seeking to cure a specific disease (Doug Englebart Institute, n.d.).

Network Improvement Communities have also seen wide adoption in healthcare and education. In *Learning to Improve: How America's Schools Can Get Better at Getting Better*, Bryk, et al. detail how a "networked improvement" approach joins together the discipline of improvement science with the dynamism and creative power of networks organized to solve

common problems (2015, p. xiv). In a NIC, participants form a "colleagueship of expertise—academic, technical, and clinical—deliberately assembled to address specific problems" (Bryk, et al., 2015; p. 9). "By working through organized networks, the likelihood increases that ideas may surface, be systematically examined, and if promising, move rapidly into testing and refinement" (Bryk, et al., 2015; p. 11).

There is growing support in technology-based economic development (TBED) circles that collaboration in a community of practice leads to greater impacts for regional innovation and improvement efforts (U.S. Economic Development Administration, 2024). While similar to a community of practice, a Networked Improvement Community (NIC) is a type of collaborative group that focuses on driving improvement in a specific field or area. NICs bring together networks of professionals, researchers, and other stakeholders to improve practices and outcomes through sharing data, strategies, and results. While both involve collaboration and shared goals, the key difference lies in the specific focus and objectives of each group: a community of practice emphasizes learning and knowledge sharing within a specific domain, whereas a networked improvement community prioritizes driving improvement and change (Bryk, et. al., 2015, Englebart, 2003; LeMahieu, et al., 2017).

Lafayette Economic Development Authority (LEDA)

The Lafayette Economic Development Authority (LEDA) works to stimulate economic growth in Lafayette, Louisiana by providing resources to employers and prospective employees alike. LEDA fosters a community of innovation, drawing in global organizations, while encouraging small businesses' founding and growth. By referencing locally curated research and focusing on the cultural nuances unique to the Lafayette area, LEDA has made its citizens' economic growth and prosperity both a priority and a promise.

In addition to helping organizations, LEDA also works with prospective employees, providing guidance for job placement. In recent years, LEDA has emphasized its commitment to diversity within Lafayette's workforce and, by extension, its community. Although LEDA actively seeks organizations from a wide array of fields, it focuses mostly on seven industries: energy, healthcare, technology, aviation, retail, and logistics with transportation and warehousing.

Montana Jobs Network

Montana Jobs Network was established in 2001 to support skilled workforce development and help Montana's next generation of technology workers launch successful careers (Montana Jobs Network, 2024). In 2023, Montana Jobs Network became affiliated with the Montana High Tech Business Alliance (MHTBA) to serve as the organization's 501c3 charitable nonprofit arm. Launched in 2014, MHTBA is a nonpartisan, statewide association focused on responsibly growing the technology ecosystem in Montana. MHTBA currently has more than 200 member firms, and the addition of Montana Jobs Network as the nonprofit organization within MHTBA provides a channel through which to expand the pool of talent to address the hiring needs across the Montana tech sector and convene key stakeholders to collaborate on solutions to address Montana's broader technology skills needs (Montana Jobs Network, 2024).

Montana Jobs Network is focused on three key priorities:

- Engaging Montana's next generation workforce with stories and role models that get them excited to pursue tech careers in Montana;
- Helping students and job seekers understand the specific steps they can take, and what skills are needed, to get from where they are into a tech career; and

- Working with partners in education, government, business, and nonprofits to strengthen technology education within the K-12 school system, higher education, and workforce development and diversify Montana's tech talent pool.

(Montana High Tech Business Alliance, 2024; Montana Jobs Network, 2024).

Problem of Practice

This project is grounded in the following shared problem of practice: What actions can LEDA and Montana Jobs Network take to help address rural brain drain in Louisiana and Montana? Rural brain drain affects many geographic locations across the United States, as recent college graduates often seek entry-level positions and job opportunities in more urban environments (Artz, 2003; Carr & Kefalas, 2009; Sowl et al., 2022; Vazzana & Rudi-Polloshka, 2019). In both Louisiana and Montana, community leaders are seeking ways to address this challenge.

Rural Brain Drain in Louisiana

Lafayette Parish and Lafayette metro area, including its more rural regions, seem to be bucking the rural brain drain trend affecting much of Louisiana, giving economists reason to hope that Lafayette may see talent retention and growth rather than talent loss (Mader, 2020; Boudreaux, 2020; Archote, 2023). Despite the apparent good news regarding Lafayette's economic stability and prosperity, another local organization found a less positive economic outlook when scrutinizing future plans of recent college graduates. One Acadiana, an organization geared towards building economic prosperity and diversity across multiple parishes in south Louisiana, conducted The Quality of Life survey in 2022 and found that more than half of polled recent college graduates considered the economic conditions of Lafayette to be fair or poor (Vibrant Acadiana, 2022). Similarly, the survey showed only 38% of the same population

subset of recent college graduates believed Lafayette's job growth trajectory to be either good or excellent (Vibrant Acadiana, 2022). Likewise, a study conducted by University of Louisiana at Lafayette economics professor Gary Wagner found that many graduates from Louisiana colleges and universities leave Louisiana for job opportunities in Texas (Archote, 2023). If Lafayette, Louisiana follows suit and loses much of the human capital from its rural communities, other key components to the region could be lost as well, including the standards of its public schooling, cultural traditions, and healthcare options for those residents remaining.

To combat the migration of human capital from Lafayette Parish, LEDA focuses on several aforementioned, mostly STEM-related, fields: Energy (Oil & Gas and Renewables), Aviation/Aerospace, Manufacturing, Healthcare, Information Technology, and Logistics/Transportation/Warehousing. According to Brittany Deal, LEDA's director of business intelligence, these fields offer possibilities even in the more rural areas of Lafayette Parish, particularly with the rising popularity of remote work. Yet, Deal recognizes that LEDA's outreach efforts to attract and retain young talent remain limited to those who pursue degrees at local higher education institutions. The staff and board of LEDA would like to examine and determine the factors that could encourage college graduates to remain in or return to Lafayette Parish to seek employment. Therefore, this capstone seeks to explore the factors that could drive young professionals to seek tech jobs in rural and small communities after graduating with STEM-related degrees.

Rural Brain Drain in Montana

In communities across Montana, students and young professionals are leaving the state and brain drain threatens the health of some rural and small communities. In fact, Montana Governor Greg Gianforte specifically called out the issue in his State of the State address in

January 2023, declaring Montana's students and young professionals "one of the state's largest exports" (Gianforte, 2023). Although a common perception is that young people are migrating to larger cities to have greater access to more diverse social scenes, health care options, or education opportunities, published research asserts they are leaving because of a belief the careers they wish to pursue are simply not available in smaller communities (Carr & Kefalas, 2009; Sowl et al., 2022; Vazzana & Rudi-Polloshka, 2019).

As detailed in the 2023 Montana Economic Report published by the University of Montana Bureau of Business and Economic Research (2022), the economic environment in Montana is changing, and there is an opportunity to define Montana's future. Montana saw strong economic growth in 2022, resulting in a $1.7 billion surplus at the midpoint of the calendar year (Barkey, 2022). Montana's tech industry overcame and even benefited from the pandemic economy, generating more than $2.9 billion in revenue in 2020 and growing up to 7x faster than other sectors contributing to the statewide economy (University of Montana Bureau of Business and Economic Research, 2021). Ironically, there is not broad recognition among students and young professionals that Montana's economy, and its technology sector, is on the rise.

During Governor Gianforte's first three years in office, Montana has seen nearly 41,000 new jobs created since January 2021 — 30,000 more than pre-COVID levels — and record low unemployment, according to state and federal labor statistics (Associated Press, 2024; State of Montana, Newsroom, 2024). According to the Montana Department of Labor and Industry, Research and Analysis Bureau, Montana continues to outperform the national economy (2024). "Montana has the 8th fastest GDP growth among states over both the last five years and ten years (ending in 2013), and Montana's GDP growth was faster than the U.S. average in every

year since 2000, except 2012" (Montana Department of Labor and Industry, Research and Analysis Bureau, Website, 2024). Montana has also outpaced the national average for personal income growth, ranking 6th for the last five years and has the fifth fastest wage growth among states over the last five- and ten-year timeframes (Montana Department of Labor and Industry, Research and Analysis Bureau, Website, 2024).

In October 2023, Western Montana was selected as a federally designated technology hub to accelerate the growth of "industries of the future" in regions across the United States (The White House, Fact Sheet, 2023; The White House, Press Release, 2023). In July 2024, Montana received a second round of federal Tech Hub funding in the amount of $41 million (U.S. Economic Development Administration, Press Release, 2024).

> *"Every American deserves the opportunity to thrive, no matter where they live. Today's announcement that the Department of Commerce is investing $504 million in Regional Technology and Innovation Hubs across the country will ensure that the benefits of the industries of the future – from artificial intelligence and clean energy, to biotechnology and more – are shared with communities that have been overlooked for far too long, including rural, Tribal, industrial, and disadvantaged communities," said Vice President Kamala Harris. "These Tech Hubs will give regions across our nation the resources and opportunities necessary to lead in the economy of tomorrow while creating good-paying jobs for American workers"* (U.S. Economic Development Administration, Press Release, 2024).

Montana's Tech Hub status is expected to result in new jobs, particularly in photonics technology that has wide-ranging uses in self-driving vehicles and agricultural equipment, as well as national defense and natural disaster response (Ellsworth, 2023; The White House, Press Release, 2023). To support these jobs, specialized technology skills are needed, but finding and retaining skilled workers to fill these roles is a challenge. "For the last few years, Montana's labor market has been tight with more positions available than there are people to fill them" (Henderson & Paulsen, 2023).

The U.S. tech sector continues to grow, and Montana will fall behind if students and young professionals do not recognize the opportunity to build a future in our state. If we get this right, current Montanans and future generations stand to benefit from higher-wage jobs and the redefinition of the state's economic landscape. If we get this wrong, brain drain may remain an issue, resulting in young people migrating to larger cities (Carr & Kefalas, 2009; Sowl et al., 2022; Vazzana & Rudi-Polloshka, 2019). Addressing this challenge is complex, and this capstone intends to serve as an input as Montana Jobs Network frames its areas of focus and considers the impact it can have on addressing this issue.

Literature Review

This literature review synthesizes existing research on rural migration or "brain drain" and future of work trends in rural and small communities. We also examined two theories, social identity theory and self-determination theory, to better understand potential motivations of students and young professionals as they consider where to settle and build a career.

Rural Brain Drain

Originally, the term "brain drain" described a massive migration of scientists in the British Royal Society who left the United Kingdom to pursue careers in the United States and Canada in the 1960s (Gibson & McKenzie, 2011). In recent years, this term has evolved, particularly concerning workforces in rural communities. Many rural communities across Louisiana and Montana struggle to attract and retain technology workforce talent, particularly young professionals and recent college graduates. This problematic trend affects communities across the United States, giving rise to the term "rural brain drain" (Petrin et al., 2014; Simoes et al., 2021; Wolfe et al., 2020).

A key commonality across published research in the last 20 years notes the potential rationale behind the exodus of young professionals and recent college graduates. Although the common perception may be that young people are migrating to larger cities to have greater access to more diverse social scenes, health care options, or education opportunities, research asserts they are leaving because sought-after career paths are simply not available in smaller communities (Carr & Kefalas, 2009; Sowl et al., 2022; Vazzana & Rudi-Polloshka, 2019). This brain drain has detrimental effects on those small towns, including the declined state of rural public schools, the weakening commercial fortitude of communities, and the loss of many cultural traditions (Petrin et al., 2014; Vazzana et al., 2019; Wolfe et al., 2020). As such, the importance of retaining young members of these communities cannot be overlooked.

In considering external influences, a study funded by MacArthur Foundation examined brain drain in the U.S. and looked at how the pathways of students and young professionals are shaped by the communities that surround them (Carr & Kefalas, 2009). According to the researchers, what surprised them most was the role adults in the community played in influencing "the best and brightest" to leave (Carr & Kefalas, 2009, p. 9). "Leaving, or not, does not result only from young people's individual preferences; instead, it is a reflection of their resources, particularly the messages they receive" (2009, p. 9).

Theories Informing Our Project

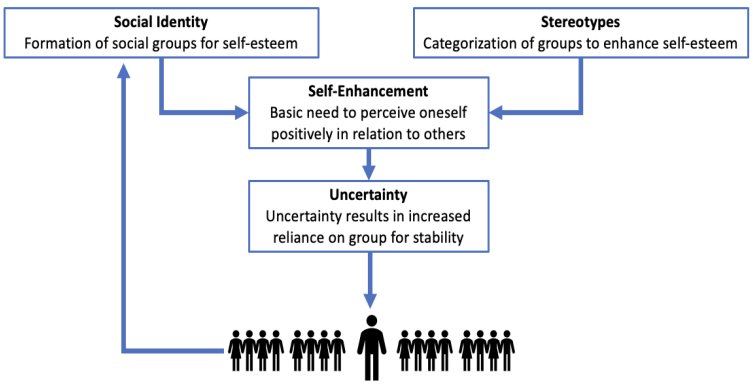
As asserted in the MacArthur Foundation findings on brain drain, external factors including society, family, friends, and groups, contribute to shaping the career pathways of students and young professionals (Carr & Kefalas, 2009). To better understand these potential motivations, we examined two theories: social identity theory and self-determination theory.

Social Identity Theory

As we consider underlying theories at play as students and young professionals navigate career and community choices, social identity theory is at the core. Social identity theory was developed through a collaboration of European researchers in the 1970s, with additional advancements throughout the 1980s (Hogg et al., 1995). This theory is based on the idea that "a social category (e.g., nationality, political affiliation, sports team) into which one falls, and to which one feels one belongs, provides a definition of who one is in terms of the defining characteristics of the category–a self-definition that is a part of the self-concept" (Hogg, et al., 1995, p. 259). In other words, one's membership in a group can impact the way an individual thinks, feels, and behaves (Hogg, et al., 1995).

Related to this theory, a socio-cognitive process labeled as self-enhancement assumes that "people have a basic need to see themselves in a positive light in relation to relevant others," which may impact the stereotypes they establish about their own group and other groups (Hogg, et al., 1995, p. 260). As illustrated in Figure 1, people who feel uncertain about themselves or their current life circumstances are likely to lean even more on groups because they reduce uncertainty due to the consistency and commonalities found within their social groups (Hogg, 2023).

Figure 1: Understanding Social Identity Theory



As we consider the conceptual framework for this project and potential factors influencing how students and young professionals navigate career and community choices, this concept is a key area of consideration.

Self-determination Theory

Self-determination theory (SDT) also emerges as an influencing factor as students and young professionals navigate career and community choices. SDT suggests that individuals have self-determined behaviors "that are consciously chosen in the service of intrinsic or extrinsic needs" (Deci & Ryan, 1980, p. 34). There is also a distinction made between *autonomous motivation*, which involves pursuing something by choice, often due to being intrinsically motivated, and *controlled motivation*, which involves making decisions due to pressure, often influenced by extrinsic rewards (Gagné & Deci, 2005). Self-determination theory is loosely related to several work-motivation theories, such as goal-setting theory, action regulation theory, task-specific motivation theory, and organizational commitment, which helps us better understand how SDT is evident in the workplace (Gagné & Deci, 2005). We will examine these influencing factors as we take a closer look at rural brain drain in Louisiana and Montana.

Conceptual Framework

After consulting the aforementioned theoretical framework and the rural brain drain literature, we then took a closer examination of the mission statements of our two organizations. Because both organizations focus much of their efforts on STEM opportunities and organizations, we decided to examine the place of rural brain drain affecting young people interested in or currently pursuing STEM careers. This led us to our conceptual framework and associated project questions. For our initial framework, we landed on three components of young adults' decision-making process: ***perceptions, factors, and incentives*.** We then specified to the

following elements: technology infrastructure and location perceptions; social, geographic, and economic factors; and incentives. This helped form our entire conceptual framework as seen in Figure 2 and our associated project questions.

Figure 2

Conceptual Framework

Sample: Young people who have not yet left Montana/Lafayette		High school students	Community college students	Four-year university students	Workforce Entrants
Perceptions	Technology perception	What is current perception of tech opportunity and existing infrastructure in the area?	What is current perception of tech opportunity and existing infrastructure in the area?	What is current perception of tech opportunity and existing infrastructure in the area?	What is/was perception of tech opportunity and existing infrastructure in the area?
Factors	Social Considerations	How important are social factors (i.e. diversity, cultural experiences, family proximity) to your career decision?	To what extent are you considering social factors (i.e. diversity, cultural experiences, family proximity)?	To what extent are you considering social factors (i.e. diversity, cultural experiences, family proximity)?	To what extent did you consider social factors (i.e. diversity, cultural experiences, family proximity)?
	Geographic location	How important is geographic location to your career decision?	To what extent are you considering geographic location?	To what extent are you considering geographic location?	To what extent did you consider geographic location?
	Economic factors	How important are economic factors (i.e. housing, medical access, schooling) to your career decision?	To what extent are you considering economic factors?	To what extent are you considering economic factors?	To what extent did you consider economic factors?
Incentives	Incentives	What may incentivize you to remain in Montana/Lafayette or to return for your career?	What may incentivize or did incentivize you to remain in Montana/ Lafayette?	What may incentivize or did incentivize you to remain in Montana/ Lafayette?	What incentivized you to remain in Montana/ Lafayette?

Project Questions

1. What **perceptions** exist among students and young professionals around the opportunity to pursue a STEM-related career in Louisiana and Montana?
2. What **factors** motivate students and young professionals to stay in Louisiana and Montana to pursue STEM-related careers?
3. What types of **interventions and incentives** are attractive to students and young professionals to reach them and attract them to stay in Louisiana and Montana to pursue STEM-related careers?

Data Collection

Data Collection Plan

Our data collection plan considers the workforce dynamics across Lafayette, Louisiana and greater Montana (Flathead County, Gallatin County, and Missoula County, Montana). The Lafayette Economic Development Authority (LEDA) is our partner organization in Louisiana, and Montana Jobs Network is our partner organization in Montana.

As the staff and Boards of LEDA and Montana Jobs Network address the main tenets of their respective organizations, one of which involves job recruitment and attainment, this project seeks to examine three components of the decision-making process (perceptions, factors, and incentives), as shown by our conceptual framework (Figure 2).

Methods

In addition to an examination of published research, we selected to conduct a qualitative study seeking to understand the decision-making process of entrant STEM professionals, four-year university students, community college students, and high school students considering careers in STEM fields in Louisiana and Montana. We used a brief questionnaire to collect demographic information followed by interviews for data collection. The unit of analysis was the individuals in each of the four participant groups: high school students, community college students, four-year university students, and entrant STEM professionals.

With each participant group, our goal was to capture first-hand feedback and experiences that go beyond published stats and provide our partner organizations with a better understanding of the perceptions, factors, and incentives that motivate each participant group through their own voices. The interviews also sought to explore the differences and similarities in perspectives

across these four participant groups and at what "stage" various factors emerge as a key influence as students and early career professionals navigate career and community choices.

As we developed recommendations for our partner organizations, data specific to each market as well as trends that emerged across the aggregate data was considered.

Participant Recruitment

All participants were purposefully selected according to their current location, age, and interest in pursuing or maintaining a career in a STEM-related field. Both geographic analysis groups consisted of 16 participants from Louisiana and 16 participants from Montana, for a total of 32 participants combined across both markets. While our original design proposed four participants from each analysis group (high school, community college, four-year university, and entrant STEM professionals), the breakdown of participants in our final analysis group varied slightly, as detailed in Figure 3. We do not believe this mid-course change in the participant mix alters the validity of our findings.

Figure 3. Final Analysis Groups

Analysis Groups	**Greater Montana**	**Lafayette, Louisiana**
High school students	4 participants	6 participants
Community college students	4 participants	1 participant
Four-year university students	4 participants	5 participants
Entrant STEM professionals	4 participants	4 participants
Total Participants	**16 participants**	**16 participants**

While demographic characteristics, such as gender and ethnicity, were noted, there were no efforts made to diversify the sample of the analysis groups. Should the project be repeated or expanded in the future, we recommend considering a more deliberate curation of participants to broaden the diversity across age groups, gender, and ethnicity.

Data Instruments

Data Instruments: Questionnaire

To determine eligibility for participation and to collect participants' demographic information, a questionnaire was administered via a Google Form to prospective participants. Each analysis group received a group-specific questionnaire with questions about age, childhood hometown, current location, highest level of education, interest in pursuing a STEM career, gender identity, and marital status.

Data Instruments: Key Conceptualizations

Prior to participating in the interview, participants received a list of key conceptualizations (see Figure 4). Participants were asked to peruse the conceptualizations prior to the interview to familiarize themselves with definitions pertinent and specific to this project.

Figure 4. Key Conceptualizations

Term	***Capstone Conceptualization***
Economic Factors	Any consideration affecting the economy, including, but not limited to housing costs, local consumer spending, availability of medical services, access to public schooling and schooling options
Social Considerations	Features of social components of the identified geographic location, including, but not limited to diversity, cultural experiences, family proximity, social norms, and customs
Geographic location	For the purposes of this project, geographic location is conceptualized to Montana participants as individuals residing in Flathead County, Gallatin County, or Missoula County and to Lafayette, Louisiana participants as individuals residing in Lafayette Parish, Louisiana

Data Instruments: Interview

Interviews were conducted and recorded via Zoom. Interview questions were specific to each analysis group. The first five interview questions corresponded directly to the conceptual framework of the project. The remaining questions assessed career goals, perceptions of the associated geographic locations, and the instruments and people influencing the career decision-

making processes. Literature reviews on rural brain drain and related studies were also consulted in development of the interview questions.

Figure 5. Project Questions by Analysis Group

Project questions connected to high school student interview questions *(See Appendix A for interview questions for community college students, four-year university students, and entrant professionals.)*	
Project question	**Corresponding interview question**
Project Question 1: What **perceptions** exist among students and young professionals around the opportunity to pursue a technology or STEM-related career in Louisiana and Montana?	A. What is your perception of the STEM career opportunity and technology infrastructure in your location? B. What are some words or phrases that come to mind when you think about this location (Lafayette/Montana)? C. Who do you turn to for career planning, educational planning advice? (i.e. parents, family members, career counselor, professor, mentor, etc.) D. Where do you go for career planning, educational planning advice? (i.e. websites, books, newsletters, organizations, resources, etc.)
Project Question 2: What **factors** motivate students and young professionals to stay in Louisiana and Montana to pursue tech or STEM-related careers?	E. How important are social factors (i.e. diversity, cultural experiences, family proximity) to your post high school plans? F. How important is geography/location to your post high school plans? G. How important are economic factors (i.e. job opportunities, medical access, housing, schooling) to your post high school career plans?
Project Question 3: What types of **interventions and incentives** are attractive to students and young professionals to reach them and attract them to stay in Louisiana and Montana to pursue tech or STEM-related careers?	H. What would most incentivize you to pursue your career in this geographic location (Lafayette/Montana)? I. What might make you want to remain in this location? J. What might make you want to leave this location? K. What is your dream job/career?

Interviews were conducted in a semi-structured format to allow for follow-up questions while still maintaining language-specific questions listed previously. All interviews were conducted via Zoom and both researchers requested participants to isolate in an area during the interview to ensure ease of responses. Both researchers used Trint or Otter to transcribe

interviews. Participants were notified that interviews should last no longer than one hour.

Data Collection: Timeline

Task	***Date***
Identify participants and administer questionnaires to determine suitability for participation	February 2024
Collect questionnaires; schedule and conduct interviews	March 2024-May 2024
Conduct follow-up interviews, if necessary	May 2024
Code and analyze interview data	May 2024-June 2024

Data Management and Analysis

Data Management

Drawing from Ravitch & Carl (2021) and Bhaattacharya (2017), we developed a detailed data management and analysis approach, including ethical considerations in obtaining and handling the data. Interviews were recorded, and researchers used Trint or Otter to transcribe the interviews for the purpose of coding and data analysis. We used a coding protocol to analyze the interview transcripts and researcher memos. We then conducted a thematic analysis of the qualitative data obtained from the interview responses and from the researcher memos and organized a summary of our coding results by research question (see Appendix B). Next, we identified common themes, patterns, and nuances related to attitudes, perceptions, and decision processes. Responses were categorized and coded to extract relevant insights.

