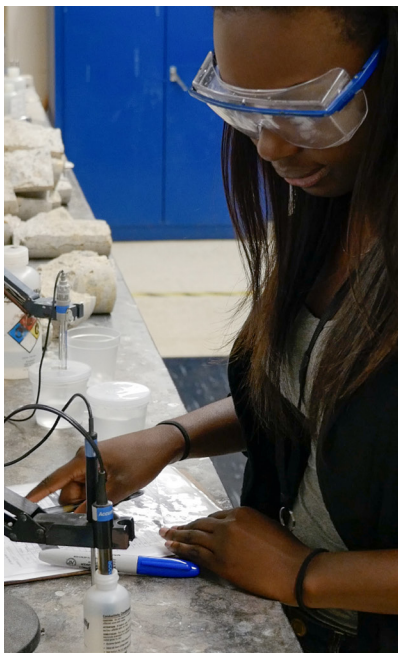
NORTH CAROLINA
Department of Transportation

NOVEMBER 2024

Ladders of Opportunity

Creating New Pathways for Advancement for Women Engineers at the North Carolina Department of Transportation



Executive Summary

Background

The North Carolina Department of Transportation (NCDOT) manages one of the largest transportation systems in the country, led by a solution-oriented workforce rooted in engineering principles. Engineers lead throughout NCDOT and are key drivers of agency strategy, planning, project management, and infrastructure design, construction, and maintenance.

NCDOT values diverse viewpoints, experiences and abilities at all levels. This is vitally important in the design and construction of our transportation network. The transportation industry operates in an increasingly complex environment with monumental challenges ahead – unstable funding levels, growing capital and maintenance needs, rapid technological advancements, and an increasing frequency of emergency disruptions – all warranting new and creative solutions. NCDOT is committed to recruiting, attracting, retaining, and advancing a workforce reflective of North Carolina's population to best meet these challenges and accomplish our goals.

This study seeks to emphasize the department's commitment to a diverse workforce by addressing the underrepresentation of female engineers with new and innovative strategies to increase their numbers and advancement.

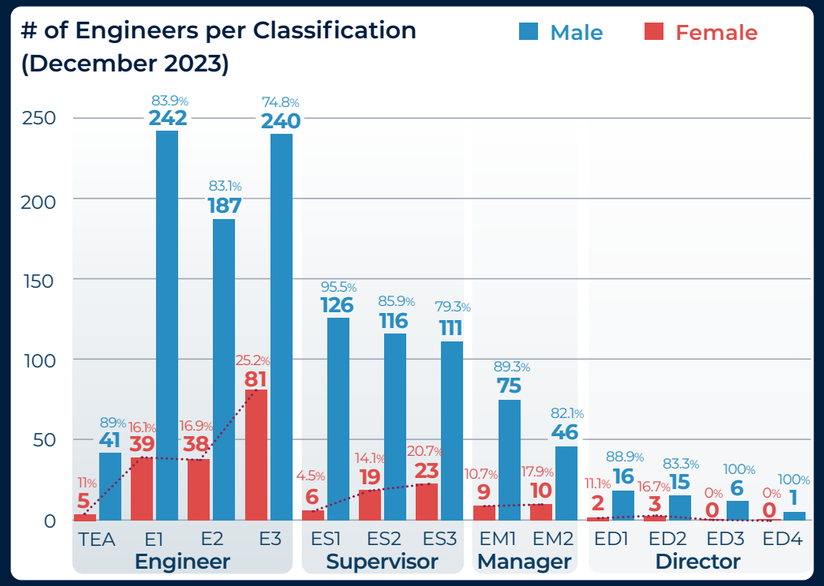


Figure 2. Employees By Engineering Classification

Key Study Findings

Women Are Underrepresented in Engineering Jobs at NCDOT

Underrepresentation is Greater in Entry-Level and Supervisory Roles

On average over the last five years, female engineers represent about **11 percent of Transportation Engineering Associates (TEA) program participants**, highlighting a gap in entry-level recruitment that creates the initial engineering talent pipeline for NCDOT.

There are 84 female engineers at the Engineer III level, representing **35 percent of the Engineer III level**, demonstrating a trend of many female engineers elevating from entry-level roles to non-supervisory senior engineer roles.

But only 10.6 percent of supervisor roles are filled by female engineers, demonstrating a bottleneck at the Engineer III level.

Key Goals and Actions

The study includes several action items and recommendations in Chapter 6. Key goals and actions include:

Increase the entry-level pipeline of female engineers

Increase the percent of women engineers hired for the (TEA) program to at least 20 percent in 2025. Accomplishing this goal will require improved recruiting techniques and other strategies discussed further in the report.

Develop individualized career plans for female engineers

By July 2025, ensure all female engineers have an individualized career plan. This will require developing a career plan template, training supervisors to support career plan development, and strengthening mentoring pathways through WomenConnect and other resource groups.

Establish and maintain a structure to implement plan recommendations

Leverage NCDOT Human Resources staff, the existing WomenConnect Employee Resource Group, and two new groups – Women in Engineering Task Force (WE) and Women in Engineering Leadership Initiative (WE LEAD) – to implement study recommendations, assess progress toward goals, and have continued dialogue about issues women engineers face at NCDOT.

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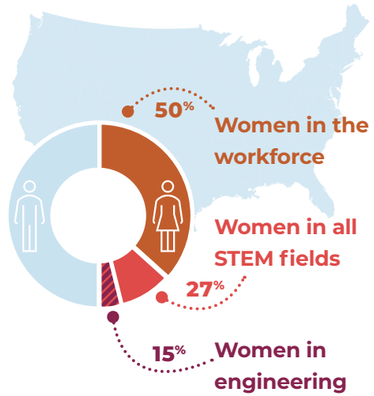
1. Introduction



According to the U.S. Census Bureau, **women make up just under 50 percent of the American workforce**. A close examination of labor statistics shows that women are overrepresented in certain categories like administration and healthcare and underrepresented in other categories, especially in Science, Technology, Engineering, and Mathematics (STEM) careers. While the share of women in some STEM careers has increased to levels comparable to their composition of the workforce (e.g., 40 percent of physical scientists), **their percentage in engineering continues to lag at 15 percent** (Pew Research Center, April 2021).

The North Carolina Department of Transportation has a commitment to recruiting, attracting, retaining, and advancing a workforce reflective of our state's population. In its 2023-2025 Strategic Plan, the Department states for agency values: "Diversity – We respect one another while drawing strength from our diverse opinions, ideas and experiences" (NCDOT, March 2023). **An examination of our current workforce data shows an underrepresentation of women in engineering classifications at all levels, and particularly in engineering supervisory and leadership positions.** The 2023 Ladders of Opportunity Project seeks to emphasize the Department's commitment to a diverse workforce by addressing the underrepresentation of female engineers with new and innovative strategies to increase their numbers and advancement.

To better understand the multifaceted issue of female advancement at the Department, the study utilized a variety of methodologies, including data analysis, structured interviews, and a widely disseminated employee survey. By collating quantitative data and qualitative insights, the goal is to provide a comprehensive understanding of existing conditions, as well as the perceptions and experiences of employees.

The first five chapters of this report lay out the existing conditions. They provide an overview of the key findings originating from these data sources. They identify the challenges faced by engineers in their personal and professional growth within the Department. Chapter 6 uses the existing conditions to inform a list of actionable strategies to address these key challenges.

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2. Setting the Context

2.1 The Organization

The North Carolina Department of Transportation is organized into 9 primary divisions:

- Aviation
- Division of Motor Vehicles
- Ferry
- Global Transpark
- Highways
- Integrated Mobility
- Ports Authority
- Rail
- Turnpike

Each division consists of sections and units. The Division of Highways is further divided into centralized (located in Raleigh) and 14 geographic regions (highway divisions). The distinction between staff in central units and staff in highway divisions is important because there are differences in how female employees are distributed that appear to align with where the employee is geographically located.