A shared Google folder accessible by the research team was used to store data collected. We took every precaution to ensure anonymity of the participants and generalized the demographic information shared via the questionnaire. Interview data was redacted where

appropriate to maintain anonymity in any responses that contained personally identifiable information. Below is an excerpt from the interview script detailing the communication shared with participants regarding anonymity and intent to do no harm:

> *"We will use Zoom's recording feature to record this interview and will later use transcription software to transcribe the interview. Only researchers conducting the interviews will have access to these recordings and transcripts. All of your information will be held confidential and any responses that contain personally identifiable information will be anonymized. Please know that your participation is voluntary, and you may end your interview at any time you feel uncomfortable. Also know we do not intend to cause any harm through the process."*

While we used our conceptual framework as the guide for coding (see Figure 2), we stayed open to additional themes based on topics that emerged from the participant interviews. Final themes were published in a private, shared Google folder only accessible by the research team.

Coding and Data Analysis

To analyze the data, we implemented a two-stage review. In the first review, we analyzed interview responses using a set of key words and concepts related to our conceptual framework (see Figure 2). Interviews were coded based on the following key words and concepts: technology perceptions (tech industry perceptions, tech/STEM career opportunities, existing infrastructure); social considerations (social factors such as diversity, cultural experiences, family proximity); geographic considerations (location specifics, geographic characteristics); and economic factors (housing, cost of living, medical access, schooling, local economic health).

Each researcher read over their own interviews several times, noting common themes/topics emerging across the full set of interviews. Common themes were entered into a Google Doc added to our shared folder ("Coding Themes"). We then read each

other's interviews, noting additional observations. Results were then examined through three lenses: Louisiana only; Montana only; and combined results. As a final step, we combined our coding into one document organized by our research questions. We discussed any common themes we saw among multiple participants and multiple geographies, coding those appropriately. Research memos, triangulation, dialogic engagement, and multiple coding were used in our data analysis.

In considering connections to theoretical frameworks, we turned to social identity theory and self-determination theory to analyze the data in thematic ways, taking note of sub themes that may warrant further exploration in future research. We also drew on questions from Ravitch & Carl (2021) and Bhaattacharya (2017) in our analysis:

- *What assumptions might be underneath what we are noticing in the data?*
- *What clues help explain why a certain population is responding a certain way?*
- *What areas in the data stand out as needing further explanation?*
- *Which of these observations are most relevant and important to our inquiry?*
- *Based on our observations, what do we know now?*

Secondary research on factors from other similar sized communities across the U.S. was also considered to validate/triangulate our findings and proposed recommendations.

Results

The following section summarizes the interview results for each project question. Interviews were coded based on the following keywords and concepts: technology perceptions (i.e. technology industry perceptions, technology/STEM career opportunities, existing

infrastructure); social considerations (i.e. social factors such as diversity, cultural experiences, family proximity); geographic considerations (i.e. location specifics, geographic characteristics); and economic factors (i.e. housing, cost of living, medical access, schooling, local economic health). Appendix B offers a more detailed breakdown of our coding and analysis.

Project Question #1

*What **perceptions** exist among students and young professionals around the opportunity to pursue a technology or STEM-related career in Louisiana and Montana?*

Across the full data set, perceptions around the STEM opportunity are mixed, with an almost 50/50 split between those who view the tech sector as growing in their area versus lagging. As we drilled into the market-specific data for Montana, the view on tech-career opportunity skewed negative, with students and early career professionals voicing that Montana is "seriously lagging" other markets:

> *"I don't think the [tech] opportunity exists here [in Montana]. At least not in the current state. In the years to come, maybe. I certainly would like to try to gain traction here, and maybe even create jobs in this area for the tech industry. I know I've met several people here who are passionate [about technology] like myself, but the job market just doesn't exist, so it's certainly something that I would like to see grow here"* (MT CC3).

Interview participants believe Montana's technology infrastructure shows improvement but still needs attention. They cite high-speed satellite internet service Starlink as a "game changer" but also note that cell reception is still unreliable in some communities. Participants also pointed out that some choose to live off the grid, which therefore limits their technology availability.

Students and early career professionals do not perceive Montana's economy or technology sector to be on the rise. Despite the media attention around Montana's Federal Tech Hub designation in October 2023, only one participant noted a vague familiarity with the news

and zero had heard about the additional $41 million in Tech Hub funding awarded to Montana in July 2024 (U.S. Economic Development Administration, Press Release, 2024). Additionally, the participants in Montana voiced concern around the ability to pursue their intended or desired career within smaller communities. When fact checked, these perceptions are based on misinformation or misconceptions and stem partly from messaging heard from external influences, including parents, teachers, professors, mentors, and news or media sources:

> *"The primary focus for the computer degrees [at the community college] was transfer tracks out to bigger towns. They focused more on transferring students out somewhere rather than putting them in internships in the area because there just wasn't many available"* (MT CC3).

> *"You think of a dream career and a lot of dream careers don't provide geographical freedom. You kind of have to pick. You kind of go where the dream job is or compromise somewhere in there. And that's something my dad, in particular, has kind of like warned me about a lot"* (MT U3).

These young people also cite a lack of information or an unawareness of existing opportunities in their desired career fields. This does not preclude some from believing that opportunities in the field are becoming more available. However, they widely consider there to be an imbalance between interested applicants and jobs available and believe similar jobs could be available for higher pay out of state:

> *"The jobs that are here just really don't pay nearly as well as in Washington. I'm not sure why that is, but I know people that were getting job offers [in Montana] for almost half of what the job offers are like in Seattle or California or on the East Coast. So, I think the pay is a lot less competitive here. And, I think they're (companies) counting on the fact that everyone that graduates is in love with living here and willing to work for substantially less money just to continue living here."* (MT EP2).

> *"It becomes pretty quickly apparent that if you really want to get into some high paying jobs that you're probably going to have to leave the state"* (MT CC1).

Participants also shared a somewhat negative opinion of Montana's economy overall. In addition to voicing concern around the availability of STEM-related jobs, several participants

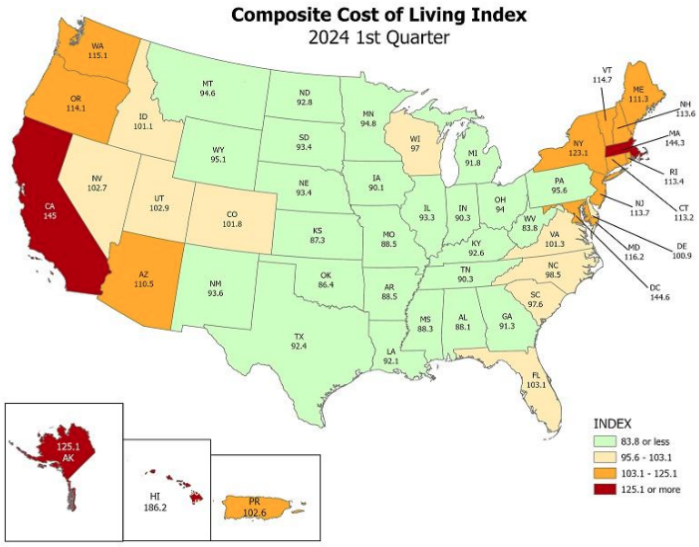
expressed a view that wages are lower and costs are rising faster in Montana than in other nearby geographies. Specific areas of concern cited include a rising cost of living and a lack of affordable housing.

> *"The cost of living in relation to how much money we make is crazy, especially when it comes to housing. Knowing that buying a house will never be in the cards for us here…that's a big deal"* (MT U1).

> *"My rent will actually be cheaper moving into downtown Seattle than it currently is in Bozeman"* (MT EP2).

Several of these perceptions are largely based on incorrect or incomplete information. In a report published by the Montana High Tech Business Alliance in partnership with the University of Montana Bureau of Business and Economic Research (BBER), technology jobs with Alliance member companies pay considerably more than elsewhere in the economy, with an average salary of $73,100 versus $59,500 for non-member businesses. While Montana ranks 22nd in the U.S. in terms of cost of living, Montana is a more affordable option than other states cited by participants as locations they are considering such as Idaho which ranks 30, Washington which ranks 45, or California which ranks 51 (MERIC, 2024; see Figure 6).

Figure 6: MERIC Composite Cost of Living Index



The State of Montana also has one of the lowest total tax burdens on individuals in America (86% lower than all other U.S. states) (Montana Department of Commerce, 2024).

In Louisiana, the view on STEM-career opportunities was somewhat more positive, with students and early career professionals voicing that career opportunities exist but are mostly limited to the oil industry and medical fields. There is a perception that there are few to no opportunities in software development or in most IT professions:

> *"I don't think there's much when it comes to like big tech in Lafayette…there's not really much in terms of at least software programming compared to like engineering and other STEM-related fields"* (LA EP2).

Students and young professionals in Louisiana believe the economy and availability of STEM jobs in Lafayette is on the rise, but they believe most of those jobs exist only in the oilfield industry and medical field. Likewise, college and high school students believe, although medical careers are available in the area, some branches are saturated. Several participants said they would therefore consider starting or joining a medical practice in a nearby rural town as a result. One college student noted a difference between availability of hardware-related and mechanical engineering career opportunities but cited a lack of software-production job availability. Nevertheless, all interview participants from Lafayette believe that technology opportunities have shown growth recently, specifically growth with new development in STEM industries and growth with LUS (Lafayette Utilities System) fiber investment. They also believe that other nearby areas, including New Orleans, Baton Rouge, and Houston, are growing more rapidly, offer higher wages, a cheaper cost of living, and/or have room for more growth.

Project Question #2

*What **factors** motivate students and young professionals to stay in Louisiana and Montana to pursue a technology or STEM-related career?*

Participants across both markets mentioned family repeatedly as both a negative and positive influence on their decision to remain, return, or leave the two areas. Participants also credited family members as one of their main influences for pursuing a STEM career and, perhaps most importantly, for partly fostering their perceptions of the area.

> *"The family I have here would be my main incentive [to stay]"* (MT CC3).

> *"...my mom and dad… they're both doctors and they're going through the whole college process. So they're kind of the ones that were like, you definitely need to go out of state for college"* (LA HS2).

In both Montana and Louisiana, participants noted that geographic factors were a draw, often encouraging them to remain in the areas. They cited shorter commutes, access to more outdoor amenities, and available land for home development as key factors pulling them to remain or return. These results are consistent with a 2021 study conducted by the Bureau of Business and Economic Research at the University of Montana which found Montana's quality of life, including recreation opportunities, the natural beauty, lifestyle, and work/life balance, offer significant business advantages.

> *"Everything we love to do is here. Skiing and camping, anything outdoors. We're right near Glacier and really close to Canada. Everyone here is super active and always outdoors."* (MT EP4).

> *"I love Montana. It's not overly populated. It's outdoorsy. There's a lot of open people here. So, being outdoors and having a small community is what I really like about Montana and the people here"* (MT CC2).

> *"There's just something about Lafayette that feels correct. Because we're not in the middle of nowhere, you know? ...We're a college town, not an overcrowded big city. You can safely walk down the sidewalks in Lafayette to get from point A to point B if that's what you want to do"* (LA U1).

> *"I would worry about the land first, because I would want to live on the outskirts. I wouldn't worry about the commute to work, because I wouldn't care how far I would have to commute every morning, as long as the land that I got was at a good price and then I would build on that land"* (LA U5).

Education had mixed results. Montana residents consider their public education system a valued resource and therefore something that could pull them to remain in Montana while Louisiana residents considered education a detriment, pushing them to consider leaving the area.

> *"...that [quality of public schools] would be a source of concern for me if I was here in Louisiana, just because I know the bad reputation that some public schools have"* (LA HS1).

> *"I'm lucky because I got involved in Running Start [in Montana]. I can take 6 college credits for free. Learned about this through my high school career center. I'm already attending classes through FVCC and now know some of the computer science and business teachers there"* (MT HS1).

The pandemic of Covid-19 had lasting effects on young people's career priorities and location decisions, with some young people saying they had less desire to move for a job or more concern for potential layoffs and decided to remain in Montana as a result. Some young professionals and college students considered the pandemic a reason to remain close to family members in a somewhat more stable environment. Some of these young people say they now would stay or want to stay if they could do meaningful work, even if that involves lower wages. They cite family, community, or "place" as their higher priority in decision making and largely agree that smaller or mid-sized companies and start-ups look more attractive than larger organizations. Ultimately, interview participants stated a desire to be in charge of their own destiny with greater flexibility in the work environment, a stronger work-life balance, and opportunities for entrepreneurship with participants saying, "I want to be the CEO."

> *"I think COVID changed what's important to me"* (MT EP1).

> *"My family. Definitely being near family. COVID really changed that for me. I used to think I wanted to be in Seattle for at least the early part of my career but after COVID that changed"* (MT EP4).

> *"My dream life is to have a rich career that I can balance into my own life. I want to be a mom and I want to spend time with my kids. And if I got to work a well-paying engineering job for 10 years, for 30 hours a week, at a reduced salary, that would be*

phenomenal. Because then I could not just have my dream career that overtakes my dream life, but also kind of like have it all. Maybe that's a lot to ask" (MT U3).

A summary of "push/pull" factors can be found in Figure 7.

Figure 7: Push/Pull Factors

Family (Push & Pull)	In both Louisiana and Montana, family was cited as a contributing influence for pursuing a STEM career, for leaving, staying, or returning to the area, and for positive or negative perceptions of the area
Geographic factors (Pull)	Pull: In both Louisiana and Montana, shorter commutes, access to outdoor amenities, and less expensive land lots can draw in young people
Education (Pull/Push)	Pull: In Montana, participants consider the public education system a valued resource Push: In Louisiana, participants consider their public education system a detriment to the area

Project Question #3

*What types of **interventions and incentives** are attractive to students and young professionals to reach them and attract them to stay in Louisiana and Montana to pursue a technology or STEM-related career?*

In the interviews, we heard clues about incentives that may encourage young people to stay across both markets. Economic incentives were among those most commonly cited including student loan repayment, fair wages in a fulfilling job, housing assistance, relocation costs, and remote work opportunities. Access to mentors and entrepreneurial/startup resources and higher education tuition incentives were also cited as possible attractants.

Participants listed several main influences or interventions for choosing to pursue a STEM career: having a personal curiosity, interest, or strength in math or science; family; teachers or professors; school programs, clubs, or activities; and early jobs or internships.

Teachers or professors were also cited as sources of career information, as were career fairs, Google, YouTube, local or national media outlets, and social media.

Montana

Montana participants noted wanting to pursue their career in a place that offers a sense of community and most agreed that Montana offers this. They also mentioned a perceived rising cost of living and lower wages as two incentives for them to leave the area.

Four main areas make up participants' incentives to remain in Montana: a sense of place, family, culture, and the possibility of having work/life balance and a fulfilling job. Participants noted the quality of life, sense of community, and activities available as key components of their sense of place. Within culture, participants included values and social norms, citing Montana's welcoming, personable, "good people," and the community-oriented feel within their locations. Participants qualified their idea of a fulfilling job as one where they are "doing something I love" and where they are focused more on meaningful work than on higher compensation. Conversely, participants listed a perceived higher cost of living, lower wage jobs, and higher quality of jobs available outside of Montana as incentives for leaving the state. As previously noted, some of these perceptions are based on misinformation.

Participants also referenced significant others or family members and a sense of wanderlust as key incentives for leaving the state:

> *"If I didn't have, like, a partner who's…yeah…goals and wishes I also had to consider, like, I would like to stay in Montana"* (MT U1).

> *"The family I have here would be my main incentive [to stay]. Outside of that I'm excited. I'm ready to see the world. I'm definitely open to taking my career and those steps forward to, you know, go to those places and see those things, make those connections"* (MT CC3).

Lafayette

Participants received limited messaging or interventions regarding job opportunities in the area. High school students cited a discrepancy between career paths mentioned by teachers and the perceived availability of those career paths in the area. Some parents directly encouraged their high school age children to leave the area, while others said parents have urged them to remain in the area or return after college. College students and young professionals noted that although local job fairs are well attended, they are often overly saturated with limited industries, preventing a depth of information distribution to interested students and applicants. The same two groups also noted they have engaged with social media for background information about career paths and pointed out that those sources rarely feature careers or job holders in Louisiana.

One college student noted that he switched majors from computer science to electrical engineering because of two factors of interest: the growth of AI and University of Louisiana Lafayette's (ULL) lack of adaptability in educating computer science students about engaging with AI. Several other college students remarked that ULL's engineering department works diligently to remain knowledgeable about current practices and spreads information accordingly, which acts as a major incentive for those students. Those students said they felt the ULL engineering program provided a good perspective of available jobs and careers but also noted they are sometimes encouraged to look outside of the Lafayette community for more specific careers.

Young professionals in Louisiana noted that they can feel "stuck" because of the pandemic and have had to accept a less than ideal job out of necessity. Since the pandemic, they have struggled to find a way to a different job at the same organization and have considered moving to a new industry or new location. These participants noted that more resources and

messaging should be available to young professionals who began working immediately during or after the pandemic. Several participants noted they would like to stay in the area but without knowledge of alternative, local STEM career opportunities, they may be more likely to leave the area. Having access to that information and resources available for moving jobs were noted as key incentives for some early career professionals.

Participants mentioned several factors influencing their decision to pursue STEM careers or fields. Key among these factors were family members, teachers, professors, school counselors, mentors in the field, or advisors. They also noted finding information at career fairs and events, job internships, and STEM-related conferences such as the American Society of Civil Engineers (ASCE) Conference. All participants also mentioned school courses and/or clubs as major influences, specifically referencing AP computer science classes, physics courses, engineering clubs or organizations, and independent study STEM courses. These more academic interventions were among the most commonly referenced by participants.

Some of these same factors were major sources of information for the participants, namely career fairs and teachers or professors. Participants also referenced gathering information from online sources including Google, YouTube, local and national media, social media including TikTok, and job sites such as LinkedIn, Indeed, and Handshake.

Participants also mentioned economic incentives, including student loan payment assistance, relocation and/or housing assistance, start-up business resources, and recruitment of remote workers. Some participants believe those resources and assistance are not available in Lafayette.

Perhaps as a result of that perception of growth in outside areas, some question if there are enough incentives to remain in Lafayette. They listed as their chief concerns: civil

infrastructure; public education; an unknown availability of resources for start-ups in the technology sector; and a lack of knowledge of available recruitment of remote workers. Correcting those problems would offer some participants incentives to return or remain in Lafayette. Participants from the four-year university group and entrant professional groups would consider several economic incentives to be attractive, including paying off student loans, offering housing assistance, and relocation assistance, if they had already moved away from Lafayette. These participants were often not aware of any programs offering such assistance or resources.

Some participants also mentioned two other main incentives, pushing them to leave the area: perceived higher wage jobs offered in nearby metropolitan areas and a perceived greater diversity of non-oilfield and non-medical STEM job availability outside of Lafayette. However, careers in STEM fields in Lafayette offer competitive wages to larger areas, especially when compared to the cost of living (Vibrant Acadiana, 2022; Bureau of Economic Analysis, 2024). Similarly, Lafayette does have available STEM careers outside of the oilfield and medical field, including in software development, informational technology, and applied sciences (Buehler, 2023; LEDA, 2023).

Conversely, participants mentioned four key incentives to stay in Lafayette: family, which was the highest rated incentive among all participant groups; culture, which included Cajun culture, a feeling of community, and a small town feel with bigger town amenities; diversity; religion; and the low cost of living in some areas.

Findings

While various community-specific findings emerged for Louisiana and Montana individually, we did find commonality across three areas, also reinforced in published research:

1. There is a lack of information, and in some cases misinformation, about STEM-related career opportunities in Louisiana and Montana. *This is a common finding across similar size rural and small communities in the U.S.*

    A survey completed by Bayer in 2019 reported that less than 40% of surveyed young people were aware of agricultural jobs beyond farming, including careers in biotechnology fields in rural areas (Bayer-National 4-H Council Study, 2019). The misconceptions and lack of information seem prevalent across STEM career opportunities in many areas. This may partially account for the small percentage (5%) of rural workers in a technical field (Center for Workforce Inclusion, 2024). In a qualitative study, Grimes et al. (2019) found that less than half of the high school students interviewed felt their high schools provided resources and information about STEM-related fields and careers. Similarly, after noticing K-12 students' limited knowledge of STEM opportunities in rural Washington state communities, educators in two programs at the University of Washington co-created STEM festivals (Rivera et al., 2019).

2. Social and geographic factors "pull" students and early career professionals to remain in Louisiana and Montana. *This is a common finding across similar size rural and small communities in the U.S.*

    To understand why young adults choose to remain or leave rural and small communities, Von Reichert et al. (2011), interviewed more than 300 "stayers, outmigrants, and return migrants" from 21 different rural and small communities across the U.S. Key factors for staying or returning were related to family, employment opportunities, and community assets, including natural amenities

(Von Reichert, 2011; Cromartie, 2015). In a 2023 study by Temizkan, et. al, socio-cultural and socio-economic factors were found to be prominent determinants of life satisfaction during emerging adulthood. Socio-cultural factors include values, beliefs, behaviors, and interactions. Socio-economic factors include income, education, occupation, place of residence, ethnic origin or religious background, financial security, environmental factors, and subjective perceptions around social status and class (Von Reichert, 2011; Cromartie, 2015; Schmitt-Wilson, 2019; Ndiangui, 2021). Across the combined participant group from both Louisiana and Montana, social and geographic factors rated as highly important considerations, in some cases prompting respondents to assert they would consider a slightly lower wage or more flexible work environment as reasons to stay in the area for socio-cultural and place-based reasons.

3. While economic factors stand out as the reason students and early career professionals leave, economic incentives are cited as potential attractions to stay or return. *This is also a common finding across similarly sized rural and small communities in the U.S.*

A 2019 study of factors relating to young adults choosing to move to rural communities identified job creation, remote work opportunities, and broader awareness of economic incentives already available as opportunities for rural and small communities to attract and retain young professionals (Schmitt-Wilson, 2019). Salary, affordability, housing incentives, career development resources, and general awareness around job opportunities were also cited as key factors to promote (Rothwell, 2015; Schmitt-Wilson, 2019; Ndiangui, 2021).

Recommendations

Drawing on the findings and published research, the recommendations for our partner organizations landed in three categories: connect, promote, and accelerate.

1. **Connect**: Prioritize outreach to students at an earlier age and invest in programs that bring the community into schools throughout the various educational step-points, as well as support young professionals as they progress in their careers.
2. **Promote**: Shift perceptions and build awareness around STEM career paths, job opportunities, resources, and incentives that already exist in Louisiana and Montana.
3. **Accelerate**: Invest in new programs that incent students and young professionals to stay and expand the pool of collaborators invested in tackling the challenge of rural brain drain and building the pool of STEM-talent to meet local hiring needs.

Recommendation #1 (Connect): Prioritize outreach to students at an earlier age and invest in programs that bring the community into schools throughout the various educational step-points, as well as support young professionals.

Tactics:

1. Prioritize youth programs for K-12 schools.
2. Foster mentorships between college students and area leaders in tech/STEM fields.
3. Facilitate internships to build connections with STEM organizations and replace information heard from other sources with real-world experiences.
4. Support young professional programming and resources.

K-12 Youth Programs

Several participants noted gaining inspiration to pursue a STEM career in their high school or middle school years. They mentioned advanced placement STEM courses, robotics

classes, computer science courses, various clubs and organizations, and teacher recommendations as key influences:

> *"I'm very passionate about things that I learned. And I've kind of taken to physics a lot at school. And so that's been a big part of me deciding, hey, I'm going to do physics, because this is what I'm really passionate about"* (LA HS1).

> *"Really, truly, if I had not heard about that Java class on the announcements, I wouldn't be coding right now. I just wouldn't"* (MT EP1).

Most of those interactions, however, take place solely within the purview of the school, with little to no outside involvement. This isolation of information dissemination may lead to many of the misconceptions about STEM career opportunities in the two areas.

To combat this isolation and the resulting misconceptions, LEDA and Montana Jobs Network can facilitate increased community involvement in school programs and curricula or supplement with national programs targeting younger students to bring in additional perspectives on the technology opportunity from other communities (Diamond & Rosenfield, 2023; Drazan, 2020. Several nationally run programs, including YMCA and National Science Foundation, work in communities to foster similar programs, educating middle and high school-age students about STEM careers (YMCA.org, 2024; Red Pen Content Creator, 2024). Likewise, several states have programs acting as a bridge between area high schools and universities, offering real-world experiences in applied science fields through the universities (University of Tennessee, 2019; USC Dornsife, 2024). LEDA and Montana Jobs Network can build on the framework created by these organizations to improve the spread of information among young people in Lafayette, Louisiana and across Montana.