2.2 Classifications

Positions are categorized into a classification system, developed by the Office of State Human Resources (OSHR) for all State employees. NCDOT has some agency-specific classifications as well. This study only looks at engineering classifications for NCDOT. These are:

- Engineer I
- Engineer II
- Engineer III
- Engineering Supervisor I
- Engineering Supervisor II
- Engineering Supervisor III
- Engineering Manager I
- Engineering Manager II
- Engineering Director I
- Engineering Director II
- Engineering Director III
- Engineering Director IV

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3. The Data

This chapter looks at employment data to understand how female employees are distributed among engineering classifications at NCDOT. The data are stratified by employee classification and if the employee is stationed in the central office or is based in one of the 14 highway divisions. Turnover rates for these categories are also examined. **The data highlights a pattern that shows women in engineering classifications seem to plateau at the Engineer III level, with a significant drop-off in female representation in Engineering Manager roles (EM1, EM2), and a near absence in Engineering Director positions (ED1-ED4).** Some graphs are shown in this chapter but the majority of the data is shown in Appendix A.

3.1 Women in Engineering Classifications

As of December 2023, NCDOT had 1,411 employees in engineering classifications, of which 230 (16%) were female. Of the 230 females in engineering classifications, 81 (35%) are classified as Engineer III, which is the level before moving into a supervisory role.

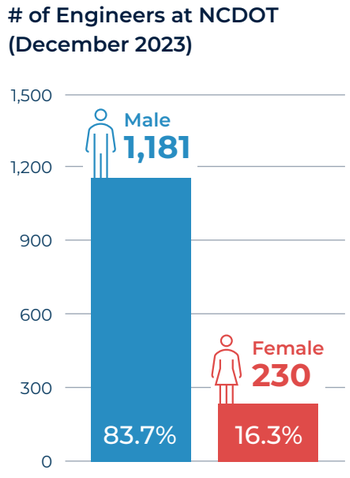

Figure 1. Number of Engineers at NCDOT

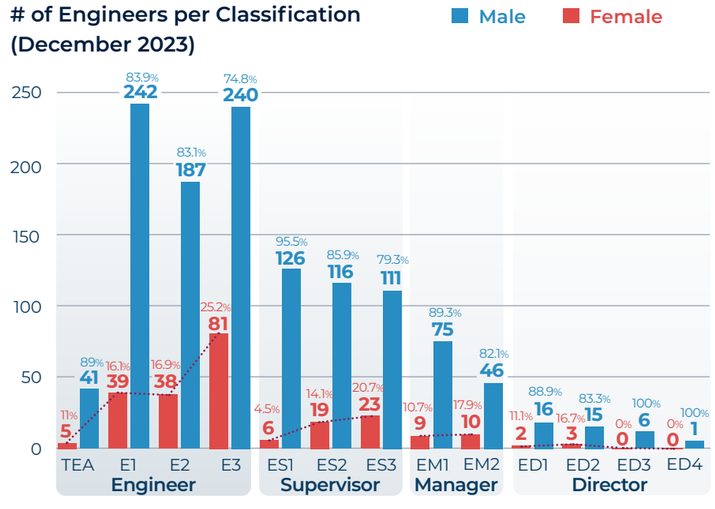

Figure 2. Employees By Engineering Classification

Data indicates that 72 percent of women in engineering classifications are based in central units while the remaining 28 percent are based in the highway divisions. In addition, 40 percent of female engineers in central units are at the Engineer III level, compared to 23 percent in highway divisions. While there is a more even distribution among classifications of female engineers in highway divisions, there is consistency in their increasing scarcity at classifications above Engineer III. In the highway division, entry level engineers begin supervising employees after being on the TEA Program. Engineer I positions are supervising technicians in the highway divisions. In most of the central units, engineers do not start gaining supervising experience until they are a engineer III. Engineer III only supervises consultants and does not have direct reports. Due to this factor, many females are unable to qualify for engineering supervisor positions in central units. In the highway divisions, the career path are identified and you have gained the supervising experience to move up into supervisor roles. There are more engineering manager levels in the highway divisions then in the central units. The data show just under 20 percent in supervisory roles in central units and just under 30 percent in supervisory roles in highway divisions. There is a notable reduction in female engineers above this level – only 5 percent in manager roles in central units (15 percent in highway divisions) and less than 2 percent in director positions in central units (3 percent in highway divisions).

# of Engineers in Central Units (December 2023)

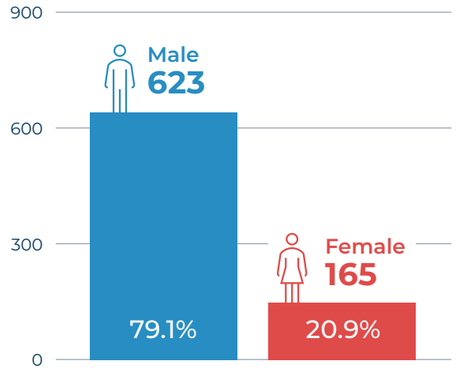

Figure 3. Engineers in Central Units

# of Engineers in Highway Divisions (December 2023)

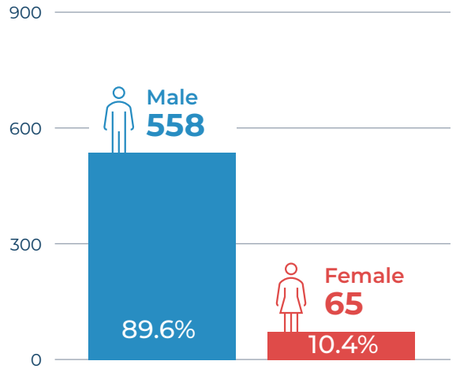

Figure 4. Engineers in Highway Divisions

3.2 Turnover Rates

Examining turnover rates is important for understanding workforce stability and identifying potential areas of concern in retaining female employees. Turnover rates were examined to see if there were any noteworthy trends by gender. Retirements and promotions are not included in the rates. This time period was selected to reflect updates to classifications made in mid-2018. From June 2018 to December 2023, turnover rates for males and females in engineering classifications generally exhibited similar trends, maintaining steadily below 10 percent across most roles.

However, some notable differences emerged in specific years and classifications. For instance, in the Engineer I classification, there were notable spikes for females in 2019 in central units and in 2021 and 2023 in highway divisions. These spikes were not reflected by their male counterparts, indicating unique factors affecting only one gender during these periods.

Similarly, in the Engineer II classification, there is a notable increase in turnover rates for females in central units in 2022. For Engineer III, both genders experienced a notable spike in 2021, suggesting a shared underlying cause for increased turnover in that specific classification during that year. Females in the Engineering Supervisor III classification both in central units and in highway divisions saw spikes in 2021. Turnover for females in the Engineering Manager I classification spiked in 2018, potentially due to mid-year classification updates. This spike was unique to females and did not have a comparable increase among males in the same classification.

While overall trends for both genders were similar, these specific divergences highlight periods where female turnover rates uniquely spiked, suggesting the need for more detailed investigation to understand the circumstances that might have contributed to these gender-specific increases. Detailed data and graphs for each classification can be found in Appendix A. Engineering Director classifications were excluded from analysis due to minimal or no female representation.

3.3 New Hires

One of the goals of this study is to develop strategies for recruiting and attracting more women into engineering roles at NCDOT. Based on Department employment data, over the last five years, 21 percent of new hires into the entry level Engineer I classification were women. This number has been trending up since 2021 (2021: 18 percent, 2022: 19 percent, 2023: 20 percent). The majority of these Engineer I new hires are in the central units. Yearly data are shown in Appendix A.