As a starting point, we recommend LEDA and Montana Jobs Network engage with area high school administrators to identify which high school(s) would be interested in partnering on

such a program. In Montana, the Kalispell School District is a likely candidate, given the success they have seen with the personalized, competency-based career and technical education (CTE) programs offered across Flathead Valley (Sagner, 2023). According to Kalispell Public Schools Director of Work Based Learning Mike Kelly, there are now more than 50 students in the program, with plans to expand after gaining approval from the Montana Board of Public Education in January 2024 to roll out charter schools at Flathead Valley High School and Glacier High School in the 2024-2025 school year (Matheson, 2024).

Within Lafayette Parish, we recommend beginning with an independent school, Episcopal School of Acadiana, and a public school, David Thibodaux STEM Magnet Academy. Both institutions have a STEM-focused curriculum. David Thibodaux STEM Magnet Academy engages students with real world problems in their STEM curriculum. The Episcopal School of Acadiana was named as one of the top 500 STEM high schools in the country in 2020 (Newsweek). Fostering relationships with both public and independent schools would encourage all demographics in the associated areas to participate in the program. Allowing for diversity of students in the program may lead to greater diversity in area STEM organizations, which could, in turn, result in a positive effect on those organizations as posited with cognitive diversity (Wang et al., 2016).

To benefit from programs tested in other geographies, we recommend LEDA and Montana Jobs Network embrace a Networked Improvement Community (NIC) mindset and apply learnings from other similar sized communities and organizations focused on youth-focused STEM programs. Example programs to consider include:

- **Center for Applied Special Technology** (CAST)

  CAST helps students explore STEM skills outside of everyday science and technology curricula and provides resources for teachers and students to learn about STEM fields and careers (Red Pen Content Creator, 2024.) The program requires students to maintain an online portfolio called a "STEMfolio" where all notes, research, and projects are maintained. These portfolios then offer potential employers a glimpse into the young person's background in STEM.

- **Reach Higher**

  Reach Higher offers programs to encourage all students in the U.S. to "take charge of their future" by providing information and incentives to pursue education after high school graduation, whether through a community college, four-year university, professional training program or certification program, or the military. (Reach Higher, 2024). Reach Higher Montana specifically offers information tailored for students in Montana and showcases young people telling stories in their own voice (Reach Higher Montana, 2024).

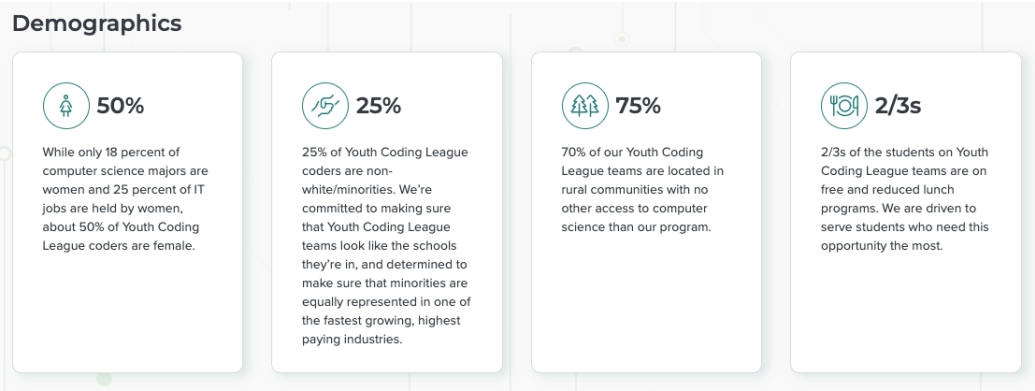
- **STEM Certifications: d.Tech Innovation Diploma**

  The d.Tech Innovation Diploma is an online credential program created by Design Tech High School in Redwood City, CA in partnership with Stanford University. Based on the design thinking methodology developed by David Kelley of IDEO and utilized by designers, engineers, and entrepreneurs, the Innovation Diploma program is available to educators and individual students to help students think about how to utilize design thinking techniques to problem solve and tackle problems large and small (DesignTech High School, 2024).

- **Youth Coding League**

  Youth Coding League is a youth coding program that aims to introduce coding to 5th- 8th grade students using a team sports environment. Each week, students apply a new coding concept and compete against themselves and other teams in a structured program that runs during the Fall and Spring semesters. “The computer science knowledge students learn in the Youth Coding League instill logical thinking and problem-solving skills, empowering students to take part in the digital workplace of the future” (Codefi, 2024)

Figure 8: Youth Coding League Demographics



(Source: Codefi, 2024).

Mentorships

As students progress through their educational journey, LEDA and Montana Jobs Network can further support students through mentorship programs. Both organizations are uniquely suited to connect business professionals in STEM-related roles with students. This may be through programs managed directly by the organizations or via partnerships with other entities in the respective communities. The organizations can curate a rotation of these professionals, setting up monthly visitation schedules at the interested, participating high schools, community colleges or universities. Hearing first-hand experiences from area professionals provides access to mentors who can serve as role models in various STEM-related

careers. Engagement with these mentors can also help to further dispel any misconceptions students may have about STEM career opportunities in the locations and may offer the professionals connections to possible future employees. Engaging with professionals may also have the added benefit of encouraging the young students to hone their own communication skills and practice how to communicate effectively with industry professionals (Giles et al., 2023; Williams & Garrett, 2012).

Furthermore, by creating mentorship programs for young people, particularly those in community colleges, four-year universities, and later years in high school, LEDA and Montana Jobs Network can help counteract any negative perceptions young people may have about the two locations and encourage them to forge their roots in the areas. These mentorships have been proven to have beneficial effects on the overall welfare of young people, acting as another source of encouragement to remain (Aschenbener et al. 2023).

Internships

According to social identity theory, a person can gain a sense of self based on group memberships (Hogg, 2001). As such, encouraging high school and college students to intern with local STEM organizations can foster that sense of belonging within the local STEM community. Young people may gain a sense of identity and purpose from these internships which are common benefits of social identity (Hogg, 2001). Furthermore, the teenage years are a cornerstone of social identity development, so beginning these internships and the aforementioned program at a younger age could result in new community perspectives (Montemayor et al., 1994).

In addition to developing that sense of community among young people, spotlighting internship opportunities or facilitating these internships directly can also provide LEDA and

Montana Jobs Network with a clear path of communicating more factual information about STEM opportunities in their respective areas. Similar to youth education programs, internships can serve as an effective way to further reduce misconceptions and incorrect information young people hear from other sources around the STEM opportunities that exist. Replacing or challenging some of those sources with voices from the actual STEM community could lead young people to see local opportunities available and forge their own views based on first-hand experience. With communication accommodation theory, supportive, meaningful communications that seek to adapt to the listener - in this case, the high school or college student - can pay dividends in developing a sense of community and acceptance (Soliz et al., 2022). Furthermore, this direct engagement and hands-on learning experience may help offset a feeling of being "left behind" some may experience in more rural communities (Clark et al., 2022).

Young Adult Programs

As early career professionals, building a network and continuing to foster mentorship opportunities remains important (Burgess et al., 2018; Clark, 2022; Lafleur & White, 2010). To strengthen relationships between area employers and early career professionals, and further debunk misinformation that exists around STEM career opportunities in the area, we recommend LEDA and Montana Jobs Network promote or introduce programs specifically aimed at those just starting or early in their careers in tech/STEM.

One exemplar program is Flathead Area Young Professionals (https://kalispellchamber.com/fayp/) which serves early career professionals ages 21-39 in Flathead County, Montana. While not solely focused on Tech/STEM, the group provides a support network for individuals who are in the early years of their professional careers and offers the opportunity for members to connect with community leaders and business owners.

Programming for the networking group include both leadership and professional development opportunities, as well as social gatherings and events focused on building and strengthening relationships within the community. Regular events include:

- Espresso Yourself: Monthly coffee gathering with local leaders, Federal legislators, and County Commissioners.
- Beer with the Boss: a quarterly happy hour with local CEOs to discuss how executives in the area have achieved success.
- After Hours: a monthly networking event with Chamber of Commerce members and local leaders.

Early career professionals in both Montana and Louisiana cited social factors among the incentives influencing their decision to stay in or leave a particular geography:

> *"I feel like the city does a pretty decent job about having like events and stuff. But, our downtown life is really only directed towards college students. I feel like the, you know, like the nightlife and the bar scene. Um, I feel like Lafayette just needs, it needs something for everyone. It needs something more for everyone"* (LA U4).

> *"Flathead was harder for me because the demographic is so different from my age group. Missoula is much more of a college town. [Flathead] is hard working, but more on the higher age scale of like retired or mid-career or senior career professionals"* (MT EP3).

The combination of both social engagement and professional development/networking is a model we recommend both communities consider to foster community and encourage connection across the young professional demographic.

Recommendation #2 (Promote): Shift perceptions and build awareness around STEM career paths, job opportunities, resources, and incentives that *already exist* in Louisiana and Montana.

Tactics:

1. Utilize storytelling techniques to connect with priority audiences.

2. Segment audience and develop an approach specific to each group: students, early career professionals, teachers, mentors, parents, employers, and donors/sponsors.
3. Segment communications by channel/format based on audience: websites, social media, job fairs, in-school career lectures, out-of-home content (billboards, community posters), local and national media, public service announcements, etc.
4. Align content to priority topics such as career pathways, job opportunities, existing incentives (i.e., tuition relief, housing options, relocation assistance), and other resources. Also prioritize content to debunk various misconceptions raised in the interviews (i.e., tech in Montana is lagging; cost of living is increasing disproportionally to other markets; etc.).

Storytelling

Our brains are wired to remember stories (Aaker, 2013). Stories are a powerful way to connect and engage with an audience; and, when complimented with data, stories are an effective way to propagate ideas (Aaker, 2013; Renken, 2020). According to Dr. Jennifer Aaker, Stanford Graduate School of Business, "*Stories are remembered up to 22 times more than facts alone*" (2013). By utilizing proven storytelling techniques, LEDA and Montana Jobs Network can help reshape perceptions around STEM career opportunities in Louisiana and Montana to help fuel interest in pursuing careers in STEM and debunk some of the myths voiced by participants in both markets.

Segment by audience and format

In planning a communications campaign, it is recommended that LEDA and Montana Jobs Network segment communications by audience. Priority groups include students, early career professionals, teachers, mentors, parents, employers, and donors/sponsors. While both

LEDA and Montana Jobs Network have existing communications channels, it is recommended that both organizations assess what channels will have the highest impact with each target audience. Potential channels to consider include websites, social media, job fairs, in-school career lectures, out-of-home content (billboards, community posters), local and national media, public service announcements, etc.

As a starting point, LEDA and Montana Jobs Network can leverage and build on existing communications channels to spotlight resources already in place and amplify opportunities in the two markets. Existing communications channels for LEDA include LEDA's website, channels on Facebook and LinkedIn, One Acadiana's website and newsletter, and Louisiana Small Business Development Center. Existing communications channels for Montana Jobs Network include the Montana Jobs Network website, the Montana Jobs Network Jobs Board, Montana High Tech Business Alliance newsletters, and the LinkedIn and Facebook channels. As LEDA and Montana Jobs Network consider channels to reach students and early career professionals, participants specifically mentioned frequenting TikTok, You Tube, Instagram, and several career-related websites (i.e., LinkedIn and Handshake), as well as job fairs, in-school career lectures, out-of-home content (i.e., community posters), and local and national media. Other channels to consider include billboards and public service announcements.

Align content to priority topics

Lack of information was cited consistently across participants in both Louisiana and Montana. Both LEDA and Montana Jobs Network are well suited to fill this information void and drive awareness around the STEM career opportunities that exist and potential resources and incentives available.

Topics raised by participants include information on career pathways, job opportunities, information on existing incentives (i.e., student loan relief, housing options, relocation assistance), and other resources (i.e., tuition incentives, start-up support). We also recommend prioritizing content to debunk various misconceptions raised in the interviews (i.e., tech in Montana is lagging; cost of living is increasing disproportionally to other markets); as well as stories highlighting successes and lessons learned from various community members who have built successful STEM careers. Utilizing different voices from across the community to highlight the social, geographic, and economic benefits of living in the two areas is also recommended and can serve as one approach to represent diverse perspectives.

As previously noted, access to tech jobs is both an incentive and a point of misinformation noted by participants. In mapping out the reality of the STEM opportunities that exist in both markets, spotlighting specific jobs available and employers is key. Both LEDA and Montana Jobs Network already have active job boards. To further shine a spotlight on the employment opportunities available, additional channels can be explored and the use of storytelling techniques to debunk misinformation or showcase specific job listings is recommended. With the rise of photonics opportunities in Montana, for example, Montana Jobs Network can publish a series of pieces that showcase potential career paths in photonics, education requirements, and specific employers actively hiring for these roles. Community spotlight pieces that detail the tech opportunity in various locations, specifically calling out companies and available roles, can also serve to highlight the diversity and breadth of opportunities available.

Recommendation #3 (Accelerate): Invest in new programs that incent students and young professionals to stay and expand the pool of collaborators invested in tackling the challenge of rural brain drain and building the pool of STEM talent to meet local hiring needs.

Tactics:

1. Embrace a Networked Improvement Community mindset.
2. Assess the ecosystem and prioritize new investments.

Embrace a Networked Improvement Community Mindset

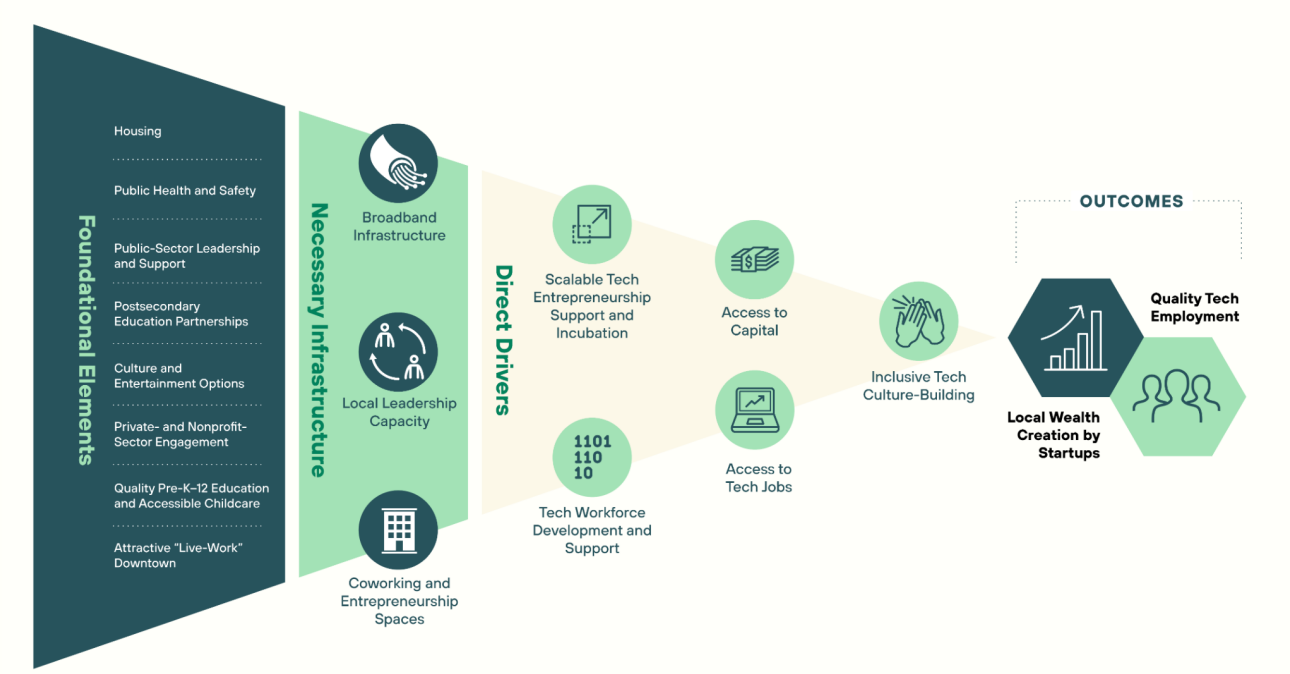
There is power in collaboration and embracing a networked improvement community (NIC) mindset can accelerate the resources and efforts aimed at addressing brain drain in Louisiana and Montana. Through this project, we've embraced this approach to share learnings and draw on input and experiences from similar-sized communities in the U.S. By considering NIC principles in our approach, this project offered an opportunity to collaborate, share learnings, and surface ideas that could lead to applied solutions for LEDA and Montana Jobs Network tested in another geographic location.

Asses the Ecosystem and Prioritize New Investments

As a next step, we recommend LEDA and Montana Jobs Network conduct an analysis to identify gaps across the partner ecosystem in each market. Winning the minds and hearts of students and early career professionals will take the time and talents of many. To maximize impact, it is important to understand the efforts already underway and where there are gaps to be filled. Utilizing input from the ecosystem assessment, LEDA and Montana Jobs Network can then prioritize where to take the lead to invest in new programs versus where ecosystem partners may be more appropriate to drive.

Organizations like Center for Rural Innovation (CORI), for example, may serve as an interesting partner to help guide this process. CORI works with rural and small communities across the U.S. to launch initiatives and programs that support workforce development, tech job creation, and entrepreneurship. CORI has developed a framework for tech-based economic development (TBED) and has outlined the foundational elements, infrastructure needs, and drivers communities must consider to foster a thriving tech economy ecosystem (See Figure 9).

Figure 9: Center for Rural Innovation Framework for Tech-Based Economic Development



(Source: Center on Rural Innovation, 2024).

Once the analysis has been completed by the organizations or with the help of an outside agency, LEDA and Montana Jobs Network can explore next best steps to partner or invest in the areas requiring attention. To address gaps related to economic misinformation, including wages, housing options, and start-up incentives, for example, LEDA can gain support from One Acadiana, and Louisiana Workforce Commission. LEDA can partner with LASTEM Advisory

Council to address gaps of awareness in the K-12 community. Finally, as many participants mentioned the work-life balance as an area of importance, LEDA can partner with Downtown Lafayette Unlimited to help build awareness of amenities offered and geared to young adults.

In Montana, Montana Jobs Network can collaborate with Flathead Valley Community College to promote programs such as Running Start which provides high school juniors and seniors with free tuition to earn college credits while still in high school (Flathead Valley Community College, Website, 2024). In the category of workforce development and employee support, Montana Jobs Network can showcase some of the robust benefits programs offered by local STEM employers such as Applied Materials, onX, and Zoot Enterprises who offer a range of employee benefits such as student loan repayment, tuition assistance, health and wellness benefits, discount programs for local services, relocation support, among others.

Summary and Future Considerations

Rural brain drain affects many geographic locations across the United States. For our project, we took a look at this challenge in our home states of Louisiana and Montana, specifically focusing on rural brain drain in STEM-related fields. Embracing the principles of improvement science and Networked Improvement Communities (NICs), our intent was to collaborate as a "colleagueship of expertise" (Bryk, et al., 2015; p. 9) and draw on perspectives from rural and small communities in Louisiana and Montana, as well as experiences from similar-sized communities in the U.S.

By considering NIC principles in our approach, this project offered an opportunity to collaborate, share learnings, and surface ideas that could lead to applied solutions tested in another geographic location. While our selected partner organizations, Lafayette Economic

Development Authority (LEDA) and Montana Jobs Network, do not formally operate in a NIC, through this project, we did find benefit to openly exchange data, compare viewpoints, and discuss potential solutions that could be applied in either or both locations.

The perceptions, factors, and incentives influencing the career and community choices of students and early career professionals in Louisiana and Montana were somewhat similar and supported findings from prior research conducted in similar-sized communities in the U.S. As the work to address brain drain in Louisiana and Montana continues, the opportunity exists to further this research and dive deeper into specific demographics (i.e., gender, tribal communities, etc.).

By addressing the misconceptions and incomplete information young people have regarding STEM opportunities in Louisiana and Montana, LEDA and Montana Jobs Network can affect change with rural brain drain in the two locations. The two organizations have resources in place for many of the recommendations suggested in this study and can leverage those resources as well as strengthen partnerships with other local organizations to provide the incentives and promote the opportunities available to young people intent on pursuing a career in STEM.

In addition to conducting a qualitative study with young people in the two areas, we also attended related conferences and engaged in multiple conversations with community leaders. The Center on Rural Innovation “Ideas to Impact” conference held May 2024 in Redwing, Minnesota noted the importance of developing STEM talent and investing in tech companies in smaller, more rural areas. Conference speakers referenced several successes rural communities have had with tech start-ups and building a strong technology-driven economy. At Growth Summit 2024 held in May 2024 in Kalispell, Montana, community leaders from across the state discussed

priorities and issues affecting Flathead Valley and specifically sought to discover what factors may be affecting growth of the area. The Big Towns conference held in April 2024 in Lafayette, Louisiana offered an opportunity to engage with similarly sized communities across the country and expert panelists discussed how best to address issues affecting smaller communities. Some of the topics included the importance of providing affordable housing, understanding the place of local media, and leveraging the arts and culture scene as a major attraction for young people. Finally, the 2024 Big Sky, Bright Future Summit, co-hosted by Montana governor Greg Gianforte and the Montana Chamber of Commerce in June 2024, focused on methods for recruiting businesses, manufacturing opportunities across the state, and strategies for improving childcare to retain young talent.

Throughout each conference, we spoke to panelists, community leaders, and attendees who noted similar concerns about young people leaving their respective communities to pursue careers in larger, more urban environments. We also heard from young people who often noted discrepancies in what they were told and what they perceived regarding STEM opportunities in rural areas. These conferences and conversations demonstrated a clear path for future opportunities of study, particularly if communities and organizations operate in a NIC as we have suggested for LEDA and Montana Jobs Network. Further studies into similarly sized communities may reveal grass roots efforts and real-world solutions currently in place, which can be implemented elsewhere to the benefit of rural communities and their young talent.

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Appendix A: Interview Questions by Analysis Group

Analysis Group	***Questions***
High school students	A. What is your perception of the STEM career opportunity and technology infrastructure in your location? B. How important are social factors (i.e., diversity, cultural experiences, family proximity) to your post high school plans? C. How important is geography/location to your post high school plans? D. How important are economic factors (i.e., job opportunities, medical access, housing, schooling) to your post high school career plans? E. What would most incentivize you to pursue your career in this geographic location (Lafayette/Montana)? F. What are some words or phrases that come to mind when you think about this location (Lafayette/Montana)? G. What might make you want to remain in this location? H. What might make you want to leave this location? I. What is your dream job/career? J. Who do you turn to for career planning, educational planning advice? (i.e., parents, family members, career counselor, professor, mentor, etc.) K. Where do you go for career planning, educational planning advice? (i.e., websites, books, newsletters, organizations, resources, etc.)
Community college students	A. What is your perception of the STEM career opportunity and technology infrastructure in your location? B. How important are social factors (i.e., diversity, cultural experiences, family proximity) to your career plans? C. How important is geography/location to your career plans? D. How important are economic factors (i.e., job opportunities, medical access, housing, schooling) to your career location decision? E. What would most incentivize you to pursue your career in this geographic location (Lafayette/Montana)? F. What are some words or phrases that come to mind when you think about this location (Lafayette/Montana)?

	G. What might make you want to remain in this location after you complete your program? H. What might make you want to leave this location? I. What is your dream job/career? J. Who do you turn to for career planning, educational planning advice? (i.e., parents, family members, career counselor, professor, mentor, etc.) K. Where do you go for career planning, educational planning advice? (i.e., websites, books, newsletters, organizations, resources, etc.)
Four-year university students	A. What is your current perception of the STEM career opportunity and technology infrastructure in your location? B. How important are social factors (i.e., diversity, cultural experiences, family proximity) to your career plans? C. How important is geography/location to your career location decision? D. How important are economic factors (i.e., job opportunities, medical access, housing, schooling) to your career location plans? E. What would most incentivize you to pursue your career in this geographic location (Lafayette/Montana)? F. What are some words or phrases that come to your mind when you think about this location (Lafayette/Montana)? G. What might make you want to remain in this location after you graduate? H. What might make you want to leave this location? I. What is your dream job/career? J. Who do you turn to for career planning, educational planning advice? (i.e., parents, family members, former teacher/professor, etc.) K. Where do you go for career planning, educational planning advice? (i.e., websites, books, newsletters, organizations, resources, etc.)
Entrant STEM professionals	A. What is your current job? B. What is your perception of the STEM career opportunity and technology infrastructure in your location?

	C. How important were social factors (i.e., diversity, cultural experiences, family proximity) to your career location decision? D. How important was geographic proximity/location in choosing your career location? E. How important are economic factors (i.e., job opportunities, medical access, housing, schooling) to your career location decision? F. What did or would have most incentivized you to pursue your career in this geographic location (Lafayette/Montana)? G. What are some words or phrases that come to your mind when you think about this location (Lafayette/Montana)? H. What factors led you to pursue a career in this location? I. What might make you want to leave this location? J. What is your dream job/career? K. Who do you turn to for career planning, educational planning advice? (i.e., parents, family members, former teacher/professor, mentor, etc.) L. Where do you go for career planning, educational planning advice? (i.e., websites, books, newsletters, organizations, resources, etc.)

Appendix B: Coding Summary

In addition to an examination of published research, we conducted a qualitative study to examine the decision-making process of entrant STEM professionals, four-year university students, community college students, and high school students considering careers in STEM fields in Louisiana and Montana. The geographic analysis groups consisted of 16 participants from Louisiana and 16 participants from Montana, for a total of 32 participants combined across both markets. The following section summarizes the interview results for each project question:

Project Questions

1. What **perceptions** exist among students and young professionals around the opportunity to pursue a technology or STEM-related career in Louisiana and Montana?
2. What **factors** motivate students and young professionals to stay in Louisiana and Montana to pursue tech or STEM-related careers?
3. What types of **interventions and incentives** are attractive to students and young professionals to reach them and attract them to stay in Louisiana and Montana to pursue tech or STEM-related careers?

Interviews were coded based on the following keywords and concepts: technology perceptions (tech industry perceptions, tech career opportunities, existing infrastructure); social considerations (social factors such as family proximity, community values, diversity, cultural experiences); geographic considerations (geographic characteristics; natural and manmade resources); and economic factors (housing, cost of living, medical access and healthcare, schooling, local economic health). Common themes and unexpected observations were discussed and are also noted below.

Perceptions

What **perceptions** exist among students and young professionals around the opportunity to pursue a technology or STEM-related career in Louisiana and Montana?

Perceptions of tech infrastructure, STEM opportunities, STEM careers

Perception	**Results & Quotes**
STEM career opportunities are **lagging** in this location. Combined total: **14** Louisiana (5) (LA U2; LA U3; LA U5; LA EP2; LA EP4) Montana (9) (MT CC1, MT CC3, MT U1, MT U2, MT U4; MT EP1; MT EP2; MT EP3; MT EP4)	**Results**: • **Montana is lagging** other places (9) (MT CC1, MT CC3, MT U1, MT U2, MT U4; MT EP1; MT EP2; MT EP3; MT EP4) • **Lafayette is lagging** other places (5) (LA U2; LA U3; LA U5; LA EP2; LA EP4) • **Not much "big tech"** (i.e., software programming) (3) (LA U5; LA EP2; LA EP4) • **Lagging Houston** but still doing well (LA EP4) • **Not great yet** but could be soon (LA U2) **Quotes**: • "…yeah, **Texas has a huge job market** for the industry. It's probably triple the size of Lafayette Louisiana. But Louisiana is in general we are pretty close there though." (LA U1) • "**Not great but could be soon**" (LA U2) • "I would say that that's **where we lack the most here in Acadiana is software available jobs**." (LA U5) • "**I don't think there's much when it comes to like big tech in Lafayette**. …there's not really much in terms at least software programming when it comes to like engineering and other STEM-related…fields." (LA EP2) • "He [my friend] knew he had to be away from Louisiana…I think he would love to be in Louisiana. But again, he's just like **there's nothing. I can't find anything**." (LA EP2)

	• "[Lafayette] is **lagging Houston** but still doing well" (LA EP4) • "I don't know if it's an unfair comparison. But it is that they're so close [Houston] that a lot of people from here seem to think that we have nothing, because they [Houston] got so much. So yeah, I think that I think that there are opportunities. But I think that that Louisiana, in general, it is kind of hard to find. **If you wanted to do something very specific [in STEM], you might not find it here.** (LA EP4) • "I don't really know software-wise what they have. But, um, **I would say this is where we lack in Acadiana is things like software**. We have a lot of hardware companies, like I mentioned earlier for petroleum and honestly a bunch of mechanical stem stuff so like mechanical engineering, and things like that. But, software, we really, really take a hit in software and it's to be expected. A lot of software jobs are remote and somebody doesn't need to be there physically because they're not developing a physical product. So, you can have a company based out of Silicon Valley, but all of their workers can be scattered around and outsourced everywhere else. So, I would say **that's where we lack the most here in Acadiana is software available jobs**." (LA U5) • **"[Montana] lags pretty far behind other places [in tech opportunities],** which is not surprising… There's just not much of a [tech] hub in Montana at all." (MT CC1) • "**I don't think the [tech] opportunity exists here** [in Montana]. At least not in the current state. In the years to come, maybe. I certainly would like to try to gain traction here, and maybe even create jobs in this area for the tech industry. I know I've met several people here who are passionate like myself, but the job market just doesn't exist, so it's certainly something that I would like to see grow here." (MT CC3) • "**Lack of a job market and opportunities** besides service industry, trades. It feels like a lot of just like agriculture and contracting work." (MT U1)

	• "From what I know, **there's less, specifically, mechanical engineering going on here than there is in, like Seattle or just bigger metropolitan areas**." (MT U2) • "**I don't really see a lot of opportunity.** Especially for those right out of college, there aren't a whole lot of options." (MT EP1) • **"At the moment, there are not a whole lot of options, as far as getting to code in the valley.** I've kind of accepted that. Maybe I'll just have to write SQL queries or something for the hospital." (MT EP1)
STEM career opportunities are **growing** in this location. Combined total: **17** Louisiana (12) (LA HS1; LA HS2, LA HS3, LA HS5, LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP2; LA EP3; LA EP4) Montana (5) (MT CC2; MT CC4; MT U1; MT U3; MT EP3)	**Results**: • **STEM opportunities in Louisiana are growing; primarily in medical and/or engineering** (10) (LA HS1; LA HS2, LA HS3, LA HS5, LA CC1; LA U1; LA U2; LA U5; LA EP3; LA EP4) • **Tech/STEM opportunities are growing in Montana** (5) (MT CC2; MT CC4; MT U1; MT U3, MT EP3) **Quotes**: • "**I definitely think we're on the upswing** [in Louisiana]. I think, you know, it's become more clear to me as I've grown up that, like, here's all these STEM opportunities, you should really be involved in STEM, you know; and that's, that's definitely been something I've noticed growing up." (LA HS1) • "I'd say from my perspective, at least, that **there are definitely opportunities** around. Like, for computer science, my cousin recently got a job with like the coastal erosion place in his computer science field, so it's kind of like a variety of stuff that more and more companies are using stem fields to accomplish their goals." (LA HS3) • "Grocery stores have an IT department. You know, schools have an IT department. Medicine does. It's such a diverse field…**the availability is massive**." (LA CC1) • "In this area [Lafayette], it seems like it's been a pretty good market that it's like an upcoming market. Seems like a been really popular, especially in tech world. **I'm here in Lafayette, it seems like it's blowing up and even in**

	the South in general. Seems like that's just where it's headed. And it's probably like that around everywhere but seems in the South especially." (LA U2) • "…**some particular areas of the STEM location around here, I think, is very saturated**. (LA U4) • "I would say that **in Acadiana there's really a lot**, you know. We have CGI, we have in Broussard, actually which I would consider Broussard Acadiana. There is a lot of not necessarily STEM, like what you would think of but petroleum STEM-related fields. We have a bunch of oil-related things that need STEM applications to help them drill for more oil. drill further and deeper." (LA U5) • "**We have a lot of hardware companies**, like I mentioned earlier for petroleum and honestly a bunch of mechanical stem stuff so like mechanical engineering, and things like that." (LA U5) • "...**if you want to get into oil and gas, I mean, it's pretty big**." (LA EP4) • "**The tech community is growing**. It's pretty good. And it's gotten a lot better over the years, too. That might be just due to the funds or investments other people make into the community itself. But overall, it's gotten a lot better over the years. And, appreciate it for, the people that invest the time to help that further along." (MT CC2) • "**I feel like it's definitely changing for the better** for the tech stuff because yeah, you just see it a lot more. And I know more people who have been to college now who are not planning on leaving the state." (MT CC4) • "**Isn't there like a new tech scene in Missoula** that's, like, flourishing right now? So, maybe that's changing [availability of tech job opportunities in Montana] (MT U1) • "The technical community at MSU is very rich." (MT U3) • "**I would say that STEM is one of Montana's most interesting career opportunities.** I'm thinking about like Montana Tech in Butte. There's a variety of engineering programs. Engineering, I.T., manufacturing, construction,

	technology, those are all really in demand. **There are a lot of STEM jobs available in Montana right now**." (MT EP3)
Unsure about the STEM career opportunities in this location. Combined total: **2** (LA HS3; MT U3)	**Results:** • **Unsure about the STEM career opportunities** in Louisiana and Montana (LA HS3; MT U3) **Quotes**: • "I guess my answer to that would be like, **I hope so**. Okay, I guess with like, the growth of AI does make me kind of think, okay, will a computer science degree be that useful in like the next couple of years? So that's like, a big reason why I also have, I'm planning on getting an accounting degree so that I can kind of have both, and hopefully be able to use both. So, I hope that it would be good, if like the market would be better, or not better. Be safe. By the time I got to college, but if it's not, I'll be okay." (LA HS3) • "I mean, **I don't know if I know**. I think that there are a lot. The whole idea of opportunities is you have to go find them. So, I guess the short answer is, I'm sure there's a lot more available than I know of. Kind of the vibe that I get from being here and keeping one eye open for opportunities is that there are a few industries that have a lot more opportunities. I've seen quite a bit in optics, photonics, drones. Obviously like HVAC. I'm not interested in HVAC, but there's this kind of like there's this thing going around the hourglass that like, oh, well, I'm just going to be doing HVAC anyway. Then I always tell people that I'll be a stay-at-home mom before I go into HVAC. So, I guess that that idea of really wanting a niche opportunity and not taking just any job that'll pay the bills." (MT U3)
Likely have to leave the state to pursue my desired career [in STEM]. Combined total: **8** Louisiana (3) (LA U5; LA EP2; LA EP4)	**Results:** • Likely have to leave Louisiana to pursue my desired career [in STEM] (3) (LA U5; LA EP2; LA EP4) • Likely have to leave Montana to pursue my desired career [in STEM]. (5) (MT CC1, MT CC3, MT U1, MT U2; MT EP2) **Quotes**:

Montana (5) (MT CC1, MT CC3, MT U1, MT U2; MT EP2)	• So, **luckily enough, we have Houston just a couple hours away. And that Houston, Dallas and Austin** are really blessings to me, because they have the companies that I would like to work for at just a couple hours away from where I grew up, and where I live now." (LA U5) • "He [my friend] knew he had to be away from Louisiana…I think he would love to be in Louisiana. But again, he's just like **there's nothing. I can't find anything**." (LA EP2) • "…**Lafayette or Acadiana is not huge for engineering**. I'm going to Houston. But there is still a lot [in Lafayette], especially if you want to get into oil and gas. I mean, it's, it's pretty big. (LA EP4) • "From what I know, **there's less, specifically, mechanical engineering going on here** than there is in like Seattle or just bigger metropolitan areas." (MT U2)
The **opportunity exists to chart your own career path** in this location. Combined total: **7** Montana (7) (MT CC2, MT CC3, MT U2; MT U3; MT U4; MT EP3; MT EP4)	**<u>Results:</u>** • The **opportunity exists to chart your own career path** in Montana (7) (MT CC2, MT CC3, MT U2; MT U3; MT U4; MT EP3; MT EP4) **<u>Quotes:</u>** • "I like to be optimistic about the idea of just…there are opportunities. **There are opportunities out there if you go and find them.** And just the idea of you never know the next door that's going to open or what's going to pop up. So, I'm hoping between just being strategic and keeping an eye open and then also trying to make my own opportunities in some ways. But between those strategies, I will find my way, hopefully, open up." (MT U3) • "I'd say starting and building a career in Montana, when it comes down to it, is just as feasible as starting or building a career in larger cities or other states. I think where people can get hung up on is that you do have to look a little harder to finding opportunities in Montana. The communities are just a lot more spread out. But if you truly want to work in STEM or tech in Montana and have a career, it just comes down to how much effort you're willing to put into your research and to just know perseverance is key. Like **there are opportunities. You just have to do a little more digging**." (MT EP3)

	• "I think they're abundant here. I think it's just like the way that you think about them. It's all about your mindset. **This is a place where if you want to do it, you can.** You just have to be persistent and self-directed and open. A job isn't going to be handed to you. If you're set on thinking that the only science job you can have is in working in a massive lab for a major pharmaceutical company, you might need to move to a different location. But, if you open your mind, you'll see there are quite a few opportunities with our universities, bio tech start-ups, even the park system. We have the rivers and the mountains and the natural resources, but we also have a growing STEM community. It may not be as big as other areas, but there's abundance here in a lot of different ways. **I think sometimes you just have to change your mindset to find those ways and to find those opportunities**." (MT EP4)
Strong technical/STEM community at area colleges/universities Combined total: **4** Montana (MT U2, MT U3, MT U4; MT EP1)	**Results:** • **Strong technical/STEM community** at Montana schools/colleges/universities (4) (MT U2, MT U3, MT U4; MT EP1) **Quotes:** • "The technical community at MSU is very rich." (MT U3) • "I love, I love **MSU**. I love the engineering program." (MT U3) • "A lot of this is about our community. If there wasn't a community, you know, a teacher at the college who was willing to go through the extra effort to drive down to the high school, like four times a week and work according to the high school schedule. Professionals in the community that would come into our classrooms and talk about their jobs or worked with our professors to get us internships. I wouldn't be doing this. **It is just a really, really amazing thing that we have such dedicated people in the community and that we have people that are like I'm excited and interested in technology and they want to share it with students."** (MT EP1)
Limited information about STEM career opportunities in this location.	**Results:**

Combined total: **17** Louisiana (6) (LA HS1; LA U3; LA EP1; LA EP2; LA EP3; LA EP4) Montana (11) (MT HS1, MT CC1, MT CC3, MT CC4, MT U1, MT U3; MT U4; MT EP1; MT EP2; MT EP3; MT EP4)	• **Limited information** about STEM jobs/tech careers in **Lafayette** outside of very specific fields (6) (LA HS1; LA U3; LA EP1; LA EP2; LA EP3; LA EP4) • **Limited information** about tech job/STEM career opportunities in **Montana** (11) (MT HS1, MT CC1, MT CC3, MT CC4, MT U1, MT U3; MT U4; MT EP1; MT EP2; MT EP3; MT EP4) **Quotes:** • "**I think the exposure is getting better.** There's more exposure to it [what is happening in the tech sector] now and there's more of the thought that there is real change happening. I want to say like last year, beginning of last year, I feel like I'm hearing more about the Flathead. There is more of that stuff coming through. I think we're getting more exposure." (MT CC4) • **[Tech/STEM Job Opportunities in Montana]** "I mean, I don't know if I know." (MT U3) • "Kind of the vibe that I get from being here and keeping one eye open for opportunities is that there are a few industries that have a lot more opportunities. I've seen quite a bit in optics, photonics, drones. Obviously like HVAC. I'm not interested in HVAC, but there's this kind of like there's this thing going around the hourglass that like, oh, well, I'm just going to be doing HVAC anyway. Then I always tell people that I'll be a stay-at-home mom before I go into HVAC. So, I guess that that idea of really wanting a niche opportunity and **not taking just any job that'll pay the bills." (MT U3)**
STEM **wages in this location are lower** than other locations. Combined total: **7** Montana (7) (MT CC1, MT U1, MT U2, MT U4; MT EP2; MT EP3; MT EP4)	**Results**: • **Tech/STEM wages** in Montana are lower than other places (7) (MT CC1, MT U1, MT U2, MT U4; MT EP2; MT EP3; MT EP4) **Quotes**: • "People **in Montana [in STEM jobs] don't make very much** in relation to basically any other state." (MT U1) • "The jobs that are here just really don't pay nearly as well as in Washington. I'm not sure why that is, but **I know people that were getting job offers for almost half of what the job offers are like in Seattle or California or**

	on the East Coast. So, I think the pay is a lot less competitive here. And, **I think they're (companies) are counting on the fact that everyone that graduates is in love with living here and willing to work for substantially less** money just to continue living here for an extra couple of years. But, yeah, the industry is growing here. But **it's getting more and more expensive than in other areas**." (MT EP2)
Limited opportunity for remote work/flexible work in STEM [in this location]. Combined total: **2** Louisiana (LA U2; LA EP1)	**Results:** • **Limited opportunity for remote work/flexible work** in STEM (2) (LA U2; LA EP2) **Quotes:** • "Not as many companies have a need for remote workers" (LA U2) • "I don't know if there's anything that the employers can do because the job location seems already kind of set up. [In this field] it's not like you really get to choose." (LA EP1)
More candidates than jobs. Combined total: **4** Louisiana (2) (LA U4; LA EP2) Montana (2) (MT U3; MT U4)	**Results:** • **More candidates than jobs** (4) (LA U4; LA EP2; MT U3; MT U4) **Quotes**: • "I would have to say the first thing that comes to mind when you ask that question would be that **there are some particular areas of the STEM vocation around here, I think, is very saturated**." (LA U4) • "I am thinking, **do I have to get out of software and programming and get back into my mechanical engineering side [to stay here]**? (LA EP2) • "So now there's a lot of really experienced tech people out who have been in tech for a long time. And there's a lot of people that are now open to work in tech. This is more of like a problem with like, younger guys like me, **it's hard to get into some bigger tech jobs because you have these guys coming from Google and stuff looking for work**." (LA EP2) • "I definitely feel like the businesses and the local tech community is farther off than what it is like in the

	research and on campus and whatnot. If you think about supply and demand, I feel like there's a million engineers in Bozeman and a million eager students who want a job and want a job right here. And so, **I feel like the companies around have students just, like, flowing**. But then from a student standpoint, I do think it is challenging to find those companies and to connect with them in any kind of meaningful way where you're not just like one more anxious student who wants a job. Especially if I'm not someone who's willing to just take the first decent paying job that comes around. If I'm really passionate about a job that feeds into a specific career goal. It's harder to find those companies and get connected with somebody who wants to talk to me. I'd say like the easiest connections are through professors and they're connected to research and they're connected to people who are giving them money, which are more likely national labs and large organizations than small local companies." (MT U3) • **"**One of the more difficult decisions we're seeing here is the cost of living here is pretty high. And I know a lot of the mechanical engineering jobs aren't paying quite as high as some of the other areas I was looking. And that's just because since there's the school here, **they have so many kids graduating that there's a high demand of kids and a lower demand of jobs,** so they just don't pay as well as they should be for the cost of living." (MT U4)
Perception of the technology infrastructure in this location.	**<u>Results:</u>** <u>Cell/mobile service:</u> • Sufficient (8) (MT HS1, MT CC3, MT CC4, MT U3, MT EP1, MT EP2; MT EP3; MT EP4) • Getting better; still need to address in more rural areas (2) (MT U1, MT U2) <u>High speed internet:</u> • Sufficient (6) (LA HS3; MT HS1, MT CC1, MT U1, MT U3, MT U4) • Better but still need to address in more rural areas (10) (LA U2; LA EP2; MT CC2, MT CC3, MT CC4, MT U1, MT EP1, MT EP2; MT EP3; MT EP4)

	• LUS Fiber has lots of promises but has met with lots of struggles/difficulties in Louisiana (3) (LA EP2, LA EP3, LA U2) • Starlink has a made a difference in rural areas (3) (MT CC2, MT CC3; MT EP4) • [High speed internet] Available at local library (MT CC2) <u>Other:</u> • Not much infrastructure of "big tech" beyond oil field [i.e., software programming] (3) (LA U5; LA EP2; LA EP4) • Limited technology resources [stores, services] in our community (2) (MT HS1, MT CC4) • Solar power at home creates limits (MT CC3) **<u>Quotes</u>**: • [Technology infrastructure] **"**It's getting better. **Starlink has made a huge difference** and most areas now have CenturyLink or Spectrum internet. Cell service can be spotty in the park or on the mountain but otherwise its pretty good. I'm able to work from home when I need to just fine. There's probably more to do on in the more rural areas like Olney or Eureka or the reservations. But, **it's definitely getting better**." (MT EP4) • "Good. **Seeing fiber coming into neighborhoods**" (MT U2) • "**As long as that money is really not here, or really not being put towards infrastructure, I don't see tech jobs really**. …increasing the funding and increasing the infrastructure is going to bring more people into the industry and the tech would blow up a little more down here." (LA EP2) • "I think **Montana lacks technology** in a couple aspects, like EV charging networks." (MT EP2)

What words or phrases come to mind when you think about this location?