Male and Female New Hires in Central Units and Highway Divisions April 2019 - March 2024

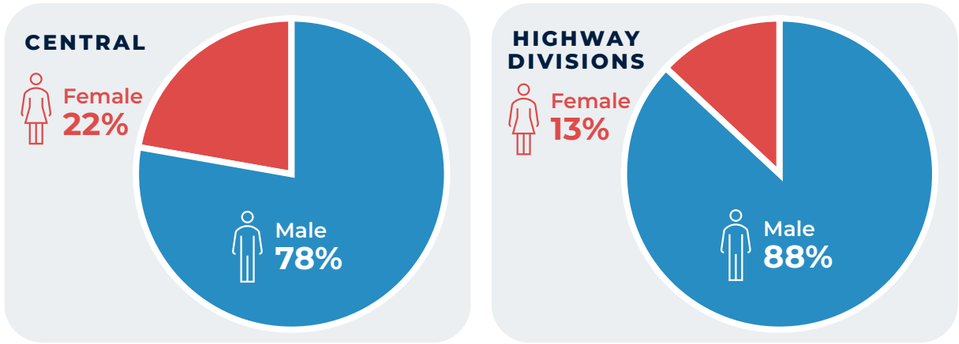

Figure 5. Male and Female New Hires in Central Units and Highway Divisions

3.4 Programs and Policies

To determine strategies the Department could pursue to increase the number of women in engineering classifications and leadership, it is essential to understand what efforts are already in place. The project team examined programs and policies that influence hiring and advancement, particularly as they relate to women.

3.4.1 Strategic Plan

The *North Carolina Department of Transportation Strategic Plan (2023-2025)* shares the Department's vision, core values, mission statement, and strategic goals. The 2023-2025 Plan lists eight strategic goals, one of which is to be an organization that reflects the population of the State. The stated objective is to "enhance the diversity of our workforce and partnerships."

Performance measures specifically related to increasing the number of women at the Department include:

23-48%
employees who identify as female

25-30%
female new hires and promotions

3.4.2 Equal Employment Opportunity Plan

The *North Carolina Department of Transportation Equal Employment Opportunity Plan (March 1, 2023),* hereafter referred to as EEO Plan, provides guidance and outlines the responsibilities of management regarding the implementation of the plan with a primary objective of taking results-oriented steps to assure equal employment opportunity. The EEO Plan protocol applies to employment decisions, related to hiring, promotion, demotion, and retention within the Department of Transportation. This document highlights certain segments of the plan that relate specifically to this study.

From "Achievements and Best Practices":

» In an effort to increase awareness of diversity, equity and inclusion knowledge and practices within the workplace, NCDOT incorporated *Make our organization a great place to work Diversity, Equity & Inclusion* in all NCDOT employee performance plans as a required training goal. This requirement was established in 2021 and consists of the following trainings:
- Understanding Diversity in the Workforce Training
- EEO and You Training
- NCDOT Conflict Resolution Training

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» Issued quarterly reports with analysis of statistical data for a number of variables, with one being female workforce representation, EEO's efforts to address these areas of concern, and the status of the EEO unit's responsibilities to the State of North Carolina Office of State Human Resources (OSHR).

» The NCDOT DEI Advisory Group established a sub-task force whose purpose was to explore effective methods to bolster the agency's EEO plan, its implementation, and pertinent activities. This task force is comprised of employees representing EEO and Human Resource activities. The advisory group has reviewed underutilization in employment practices, disciplinary action policies and procedures, and other identified concerns and barriers related to EEO within the organization. This group is currently not active.

From "Best Practices":

» NCDOT Talent Management team added a DEI Recruiter in November 2021 to assist hiring managers. This good faith effort and best practice is to assist hiring managers in obtaining a diverse workforce that currently consists of 24 percent female and 24 percent minority employees. The DEI Recruiter's responsibilities include:
- Networking and maintaining relationships with colleges and universities including HBCUs/MSIs,
- Developing and implementing strategic recruitment efforts to attract and retain a diverse workforce
- Interacting collaboratively and productively with diverse populations in English and Spanish
- Collecting and analyzing statistical data that guides workforce planning initiatives surrounding recruitment activities for women and diversity applicants

- Within one year of being assigned, each new supervisor or manager will be enrolled in Equal Employment Opportunity and Diversity Fundamentals (EEODF) under N.C.G.S. §126.16.1, to ensure training that covers lessons on the EEO programs, also covers the "value of diversity, skills for tolerance, perceptions, primary and secondary dimensions of diversity, workplace harassment laws and forms of harassment, applying equal employment in hiring, civil rights laws, enforcement agencies, and how the complaint and accommodation request processes work". In 2022, 82 percent of all managers and supervisors completed this program.
- The EEO unit located within the Office of the Civil Rights is responsible for reviewing and approving hiring packages for both new hires and promotions to ensure decisions are based on job-related abilities using standardized processes.
- The EEO unit collects anticipated vacancy information from each division or business unit's HR personnel and develops annual placement goals. NCDOT's Central HR department disseminates the documents to Hiring Managers of each division/business/organizational unit covering each of the eight (8) EEO-4 job categories as a continued good faith effort to create a diverse workforce.
- An interview standard is set to ensure that hiring managers perform all interviews with a diverse interview panel and that a diverse candidate pool (that meets the required knowledge, skills, and abilities) is interviewed. Emphasis is placed on working with Talent Management and programs such as Internship, HBCUs, minority associations, and other NCDOT Programs.
- Managers and supervisors are expected to participate in development and implementation of the EEO plan and to help achieve its goals. Their effectiveness toward achieving measurable EEO outcomes is assessed during their annual performance review cycle.
- An Equal Employment Opportunity Advisory Committee is appointed by the Secretary of Transportation. It is a sub-task force of the DEI Advisory Group tasked with reviewing the Department's EEO Program and Plan, providing recommendations for action, and creating a communications link between administration, management, employees and EEO staff in collaboration with the Office of Civil Rights Diversity, Equity, and Inclusion Advisory Committee.
- The committee is currently inactive but when relaunched it will review the Department's EEO programs; recommend administrative measures to improve the Department's performance; and raise awareness about EEO issues. The committee will be made up of 12 senior-level managers, the OCR director and EEO officer. The committee will report to the Secretary.

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»3.4.3 WomenConnect

WomenConnect is an employee resource group, founded in Summer 2023. It is governed by a Board comprised of women across the Department. Its mission statement is "to inspire, connect and support women to achieve career and personal success within the Department. WomenConnect will work to further the mission and values of NCDOT, represent the interests of women and support NCDOT's efforts to improve diversity and inclusivity throughout the agency."

Goals of WomenConnect include:

WomenConnect also focuses on empowering women through skill-building and professional development opportunities. Within the first year, the group has held in-person events at nearly every Division and the DMV as well as virtual and Raleigh-based events.

3.4.4 Training Programs

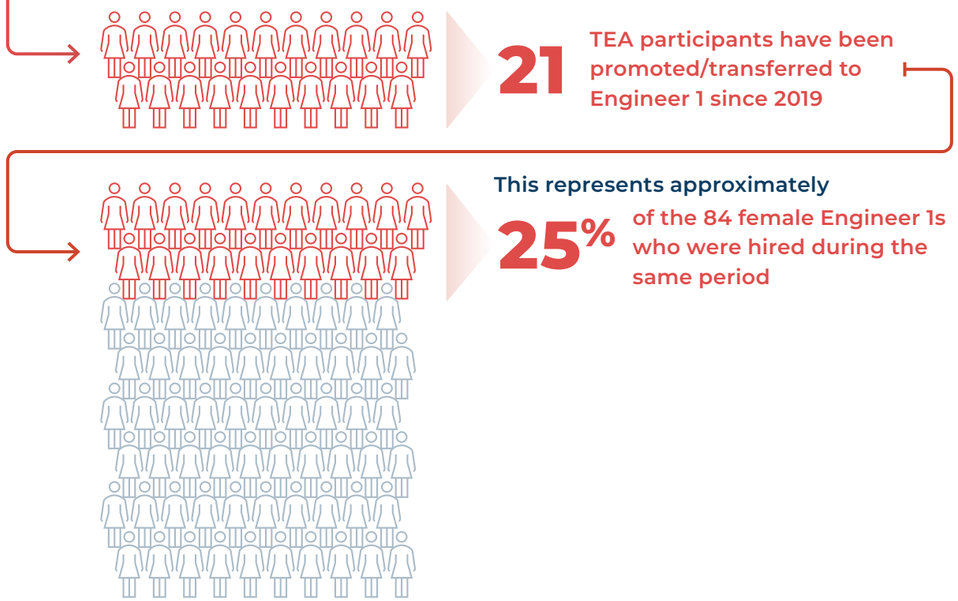
The following are training programs offered or being reinitiated at NCDOT. Neither has a specific focus on women.

3.4.4.1 Transportation Engineering Associates (TEA) Program

The Transportation Engineering Associates Program is an 18-month training program operated by the NCDOT that allows recent engineering graduates to rotate through various units, including construction, maintenance and operations, structures and management, value management, rail, aviation, and others. The associates have access to the Department's Learning Management System for various certifications, and civil engineering associates can complete the Fundamental Engineering (FE) and Professional Engineering (PE) review courses, at no cost to them.

The program gives associates a broad understanding and practical experience with transportation engineering and offers NCDOT a pool of trained and experienced individuals who are ready to assume engineering responsibilities. It is the primary means of hiring into NCDOT's Engineer I positions. Forty -one individuals participated in NCDOT's TEA program during calendar year 2023 And 12% of them were female engineers. On average over the last five years, female engineers represent just 11 percent of TEA program participants, highlighting a gap in entry-level recruitment that creates the initial engineering talent pipeline for NCDOT.

According to TEA Program and Human Resources data,



21 TEA participants have been promoted/transferred to Engineer 1 since 2019

This represents approximately

25% of the 84 female Engineer 1s who were hired during the same period

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3.4.4.2 Legacy Leadership

The Legacy Leadership training program began in 2012. Despite being on hiatus since 2019, there is a planned effort to reintroduce it. This innovative program is provided by NCDOT's Office of Human Resources and works with participants from the early stages of their professional development onward. The program combines experiential learning, independent reading, 360-degree assessments, self-reflection and intensive team workshops to develop and enhance crucial leadership skills. The program is structured into four tiers: Level 1 team building, Level 2 leading others, Level 3 leading managers, and Level 4 leading at the executive level.

3.4.5 Mentoring Programs

NCDOT offers a mentoring program and participates in another offered by the N.C. Department of Administration (NCDOA). NCDOT's program is open to all employees and it does not have a particular focus on engineers or women. The NCDOA program is exclusively for women. s important to note that employees may also participate in other programs informally through professional organizations. However, these two programs were specifically mentioned in a review of programs and interviews with staff.

3.4.5.1 NCDOT Mentoring Program

The 2023-2025 Strategic Plan notes the NCDOT Mentoring Program reintroduced in 2022 after a seven-year hiatus. The 2022 season kicked off with five protégés and five mentors. Registration for the 2024 season opened in October 2023. This year-long partnership between a mentor and protégé provides NCDOT employees a vehicle for career development and professional growth. Designed to complement rather than overshadow an employee's primary job duties, the program encourages participants to explore personal career development objectives within the Department. Taking into consideration the employee's individual career ambitions, the mentoring coordinator endeavors to pair the protégé with a mentor who can provide guidance, enhancement. Together, the mentor and protégé devise a Mentoring Agreement Plan that establishes the partnership's scope and developmental aims. The NCDOT Mentoring Program serves as a validated method of knowledge exchange, networking, and talent development.

Mentors often enjoy the personal growth and inherent rewards associated with assisting another in this manner, thereby helping to establish a thriving talent pipeline for NCDOT's future.

3.4.5.2 Lady Cardinal Mentorship Program

The Lady Cardinal Mentorship Program is operated by the NC Department of Administration, but NCDOT has participated in it for two years. The program is a four-week summer program for North Carolina girls in grades 9-12. The program is for students interested in science, technology, engineering and mathematics (STEM) in state government. The program is part of the state's initiative to reduce the disparity in employment and earnings among women and men in the state. Over the course of the four weeks, participants receive 24 hours at a site working beside women leaders at various state government agencies.

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3.4.6 Introduce a Girl to Engineering Day

"Introduce a Girl to Engineering Day" is designed to highlight engineering as an appealing career path for young women. It offers students the opportunity to engage in hands-on transportation activities and to participate in information sessions with female engineers from various disciplines at NCDOT. These professionals discuss their daily responsibilities and the essential skills their roles require. They also encourage young women to continue developing their math and science abilities, which are necessary for pursuing engineering programs in college.

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4. What We Heard

One of the most important elements of this study was to engage with and hear from employees. Employees are the backbone of the department, and their views, experiences, and suggestions hold substantial weight in shaping the workplace culture and environment. To accomplish this collaboration, the project team conducted a series of interviews, deployed an employee survey, and facilitated focus group discussions to garner an in-depth understanding of their perceptions and experiences.

Through these exercises, the project team sought to listen to and understand the perspectives of employees from diverse roles and levels within the organization about issues regarding gender balance and fairness. Moreover, we solicited their creative ideas and potential solutions to enhance and improve the employee experience at the department.

This section summarizes the methods used to collect data and the numerous insights gained from employees. Along with the quantitative data, this information will be used to determine recurring themes, and to develop a prioritized list of recommendations.

4.1 Interviews

The project team conducted 33 interviews between Sept. 13 and Sept. 22. A diverse group of individuals from all engineering classifications were interviewed, along with staff from the Office of Civil Rights, EEO, Employee Relations and Human Resources. Employees ranged from entry level to executive leadership. Additionally, employees in the central office and highway divisions were interviewed. Interviews were generally thirty minutes and were conducted virtually using Microsoft Teams. Interviews were not recorded, and employees were assured that their names would not be used in study documentation.

... were conducted between Sept. 13 and Sept. 22.

Interviews were generally 30 minutes and were conducted virtually.

A summary of interview responses follows. The responses are grouped into the following categories: recruitment, relationships, career paths, support for families, and salary and benefits. Interview questions are included in Appendix B.

4.1.1 Recruitment and Retention

4.1.1.1 Diversity on Interview Panels

Many interviewees noted that the panels conducting interviews for engineering roles rarely include a female engineer. This often mirrors the demographic distribution within the engineering group in question, which often lacks female engineers available for panel inclusion. Interviewees suggested a possible unintentional bias in certain questions, such as those about physical fitness.

4.1.1.2 Diversity Among Outreach Ambassadors

Despite recognizing the overall scarcity of female engineers, several interviewees expressed a desire for heightened visibility of these professionals in settings such as career fairs, outreach events, and within NCDOT's recruitment and marketing materials. The visibility of women in engineering roles at the department is crucial for inspiring and cultivating the interest of young girls and women in the field. This, in turn, can encourage them to consider working at the department.

4.1.1.3 More Focused Effort to Retain Female Engineers

Another group of interviewees suggested that the lack of female engineers in leadership roles at NCDOT is not strictly a matter of recruitment and visibility. Instead, they placed a stronger emphasis on retention, expressing the need for the department to invest significantly in the existing pool of women employees to prepare them for leadership roles. While some acknowledged that the department effectively communicates its dedication to equity, they noted a lack of translation of this commitment into tangible changes in hiring, recruitment, and retention practices. This discord was captured aptly by one interviewee, who remarked that "the numbers stay the same" with regard to the stagnant number of female engineers within the department despite its avowed commitment to equity.