Perceptions – Louisiana [Lafayette/Acadiana]

Geography/Natural amenities Louisiana (4) (LA HS1; LA HS1; LA U5; LA EP1)	**Results**: • Natural resources/amenities (4) (LA HS1, LA HS1, LA U5; LA EP1) • Outdoor recreation; access to water amenities for boating, fishing, canoeing, kayaking (3) (LA HS1, LA HS1, LA U5)
Family/Community Louisiana (11) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1, LA U1; LA U2; LA U3, LA U5; LA EP3)	**Results**: • Strong sense of community (9) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U5; LA EP3) • "Home" (3) (LA HS5; LA U1; LA EP3) **Quotes**: • "A lot of people come back because **it's home**. That's just really what brings people back." (LA EP3) • "Growing up here, I mean, I've lived here my entire life [in Lafayette]. So, **I know the people I know the area, I know the community. And I know how to accommodate for that community and how to benefit that community.** And just being here ensures that I stay a part of that community." (LA HS5) • "**There's just something about Lafayette that feels correct.** Because we're not in the middle of nowhere, you know? Yeah, we're not middle of nowhere bumpkin. We're a college town, not an overcrowded big city. You can safely walk down the sidewalks in Lafayette to get from point A to point B if that's what you want to do." (LA U1) • "Some people think Lafayette is not the end all be all, right. And like I said, **we each kind of have our own perspective there and we kind of have our own opinions. And it's really just it's a matter of your perspective how you grew up here**, the experiences that you've had we've all experienced different things." (LA U1)
Quality of life	**Results**:

Louisiana (13) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP3; LA EP4)	• **Louisiana [Lafayette/Acadiana] offers a good quality of life** (13) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP3; LA EP4) • **Culture/customs** (Festival International; customs; Cajun customs; food; Southern hospitality) (10) (LA HS2; LA HS3; LA HS4; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP4) • **Community-oriented** (9) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U5; LA EP3) • **Balanced** (LA U5) **Quotes**: • "I like I like to say **balanced**. We have a smalltown aspect to us, but we are really balanced. So maybe a small town would just be a college town. But we have a college, we have thriving businesses. We have great surrounding areas, great local food, and great tourist attractions. So not only are we a small town, but we also have these, these other things going for us as well, that really keeps us balanced as a community here. And you can't get bored." (LA U5)
Shared values/priorities Louisiana (12) (LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1;LA U2; LA U4; LA U5; LA EP1; LA EP2; LA EP4)	**Results**: • **Cajun culture** (10) (LA HS2; LA HS3; LA HS4; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP4) • **Diversity** (5) (LA HS5; LA U1; LA U4; LA U5; LA EP2) **Quotes**: • "**As far as Lafayette goes, especially at UL, I feel like there's also a lot of encouragement for diversity in STEM fields**, we really encourage female, female presentation in STEM fields, and there's a bunch of different clubs, and clubs, organizations and scholarships for people of color." (LA U1) • "I feel like **everywhere you go around here is so diverse**" (LA EP4)
Economy/cost of living Louisiana (8)	**Results**:

(LA U1; LA U4, LA U3, LA U1, LA HS2, LA U5; LA EP2, LA EP3)	• Cost of living is **more affordable than other places** (8) (LA U1; LA U4, LA U3, LA U1, LA HS2, LA U5; LA EP2, LA EP3) • Specifically compared to Austin, Houston, and New Orleans (2) (LA U1; LA U5) • **Cost of living is rising** (LA U5) • **Not the best time economically** (LA U5) **Quotes:** • "So obviously, there are some economic factors that are going to tie in to why I choose to live in Lafayette because **if we were in an area like California, where It cost me literally like my left leg every single month just to be able to pay rent**, like, oh, I wasn't able to pay rent this month. So the landlord literally took my toe. That sort of situation, I'm not sure I'd be so eager to stick around." (LA U1) • "You know, **right now is not the best time economically**. What I would be looking for is somewhere where the land isn't so expensive because I would want to move somewhere and have a lot of land. That is, that is a big factor to me. And public school accessibility. I went to public school growing up, and I don't see anything wrong with public school." (LA U5)
Education Louisiana (2) (LA HS1, LA HS2)	**Results:** • Public education not up to standard, has a bad reputation (2) (LA HS1; LA HS2) • Some students do not take academics seriously (LA HS1) • Culture is different at private schools (culture of valuing education, prioritizing learning) (LA HS1) **Quotes**: • "Just knowing what I know about our education system, especially here in Louisiana, it's you know, **we're definitely not up to standard in a lot of ways** and so I think that probably would lead to having some hindrances of, you know, students getting into STEM related fields." (LA HS1)

	• "**There's the people who are achieving things and are like really taking their academics seriously. And there's the people who just don't care at all**, and just kind of getting by, and then they go back to their farm. Some of them don't even go to college, they go back to the farm, and then they work the farm with their families and stuff. And good education really isn't a big priority. Whereas there's a few students that their education is a very big priority. And just now as a high schooler, if you grow up in that environment, where it's either your one or the other, you're either a farmer, and you don't educate yourself, or you're, you know, a student, and you're educating yourself, why would you stay in that environment, when you can leave, and go to an environment where everybody's trying to educate themselves, everybody's looking for this high achievement? So, I think maybe if we could foster a culture in schools, not to toot ESAs horn, but you know, a culture like ESA where education is very important. And not everybody's brilliant here. But the culture is, you know, try and learn something, you know, it's important to learn something. And **if you could foster that culture in schools across Louisiana, because I know schools are dying to have that culture, they're just yeah, they're, and if that could be fostered, I think that would help**." (LA HS1) • "**So having been through all those different schools, I know that I know what good schooling can do.** And I know what bad schooling can do. And so I think that would be a very big factor in where I would live, especially if we decide you're gonna go the public schooling route, look into the different public schools, where am I at? What's my district, stuff like that? So that would be a source of concern for me if I was here in Louisiana, just because **I know the bad reputation that some public schools have**." (LA HS1) • "**Louisiana doesn't have, like, super great education**." (LA HS2)
Place/location	• "**It would take a lot from New Orleans and Houston to get me to choose [moving] away** from Baton Rouge or Lafayette" (LA U1)
Issues in Louisiana	**<u>Results:</u>**

Louisiana (4) (LA HS1; LA HS2; LA EP1; LA EP2)	• Poor education system (2) (LA HS1; LA HS2) • Competitive job market; limited job market (2) (LA EP1; LA EP2) • Lack of investment in infrastructure (LA EP2) **Quotes:** • "Just knowing what I know about our education system, especially here in Louisiana, it's you know, **we're definitely not we're not up to standard in a lot of ways** and so I think that probably would lead to having some hindrances of, you know, students getting into STEM related fields." (LA HS1) • "**I don't think I'd ever move back here.** Just because like, I don't really have any connections here once like my family leaves. And then like, Louisiana doesn't have like, super great education. And they don't really have like, good, like, a good health care system. Okay, and like, they're kind of like, behind as far as like modern technology, unless you're like, in Baton Rouge or like New Orleans." (LA HS2) • "**I don't know if there's anything that the employers can do [to attract early career professionals**] because the job location seems already kind of set up. [In this field] it's not like you really get to choose." (LA EP1) • [Investment in infrastructure] "Even if you don't want to live in the city, you live in a little bit outside the city. People won't mind if the infrastructure is nice. …nice **infrastructure will keep people in**, and with an increase in infrastructure, you're going to need more jobs." (LA EP2) • [Competitive job market] "So **now there's a lot of really experienced tech people out who have been in tech for a long time**. And there's, there's a lot of people that are now open to work in tech. This is more of like a problem with like, younger guys like me, **it's hard to get into some bigger tech jobs because you have these guys coming from Google and stuff, looking for work**." (LA EP2)

	• "**As long as that money is really not here, or really not being put towards infrastructure, I don't see tech jobs** really. …increasing the funding and increasing the infrastructure is going to bring more people into the industry and the tech would blow up a little more down here." (LA EP2)

Perceptions – Montana

Geography/natural amenities Montana (4) (MT HS1; MT CC2; MT CC3; MT U1)	**<u>Results</u>:** • **Outdoor activities** (hiking, floating, fishing, skiing, mountain biking) (4) (MT HS1; MT CC2; MT CC3; MT U1) • **Nature** and **proximity to parks** (MT HS1) • Geographically **big** (2) (MT HS1; MT CC3) **<u>Quotes</u>:** • "**Everything I like to do is here"** (hiking, floating, fishing, skiing, mountain biking) (MT HS1) • "This place is really big. Not big as in a lot of people. **A lot of space**." (MT HS1) • "**Outdoorsy**." (MT CC2) • "I love the **mountains**. **Glacier National Park** is amazing." (MT CC3)
Family/Community Montana (8) (MT HS1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4)	**<u>Results</u>**: • **Family-oriented; community-oriented** (8) (MT HS1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4) • **Nice** people; **friendly; welcoming** (4) (MT HS1, MT CC2, MT CC3; MT U1) • **Traditions/customs** (festivals, farmers markets; downtown activities, football games, Winter Carnival) (3) (MT U1; MT U3; MT EP4) **<u>Quotes</u>**:

	• "It's a lot more **personable**. I know my neighbors." (MT CC3) • I love how **welcoming and good for raising a child Missoula is** because we have a child, so I want a community that feels that way." (MT U1) • "Well, **I love just the community** [Missoula] in general. Like, I love! We did the Wild Walk parade this year, which everyone dresses up in crazy animal and plant costumes, and it's just, like, it's really awesome. Missoula's always doing stuff like that. Or, you know, having like a family bike ride or there's free festivals in the park, like every, every week. And, the River City Roots Festival that they put on and the river goes right through it. We can go hiking and stuff. It's just a great community. And, I feel like Missoula does a good job at, like enriching the community with events." (MT U1) • "The people are just **friendly** here. More willing to just say hey, how's it going? Like on the street. And I like that aspect a lot." (MT EP2) • "[Missoula is] very **community oriented**. Also, very dog friendly. **Hardworking** as well. I think everyone has this mutual respect for one another. No matter what career they're working in, **everyone's just interested in helping each other succeed**." (MT EP3)
Quality of life Montana (5) (MT HS1; MT CC1; MT CC2; MT CC3; MT U1)	**<u>Results</u>**: • **Montana offers a great quality of life** (5) (MT HS1; MT CC1; MT CC2; MT CC3; MT U1) • **Slower pace** (2) (MT HS1, MT CC3) • **Outdoor activities** (MT HS1) • "**Rapidly changing**" (MT CC1) • **Engaged community** (MT U1) **<u>Quotes</u>**: • "**Everything I like to do is here"** [floating, fishing, skiing, mountain biking, hiking] (MT HS1)

	• "**Nature.** Mountain biking. **Slow pace**, but I don't really like big cities. Really nice people. Big. This place is really big. Not big as in a lot of people. A lot of space. And, I like that." (MT HS1) • "I really like the **quiet, slower pace**" (MT CC3) • "**Everything we love to do is here**. Skiing and camping, anything outdoors. We're right near Glacier and really close to Canada. Everyone here is super active and always outdoors. I actually just did my first half marathon which was really cool. And, yeah, the community. This place is definitely **community oriented**. There are **so many festivals and local activities**. Even in the winter. We have this one annual event called Winter Carnival that is ridiculous but so much fun. In the middle of winter, you're ready for something social and the Winter Carnival really brings the town together. In Seattle, people wouldn't even look at me or say hello walking down the street. Everyone here is just **super friendly**, genuinely friendly. Oh. And, **farmers markets**. They start back up again in a few weeks. I absolutely love the farmers markets." (MT EP4)
Shared values/priorities Montana (9) (MT HS1; MT CC1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4)	**Results**: • **Family-oriented** (8) (MT HS1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4) • **Community engagement** (3) (MT CC1; MT U1; MT U3) • **Mission-driven** (MT U1) **Quotes**: • "I love how **welcoming** and **good for raising a child** Missoula is because we have a child, so I want a community that feels that way." (MT U1) • "[Missoula] has **culture of wanting to do good things**." (MT U1) • "A lot of us really **care about the environment** and like being one with nature." (MT U1) • "[**Community] engagement** is a shared value" (MT U3)
Small town	**Results:**

Montana (5) (MT HS1; MT CC1; MT CC2; MT CC3; MT CC4)	• Small town (5) (MT HS1; MT CC1; MT CC2; MT CC3; MT CC4) • Not overly populated (2) (MT CC1; MT CC3) • No traffic (MT CC3) **Quotes:** • **I don't have to get gridlocked** on my way to work. It's a lot easier for me to go home and think and be creative." (MT CC3) • "**It's definitely small town**. You've got good opportunities for a small town, but at the end of the day, it feels like a small town. And you've got to make trade-offs for that." (MT CC4)
Economy/Cost of living Montana (5) (MT HS1; MT U1; MT U4; MT EP2; MT EP4)	**Results**: • Rising, high cost of living (5) (MT HS1; MT U1; MT U4; MT EP2; MT EP4) **Quotes:** • "It is **getting so expensive** around here. I don't think I can make enough money to live here." (MT HS1) • "The **cost of living** in relation to how much money we make is crazy, especially when it comes to housing. Knowing that **buying a house will never be in the cards** for us here…that's a big deal." (MT U1) • **"**One of the more difficult decisions we're seeing here is **the cost of living here is pretty high**. And I know a lot of the mechanical engineering **jobs aren't paying quite as high** as some of the other areas I was looking. And that's just because since there's the school here, **they have so many kids graduating that there's a high demand of kids and a lower demand of jobs, so they just don't pay as well as they should be for the cost of living.**" (MT U4) • "**My rent will actually be cheaper moving into downtown Seattle** than it currently is in Bozeman." (MT EP2) • **"The cost of living and housing prices are definitely a concern**. We don't want to leave and will make it work

	but prices are starting to get really steep. We don't want to leave. We'll figure it out." (MT EP4)
Place/Location	**<u>Quotes:</u>** • [Bozeman] "**I'm super thankful every morning that I wake up that I live in gorgeous Bozeman, Montana**. I love the mountains. I love the people. I love that it's not a big city. I love kind of like, the country vibes. I think the American dream is to live here. I love, I love MSU, I love the engineering program. I find myself ten times a day, just like very small little things that pop up that I'm just thankful that I'm in Montana. Like there was they have a good, like, music program here at Montana State and in the Engineering building on Fridays at 1 p.m. they have random like instrumental music playing just because they are doing like a it's part of the music program or something. And but it's just like a treat, I feel like there's just treats everywhere in Bozeman. I love it here." (MT U3) • [Bozeman/Dream location] "It would be somewhere that has…I mean, something like Bozeman. I would say **it's not as necessarily the dream place though because it doesn't have as many job options in terms of numbers**. So, it's just it would be harder. But in terms of like location, access to the outdoors, but then also living in a small city still and not just being in like a totally remote mountain town. It's pretty great for that. Because I have lived in some mountain towns, or at least spend some time there, and it's harder to do things sometimes than it is in Bozeman. Bozeman has a lot so it's very easy to live in. So, I guess some place that's livable, like in terms of amenities but that also has really close access to the outdoors. Because that's what I love, getting out in the mountains." (MT U2) • [Flathead Valley] "I **felt more isolated as a young adult in the Flathead Valley** than I do in Missoula because I felt like a lot of the groups were people either mid-career level or senior level. I didn't really feel like there was a strong just beginning entry level group of young professionals like myself. But that being said, I feel like you could find some good mentors in the Flathead because of that." (MT EP3)

	• [Flathead Valley] "Flathead was harder for me because the demographic is so different than my age group. In Missoula, being a college town, I feel like I fit in a lot easier than Flathead. I would say **[Flathead] is also hard working**, but more on the higher age scale of like retired or mid-career or senior career professionals. Whereas Missoula feels more like everyone's kind of just getting started together. I would also say **Flathead also feels like it's growing and changing, which is exciting and cool**." (MT EP3) • [Missoula] "**I really enjoy the welcoming and open-minded Missoula community.** With Missoula being a college town, I like the demographics in that there are a lot of people my age to connect with and I think **there's just a bit more opportunities career-wise in Missoula** just because by nature it's a larger city than Kalispell, for example." (MT EP3) • [Living in Montana] "Montana is all I know. I love the mountains. The hiking. Glacier National Park is amazing. I like the lower population. It's not overly dense. It's a lot more personable. And I can, you know, I know my neighbors. I don't have to get gridlocked on my way to work. I really like the quiet, a slower pace that exists here. It's a lot easier for me to go home and think and be creative." (MT CC3) • [Living in Montana] "Nature. Mountain biking. Slow pace, but I don't really like big cities. Really nice people. Big. This place is really big. Not big as in a lot of people. A lot of space. And, I like that." (MT HS1) • [Living in Montana] "**Everything we love to do is here.** Skiing and camping, anything outdoors. We're right near Glacier and really close to Canada. Everyone here is super active and always outdoors. I actually just did my first half marathon which was really cool. And, yeah, the community. This place is definitely community oriented. There are so many festivals and local activities. Even in the winter. We have this one annual event called Winter Carnival that is ridiculous but so much fun. In the middle of winter, you're ready for something social and the Winter Carnival really brings the town together. In Seattle, people wouldn't even look at me or say hello walking down the street. Everyone here is just super

	friendly, genuinely friendly. Oh. And, farmers markets. They start back up again in a few weeks. I absolutely love the farmers markets." (MT EP4)
Job opportunities/job resources Montana (7) (MT CC2; MT CC3; MT CC4; MT U3; MT U4; MT EP3; MT EP4)	**Results:** • Rich technical community (5) (MT CC2; MT U3; MT U4; MT EP3; MT EP4) • Easy to connect, network (3) (MT CC2; MT EP3; MT EP4) • Unique job opportunities (2) (MT CC3; MT CC4) • Growing tech community (MT CC2) **Quotes**: • "**The tech community is growing**. It's pretty good. And it's gotten a lot better over the years, too. That might be just due to the funds or investments other people make into the community itself. But overall, it's it's gotten a lot better over the years. And, appreciate it for, the people that invest the time to help that further along." (MT CC2) • "Being in the Northwest region forest fires are a pretty common occurrence. And, one of the opportunities that I got introduced to, through a local friend of mine and also some contacts at the college, was working as an **IT support technician for the wildland fire division**. It was a really exciting opportunity that opened up over my time at college, and it helped me pay for most of my college. Through the summers, I was able to get on board with one of the Northern Rockies teams and travel around this region to set up incident, command centers out there in the middle of fields and work on getting them internet, getting their computers up and running, making sure the printer stayed functional, all the fun night work. And I did it as my primary job prior to ever even getting into programing, which is definitely more my passion. So that was one, unique opportunity that came out of being here. I don't think I would have come across that anywhere else." (MT CC3) • "**I have a job set up in Bozeman, at Kaufmann Engineers**, and I'll be doing **fire protection engineering"** (MT U4) "There are smaller companies here, but then there are the large companies, like Oracle, and then

	obviously all of the companies in Bozeman. I'm trying to take advantage of remote opportunities just because working remote is so nice now. But the fact that those opportunities exist is a big deal for me." (MT CC4) • "I guess I would only say that we feel very fortunate to be here and think **this place is just getting started**. It's **growing a lot** and I know there are people who are not happy about that, but I think it will bring a lot of opportunity to the area, including jobs to the area. I'm **excited about the opportunity** and we're trying to get involved to help shape the growth. There was actually a growth conference in Kalispell recently and I think it is cool that the community is talking about this stuff. The Chamber is also trying to get young professionals more involved which is cool." (MT EP4) • "**The tech community is growing**. It's pretty good. And it's gotten a lot better over the years, too. That might be just due to the funds or investments other people make into the community itself. But overall, it's it's gotten a lot better over the years. And, appreciate it for, the people that invest the time to help that further along." (MT CC2) • "I think **it's really easy to get plugged in and connected** because it's not so large and intimidating." (MT EP3) • "The technical community at MSU is very rich. **Professors are super invested**. There's lots of exciting projects going on, and so that pulls in kind of like the smart, passionate students. And then it kind of just becomes this web of excitement over cool opportunities and cool technology and kind of this hub of knowledge. And I think because **the program here has as many resources and connections** as it does, it really attracts, and motivates those super smart students. I think it just provides really good opportunities that are really exciting. And so people get really motivated, people get really invested. And. It just kind of grows from there." (MT U4) • "It is just **easier to make connections**." (MT EP4)
Issues in Montana **Montana** (7)	**<u>Results</u>**: • **Limited exposure** to tech job/career opportunities (4) (MT HS1; MT CC1; MT CC3; MT U1)

(MT HS1; MT CC1; MT CC3; MT U1; MT U2; MT U3; MT EP2)	• Montana is **rapidly changing** (2) (MT HS1; MT CC1) • **Poor attitude against those from out of state** (2) (MT U1; MT U2) • **Low wages** (MT U1) • **Poor technology infrastructure** (MT U1) • **Archaic ideas**; slow to adopt new things (MT U1) • **Conservative** (MT U1) • **Limited exposure to tech/STEM** in high school (MT U2) • **Hard to connect with local STEM employers** (MT U3) • **Montana is large**; long distance between towns (MT EP2) **<u>Quotes</u>**: • "We (students) **don't know** about the [tech job] opportunities" (MT HS1) • "I love it here, but it is **changing a lot**" (MT HS1) • "**You don't hear about** all the cool new business stuff. Startups. Where people are just getting started are finding opportunities." (MT CC1) • "I think it's **rapidly changing** like it is anywhere else. I think it lags pretty far behind other places [in tech opportunities], which is not surprising." (MT CC1) • "**I don't think the [tech] opportunity exists here**. At least not in the current state. In the years to come, maybe. I certainly would like to try to gain traction here, and maybe even create jobs in this area for the tech industry. I know I've met several people here who are passionate like myself, but the job market just doesn't exist, so it's certainly something that I would like to see grow here." (MT CC3) • "[**The technology infrastructure] It's not good.** I mean, when we go to my partner's mom's house in Columbia

	Falls, like, we don't even have cell phone service, and she only lives, like, ten minutes out of Columbia Falls. So, I think maybe that's what people like about it is that Montana is still so wild, but I. It's kind of hard to think really develop industry here without having the technology to support it." (MT U1) • "I feel like Montana has a lot of **archaic ideas**, to be honest." (MT U1) ○ "Pull yourself up by your bootstraps. Also, **no outsiders allowed**, even if they could possibly bring industry to Montana. Basically, not in my neighborhood." (MT U1) • "**The biggest gripe I have with Montana is the whole attitude against out-of-staters. It really is frustrating to me that I'm discriminated against just because of where I'm from.** And, I'm not a fan of it. I don't think that's the majority of people, but you still experience it if you live here for some time. So, I'm really not a fan of that attitude. I just don't think gatekeeping is cool. I think that people should be able to choose where they want to live, and where they want to grow up. And have a life. People for the most part are really nice though, so I wouldn't really say in general that's an issue. It's just like occasionally get those people who just immediately hate you because they see that you have a California license plate. That's just not the best." (MT U2) • **"I didn't have any engineering classes in high school**. But I've talked to a lot of people now who, like my classmates who did, and it seems like they learned in high school that they definitely wanted to do engineering. And it was like, well, if I'd had a class like that, I probably would have figured that out, too. So that would have been nice. But I know it's a thing and a lot of high schools, I guess it just wasn't in mine." (MT U2) • [Connecting with local employers] "**I definitely feel like the businesses and the local tech community is farther off than what it is like in the research and on campus and what not.** If you think about supply and demand, I feel like there's a million engineers in Bozeman and a million eager students who want a job and want a job right here. And, so I feel like the companies around have students just, like, flowing. But then from a student

	standpoint, I do think it is challenging to find those companies and to connect with them in any kind of meaningful way where you're not just like one more anxious student who wants a job. Especially if I'm not someone who's willing to just take the first decent paying job that comes around. If I'm really passionate about a job that feeds into a specific career goals. It's harder to find those companies and get connected with somebody who wants to talk to me. I'd say like the easiest connections are through professors and they're connected to research and they're connected to people who are giving them money, which are more likely national labs, large organizations than like small local companies." (MT U3) • "**The hardest part about Montana is how far away everything is.** In Washington, everything, like, the Canadian border is two hours away; going down to Portland, 2 or 3 hours away. But in Montana, the next town over is two hours away." (MT EP2) • "**Lack of a job** market and opportunities besides service industry, trades. …It feels like a lot of just like, agriculture contracting work." (MT U1) • "**People in Montana don't make very much** in relation to basically any other state." (MT U1) • "**Conservative** and not very environmentally friendly." (MT U1) • "**A little slow to adopt new things.**" (MT U1)

Factors

What **factors** motivate students and young professionals to stay in Louisiana and Montana to pursue tech or STEM-related careers?