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4.1.2 Relationship-Building and Networking

Most interviewees agreed that relationships are critical for a successful career at NCDOT. Many of the individuals interviewed noted that they primarily encountered other individuals within the Department at conferences. Many of those interviewed who work in highway divisions, generally smaller than central units, often described their groups as having a "family atmosphere." Despite not frequently engaging in after-work social activities, the rural location of many offices means that staff frequently encounter each other at public places like stores, churches, or other community events. Yet, employees with family obligations often find it challenging to attend networking events outside of working hours, with women particularly facing this struggle.

Training programs and professional organizations present another avenue for relationship building. Numerous interviewees considered these valuable for establishing long-lasting relationships. Many individuals mentioned their experiences with the Transportation Engineering Associates (TEA) Program and Legacy Leadership (discussed in Section 3.4). All participants shared that programs yielded relationships that were beneficial to their career progression at NCDOT. There was a shared desire amongst those involved in Legacy Leadership to see the program reinstated. Many also expressed gratitude for NCDOT's encouragement of their membership in professional organizations such as Women's Transportation Seminar (WTS), which aims to promote the advancement of women in transportation. However, they noted that such events usually take place in urban areas, making them less accessible to women residing and working in rural divisions.

Some interviewees voiced concerns about the social culture at NCDOT. They reported women being excluded from social activities and shared instances where male leaders were reluctant to involve them in decision-making meetings. This problem appears to be especially pronounced when female engineers are elevated from subordinates to peers. As a result, women often form a different type of relationships with their colleagues compared to their male counterparts. Some described the disconnect they feel when they reach a certain level as undermining their ability to effect change or motivate employees. Others claimed it has directly hampered their career advancement opportunities.

4.1.3 Career Path Planning

4.1.3.1 Getting Pigeon-Holed

A few interviewees expressed that being siloed in one department/group can hinder an employee's upward mobility. If an employee is solely involved in project work and does not have opportunity to gain supervisory experience, it can limit their eligibility for leadership roles once they ascend to the Engineer III level and wish to move forward. One interviewee suggested this problem usually necessitates lateral transitions to other departments to acquire the diverse experiences required for a leadership role. While this is a viable solution for some, it may not be suitable for others.

4.1.3.2 Moving Required

Some interviewees in supervisory or managerial positions indicated that geographical mobility is often a prerequisite for job advancement. Some suggested that moving to a highway division is the most effective way to climb up the ladder, yet others claimed that being based in Raleigh was essential to access a broad spectrum of opportunities. Additionally, interviewees believed career progression paths were more well-defined within divisions than in the central units.

4.1.3.3 Inconsistent Opportunities Across Classifications

Several interviewees noted that engineers within the same classification may not be equally exposed to leadership responsibilities. Seemingly by chance, some Engineer I positions entail supervisory or leadership duties, while other Engineer I roles are restricted to project work. This inconsistency can result in unequal advancement opportunities, as employees with leadership experience become adequately equipped for supervisory roles and others without such experiences do not. Additionally, there is a disparity in supervisory levels and opportunities between engineering supervisors in the divisions and those in the central units. For example, an Engineer I in the divisions has the opportunity to supervise technicians and gain supervisory experience, while an Engineer I in the central units does not have the same opportunity. Also, highway divisions have Supervisor 1 and 2 positions, whereas the central units only have Supervisor 3 positions. This structure makes it difficult for Engineer Is and Engineer IIIs in the central units to gain the necessary supervisory experience to qualify for Supervisor 3 positions.

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Furthermore, some interviewees in the Engineer III classification mentioned that their current positions offer higher salaries than those in the next classification level. This creates a disincentive to apply for a promotion.

4.1.3.4 Mentorship and Professional Development

Nearly every interviewee reported having a mentor at a certain point in their careers, which helped them navigate their career paths at NCDOT and learn strategies for advancement. They agreed that mentorship played an essential role in their career success. Most of the female interviewees mentioned that their mentors were other women within the department. It was also nearly universal that all the mentorship instances occurred informally, with no institutionalized mentorship opportunities available to all employees. A desire was expressed to see the department invest in existing female employees through mentorship and growth opportunities. A more formalized mentorship system would be beneficial in identifying and guiding these employees and assisting in mid-career transitions.

Career discussions and goal setting with managers varied greatly depending on the individual supervisor and the specific unit or group. Although evaluations typically follow a standard template, the same was not true of career goal setting and planning. Multiple interviewees suggested that providing career guidance should be a stated responsibility of supervisors.

Regarding training and professional development, some emplooyees suggested reestablishing successful programs that have been discontinued. However, they emphasized that participation in these programs alone, without adequate mentorship or sponsorship, is insufficient for career progression.

A few interviewees expressed dissatisfaction with having to use their vacation time to attend networking and professional development events during work time, despite recognizing them as the vital relationship-building opportunities necessary for advancement.

Many women expressed a strong desire for advancement opportunities. However, they stressed the importance of being recognized for their competence as engineers without feeling stigmatized or "othered" by initiatives focused on "advancing women."

4.1.4 Work-Life Balance

4.1.4.1 Inconsistent Application of Flexibility Policy

The department has a policy in place that allows employees to work from home two days a week. It is understood that this policy is not suitable for all positions. Some interviewees pointed out that a few supervisors seemingly do not agree with this policy and choose not to implement it within their teams. While there was no distinct opinion that this was being applied in a gender-biased manner, it does have potential to disproportionately affect female employees.

4.1.4.2 Lack of Support for Mothers

The interview process revealed that the experience of many individuals at NCDOT underwent substantial transformations after they had children. The respondents highlighted several hurdles, such as the struggle to secure flexible work hours or the option to attend meetings virtually to accommodate childcare responsibilities. Another crucial issue was the challenging predicament of finding an appropriate time and place to pump. A specific incident was shared where an interviewee felt obligated to handle heavy objects during pregnancy, despite having medical documentation cautioning against such manual labor. Additionally, the interviewees revealed an organizational culture that, although offering excellent paid time off policies, sometimes looked down upon its utilization. It was felt that an organization such as NCDOT, due to its superior benefits, should ideally be more supportive to mothers. Reportedly, the situation compelled one interviewee to move to a lower classification to accommodate reduced working hours after having a child. It was suggested that this culture might be the reason many female engineers find themselves plateauing at the Engineer III level, surmising that higher positions have demands incompatible with active family life.

Cultural norms often attribute the caretaker role to women, necessitating the need for flexibility in their work schedules to find a balance between professional commitments and responsibilities at home. Adoption of hybrid work environments can facilitate such duties, providing the required flexibility and room for responsibilities like nursing. Moreover, flexible work timings could potentially enable women to work part-time or reduced hours without having to move to a lower classification. However, ingrained organizational structures and attitudes could potentially pose challenges.

For instance, some women perceive executive roles to be intertwined heavily with politics and other demanding activities, thus making flexible work hours less attainable. The inability or unwillingness to sacrifice familial obligations for inflexible schedules often poses a barrier for women engineers in advancing professionally at NCDOT.

4.1.5 Salary and Benefits

NCDOT has completed several classification and compensation studies. The framing and focus of some studies were at odds with other studies which led to a lack of parity among some classifications. For example, advancement from Engineer III to Engineering Supervisor I is not intuitive from a salary perspective or a role and responsibility perspective. Consequently, finding opportunities to advance from Engineer III to supervisory roles requires sponsorship from more senior leaders within the organization. Additionally, there is a lack of parity in classification and compensation between engineers that supervise and manage engineers and engineers that supervise professionals that are not engineers, even though the roles, responsibilities and budgets are the same. Finally, NCDOT has seen a reduction in benefits in the recent past, and changes in retirement benefits make working at NCDOT less attractive to younger employees.

4.2 Employee Survey

4.2.1 Overview

An additional method of engagement for this study was a survey disseminated to the entire NCDOT workforce. The survey, made up of 71 questions, sought to gain insights into employees' perspectives on equity. The initial nine questions were dedicated to collecting demographic data, with the final question left open-ended for any concluding remarks from the respondents.

The remaining 61 questions used a Likert-scale model, where respondents expressed their degree of agreement or disagreement with the provided prompt. Using this scale, a score of one expressed strong disagreement, while a score of five reflected strong agreement with the statement. The complete survey document can be found in Appendix C.

It is important to note that while the entire workforce was surveyed and all results were summarized and included in Appendix B, this chapter focuses on experiences and perceptions of employees in engineering classifications.

4.2.2 Key Takeaways

Survey responses from engineers at NCDOT paint a complex picture of the organization's dynamics concerning recruitment, mentorship, promotions, opportunities, and career advancement. Both male and female engineers expressed skepticism about the department's recruitment efforts for women, with female engineers showing stronger dissent. Regarding mentorship, female engineers predominantly disagreed with the statements concerning the encouragement of mentorship relationships by the leadership, while male engineers remained neutral. When discussing promotions and opportunities, responses indicated concerns about fairness in promotions among female engineers, who disagreed with the claim that promotions are merit-based and gender-neutral, whereas male engineers maintained neutrality on whether promotions are influenced by personal relationships or qualifications. Lastly, both groups disagreed that career advancement discussions are adequately addressed during performance evaluations, and while females felt there were insufficient clear opportunities for advancement, males withheld outright agreement or disagreement.

Collectively, these responses underscore a disparity in perceptions and sentiments between male and female engineers at NCDOT, especially on issues related to equality and support mechanisms within the workplace. These responses are further discussed below.

4.2.2.1 Recruitment

The survey responses indicate that both male and female engineers at NCDOT question the effectiveness of the organization's recruitment efforts toward women in engineering or across the department as a whole. Female engineers, in particular, expressed stronger dissent, consistently rating their disagreement with the statements. In contrast, male engineers generally maintained a neutral stance, responding with "Neither agree nor disagree" to the same prompts.

4.2.2.2 Mentorship

Survey responses to questions about mentorship at NCDOT reveal differing perspectives between male and female engineers. Female engineers predominantly disagreed with the statements suggesting that NCDOT leadership fosters mentorship between supervisors and their employees and that there have been adequate mentorship opportunities throughout their careers at NCDOT. On the other hand, male engineers expressed a neutral viewpoint, typically responding with "Neither agree nor disagree" to the same prompts.

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4.2.2.3 Access to Promotions and Opportunities

Survey findings show varied responses from male and female engineers regarding advancement within the Department. Both groups refuted the statements about having been promoted or denied promotion in the last two years. Male engineers disagreed with the idea that promotions are primarily influenced by personal relationships rather than qualifications, while female engineers remained neutral, neither agreeing nor disagreeing. Regarding the assertion that promotions are merit-based and gender-neutral, female engineers disagreed, indicating concerns about fairness, while male engineers provided neutral responses, neither affirming nor contesting the statement.

4.2.2.4 Career Advancement

Responses to questions about career advancement among engineers at NCDOT reveal a mix of opinions on the topic. Both male and female engineers disagreed with the statement that discussions about career advancement occur during annual performance evaluations. When asked about NCDOT providing necessary training for leadership roles, both groups maintained a neutral stance, neither agreeing nor disagreeing. Female engineers expressed disagreement regarding the clarity and sufficiency of opportunities for career advancement through promotions at NCDOT, suggesting a perceived lack of transparency and opportunities. In contrast, male engineers consistently responded with "Neither agree nor disagree" to these prompts, indicating a more neutral view on these aspects.

4.3 Focus Groups

In January 2024, two focus groups were convened, comprising female engineers of varying classifications across different units and divisions. The project team presented data on existing conditions, summaries of interviews and surveys, with an emphasis on recurring themes (discussed in Chapter 5). Participants were asked to select which themes needed to be addressed most urgently. The groups determined the issues that presented the most significant challenges to female engineer's recruitment and advancement and discussed ways to address them.

4.4 Best Practices

In addition to reviewing employment data and feedback, the project team reviewed *Final Report, NCHRP Project 20-05, Synthesis Topic 54-20* (Ivey, S., S. Gallagher, A. Dontoh, S. Hashemikamangar, D. Flowers, K. Arellano, P. Jha, L. Sirbaugh, J. Kimbro, October 2023), which examines initiatives and practices to address the underrepresentation of women at state departments of transportation (DOTs). The report aims to provide an in-depth analysis of effective strategies and challenges in increasing the representation of women across different DOTs. Using literature reviews, surveys, and detailed case study interviews, the report identifies successful recruitment, retention and advancement practices. It also emphasizes the importance of data-driven decision-making and the need for continuous monitoring and assessment to refine and sustain gender diversity efforts.

The findings highlight the need for a comprehensive and intentional approach throughout the employee life cycle. Research emphasizes the importance of creating early outreach programs that address gendered perceptions of job roles, which can develop as early as age three.

Such initiatives may yield long-term benefits by normalizing a gender-diverse candidate pool. Implementing robust metrics and accountability systems is crucial for tracking progress. Furthermore, intersectionality of gender, race and other identifies need to be a key consideration in formulating gender-related strategies, as individuals with multiple underrepresented identities often face compounded challenges. Agencies must enhance data collection and analysis efforts to effectively integrate and address these factors.

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Survey responses from state DOTs reveal a mixed landscape of practices to address the underrepresentation of women. While many agencies have implemented recruitment strategies involving partnerships with educational institutions and gender-inclusive communication, fewer have systematic retention or advancement practices. Retention strategies often focus on flexibility in work arrangements and inclusive workplace culture but lack formal assessment of their impact. Advancement strategies such as leadership programs also require more robust evaluation. Despite many agencies including gender diversity in their strategic plans, a significant number lack accountability structures to ensure effective implementation.

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5. Recurring Themes

In this section, we synthesize insights obtained from data analysis, interviews, and the employee survey to identify recurring themes. Subsequently, two employee focus groups were convened to prioritize these themes. The focus group discussions also played an important role in crafting strategies to address the prioritized challenges, thereby ensuring a comprehensive and employee-centered approach to addressing female recruitment, retention, and advancement for engineering positions. The feedback is grouped into the following buckets or recurring themes:

- **Clear Pathways for Career Progression**
- **Equal Opportunity for Promotions**
- **Classification and Compensation**
- **Mentorship and Professional Development**
- **Female Visibility in Recruiting**
- **Focus on Females in Retention Efforts**

Participants in both focus groups ranked Mentorship and Professional Development as the top priority, followed by Clear Pathways for Career Progression and Equal Opportunity for Promotions.

Chapter 6 will provide a list of actionable recommendations, based on this feedback, the data presented in Chapter 3, and alignment with the Department's strategic goals and EEO Plan. The recommendations are based around two overarching goals: increasing the number of females hired into entry level positions and supporting the advancement of mid-career females in engineering positions.

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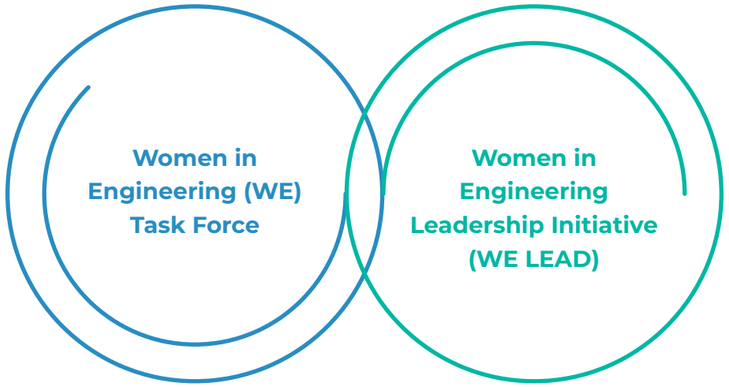
6. Recommendations

Based on the data analysis and feedback from employees, the Ladders of Opportunity team's recommendations focus on two primary areas:

1. The underrepresentation of women in entry-level engineering positions; and
2. The underrepresentation of female engineers in leadership roles.