Social Factors

Values and social norms Combined total: **22** Louisiana (13) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1;	**Results:** • **Values and social norms are important factors** (22) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP2; LA EP4; MT HS1; MT CC1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4)

LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP2; LA EP4) Montana (9) (MT HS1; MT CC1; MT CC2; MT CC3; MT U1; MT U3; MT EP2; MT EP3; MT EP4)	● **Strong sense of community, community engagement** (14) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U5; MT U1; MT U3; MT EP1; MT EP2; MT EP3; MT EP4) ● **Welcoming, friendly, personable, "good people"** (7) (MT HS1; MT CC2; MT CC3; MT U3; MT EP2; MT EP3; MT EP4) ● **Diversity** (7) (LA HS5; LA U1; LA U4; LA U5; LA EP2; LA EP4; MT EP2) o Diversity within STEM organizations in area, particularly with women (LA U1) ● **Religion**, church community (5) (LA HS3; LA U1; LA U5; MT U1, MT U3) o Strong Catholic community (2) (LA HS3; LA U1; LA U5) ● Similar **political views** (3) (LA U5; MT CC1; MT U1) **<u>Quotes:</u>** ● "I like different places, and I've always liked to travel and see different things, experience new things, talk to different people. So, I think **a diverse community is very important** to me. It doesn't really matter, you know, like religion or politics, because what I believe someone might not believe, I'm going to face that wherever I go. And, so I just have to be acceptable to those changes." (LA HS5) ● "I feel like **everywhere you go around here is so diverse**." (LA EP4) ● "Really nice people." (MT HS1) ● "Open people" (MT CC2) ● "It's a lot more personable. I know my neighbors." (MT CC3) ● "Again, the money is not as important to me. It's how interesting the job is. And, the company. I realize that as someone freshly graduating that you do frequently have to just get stuck on like corporate desk jobs. But I don't really want to work for some corporate guys. **The**

	company matters. Even like the politics. The vision of the company matters. I've worked for Oil companies in Texas, and it was fantastic money. And, I still quit because it was it was awful and I don't want to do again. But. Yeah. Give me interesting projects to work on and I would totally stay. I would gladly stay in Montana." (MT CC1) ● "I love the people." (MT U3) ● **"The people are just friendly here.** More willing to just say hey, how's it going? Like on the street. And I like that aspect a lot." (MT EP2) ● "I do love how communal Montana is. And just like **I can make connections with people really easily here**." (MT EP3) ● "In Seattle, people wouldn't even look at me or say hello walking down the street. Everyone here is just **super friendly**, genuinely friendly." (MT EP4)
Family/significant other Combined total: **19** Louisiana (12) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1, LA U1; LA U2; LA U3, LA U4; LA U5; LA EP2) Montana (7) (MT HS1, MT CC3; MT CC4; MT U1; MT U4; MT EP1; MT EP4)	**Results**: ● **Family/significant other is an important factor** in choosing where I live (19) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1, LA U1; LA U2; LA U3, LA U4; LA U5; LA EP2; MT HS1, MT CC3; MT CC4; MT U1; MT U4; MT EP1; MT EP4) ● **Highest priority** consideration (4) (MT HS1, MT U4, MT EP1; MT EP4) **Quotes:** ● **"The family I have here would be my main incentive** [to stay]." (MT CC3) ● "I think COVID changed what is important to me. I wasn't super jazzed about it going into an office at first. I also know **I want to stay here and be close to family.** I'm just not going to move for a job. So, I think I'm going to have to compromise on my job to make that happen." (MT EP1) ● "We really, really want to stay here [in Montana]. **Family is everything.** This community is everything. If we can

	continue to have jobs we love and make a good living we plan to stay. We want to stay." (MT EP4) ● "My family. Definitely being near family. **Covid really changed that for me. I used to think I wanted to be in Seattle for at least the early part of my career but after COVID that changed. Family comes first**." (MT EP4)
Community/quality of life Combined total: **25** Louisiana (11) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U3; LA U5; LA EP1; LA EP3) Montana (14) (MT HS1; MT HS3; MT HS4; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U2; MT U3; MT U4; MT EP2; MT EP3; MT EP4)	**Results**: ● **Quality of life is an important factor** (25) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1; LA U1; LA U3; LA U5; LA EP1; LA EP3; MT HS1; MT HS3; MT HS4; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U2; MT U3; MT U4; MT EP2; MT EP3; MT EP4) ● **Highest priority consideration** (5) (LA EP2, LA U4, LAU1, LA CC1, LA U5) ● **Outdoor recreation** (13) (LA HS1; LA EP1; MT HS3; MT HS4; MT CC1; MT CC3; MT CC4; MT U1; MT U2; MT U3; MT U4; MT EP2; MT EP4) ● **Social activities, nightlife** – events, football, concerts, fitness (6) (LA HS1; LA CC1; MT CC4; MT U2, MT U3; MT EP3) ● **Safe community**; safe place to raise a child (MT U1) **Quotes:** ● "I don't want to be in a big town. Everything I like to do is here (floating, fishing, skiing, mountain biking)." (MT HS1) ● "**Growing up here, I mean, I've lived here my entire life. So I know the people I know the area, I know the community.** And I know how to accommodate that community and how to benefit that community. And just being here ensures that I stay a part of that community." (LA HS5) ● "I like to say balanced. We have a small town aspect to us, but we are really balanced. So maybe a small town would just be a college town. But we have a college, we have thriving businesses. We have great surrounding areas, great local food, and great tourist attractions. So not only are we a small town, but **we also have these, these**

	other things going for us as well, that that really keeps us balanced as a community here. And you can't get bored." (LA U5) ● "**A lot of people just come back because it's home**. That's just really what brings people back." (LA EP3) ● "I do love how communal Montana is. And just like **I can make connections with people really easily here**." (MT EP3) ● "**A lot of this is about our community**. If there wasn't a community, you know, a teacher at the college who was willing to go through the extra effort to drive down to the high school, like four times a week and work according to the high school schedule. Professionals in the community that would come into our classrooms and talk about their jobs or worked with our professors to get us internships. I wouldn't be doing this. **It is just a really, really amazing thing that we have such dedicated people in the community and that we have people that are like I'm excited and interested in technology and they want to share it with students."** (MT EP1)
Customs Combined total: **13** Louisiana (10) (LA HS2; LA HS3; LA HS4; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP4) Montana (3) (MT U1; MT U3; MT EP4)	**Results**: ● **Local customs/traditions are important factors** (13) (LA HS2; LA HS3; LA HS4; LA CC1; LA U1; LA U2; LA U4; LA U5; LA EP1; LA EP4; MT U1; MT U3; MT EP4) ● Louisiana mentions: Festival International; customs associated with Cajun culture; food; Southern hospitality ● Montana mentions: festivals; farmers markets; downtown activities; football games; Winter Carnival; Wild Walk; River City Roots Festival **Quotes**: ● "Well, I love just the community [Missoula] in general. Like, I love! We did the **Wild Walk** parade this year, which everyone dresses up in crazy animal and plant costumes, and it's just, like, it's really awesome. Missoula's always doing stuff like that. Or, you know, having like a family bike ride or there's free **festivals in the park**, like every, every week. And, the **River City**

	Roots Festival that they put on and the river goes right through it. We can go hiking and stuff. It's just a great community. And, I feel like Missoula does a good job at, like **enriching the community with events**." (MT U1) ● **"Everything we love to do is here**. Skiing and camping, anything outdoors. We're right near Glacier and really close to Canada. Everyone here is super active and always outdoors. I actually just did my first half marathon which was really cool. And, yeah, the community. This place is definitely **community oriented**. There are **so many festivals and local activities**. Even in the winter. We have this one annual event called **Winter Carnival** that is ridiculous but so much fun. In the middle of winter, you're ready for something social and the Winter Carnival really brings the town together. In Seattle, people wouldn't even look at me or say hello walking down the street. Everyone here is just **super friendly**, genuinely friendly. Oh. And, **farmers markets**. They start back up again in a few weeks. I absolutely love the farmers markets." (MT EP4)
Friends Combined total: 5 Louisiana (2) (LA HS1; LA U2) Montana (3) (MT CC1; MT U2; MT EP3)	**Results**: ● **Friends are an important factor** (5) (LA HS1; LA U2; MT CC1; MT U2; MT EP3)

Geographic Factors

Natural resources/amenities Combined total: **12** Louisiana (2) (LA HS1; LA EP1) Montana (10) (MT HS1, MT CC1, MT CC2, MT CC3; MT CC4, MT	**Results:** ● **Nature and outdoor amenities are important factors** (12) (LA HS1; LA EP1; MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U2; MT U4; MT EP2; MT EP4) ○ Louisiana - water amenities (boating, fishing, canoeing, kayaking) ○ Montana - floating, fishing, skiing, mountain biking, hiking

U1, MT U2, MT U4; MT EP2; MT EP4)	**Quotes:** ● "Everything I like to do is here [floating, fishing, skiing, mountain biking, hiking]" (MT HS1) ● **Everything we love to do is here**. Skiing and camping, anything outdoors. We're right near Glacier and really close to Canada. Everyone here is super active and always outdoors." (EP4)
Physical resources/infrastructure (thriving downtown; near airport; no traffic, etc.) Combined total: **10** Louisiana (4) (LA U1; LA U3; LA U4; LA EP2) Montana: (6) (MT CC3; MT CC4; MT U1; MT U2; MT EP2; MT EP3)	**Results:** ● **Physical resources/infrastructure is an important factor** (10) (LA U1; LA U3; LA U4; LA EP2; MT CC3; MT CC4; MT U1; MT U2; MT EP2; MT EP3 ● No traffic; short commute (6) (LA U1; LA U4; MT CC3; MT CC4; MT EP2; MT EP3) ● Thriving downtown (3) (MT U1, MT U2; MT EP3) ● State of infrastructure (roads, buildings) (2) (LA U3; MT U2) ● Proximity to college/university (2) (MT U3; MT EP3) ● Easy access to goods and services – i.e., grocery stores, shopping needs, airport (MT U2) ● Safe place to bike and travel freely (LA U3) **Quotes**: ● "Even if you don't want to live in the city, you live in a little bit outside the city, **people won't mind if the infrastructure is nice**. …nice infrastructure will keep people in, and with an increase in infrastructure, you're going to need more jobs." (LA EP2)
Desire to live in small town, rural community Combined total: **6** Louisiana (2) (LA EP3; LA U5; LA EP2) Montana (4)	**Results:** ● **Desire to live in small town/rural community** (7) (LA EP3; LA U5; LA EP2; MT CC4; MT CC3; MT CC4; MT U2) ● Desire to live somewhere in the South (LA EP2) ● Desire to live specifically in Montana (MT CC1) **Quotes:**

(MT CC1; MT CC3; MT CC4; MT U2)	● [Willing to commute] "I would worry about the land first, because **I would want to live on the outskirts**. And I wouldn't, I wouldn't worry about the commute to work too far. Because I would, I would, I wouldn't care how far I would have to commute every morning, as long as the land that I got was at a good price. And then I would build on that land." (LA U5)

Economic Factors

Job opportunities Combined total: **32**	**<u>Results:</u>** ● **Job opportunities [in general] were noted as an important factor for all participants.** ● **All participants are interested in pursuing a career in Tech/STEM** **<u>Quotes:</u>** ● "So maybe if I got offered a position like that here in Lafayette, with similar benefits, and ballpark pay, depending on you know, where that company is, that I want to work for, and the company gives me the incentives, I would definitely stay." (LA U5) ● "Interested in a career in tech, but I don't want to just code." (MT HS1) ● "I don't really care about making $100,000 a year. I don't. You know, I'm happy. It would be more important for me to do **something that is interesting** and engaging than doing something really obnoxious to chase a nicer car or something." (MT CC1) ● [Dream job] "It'd be amazing [to build a career in Montana]. There are a few bike companies here that I kind of talk to. Like, Pursuit Cycles is one of them. And, I kind of know a few of the people involved in that through racing here. So that would be a dream for sure. But, they're a really small company, so that would be one that I would have to work up to for sure. But, that business specifically. I really love how small they are. They do full custom builds, so it involves a lot of engineering. Just because every single frame has to be engineered for the

	person. You change the sizing and dimensions for every single person, so it's awesome. So that would be a dream." (MT U2)
Wages/Cost of Living Combined total: **20** Louisiana (10) (LA HS2; LA HS5; LA U1; LA U2; LA U3; LA U4; LA U5; LA EP1; LA EP2; LA EP3) Montana (10) (MT HS1; MT CC1; MT CC2; MT CC4; MT U1; MT U2; MT U2; MT U4; MT EP2; MT EP3)	Results: ● **Wages/cost of living is an important factor** (20) (LA HS2; LA HS5; LA U1; LA U2; LA U3; LA U4; LA U5; LA EP1; LA EP2; LA EP3; MT HS1; MT CC1; MT CC2; MT CC4; MT U1; MT U2; MT U2; MT U4; MT EP2; MT EP3) ● **Cost of living is rising, higher** [in my location] than other places (5) (LA U5; MT HS1; MT U1; MT U4; MT EP2) ● **Cost of living lower** [in Louisiana] compared to Austin, Houston, and New Orleans (2) (LA U1, LA U5) Quotes: ● "So obviously, there are some economic factors that are going to tie in to **why I choose to live in Lafayette because if we were in an area like California, where It cost me literally like my left leg every single month just to be able to pay rent**, like, oh, I wasn't able to pay rent this month. So the landlord literally took my toe. That sort of situation, I'm not sure I'd be so eager to stick around." (LA U1) ● "It is **getting so expensive** around here. I don't think I can make enough money to live here." (MT HS1) ● "I **don't really want to leave** but I think I'm going to have to. I'll probably go to FVCC and get my AA and then transfer to UM or MSU. After that I'll probably have to go somewhere else [out of state or out of Flathead Valley] to get some experience. Maybe I can come back." (MT HS1) ● "It becomes pretty quickly apparent that if you really want to get into some high paying jobs that **you're probably going to have to leave** the state." (MT CC1) ● "The **cost of living** in relation to how much money we make is crazy, especially when it comes to housing. Knowing that **buying a house will never be in the cards** for us here…that's a big deal." (MT U1)

	● **"**One of the more difficult decisions we're seeing here is **the cost of living here is pretty high**. And I know a lot of the mechanical engineering **jobs aren't paying quite as high** as some of the other areas I was looking. And that's just because since there's the school here, **they have so many kids graduating that there's a high demand of kids and a lower demand of jobs, so they just don't pay as well as they should be for the cost of living.**" (MT U4) ● "In Washington, the pay is high enough to balance with the cost of living. **My rent will actually be cheaper moving into downtown Seattle** than it currently is in Bozeman." (MT EP2) ● **"The cost of living and housing prices are definitely a concern**. We don't want to leave and will make it work but prices are starting to get really steep. We don't want to leave. We'll figure it out." (MT EP4)
Housing Combined total: **12** Louisiana (6) (LA HS5; LA U1; LA U3; LA U5; LA EP2; LA EP3) Montana (6) (MT HS1, MT CC4, MT U1, MT U2; MT EP2; MT EP4)	<u>Results</u>: ● **Housing is an important factor** (12) (LA HS5; LA U1; LA U3; LA U5; LA EP2; LA EP3; MT HS1, MT CC4, MT U1, MT U2; MT EP2; MT EP4) ● [Priority is finding] **a place with affordable land** (LA U5) <u>Quotes</u>: ● "You know, right now is not the best time economically, **what I would be looking for is somewhere where the land isn't so expensive**, because I would want to move somewhere and have a lot of land. That is, that is a big factor to me." (LA U5) ● "The **cost of living** in relation to how much money we make is crazy, especially when it comes to housing. Knowing that **buying a house will never be in the cards** for us here…that's a big deal." (MT U1) ● "**My rent will actually be cheaper moving into downtown Seattle** than it currently is in Bozeman." (MT EP2)
Education	<u>Results</u>

Combined total: **8** Louisiana (4) (LA HS1; LA HS2; LA HS3; LA U5) Montana (3) (MT HS1; MT CC2; MT U3; MT EP3)	● **Education is an important factor** (8) (LA HS1; LA HS2; LA HS3; LA U5; MT HS1; MT CC2; MT U3; MT EP3) <u>Quotes:</u> ● "So having been through all those different schools, I know that I know what good schooling can do. And I know what bad schooling can do. And so I think that would be **a very big factor in where I would live**, especially if we decide you're gonna go the public schooling route. Look into the different public schools, where am I at? What's my district? Stuff like that. So, that would be a source of concern for me if I was here in Louisiana, just because **I know the bad reputation that some public schools have**." (LA HS1) ● "…And, **public school accessibility**. I went to public school growing up, and I don't see anything wrong with public school." (LA U5)" ● "I'm lucky because I got involved in **Running Start**. I can take 6 college credits for free. Learned about this through **high school career center**. I'm already attending classes through FVCC and now know some of the computer science and business teachers there." (MT HS1)
Healthcare Combined total: **2** Louisiana (2) (LA HS2; LA EP3)	**<u>Results</u>**: ● **Quality healthcare is an important factor** (2) (LA HS2; LA EP3) ● Access to larger medical facilities (LA HS2) **<u>Quotes</u>**: ● "I think having more **[health care] resources** would be helpful." (LA EP3)
Career resources Combined total: **10** Louisiana (6) (LA HS4; LA HS2; LA CC1, LA U1, LA U5; LA EP4) Montana (4)	**<u>Results</u>**: ● **Access to career resources is an important factor** (10) (LA HS4; LA HS2; LA CC1, LA U1, LA U5; LA EP4; MT CC2; MT U2; MT U3; MT EP3) ● **Support for start-ups, entrepreneurs** (5) (LA HS2; LA HS4; LA U5; LA EP4; MT CC2) ● **Strong technical community** (MT U3)

(MT CC2; MT U2; MT U3; MT EP3)	**Quotes**: ● "**I like surrounding myself with people who are smarter or have more knowledge or more experience, more wisdom than I do.** And so, you know, obviously you want to kind of be at like a hub for that." (MT U3)
Other	Louisiana: ● Desire to work in **family business** (LA HS3) Montana: ● "**Childcare** is important. I have a child." (MT U1) ● **Loyalty to employees** (concern about recent tech layoffs (2) (MT CC1; MT EP1) ● [Corporate vs. smaller company] "I don't think I'd enjoy a big corporate environment. **I don't want to feel like I'm disposable. Like I could be laid off any time for any reason.** I want to work for a company that is a team. I like having the small team that we do in my current job, and everyone kind of getting to have their hands on everything." (MT EP1)

What factors would make you want to leave this location?

STEM jobs are not available in this location; need to go somewhere else to gain experience. Combined total: **13** Louisiana (5) (LA HS2; LA U4; LA U5; LA EP2; LA EP4) Montana (8) (MT HS 1; MT CC1; MT CC3; MT U1; MT U2; MT U3; MT U4; MT EP2)	**Results:** ● **Belief there is a lack of tech/STEM jobs**; need to go somewhere else to get experience (13) (LA HS2; LA U4; LA U5; LA EP2; LA EP4; MT HS 1; MT CC1; MT CC3; MT U1; MT U2; MT U3; MT U4; MT EP2) ● **Competitive job market** (more candidates than jobs) (4) (LA U4; LA EP2; MT U4; MT U3) **Quotes:** ● [**Need to go somewhere else to get experience**] "Even if people have a lot of family…they just don't want to be in Louisiana even with their families here. So they're saying maybe **once I get my 20 years working at this company, I'll come back to Louisiana when I have the experience.**" (LA EP2) ● "**Here there's like, maybe 20 applicants [for one job]** or 20 [total] open spots in this area. There [a bigger city],

	there might be 200 open spots. You know, you're throwing a wide net, if you go out and apply everywhere. But, also the big city and they wanted to go, you know, to the big city and do all the things that they have to offer so they get a bit of opportunity and a bit of wanting to go to a new place." (LA EP4) ● **"They have so many kids graduating that there's a high demand of kids and a lower demand of jobs**…" (MT U4) ● "So, in looking towards the future, that's kind of a big, I don't know if hiccup is the right word, but question. I guess a looming question because, I so love Montana, and I really want to stay in the state of Montana. Potentially Bozeman or if not Bozeman a smaller town, hopefully. And that's hard because. You think of a dream career and **a lot of dream careers don't provide geographic freedom**. You kind of have to pick. You kind of go where the dream job is or compromise somewhere in there. And that's something that my dad, in particular, has kind of like warned me about a lot. He's like when you're choosing an industry or a career, you need to consider where those opportunities are going to be and where that's going to require you to live. In a place that you want to live or don't want to live? **Is it going to require you to be in a big city** knowing that you don't want to live in a big city? So, my hope is that while I'm young in my 20s, I can have some geographic freedom and potentially go where the learning opportunities arise. And, if those are in Montana, that would be a dream come true. And if not, I am lucky that I do have flexibility in that. And then my hope would be with starting my own company that I can start that company in Montana. And because I'm creating that space, have a little bit more control over that." (MT U3)
Unaware of STEM career opportunities in this location. Combined total: 8 Louisiana (LA U3) Montana (7)	**<u>Results</u>:** ● Unaware of STEM career opportunities in this location (8) (LA U3; MT CC1, MT CC3, MT U1, MT U2; MT U4; MT EP2; MT EP3) **<u>Quotes</u>:** ● "**I don't think the [tech] opportunity exists here.** At least not in the current state. In the years to come, maybe. I certainly would like to try to gain traction here, and

(MT CC1, MT CC3, MT U1, MT U2; MT U4; MT EP2; MT EP3)	maybe even create jobs in this area for the tech industry. I know I've met several people here who are passionate like myself, but the job market just doesn't exist, so it's certainly something that I would like to see grow here." (MT CC3)
Job opportunity/higher wages elsewhere Combined total: **11** Louisiana (3) (LA EP1; LA HS2; LA U5) Montana (8) (MT HS1; MT CC1, MT CC3, MT CC4; MT U1, MT U2; MT U4; MT EP2)	**Results:** ● **Job opportunity, higher wages elsewhere** (11) (LA EP1; LA HS2; LA U5; MT HS1; MT CC1, MT CC3, MT CC4; MT U1, MT U2; MT U4; MT EP2) **Quotes:** ● "So maybe **if I got offered a position like that here in Lafayette, with similar benefits, and ballpark pay, depending on you know, where that company is, that I want to work for, and the company given me the incentives, I would definitely stay**." (LA U5) ● [**More job opportunity elsewhere**] "Here there's like, maybe 20 applicants [for one job] or 20 [total] open spots in this area. **There [a bigger city], there might be 200 open spots.** You know, you're throwing a wide net, if you go out and apply everywhere. But, also the big city and they wanted to go, you know, to the big city and do all the things that they have to offer so they get a bit of opportunity and a bit of wanting to go to a new place." (LA EP4) ● I think he [my friend] would love to be in Louisiana. But again, he's just like, there's nothing. I can't find anything. Like **I can't find a good paying tech job in Louisiana that I'll be happy with**. (LA EP1) ● "I **don't really want to leave** but I think I'm going to have to. I'll probably go to FVCC and get my AA and then transfer to UM or MSU. After that I'll probably have to go somewhere else [out of state or out of Flathead Valley] to get some experience. Maybe I can come back." (MT HS1) ● "It becomes pretty quickly apparent that if you really want to get into some high paying jobs that **you're probably going to have to leave** the state." (MT CC1) ● "I know the **wages are generally a lot lower** than they are for comparative work elsewhere." (MT CC1)

	● "**I would leave Montana at the drop of a hat for building infrastructure** in some hospital or building like large scale networking stuff." (MT CC1) ● "**If the right thing came along? I would go to it.** The family proximity is something nice. And, I would like to come back here just because I like Kalispell. But, if some great thing comes along. Then, I'll do it. I'm a young guy." (MT CC4) ● "In Washington, **the pay is high enough to balance with the cost of living**. My rent will actually be cheaper moving into downtown Seattle than it currently is in Bozeman." (MT EP2) ● **"I think for a lot of people it it's hard to stay.** I don't know a whole lot of people that are leaving because they're like, oh, I hate Montana. **They're leaving because job opportunities presented themselves in other places, more competitive pay. I think that's the main driving reason people leave**." (MT EP2)
Family/significant other Combined total: 4 Louisiana (LA HS2) Montana (3) (MT U1, MT U3; MT EP2)	**<u>Results:</u>** ● **Family or significant other is a factor for leaving** (4) (LA HS2; MT U1, MT U3; MT EP2) **<u>Quotes:</u>** ● "If I didn't have, like, **a partner who's…yeah…goals and wishes I also had to consider**, like, I would like to stay in Montana." (MT U1) ● "So, in looking towards the future, that's kind of a big, I don't know if hiccup is the right word, but question. I guess a looming question because, I so love Montana, and I really want to stay in the state of Montana. Potentially Bozeman or if not Bozeman a smaller town, hopefully. And that's hard because. You think of a dream career and **a lot of dream careers don't provide geographic freedom**. **You kind of have to pick. You kind of go where the dream job is or compromise somewhere in there. And that's something that my dad, in particular, has kind of like warned me about a lot.** He's like when you're choosing an industry or a career, you need to consider where those opportunities are going to be and where that's going to require you to live. In a place that

	you want to live or don't want to live? Is it going to require you to be in a big city knowing that you don't want to live in a big city? So, my hope is that while I'm young in my 20s, I can have some geographic freedom and potentially go where the learning opportunities arise. And, if those are in Montana, that would be a dream come true. And if not, I am lucky that I do have flexibility in that. And then my hope would be with starting my own company that I can start that company in Montana. And because I'm creating that space, have a little bit more control over that." (MT U3)
External influence (teachers/professors/mentors; media; friends) Combined total: 9 Louisiana (5) (LA U3; LA U4; LA U5; EP3, LA EP4) Montana (5) (MT HS1; MT CC3; MT U1; MT U3; MT EP2)	**Results:** ● **External influence; guidance from teacher, professor, mentor, friends, media** (10) (LA U3; LA U4; LA U5; LA EP3, LA EP4; MT HS1; MT CC3; MT U1; MT U3; MT EP2) **Quotes:** ● "The primary focus for the computer degrees [at the community college] was transfer tracks out to Bozeman or Missoula or bigger towns in the area. **They focused more on transferring students out somewhere to get a four year rather than putting them in internships in the area** because there just wasn't many available." (MT CC3) ● "I started exploring coding because I really enjoyed the college class that was offered. The teacher was really good. And it was a really fun class. And, **if I had had a different teacher…if the teacher hadn't been someone that was truly passionate and truly liked what they were doing…I don't think I would have really liked it, or thought I could actually do this. It would have just been another class."** (MT EP1)
Cost of living Combined total: 6 Louisiana (2) (LA U5; LA HS2) Montana (4) (MT HS1; MT U1; MT U4; MT EP2)	Results: ● **Lower cost of living elsewhere** (6) (LA U5; LA HS2; MT HS1; MT U1; MT U4; MT EP2) Quotes: ● "**I want someplace that I can like start my own practice and not be like, incredibly expensive**. And like, have those like roots there? Okay. Yeah. And like, I feel like the biggest thing for like, where I like want to move

	after med school is like, what's going to be like the cheapest and like, what's going to be posted to like my family? And like, what can I afford?" (LA HS2) ● "It is **getting so expensive** around here. I don't think I can make enough money to live here." (MT HS1) ● "I want to stay here but I'm **worried that I can't**." (MT HS1) ● **"The cost of living here is pretty high**. And I know a lot of the mechanical engineering **jobs aren't paying quite as high** as some of the other areas I was looking. And that's just because since there's the school here, **they have so many kids graduating that there's a high demand of kids and a lower demand of jobs, so they just don't pay as well as they should be for the cost of living.**" (MT U4)
Wanderlust; ready to "see the world"/want a new experience. Combined total: 10 Louisiana (6) (LA HS2; LA HS3; LA HS5; LA U2; LA EP3; LA EP4) Montana (4) (MT CC1, MT CC3; MT EP2; MT EP3)	<u>Results:</u> ● **Wanderlust; ready to "see the world"/want a new experience** (10) (LA HS2; LA HS3; LA HS5; LA U2; LA EP3; LA EP4; MT CC1, MT CC3; MT EP2; MT EP3) <u>Quotes:</u> ● "I guess **sometimes people just want like a new experience**, like they don't want to, like there's like a very specific culture here and either people really love it. They really like want to get away." (LA HS2) ● I think a lot of it might be just because people like being independent, I guess, like teenagers, like being independent most of the time. So it's kind of **that urge to be out and be your own person**, which is cool." (LA HS3) ● "I understand the need to get away because, you know, I love my family, I really do. But **sometimes you have to branch out and see new things**. And that's what a lot of people want to experience away from home. Because when you're around your family don't really experience anything different half of the time. And so, by getting away and going to a different place, you can experience new things." (LA HS5)