The Department's strategic plan also acknowledges the first area and documents its commitment to increasing the number of new hires who are female. **To address these challenges, the Ladders of Opportunity team proposes two signature programs – one to address recruitment and the other to address access to opportunities for career advancement.**



These two programs include strategies to address the recurring themes about recruitment and retention; professional development and mentoring; and career paths. The overall objectives of the programs are to increase the number of females entering engineering roles while eliminating structural impediments that fundamentally hinder their advancement.

6.1 Women in Engineering (WE) Task Force

Female Visibility in Recruiting

What We Heard: On average over the last five years, female engineers represent just 10-15 percent of TEA program participants, highlighting a gap in entry-level recruitment that creates the initial engineering talent pipeline for NCDOT. In addition, there is a lack of female engineers at recruiting events and in recruiting and marketing materials. This suggests a need to reevaluate the Department's recruitment strategies in order to enhance female visibility to appeal to and engage more women in engineering positions.

Objectives: Enhance pipeline of entry-level women engineers in the TEA program and other junior engineering roles at NCDOT.

Goal: Increase the percent of women engineers hired for the TEA program to at least 20 percent in December 2025/January 2026. Accomplishing this goal will require improved recruiting techniques and other strategies discussed further in the report.

Strategy: Create NCDOT Women in Engineering (WE) Task Force

Description: The Ladders of Opportunity Steering Committee, the leadership team for this initiative and has one recommended addition of a representative from the Office of Civil Rights to ensure compliance with state and federal laws, will create the Women in Engineering (WE) Task Force. Members of the Task Force will be chosen through a process developed by the Steering Committee. They will be a dedicated group of ambitious, entry to mid-level female engineers from across the State, united by a common goal: To increase the number of entry-level female engineer new hires at NCDOT. The Task Force will initially prioritize enhanced college recruiting strategies to attract more female engineering graduates to the TEA program. The Task Force will also seek to promote engineering as a viable and appealing career for young women and to ensure that future professionals perceive NCDOT as their employer of choice.

WE Task Force members will not just be engineers – they will be influencers and leaders in their field. They will be given the unique opportunity to develop, launch, and execute a strategic plan to instigate change and enhance diversity within the NCDOT's engineering ranks. They will have an opportunity to demonstrate their leadership skills by managing multiple responsibilities such as strengthening university partnerships, increasing female representation at recruitment functions, and designing targeted advertising and outreach initiatives.

The task force will be instrumental in amplifying the visibility of women engineers at the Department by championing initiatives like the 'WE@DOT' spotlight campaign (described on page 35). Through innovative recruitment strategies, they will seek to bring in more entry-level engineers to the TEA program. They will work on longer-term strategies to inspire a new generation of female engineers and provide them with the tools to ascend to leadership positions within NCDOT.

The WE Task Force will also serve as a leadership incubator. Not only will its members get to make a meaningful difference to the composition of the workforce, but they will have the opportunity to present their strategic interventions and successes to NCDOT's leadership. In effect, the Task Force will serve as a significant stepping stone for these engineers as they work towards encouraging others to make their mark in the engineering world and also continuing their own advancement towards leadership roles within NCDOT.

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Action Plan

The WE Task Force will develop a detailed action plan using the findings and goals from this study, which may follow the following actions.

1. **Strengthen University Connections:** The task force will initiate and strengthen partnerships with universities, particularly those with strong engineering programs. They will develop a liaison program that assigns Task Force members to specific universities to maintain ongoing relationships. They will also connect with community colleges that offer relevant courses. They could host lectures, engineering demonstrations or workshops to attract students to the idea of working with NCDOT.

2. **Implement a Targeted Advertising and Recruitment Strategy:** Advertisement efforts will focus on female students in high schools, universities and community colleges. Particular attention will be given to female-only high schools and colleges. The task force will develop inspiring testimonial-based content highlighting successful female engineers at NCDOT, making it relatable for potential candidates. They will utilize multiple channels to advertise, including social media, career fairs and women in STEM organizations.

3. **Increase Female Representation at Recruiting Events:** The Task Force will develop strategies to encourage female engineers at NCDOT to actively participate in recruitment drives and to be visible during these events. This visibility can send a message to female candidates that they have equal opportunities in engineering workspaces. Host 'WE@ NCDOT Days' where female students can meet with NCDOT female engineers and learn about their experiences firsthand.

4. **Develop Targeted Outreach:** The WE Task Force will develop a strategic plan to reach specific target groups. The plan will include partnering with organizations that foster female participation in STEM activities. These can include local science clubs, Girl Scout troops, and organizations like WTS, COMTO or Women in Technology. The Task Force should consider organizing workshops and seminars in schools and universities to reach the audiences directly.

5. **Create a High-Visibility Campaign (WE@NCDOT):** The Task Force will create an ongoing marketing campaign that promotes the success stories of entry- to mid-level female engineers at NCDOT. This could include video or written testimonials, interviews, day-in-the-life features, and social media takeovers by female engineers. The campaign could also hold a yearly "WE@NCDOT" event, celebrating female contributions and accomplishments. This would not only raise the visibility of women engineers in the department, but also motivate other young women considering an engineering career. This campaign should be adequately promoted on digital platforms, to universities and at recruitment fairs.

6. **Establish Measurable Goals and Metrics:** A key responsibility of the Task Force will be to define clear, specific, and achievable goals for entry-level female engineering hires over a set period of time. Performance metrics will be developed to measure the effectiveness of the implemented strategies. Reporting these metrics to the Ladders of Opportunity Steering Committee will enable review and necessary modifications to the plan.

6.2 Women in Engineering Leadership Initiative (WE LEAD)

- **Clear Pathways for Career Progression**
- **Equal Opportunity for Promotions**
- **Mentorship and Professional Development**
- **Focus on Females in Retention Efforts**

What We Heard: There is a general lack of mentorship opportunities for women in engineering roles. In addition, there are challenges to gaining access to leadership for those with non-leadership positions. Third, there is a lack of clarity about the transition from Engineer III to leadership roles. The lack of mentorship and leadership skill-building opportunities not only can hinder career satisfaction and upward mobility but it also poses a challenge to retaining and promoting talented women within the department. Implementing expanded leadership training, optimizing communication strategies, and enhancing mentorship for these engineers is essential. By addressing structural barriers and promoting increased access to these opportunities, the department can ensure the professional growth and commitment of its female engineers.

Objectives: Increase access to opportunities, increase number of female engineers in leadership roles

Goal: By December 2025, ensure all female engineers have an individualized career plan. This will require developing a career plan template, training supervisors to support career plan development, and strengthening mentoring pathways through WomenConnect and other resource groups.

Strategy: Create NCDOT Women in Engineering Leadership (WE LEAD) Initiative

Description: The N.C. Department of Transportation is committed to leveling the playing field for all employees, with a particular focus on nurturing career progression, developing leadership skills and expanding access to opportunities for female engineers. With this intent in mind, the Ladders of Opportunity project team proposes the NCDOT Women in Engineering Leadership Initiative (WE LEAD), a tailored professional development initiative that will break down structural barriers and provide unparalleled access to leadership within the department.

This program will not only address the underrepresentation of women in leadership but it will also enhance the department's overall profile by leveraging the full potential of its diverse staff.

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Framework

1. **Leadership Exposure:** Mid-career female employees in engineering classifications will be offered the opportunity to engage with leaders in informal settings through events like luncheons, seminars, or coffee breaks – often hosted through the existing WomenConnect program. This will facilitate a unique networking opportunity that is not typically available in these employees' daily roles. Supervisors will be encouraged to allow their female employees to participate in WomenConnect activities.

2. **Structured Mentorship Program:** Pairing mid-career female engineers with senior-level leaders for one-on-one mentorship. Participants will work with their mentors to highlight strengths, identify areas of improvement and articulate and realize career goals.