	● [Nomad lifestyle/traveling] "I've always kind of been interested [in remote work] because it's, it's very free to kind of go wherever you want and work from home. But then, **the way I'm doing the remote work, where I'm traveling a lot came from friends** and giving them kind of pursuing something very similar and show like this is a possibility." (LA U2) ● "Here there's like, maybe 20 applicants or 20 open spots in this area. There [in a bigger city], there might be 200 open spots. You know, you're throwing a water net, if you go out and apply everywhere. But, also the big city and they wanted to go, you know, to the big city and do all the things that they have to offer so they get a bit of opportunity and **a bit of wanting to go to a new place."** (LA EP4) <u>Montana:</u> ● The family I have here would be my main incentive [to stay]. Outside of that, I'm excited. **I'm ready to see the world.** I'm definitely open to taking my career and those steps forward to, you know, go to those places and see those things, make those connections. (MT CC3) ● "Part of me is interested in going to California. **I feel like there's more opportunities for career advancement. There are a lot more companies. And, I feel like it has a very active workplace**." (MT EP3)
Social factors (demographics, social scene) Combined total: **2** Louisiana (LA U4) Montana (MT EP3)	**<u>Results:</u>** ● **Social factors (demographics, social scene)** (2) (LA U4; MT EP3) **<u>Quotes</u>:** ● I feel like the city does a pretty decent job about having like events and stuff. But **our downtown life is really only directed towards college students**. I feel like the, you know, like the nightlife and the bar scene. Um, **I feel like Lafayette just needs, it needs something for everyone. It needs something more for everyone**. (LA U4) ● **"Flathead was harder for me because the demographic is so different than my age group**. In Missoula, being a college town, I feel like I fit in a lot easier than Flathead. I would say [Flathead] is also hard working, but more on the

	higher age scale of like retired or mid-career or senior career professionals." (MT EP3)
Misaligned values Combined total: 6 Louisiana (3) (LA EP3; LA U4; LA U5) Montana (3) (MT U1; MT U2; MT EP3)	**Results**: ● Misaligned values (6) (LA EP3; LA U4; LA U5; MT U1; MT U2; MT EP3) ○ Lack of diversity; support for LGBTQ community specifically mentioned (LA EP3) **Quotes**: ● "[Montana] is **conservative** and **not very environmentally friendly**." (MT U1) ● **Bias against non-Montanans** (MT U2) ● **Lack of amenities for all generations** (MT EP3)
Limited/poor quality resources (healthcare, education, infrastructure) Combined total: **16** Louisiana (6) (LA HS1; LA HS2; LA U2; LA U5; LA EP2; LA EP3) Montana (10) (MT HS1; MT CC2, MT CC3, MT CC4, MT U1, MT U2; MT EP1, MT EP2; MT EP3; MT EP4)	**Results**: ● **Limited/poor quality resources** (healthcare, education, infrastructure) (16) (LA HS1; LA HS2; LA U2; LA U5; LA EP2; LA EP3; MT HS1; MT CC2, MT CC3, MT CC4, MT U1, MT U2; MT EP1, MT EP2; MT EP3; MT EP4) **Quotes**: ● "Louisiana **doesn't have like, super great education**. And they **don't really have like, good, like, a good health care** system. Okay, and like, they're kind of like, **behind as far as like modern technology**, unless you're like, in Baton Rouge or like New Orleans." (LA HS2)
No plans to stay in the area Combined total: **4** Louisiana (2) (LA HS2; LA U3) Montana (2) (MT U1, MT U2)	**Results**: ● **No plans to stay in the area** (4) (LA HS2; LA U3; MT U1, MT U2) ● **Desire to move to a more forward thinking-culture** (MT U1) **Quotes**: ● "**I don't think I'd ever move back here**. Just because like, I don't really have any connections here once like my family leaves. And then like, Louisiana doesn't have like, super great education. And they don't really have like, good, like, a good health care system. Okay, and like,

	they're kind of like, behind as far as like modern technology, unless you're like, in Baton Rouge or like New Orleans." (LA HS2) ● "I think I feel like for me, **being in Lafayette for a job would kind of minimize my potential**. There's obviously good jobs here its just, oh, no, **I've always wanted to be bigger**." (LA U3) ● "I love Bozeman and I love skiing here specifically. And I have a lot of friends. **But, the longer outlook [to stay in Montana]? Potentially not.** I just got an internship this summer with a ski company in Tahoe. And they kind of want to have me on next summer also, so I probably will go back and do that. And that'd be summer of 2025. So, if for some reason that led to a more full-time job, I probably would take it as long as I like it this summer and the next summer." [MT U2]
No strong desire to leave or stay. Combined total: **4** Louisiana (LA EP1) Montana (MT HS2; MT HS3; MT HS4)	Results: ● **No strong desire to leave or to stay** (4) (LA EP1; MT HS2; MT HS3; MT HS4)

Incentives

What types of **interventions and incentives** are attractive to students and young professionals to reach them and attract them to stay in Louisiana and Montana to pursue tech or STEM-related careers?

Job opportunity Combined total: 16 Louisiana (5) (LA HS1; LA HS3; LA CC1; LA U1; LA U5) Montana (11) (MT HS1, MT CC1, MT CC2, MT CC4; MT U1, MT	**Results:** ● **Well-paying STEM job would incent me to stay** (15) (LA HS1; LA HS3; LA CC1; LA U1; LA U5; MT HS1, MT CC1, MT CC2, MT U1, MT U2, MT U3, MT U4; MT EP2; MT EP3; MT EP4) ● **Job doing something I'm passionate about would incent me to stay** (8) (LA HS1, LA U5; MT HS1, MT CC1, MT CC2, MT U2; MT U3; MT U4)

U2, MT U3, MT U4; MT EP2; MT EP3; MT EP4)	● **Career path/upward mobility would incent me to stay** (2) (LA CC1, LA HS1) ● Working in the **family business would incent me to stay** (LA HS3) **Quotes:** ● "So **maybe if I got offered a position like that here in Lafayette, with similar benefits, and ballpark pay**, depending on you know, where that company is, that I want to work for, and the company given me the incentives, I would definitely stay." (LAU5) ● "I'd like to stay in, you know, the valley, just because I've always lived here. **At the moment, there are not a whole lot of options, as far as getting to code in the valley**. I've kind of accepted that. Maybe I'll just have to write SQL queries or something for the hospital." (MT EP1)
Willing to make sacrifice (i.e. dream job/lower pay; less ideal job but opportunity to stay) Combined total: **3** Montana (3) (MT EP1, MT CC1; MT EP1)	**Results:** ● **Willing to make sacrifice to stay** (i.e. dream job/lower pay; less ideal job but opportunity to stay) (3) (MT EP1, MT CC1; MT EP1) **Quotes**: ● "**I don't mind it [lower wages] as a trade-off for being in Montana, really**." (MT CC1) ● **"I'd like to stay in, you know, the [Flathead] valley**, just because I've always lived here. **At the moment, there are not a whole lot of options, as far as getting to code in the valley.** I've kind of accepted that. Maybe I'll just have to write SQL queries or something for the hospital." (MT EP1)
Flexibility/remote work opportunities Combined total: 7 Louisiana (LA U1) Montana (6) (MT CC3; MT CC4; MT U1, MT U3; MT U4; MT EP2)	**Results**: ● **Flexibility/remote work opportunities would incent me to stay** (7) (LA U1;MT CC3; MT CC4; MT U1, MT U3; MT U4; MT EP2) **Quotes**: ● "I don't want to be stuck in the office constantly." (LA U1) ● "It's getting to have a **flexible schedule** where I can engineer and I can be the mind behind what I'm creating.

	I'm not having to follow a rulebook or color inside the lines, but I'm allowed to take the skills I have. I'm given resources to enhance those skills, and I get to show up where there's a problem. That's not easy. Something I have to work towards. That always keeps me interested." (MT CC3) ● "I would be in charge. I guess, like, **have work life balance**. Feel like I'm doing something that's important, that matters, that isn't obsolete." (MT U1) ● "**I would love to see the industry adopt far more flexibility and more work life balance**. And even just like an opportunity to work part time for a reduced salary. That's something that you don't really see in the workforce right now, or at least that I haven't heard of." (MT U3) ● "Well, my dream life is to have **a rich career that I can balance into my into my life**. I want to be a mom and I want to spend time with my kids. And if I got to work a well-paying engineering job for ten years, for 30 hours a week, at a reduced salary, that would be phenomenal. Because then I could not just have my dream career that overtakes my dream life, but also kind of, like, have it all. Maybe that's a lot to ask." (MT U3) ● "In my opinion, I think especially the first couple of years of working in the industry, I think it's very important to be in person just because that's the most effective way to learn from people around you and kind of understand the flow of work and how the world operates. But I do think **as I get older and maybe start to have kids or start to have more complicated relationships then I think something I definitely will look for is the option for remote work**. I also don't think I'd want to go full time remote work, but just **having an option like a couple days a week at most. If I had a family, it would be nice."** (MT U4) ● [Remote work] **I think if I could be remote, like one day a week or, maybe every other week, have some work from home time,** I would like that system a little bit more. (MT EP2)
Financial incentives	**<u>Results</u>:** ● **Comparable benefits and pay would incent me to stay**

Combined total: **12** Louisiana (5) (LA HS1; LA HS2; LA U5; LA EP1; LA EP3) Montana (7) (MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U3)	(3) (LA U5; LA EP1; LA EP3) ● "So maybe if I got offered a position like that here in Lafayette, with **similar benefits and ballpark pay**. Depending on, you know, where that company is, that I want to work for, and the company given me the incentives, I would definitely stay." (LA U5) ● **Student loan/tuition assistance** (7) (LA HS1; MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1) ● **Business loans/incentives** (LA HS2; MT U3) ● **No or low income tax** (LA HS2)
Housing incentives Combined total: **3** Louisiana (2) (LA U1; LA U5) Montana (MT U1)	**Results:** ● **Affordable housing options would incent me to stay** (3) (LA U1; LA U5; MT U1)
Education incentives Combined total: Louisiana (LA HS1) Montana (6) (MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1)	**Results:** ● **Student loan/tuition assistance** (7) (LA HS1; MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1) ○ Scholarships/funding for staying in state (LA HS1) ● Running Start Program (MT HS1) **Quotes:** ● [Scholarships/funding for staying in state] "That would be a big way to keep students here in Louisiana…" (LA HS1) ● "I'm lucky because I got involved in Running Start. **I can take 6 college credits for free.** Learned about this through high school career center. I'm already attending classes through FVCC and now know some of the computer science and business teachers there." (MT HS1)
Healthcare incentives Combined total: **3**	**Results:** ● **Comparable benefits and pay would incent me to stay** (3) (LA U5; LA EP1; LA EP3)

Louisiana (3) (LA U5; LA EP1; LA EP3)	● "So maybe if I got offered a position like that here in Lafayette, with **similar benefits and ballpark pay**. Depending on, you know, where that company is, that I want to work for, and the company given me the incentives, I would definitely stay." (LA U5)
Career resources Combined total: **3** Louisiana (LA HS1) Montana (MT U1; MT U4)	**Results:** ● **Career resources would incent me to stay** (2) (LA HS1; MT U4) ● **Internships** (MT U1)
Other	**Results:** ● **Upgrading our downtown** (LA U5) ● **Access to technology** (LA HS2) **Quotes:** ● "**Upgrading our downtown.** Our downtown area is smaller. And I find that a lot of people my age really enjoy the downtown experience being able to eat lunch walk around shop. So yeah, I would say upgrading our downtown because it's smaller and it doesn't have a lot to offer for people my age. It has businesses but I think it could be better." (LA U5) ● "I definitely want to be in **a place that like, I know, like my kids can, like grow up in and they're going to be able to go to like a good school with lots of access to like technology**. I want to live in a state with **no income tax**. And, like, I want **someplace that I can like start my own practice and not be like, incredibly expensive**. And like, have those roots there." (LA HS2)

Influences

Personal curiosity/interest/strength Combined total: **21**	**Results:** ● **Personal curiosity/interest/strength** (21) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1, LA U1; LA U2; LA U3; LA U5; LA EP1; LA EP2; MT HS1, MT

Louisiana (12) (LA HS1; LA HS2; LA HS3; LA HS4; LA HS5; LA CC1, LA U1; LA U2; LA U3; LA U5; LA EP1; LA EP2) Montana (9) (MT HS1, MT CC1, MT CC2, MT CC3, MT CC4, MT U2, MT U3, MT U4; MT EP2)	CC1, MT CC2, MT CC3, MT CC4, MT U2, MT U3, MT U4; MT EP2) ● Strength in math and science (11) (LA HS1; LA HS5; LA CC1; LA U5; LA EP1; LA EP2; LA EP3; MT U2, MT U3, MT U4; MT EP2) **Quotes:** ● "I guess I've like, **always loved science**. And like reading and like, I feel like med school is kind of like a combination of those. And like being a doctor because it's like you have the real material and like, you have to learn how to absorb it quickly" (LA HS2) ● "Yeah, kind of just, you kind of just think of it as, as the science that you hear in school, or the math that you hear in school, and you don't really hear about the applied versions of these the things that we really use in the real world. And that is a big reason that I went into computer science at first, because **I was really interested in, like I said earlier, in computer engineering, and like the building of a computer system and how apps work and how they communicate with each other hardware and software wise**. And then I got into computer science. And this was this was another big reason as to why I switched. Not only AI, but because computer science and all of my counselors and everything, nothing to them, they probably just didn't, they didn't have an idea. And whenever I got past a bunch of my core classes and freshman classes and stuff, I started looking at my degree plan and started questioning to myself, Where are all of the computer engineering classes?" (LA U5) ● "I feel like whenever I tell people that I code, they're always like, **wow, you must be so smart. And I'm not really**. I appreciate the compliment. But **being smart doesn't have so much to do with it**. I can read documentation. And I can scroll through like Stack Overflow and **I can figure out problems**." (MT EP1) ● "The drone racing and stuff, I came across it on YouTube. I was like, well, that looks cool. I want to try that. **I've always felt like I'm motivated to learn on my own**." (MT EP2)
Parent/family	**Results:**

Combined total: **17** Louisiana (12) (LA HS2; LA HS4; LA HS5; LA CC1; LA U1; LA U2; LA U3, LA U5; LA EP1; LA EP2; LA EP3; LA EP4) Montana (5) (MT HS1, MT CC4, MT U3, MT U4, MT EP1)	● **Parent/family influence** (17) (LA HS2; LA HS4; LA HS5; LA CC1; LA U1; LA U2; LA U3, LA U5; LA EP1; LA EP2; LA EP3; LA EP4; MT HS1, MT CC4, MT U3, MT U4, MT EP1) **Quotes:** ● "**My mom and dad for sure**. Because I mean, like, they're both doctors and they like going through the whole process. So they're kind of the ones that were like, you definitely need to go out of state for college and then like, you can come back and go to LSU med because it's cheaper. And then like, you can get into dermatology because it's like, super competitive and stuff." (LA HS2) ● "I was lucky enough to have a **father who was in science**, and kind of showed me all the things that science had to offer. And so from a young age, I've always thought science is really cool." (LA U5) ● "You do what your **parents** do" (LA EP2) ● **My parents were engineers**, and growing up, I was very determined not to be an engineer because my mom works on her computer 60 hours a week. And I was like, I want no part of that. But **I found in high school taking like AP physics and calculus** that my inclinations were towards math and science, and I wanted to build things and design things and develop products and solutions to kind of like, better the world and the next generation. And so I think just by life experiences in high school that gave me opportunities to get my hands dirty. With a little bit of that, I realized that this is where my inclination and skills are and kind of my passion. And after being into it 3 or 4 years, I definitely think that it's like the right area of study for me, and I'm super excited for a career in it. (MT U3) ● **"My dad** definitely played an important role. Like he. He wasn't pushing me to do engineering, but just his influence at home where he was just always talking about cool projects and things. That seemed really cool to me." (MT U4) ● [Family influence] "He [my dad] had this rule. It was less of a rule, but more so one of those jokey rules where if you didn't follow it, he wouldn't be upset. But, **it's a rule**

	that after high school, you had to do two years at FVCC. It didn't matter what you studied, you just had to do two years at FVCC before you did anything else." (MT EP1)
Outside influences (Teachers/professors/mentors; peers; technology itself) Combined total: **23** Louisiana (12) (LA HS1, LA HS3, LA HS4, LA HS5; LA U1; LA U2; LA U3; LA U5; LA EP1; LA EP2; LA EP3; LA EP4) Montana (11) (MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1, MT U2; MT U4; MT EP1; MT EP2; MT EP3)	Results: ● **Outside influences played a role in my decision to pursue tech/STEM** (teachers, professors, mentors, exposure to technology itself) (5) (LA EP2; LA U5; MT CC2; MT CC3; MT EP1) ● **Teacher/professor/school** (13) (LA HS1, LA HS3, LA HS4, LA HS5; LA U1; LA U2; LA EP1; LA EP2; LA EP3; MT CC2, MT U1, MT U2, MT EP1) ● **Clubs/Associations/Afterschool Programs** (12) (LA U1; LA U3; MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U4; MT EP1; MT EP2; MT EP3) - Code Girls (MT HS3; MT CC4) - Robotics Team (MT CC3, MT EP1) - Girl Scouts Robotics Team (MT EP1) - Engineers Without Borders (MT U4) - Competitive drone racing (MT EP2) - American Society of Civil Engineering (LA U1) ● **Friends/family friend** (8) (LA U1; LA U2; LA U3; LA U5; LA EP1; LA EP4; MT CC1; MT CC2) ● **Upperclassmen/other students** (2) (LA U2, LA U3) ● **Technology itself** (computer, cell phone, drone, gaming) (9) (LA U1; LA U5; MT HS3; MT CC1; MT CC3; MT CC4; MT U4; MT EP1; MT EP2) ● Other: **Minecraft** (MT CC1); **Legos** (MT EP2) Quotes: ● "When **going to LSU**, it's kind of hammered in they are ready for you to go into the oil field for engineering, especially in mechanical engineering." (LA EP2) ● "I've been doing that since sophomore year of high school because I went to David Thibodeaux. Oh, yeah. So like, **I've had like engineering exposure since sixth grade**, technically." (LA U3)

	● And I was lucky enough to have a father who was in science, and kind of showed me all the things that science had to offer. And so from a young age, I've always thought science is really cool. But **if I had to pick one thing, it would be phones**, technology really revolutionized my life is whenever I was young, somebody put a phone in my face. And I was, you know, amazed. And from then on, it was always software based. That's why I went into computer science at first. I love apps. I loved games. And, I just wanted to learn how to build those. And, then once I got into it, I saw everything that it had. And I was like, Okay, this is a lot more than I really thought, you know, down to down to building circuit boards to run the data that you need to build these games and how the memory is managed. And just the design of all the different things that you can do. It's, it really is a large field. And yeah, yeah, I just really like it. That's really cool." (LA U5) ● "Yeah, kind of just, you kind of just think of it as, as the science that you hear in school, or the math that you hear in school, and you don't really hear about the applied versions of these the things that we really use in the real world. And that is a big reason that I went into computer science at first, because I was really interested in, like I said earlier, in computer engineering, and like the building of a computer system and how apps work and how they communicate with each other hardware and software wise. And then I got into computer science. And this was this was another big reason as to why I switched. Not only AI, but because computer science and all of my counselors and everything, nothing to them, they probably just didn't, they didn't have an idea. And whenever I got past a bunch of my core classes and freshman classes and stuff, I started looking at my degree plan and started questioning to myself, Where are all of the computer engineering classes?" (LA U5) ● "In computer science, I asked them about the switch before I switched, and they told me that I could get the same job that I wanted, if I would have stayed in computer science. And although that's true, it would have been a lot harder. And I don't really like that they told me that because I feel as if they were bias to machinery in computer science. And I went I went on my own to the

	electrical department and talk to talk to the guys over there and order the my advisor now over there and asked him the questions that I had." (LA U5) ● "The big thing that I worked on was **connecting with colleagues at school**. We started working on a home game development company. Getting the ground roots going to start developing for ourselves. I have a professor in college who always says it's best to be your own boss. The sooner you can get there, the better life will be for you. Work on what you want. Have that passion and map up for what you do. And so that's been a big motivator for me, is if I have the skills, to learn this stuff and teach myself, then I'm going to grab at every resource I can and just work it out. So, it's been a journey of working alongside my colleagues and just figuring it out and building the stuff that I enjoy." (MT CC3) ● "We have the Student Success Center and the business school. But it feels that, I don't know, it always just feels like too much. They try really hard to be accommodating. But, I personally just like building relationships with my professors and asking them. I like proving my merit, I guess, and then having someone be like, this would be a good fit for you." (MT U1) ● [Exposure to tech in high school] "Really, truly, if I had not heard about that **Java class** on the announcements, I wouldn't be coding right now. I just wouldn't, it would never have been on my radar. **It just wouldn't have occurred to me to want to do it**. **It would have seemed too hard.** Honestly, it's that sort of thing where it's like, you know, when you hear that someone does something and you're like, that's really impressive. It must be so hard. I've done this for several years and it comes so natural. Now that I know what I'm doing, it's so easy for me. It isn't as hard as it sounds." (MT EP1) ● "A lot of this is about our community. If there wasn't a community, you know, a **teacher at the college** who was willing to go through the extra effort to drive down to the high school, like four times a week and work according to the high school schedule. **Professionals in the community** that would come into our classrooms and talk about their jobs or worked with our professors to get us internships. I wouldn't be doing this. It is just a really,

	really amazing thing that we have such dedicated people in the community and that we have people that are like I'm excited and interested in technology and they want to share it with students." (MT EP1) ● "I think it's there's **a lot of support**, especially at FVCC." (MT CC2) ● "The big thing that I worked on was **connecting with colleagues at school**. We started working on a home game development company. Getting the ground roots going to start developing for ourselves. I have a **professor** in college who always says it's best to be your own boss. The sooner you can get there, the better life will be for you. Work on what you want. Have that passion and map up for what you do. And so that's been a big motivator for me, is if I have the skills, to learn this stuff and teach myself, then I'm going to grab at every resource I can and just work it out. So, it's been a journey of working alongside my colleagues and just figuring it out and building the stuff that I enjoy." (MT CC3) ● [Career influence] **I originally thought I was going to go into computer science**. I think I was drawn to that for probably just the job availability. It's a lifetime guaranteed job in computer science and really good salary to work and live anywhere. So I was originally drawn to that. But once I actually took some **AP computer science courses in high school**, I realized that I don't think I could write code or sit at a computer writing code all day. I learned that that's maybe not quite how my brain operates. And I, always liked, I don't know, I feel like maybe **Legos** was where it started. I like just putting things together. **I like the physical aspect versus only the digital aspect of computer science.** So, in late middle school, early high school I started doing **competitive drone racing and designing** and building my own drones and programing them and stuff. And I think that's where I realized I think maybe engineering is a path that I could go down. (MT EP2) ● "K through 12 did a pretty good job of trying to emphasize **not everyone has to go to college** and that there are other paths like trade schools and certifications." (MT EP2)

	● "**The school [FVCC] does a pretty good job of like bringing real companies into the school** and giving opportunities to work on real world projects or network or connect." (MT EP2)
Other	● Future earning potential (2) (MT U1, MT EP2) **<u>Quotes</u>**: ● "I was originally business management, but after taking, an intro MIS class and learning that it was the **highest paid undergraduate degree** at the University of Montana, I just thought that it would make me more competitive than just a general management degree." (MT U1) ● "I originally thought I was going to go into computer science. I think I was drawn to that for probably just the job availability. It's **a lifetime guaranteed job in computer science and really good salary** to work and live anywhere. So, I was originally drawn to that." (MT EP2)

Additional insights:

Equity/accessibility/diversity Combined total: 5 Louisiana (LA HS5) Montana (4) (MT HS1; MT CC2; MT CC3; MT EP4)	<u>Quotes:</u> ● "I like different places, and I've always liked to travel and see different things, experience new things, talk to different people. So I think **a diverse community is very important to me**, doesn't really matter, you know, like religion or politics, because what I believe someone might not believe, I'm going to face that wherever I go. And so I just have to be acceptable to those changes." (LA HS5) ● **[Inclusive of all students]** "We need to be able to reach everyone. Not just the top of the class. Need to reach others. I feel lucky because I'm doing well in school so my teachers tell me about a lot of opportunities but not everyone gets that." (MT HS1) ● **[Accessibility in rural]** "Over the years tech access has gotten better, especially with Starlink coming around the past 2 or 3 years now. At least in rural areas or around the woods where you can get nice broadband internet for,

	not too much compared to satellite. But, yeah, it's, Starlink. And then, probably the pressure from Starlink on our local internet companies have also up their game to improve their performance and how much internet you can get from them. You know, back in the day, it used to be pretty slow, but now it's a whole lot better." (MT CC2) ● **[Accessibility in rural]** "We are living off of solar. So, for me, the most important thing would be a direct inline connection to the grid. That way I can run all my fancy computers and hardware that I would like to run." (MT CC2) ● **[Homeschool students]** "**I was homeschooled for my entire education**. I spent a decent amount of time in the local homeschooling community where we would hold our own, co-ops, co-teaching. We would get together and do our own events and activities and classes. So, I got a lot of exposure to socialize and get different, you know, different teaching styles, different opinions from people. (MT CC3) ● **What I would say was lacking in that [homeschool], though, was definitely the technology**. And there was, hardly anything for programing or computers or phones or anything like that. So, I would have liked to see a lot more. Maybe not a lot more, but at least some offering for technology and, you know, general use of a computer or, you know, programing 101. Introduction to Excel, those kind of, you know, power user things that just are common in other places. But in a place where computers aren't really used a lot, it's not really considered." (MT CC3) ● **[Importance of generational knowledge**] "**I got to work in a department where there was a pretty big age gap.** Either everyone was under 30 or over 55. I think there was a period of time in there where everyone wanted to go into computer science. I really liked having like an older set of people that have worked in the department for 30 years, right, 30 years of industry experience and so just infinite knowledge there. But having the young people that just graduated college just started their careers are in kind of, just the next stage of

	life that I'm starting to move into. It was really cool having those people to also talk to about that." (MT EP2)
Pandemic influence Combined total: **6** Louisiana (LA EP4) Montana (5) (MT CC4; MT U4; MT EP1; MT EP3; MT EP4)	Quotes: ● "He was like 'I'm the owner, and only engineer, and I can't do both. I'm kind of behind.' So, I went to help him. Pay wasn't great. The hours weren't great. But, **it took me like probably four months to find even that because of COVID**." (LA EP4) ● "…a lot of people in my class at MSU were trying to get offers with large companies and go to like Google and all that sort of stuff, but **with like the whole COVID thing recently, I think the opinion on going out of state to those larger companies is kind of souring a bit with just all the shenanigans going on with Google and the big tech companies**." (MT CC4) ● "I was originally at CU Boulder and it wasn't the only factor, but the pandemic was one of the factors I took in moving to Montana. And, I think that had a huge impact on me, because now that I'm staying here, with the job here, I really don't think I would have even considered Montana before the pandemic." (MT U4) ● "**I think COVID changed what is important to me.** I wasn't super jazzed about it going into an office at first. I also know I want to stay here and be close to family. I'm just not going to move for a job. So, I think I'm going to have to compromise on my job to make that happen." (MT EP1) ● "It just **really drove home how much I enjoyed the option to be able to go in and see someone face to face and have a conversation** and, you know, work collaboratively in a space as opposed to work collaboratively online only." (MT EP1) ● "Because a lot of my classes were just online, I didn't really meet a lot of my classmates, I didn't have that connection with some of them. I don't even know if I could tell you all of their names. We didn't have to have our cameras on. We could show up, we listen to a lecture, we leave. And that's fine for some people. But it was just it was more of an impersonal thing for me. And it didn't really click in the same way that being in a

	classroom did. And so that kind of translated over to the sort of environment that I wanted to work in. And **I don't think I would enjoy my job as much as I do now if it was remote. That social connection adds to the joy of the experience."** (MT EP1) ● "**Since I graduated in 2020 to the middle of my college years were interrupted by COVID**. And so that introduced a whole new ballgame to the career search and kind of what was out there. And so I really like having a remote option since that creates flexibility and doesn't require me to commute because honestly, **I don't like driving very much**. But just having that flexibility is great." (MT EP3) ● "My family. Definitely being near family. **Covid really changed that for me. I used to think I wanted to be in Seattle for at least the early part of my career but after COVID that changed. Family comes first**." (MT EP4)
Views on corporate life	**<u>Quotes:</u>** ● "**In my opinion, I think especially the first couple of years of working in the industry, I think it's very important to be in person just because that's the most effective way to learn from people around you and kind of understand the flow of work and how the world operates.** But I do think as I get older and maybe start to have kids or start to have more complicated relationships then I think something I definitely wil look for is the option for remote work. I also don't think I'd want to go full time remote work, but just **having an option like a couple days a week at most. If I had a family, it would be nice."** (MT U4) ● [Corporate vs. smaller company] "I don't think I'd enjoy a big corporate environment. **I don't want to feel like I'm disposable. Like I could be laid off any time for any reason.** I want to work for a company that is a team. I like having the small team that we do in my current job, and everyone kind of getting to have their hands on everything." (MT EP1)
Dream Job	<u>Louisiana:</u> ● [**Stay in software programming**] "I am thinking, do I have to get out of software and programming and get

	back into my mechanical engineering side [to stay here]? (LA EP2) ● "**I don't want to be stuck in the office** constantly. I want to be able to go out and get my hands on it." (LA U1) ● "**My dream job would be to work with computer memory at Nvidia. So maybe if I got offered a position like that here in Lafayette, with similar benefits and ballpark pay**. Depending on, you know, where that company is, that I want to work for, and the company given me the incentives, I would definitely stay." (LA U5) <u>Montana</u>: ● "How do you **use technology to solve problems** you care about?" (MT HS1) ● "**I would leave Montana at the drop of a hat for building infrastructure** in some hospital or building like large scale networking stuff." (MT CC1) ● "Again, **the money is not as important to me. It's how interesting the job is**. And, the company. I realize that as someone freshly graduating that you do frequently have to just get stuck on like corporate desk jobs. But I don't really want to work for some corporate guys. The company matters. Even like the politics. The vision of the company matters. I've worked for Oil companies in Texas, and it was fantastic money. And, I still quit because it was it was awful and I don't want to do again. But. Yeah. Give me interesting projects to work on and I would totally stay. I would gladly stay in Montana." (MT CC1) ● "My dream job would eventually be **owning my own gaming studio** and having employees underneath that and working towards some kind of games, Triple-A or whatever, indie studio, something of the sort. I've been working on a game for about 3 or 4 years now with a buddy of mine." (MT CC2) ● "It's getting to have a **flexible schedule where I can engineer and I can be the mind behind what I'm creating**. I'm not having to follow a rulebook or color

	inside the lines, but I'm allowed to take the skills I have. I'm given resources to enhance those skills, and I get to show up where there's a problem. That's not easy. Something I have to work towards. That always keeps me interested." (MT CC3) ● "**I would be in charge**. I guess, like, **have work life balance**. Feel like I'm **doing something that's important, that matters**, that isn't obsolete." (MT U1) ● "**It'd be amazing [building a career in Montana].** There are a few bike companies here that I kind of talk to. Like, Pursuit Cycles is one of them. And, I kind of know a few of the people involved in that through racing here. So that would be a dream for sure. But, they're a really small company, so that would be one that I would have to work up to for sure. But, that business specifically. I really love how small they are. They do full custom builds, so it involves a lot of engineering. Just because every single frame has to be engineered for the person. You change the sizing and dimensions for every single person, so it's awesome. So that would be a dream." (MT U2) ● "Jokingly. I always tell my parents I want to be a CEO one day, but I want to. And here's what to do. I don't really have one dream job. I more so have a dream like journey, I guess, and like, career path. And I want to, kind of find myself in a sector of the technical industry. I don't exactly know what sector yet, but some area that I can really be good at. I want to be good at whatever I do, and I want it to be a niche enough area that I can be impactful." (MT U3) ● "So, in looking towards the future, that's kind of a big, I don't know if hiccup is the right word, but question. I guess a looming question because, I so love Montana, and I really want to stay in the state of Montana. Potentially Bozeman or if not Bozeman a smaller town, hopefully. And that's hard because. You think of a dream career and a lot of dream careers are don't provide geographical freedom. You kind of have to pick. You kind of go where the dream job is or compromise somewhere in there. And that's something that my dad, in particular, has kind of like warned me about a lot. He's like when you're choosing an industry or a career, you

	need to consider where those opportunities are going to be and where that's going to require you to live. In a place that you want to live or don't want to live? Is it going to require you to be in a big city knowing that you don't want to live in a big city? So, my hope is that while I'm young in my 20s, I can have some geographic freedom and potentially go where the learning opportunities arise. And, if those are in Montana, that would be a dream come true. And if not, I am lucky that I do have flexibility in that. And then my hope would be with starting my own company that I can start that company in Montana. And because I'm creating that space, have a little bit more control over that." (MT U3) ● "Well, my dream life is to have a rich career that I that I can balance into my into my life. I want to be a mom and I want to spend time with my kids. And if I got to work a well-paying engineering job for ten years, for 30 hours a week, at a reduced salary, that would be phenomenal. Because then I could not just have my dream career that overtakes my dream life, but also kind of, like, have it all. Maybe that's a lot to ask." (MT U3)

Sources of Information	● Teachers/professors
	● Family
	● Google
	  o "I'm curious about things so I just try to figure things out. I Google everything." (MT HS1)
	● Career Fairs
	● Career Center
	● Classes/education programs (online, at school)
	  o AP classes
	  o Udemy
	  o Masterclass
	  o Running Start
	● Technology itself (phone, computers, gaming)
	● Programming (Java, Python, Minecraft, games)
	● Company websites
	● Associations/Clubs
	  o Code Girls
	  o Competitive drone racing
	  o Eco Club
	  o Engineers without Borders
	  o Montana High Tech Business Alliance
	  o Robotics Team
	● Community Library

	● Events
	  o Louisiana Youth Seminar
	  o Kalispell Growth Summit
	● Channels
	  o Text
	  o Email
	  o Most often cited form of communication from school
	  o Indeed
	  o LinkedIn
	  o Facebook
	  o Reddit
	  o Substack
	  o Media
	  o Local media (Daily Interlake, local news)
	  o NPR
	  o Radio
	● University alumni
	
	<u>Quotes</u>:
	● **[Effectiveness of email]** "I might read a little bit. But most of the time I don't catch wind of those things. I'm more often listening to my community, the community around me, the technical community, my friends, my professors, my classmates all here. Something cool that's going on." (MT EP1)
	
	● "[**Louisiana Youth Seminar** has] a whole day devoted to talking about why you should stay in Louisiana and why, you know, it's bad that all these people are leaving and stuff. And, so it's definitely like, I see, I see that how that's like a problem that's actually being addressed. And that it's, you know, we're making strides towards fixing that." (LA HS1)
	
	● [**Kalispell Growth Summit**] "There was actually a growth conference in Kalispell recently and I think it is cool that the community is talking about this stuff. The Chamber is also trying to get young professionals more involved which is cool." (MT EP4)
	
	● **[University Alumni]** "The director of quality at Sims is an **MSU alumni,** and he just recently finished his master's in the industrial engineering program. And he's on a board for MSU and they knew that they were hiring and thought an engineering student would be a good fit

	for the position. They sent an **email** out with opportunity to somebody at MSU and they sent it to the engineering students. And it was the right time." (MT U3) **<u>Coding:</u>** ● **Career fairs/events/start-up resources** - Combined data (18) (LA CC1; LA U1; LA U3; LA U5; LA EP1; LA EP2; LA EP3; MT HS1; MT CC1; MT CC2; MT CC3; MT CC4; MT U1; MT U2; MT U3, MT U4; MT EP2; MT EP3) - Career Fairs (15) (LA U1; LA U3; LA EP1; LA EP2; LA EP3; MT HS1; MT HS3; MT CC1; MT CC2; MT CC4; MT U1; MT U2; MT U3, MT U4, MT EP3) - Oilfield career fairs (5) (LA U1; LA U3; LA EP1; LA EP2; LA EP3) - Recruitment events (3) (LA U1; LA EP1; MT U3) - Networking/social events (3) (LA U5; MT HS1; MT EP3) - Conventions/tech expos (2) (MT CC3; MT U3 - Blackstone Launch Program (MT U1) - Hellgate Ventures (MT EP3) - Accelerate Montana (MT EP3) ● **Social media** (18) - Combined (16) (LA HS3; LA CC1; LA U3; LA EP3; LA CC1; MT HS1; MT HS2; MT HS3; MT CC1, MT CC2, MT CC3, MT CC4; MT U1, MT U3, MT U4; MT EP1; MT EP2; MT EP3) - LinkedIn (11) (LA HS3; LA CC1; LA EP3; MT CC1, MT CC2, MT CC3, MT U1, MT U3, MT U4; MT EP1; MT EP3) (11 total; 3 LA; 8 MT) - YouTube (9) (LA EP3, LA CC1; MT HS2, MT HS3, MT CC2, MT CC3, MT CC4, MT U4, MT EP2) Facebook Groups (2) (MT HS1, MT EP2) - TikTok (2) (LA HS3; MT HS2) - Handshake (LA U3) ● **Online website/forums** (10) - Google (10) (LA HS3, LA HS5; LA CC1; LA U2, LA U4; MT HS1, MT CC4, MT U2, MT U4, MT EP2) - Online career-specific forums (7) (LA U2; LA U5; LA EP3; MT CC4; MT U2; MT U3; MT U4) - Indeed (4) MT CC4, MT U2, MT U3, MT U4) - Glassdoor (MT U3)

	- Reddit (2) (MT CC2, MT EP2) - Discord (for gaming) (2) (MT CC2; MT CC3) - State of Montana jobs website (MT CC2) - Masterclass – for learning (MT CC3) - StackOverflow (MT CC3) - Udemy – for learning (MT CC3) - Slack (MT EP2) - Combined (10) (LA U4, LA U5, LA U2, LA CC1, LA HS5, LA HS3; MT U3; MT CC2; MT CC3; MT EP2) ● **Associations/Clubs/Afterschool Programs** (9 total; 1 LA; 8 MT) - Montana High Tech Business Alliance (MT CC1, MT EP3) - Code Girls (3) (MT CC4; MT EP1; MT EP4) - Robotics Team (2) (MT CC3, MT EP1) - Girl Scouts Robotics Team (MT EP1) - Engineers Without Borders (MT U4) - Competitive drone racing (MT EP2) - Eco Club (LA HS5) - Combined (9) (LA HS5; MT HS1; MT CC1; MT CC3; MT CC4; MT U4; MT EP1; MT EP2; MT EP3) ● **Local/national media** (8) - Local News (4) (MT HS2; MT HS4; MT CC2; MT U1) - Major tech outlets and newsletters (i.e. TechCrunch, Fortune AI) (3) (MT CC3; MT EP3; MT EP4) - Google News (MT CC2) - NPR (MT U1) - Yahoo News (MT CC2) - Combined (8) (MT HS2; MT HS4; MT CC1; MT CC2; MT CC3; MT U1; MT EP3; MT EP4) ● **Other** - In person mixers (3) (MT CC3, MT EP2, MT EP3) - Local library (3) (MT HS3; MT CC2; MT CC3) - Bulletin boards at school (MT CC3) - Company websites (MT U2) - Summer courses/clubs offered at ULL (LA HS5) - Books about the career (LA HS1)
Recommendations	Louisiana:

	● **Programs that lead to full time jobs or experience** that helps students be hired on. (LA HS1) ● "[**Louisiana Youth Seminar has**] a whole day devoted to talking about why you should stay in Louisiana and why, you know, it's bad that all these people are leaving and stuff. And, so it's definitely like, I see, I see that how that's like a problem that's actually being addressed. And that it's, you know, we're making strides towards fixing that." (LA HS1) ● **Incentives to encourage students to stay in state for school** (i.e. drop in tuition). (LA HS1) ● "**Academic aid** programs, like a website or something where you can go and click on an AP class or something, and start encouraging students to take these harder classes and these more advanced classes early so that they can, you know, get used to these big ideas and stuff." (LA HS1) ● **Scholarship resources**. And then if you've got something that says, like, Louisiana State University does, blah, blah, blah, offers this scholarship through this and you know, I think like having a specific program that is designed to help students And also, you know, kind of gather them in and sort of persuade them towards a State University. That would be a big way to keep students here in Louisiana studying in college. And then right after college, why move away? You're already in state get a job." (LA HS1) ● [**Involve students and young professionals in solving brain drain**] "If the, the goal of the career was to improve the opportunities here. And in Louisiana, if the goal of that career or that program that I'm you know, being hired on for, was to improve the opportunities here, I would be 100% game." (LA HS1) ● **[Foster a learning culture]** "There's the people who are achieving things and are like really taking their academics seriously. And there's the people who just don't care at all, and just kind of getting by, and then they go back to their farm. Some of them don't even go to college, they go back to the farm, and then they work the farm with their families and stuff. And it's good

	education really isn't a big priority. Whereas there's a few students that their education is a very big priority. And just now as a high schooler, if you grow up in that environment, where it's either your one or the other, you're either a farmer, and you don't educate yourself, or you're, you know, a student, and you're educating yourself, why would you stay in that environment, when you can leave, and go to an environment where everybody's trying to educate themselves, everybody's looking for this high achievement? So I think maybe if we could foster a culture in schools, not to toot ESAs horn, but you know, a culture like ESA where education is very important. And not everybody's brilliant here. But the culture is, you know, try and learn something, you know, it's important to learn something. And if you could foster that culture in schools across Louisiana, because I know schools are dying to have that culture, they're just yeah, they're, and if that could be fostered, I think that would help." (LA HS1) ● **No or low income tax** (LA HS2) ● [**Communication/information**] "Because like, if someone hasn't told me, or if I haven't found it, like, through online sources, I'm not gonna know about it. And so I feel like things like that need to be educated or told to young adults or high schoolers or college students." (LA HS5) ● "I feel like the city does a pretty decent job about having like events and stuff. But our downtown life is really only directed towards college students. I feel like the, you know, like the nightlife and the bar scene. Um, I feel like **Lafayette just needs, it needs something for, for everyone**. It needs something more for everyone." (LA U4) ● [**Networking opportunities**] "...**it's really important to talk to as many people as you can that are already in the field** so you can build relationships with them. It was really difficult for me after college. I would go to these events and stuff [in college] just to show my face, but getting to know somebody specifically, that goes a long way. Even teachers, honestly, like teachers and talking to them, they have connections in the field as well. And if they know you and if they respect you, and if they think

	you're talented, then they can definitely put in a word as well." (LA EP1) ● [**Networking opportunities**] "You have to go and talk and **network with people**. That's probably one of the best things colleges can do." (LA EP2) <u>Montana</u>: ● "What do I want to be? I don't know. **We need a place to learn what that means**." (MT HS1) ● "We need **more tech classes** [**in high school**]" (MT HS1) ● "Need for **mentorship** (like Big Brothers)" (MT HS1) ● "**Bring community into the schools**. We want insight into the real world." (MT HS1) ● "We need **more tech classes**. [in high school]" MT HS1) ● [Information about STEM education opportunities] "I'm lucky because I got involved in **Running Start**. I can take 6 college credits for free." (MT HS1) ● "**For one of our projects last semester our professor just gave us a list of every company** in the [Montana High Tech Business] Alliance and was like choose five companies and tell me why you'd want to work there." (MT CC1) ● **[In person networking opportunities]** "It would be nice if there was more people around here who were experienced in this industry, more of those kind of tech conferences to attend and go learn from the experiences of others. It's, really quiet around here. So coming across those, in person kind of events just is unheard of." (MT CC3) ● [**Bring real world into the schools**] "I do like the actual curriculum that involves real clients, local Missoula businesses." (MT U1) ● [**Bring real world into the schools**] "The Whole Group. Their offices are at Missoula College and they are actively recruiting students." (MT U1)

	• [**Internships]** "For internships you're pretty much on your own." (MT U1) • [**Mentors**] "A lot of people who have degrees don't know a lot of people who think that degrees matter." (MT U1) • "**Having advisors that stay for longer than a semester**. I think that's a that's a big one. I actually went to Missoula College before I transferred over to the university and there was absolutely no communication between me and my advisor at all. This is the first semester that I actually had my advisor sit down with me and tell me all the classes I needed to graduate and then, like, made me a schedule of like the next three semesters so that I know exactly what I need. I had never had an advisor take the time to do that before." (MT U1) • **"I think that people should explore more in college than most people do.** I know a lot of people will change their majors, but I don't think enough do. I have a lot of friends who are just doing something it doesn't seem they really care about, and they don't care as much about their studies. And it shows. It's just like if you don't if you aren't interested in what you're studying, you're not going to put the work in. **So I think that more people should explore more options. But it's hard if you are restricted financially.** Like, I'm going to lose my scholarship next year. And I'm going to have to do things to make sure I can get through financially. So I get it. Well, some people don't, but I wish there was more opportunities there for people to like to have that [exploring career path options] built into the program." (MT U2) • **Exposure to career paths in high school:** "High school is probably the time when I would start." (MT U2) • [**Mentors**] "I like surrounding myself with people who are smarter or have more knowledge or more experience, more wisdom than I do. And so, you know, obviously you want to kind of be at like a hub for that." (MT U3) • **[Robotics Team]** [In high school], I was super busy with gymnastics, but **I wish I would have been on the robotics team**. And, it was also like, kind of the stigma

	of like, oh, **the robotics nerds**. I decided to pursue mechatronics. After an internship I had last summer. So really just, you know, nine months ago, I kind of switched directions on that and I had zero exposure to it, but I think I would have. Just known that interest and had more time to digest it and figure out if it was, if it really is what I want to do earlier, if I had had that exposure and I just didn't take advantage of that [robotics] opportunity." (MT U3) (Note: female student) ● **[University Alumni]** "The director of quality at Sims is an **MSU alumni,** and he just recently finished his master's in the industrial engineering program. And he's on a board for MSU and they knew that they were hiring and thought an engineering student would be a good fit for the position. They sent an **email** out with opportunity to somebody at MSU and they sent it to the engineering students. And it was the right time." (MT U3) ● **LinkedIn:** *Researcher observation that the students don't know how to use LinkedIn, using it like social media where you follow companies you already know vs. build a network, market yourself.* ● **[Use of LinkedIn]** "I do, I don't check it, like super often, and every time I get a notification from it, I just get annoyed. Because it's usually like the notifications that I do get about companies that I already know about, not about like new companies that I wish I was learning about." (MT EP1) ● **[Networking]** "It would be nice if there were more people around here who were experienced in this industry, more of those kind of tech conferences to attend and go learn from the experiences of others. It's, really quiet around here. So coming across those, in person kind of events just is unheard of." (MT CC3) ● "We have the **Student Success Center** and the business school. But it feels that, I don't know, it always just feels like too much. They try really hard to be accommodating. But, I personally just like **building relationships with my professors** and asking them. I like proving my merit, I guess, and then having someone be like, this would be a good fit for you." (MT U1)

	● "**I do like the actual curriculum that involves real clients, local Missoula businesses**." (MT U1) ● [**Internship programs**] "For **internships** you're pretty much on your own." (MT U1) ● [Bringing community into school] "[The Whole Group] **Their offices are at Missoula College** and they are actively recruiting students." (MT U1)
Skills	● **"Preparing for jobs of the future"** o AI ▪ Prompts ▪ How to use in specific fields, applications (coding) o Analytics o Security o Quantum o Photonics o Cybersecurity o Mechanical engineering (mechatronics) o 3D printing

Acknowledgements

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