3. **Skills Enhancement Workshops and Trainings:** Implement targeted workshops and trainings on skills for leadership roles, such as personnel management, strategic decision-making, negotiation, public speaking, navigating changing political landscapes, and innovative thinking.

4. **Practical Experience and Exposure:** Create an opportunity for participants to directly work with leaders on projects and initiatives. This will not only improve practical knowledge but also build visibility and relationships with the department's decision-makers.

5. **Promotion Opportunities:** Completion of the WE LEAD program will provide improved access to advancement. Participation and successful completion of the program will be factored into consideration for high-level promotion opportunities.

Success Metrics

1. **Participation Numbers:** Track the number of female engineers enrolling and completing Pathways.
2. **Advancement:** Measure the number of program graduates who secure leadership roles within the Department, with a particular focus on placements in senior and executive-level positions.
3. **Feedback Surveys:** Regular feedback surveys should be implemented to measure the effectiveness of the program from participants' perspective. Look at their increased confidence, skills, and professional network.
4. **Retention Rates:** Monitor the retention rate of program participants within the department.
5. **Satisfaction Metrics:** Conduct regular evaluations of the program from mentors, participants and other stakeholders' perspectives.

The WE LEAD initiative is a deliberate step towards achieving the department's commitment to value every employee's potential and help them carve out a path for their professional growth and advancement. The initiative challenges the status quo by intentionally allocating resources to encourage the career progression of female engineers, a demographic that is notably underrepresented in leadership roles at the department.

6.3 Additional Recommendations

Clear Pathways for Career Progression

Mentorship and Professional Development

What We Heard: Existing mentorship programs are not sufficiently publicized, leading to a lack of awareness among employees about the resources available to them. Some women in the Engineer III classification do not wish to move to leadership roles but they lack clarity about how to grow within that classification. Many employees indicated that they have not participated in meaningful career growth discussions with their supervisors, leaving them unsure about laying the foundations for their advancement.

Goals: Increase access to opportunities, provide clear career pathways

Strategies: In addition to these two programs, the Department should:

- Evaluate Transportation Engineering Associates (TEAs) Program: Develop an exit evaluation survey for transportation engineering associates to solicit feedback on their experience on the program. This evaluation will help the program understand changes that may need to be implemented to help recruit and maintain talent.
- Continue to amplify the impact of WomenConnect and similar initiatives for female employees, ensuring their framework for career progression effectively connects inputs and outputs to impactful outcomes. Regularly assess success measures that translate attendance and participation into tangible career advancement.
- Boost the exposure of NCDOT's mentorship program, ensuring broad participation across all classifications and divisions. Monitor and evaluate measures that highlight the impact of inter-divisional and inter-classification relationship building.
- Reinstate the Legacy Leadership Program and assess its efficacy using metrics similar to those used for training and WomenConnect.
- Provide more hybrid options, where feasible, for Raleigh-based professional development and training events, to improve accessibility for employees working remotely or in highway divisions.
- Issue agency-wide guidance to allow all units within the Department to allocate work time for attendance at professional organizations, with the agency covering membership fees and enabling the earning of Professional Development Hours (PDHs).
- Develop resources such as videos or pamphlets that outline typical as well as non-traditional career pathways within the department, inclusive of benchmarks for promotions and leadership roles. Include clear guidance for what counts as supervisory experience. This could be particularly useful for individuals in the Engineering III classification, who might be unsure how to move within that classification or into supervisory and leadership roles.

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- Conduct research to examine whether lateral moves play an equivalent role in career advancement for both men and women in engineering positions. The research should aim to identify any disparities and develop strategies to ensure equitable career progression opportunities across genders.
- Require managers and supervisors to integrate career goal-setting sessions with employees during annual performance evaluations. Provide them with essential training to ensure fruitful and effective conversations (see Appendix D for an example of goal-setting prompts). Regularly track the use of professional development hours to ensure employees' access to opportunities that are beneficial to their career growth.
- Design high-visibility materials specifically for employees within the Engineering III classification that clearly illustrate their growth options both within the classification and also towards leadership roles outside of it.

The project team acknowledges the feedback received pertaining to job classifications; particularly those pertaining to the Engineering III classification. Some concerns have been addressed within the goals and recommendations presented. The project team recommends a comprehensive study into classification and compensation, focusing primarily on the Engineering III classification. Such a study should consider potential avenues for career growth and recognition for those not actively seeking leadership roles, assess fair recognition and reward systems for those who hold supervisory roles outside of supervisory classifications, and address potential barriers limiting growth opportunities for employees who do not desire to move to highway divisions. The latter issue was commonly mentioned as a significant deterrent to the career growth of female engineers within NCDOT.

Finally, the project team recommends that the department consider initiatives aimed at addressing intersectionality, acknowledging that individuals who are female and members of other underrepresented groups often encounter compounded challenges concerning their sense of belonging and avenues for advancement. While this was not in the scope of this initiative, it was mentioned frequently during interviews with employees. Therefore, it is advisable to design and implement programs that address the unique challenges faced by these individuals. This could include creating intersectionality-focused mentorship programs, conducting training sessions for supervisors to better understand and address intersectional challenges, and establishing support networks that connect employees from diverse backgrounds. By doing so, the department can foster a more inclusive environment that supports the growth and development of all employees, particularly those facing multiple barriers to advancement.

6.4 A Framework for Developing a Measurement Index

To ensure accountability and implementation of the above recommendations, it is necessary to develop an index of composite measures. These measures will not only support the implementation of this report's recommendations, but they will also support the achievement of the goals articulated in the *2023-2025 NCDOT Strategic Plan*, specifically milestones 7.2 (percentage of employees whose gender is identified as female) and 7.4 (percentage of minority and female new hires and promotions).

The suggested indicators align with feedback received from interviews, surveys, and focus groups conducted during the project. They include quantitative and qualitative measures. Consider how these and other measures can be combined for multivariate analysis. This is not an exhaustive list of indicators for the proposed index, rather recommendations towards a framework for accountability. It is also acknowledged that some of these criteria are already being tracked. In those cases, it is important to continue tracking the data to correlate outcomes to specific strategies.

Baseline Assessment

The following indicators will be used to form a baseline assessment of the current state of female representation in engineering roles at NCDOT. These indicators are highlighted in the data section of this report.

1. Number of engineers by gender
2. Number of engineers per engineering classification by gender
3. Number of engineers in central units by gender
4. Number of engineers in highway divisions by gender
5. Number of engineers in central units per engineering classification by gender
6. Number of engineers in highway divisions per engineering classification by gender
7. Turnover rates in central and highway divisions per engineering classification by gender

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Recruitment

Recruitment indicators may include quantitative measures like tracking the effectiveness of where candidates are sourced and the number of female applicants per opening and qualitative measures like candidate experience.

Mentorship and Professional Development

Mentorship and professional development indicators may include quantitative measures that track participation (enrollment) and completion (graduation) rates of professional development programs focused on leadership and skills training, effectiveness of mentorship programs in a) relationship building across divisions and classifications and b) connecting mentees to assignments that build leadership and technical skills, effectiveness of mentor training in preparing mentors, and male ally support. Qualitative measures may include data highlighting the experiences of females who complete leadership and skills training.

Clear Career Pathway

Clear Career Pathway Indicators may include quantitative measures that track career progress toward desired outcomes and qualitative measures like employee understanding of competencies needed for navigating a chosen career path. Quantitative measures could also include promotion and advancement rates of females in engineering classifications and female representation in leadership positions, including executive leadership positions in engineering classifications. Qualitative measures may include ongoing collection of insights into career path and career choices, career and job satisfaction, and challenges faced in career progression.

In addition, it is recommended that NCDOT consider collecting data regularly and implementing a systematic data collection process, benchmarking data to national trends and similar institutions, and refining goals and strategies to adapt to changing contexts. Metrics specific to the WE Task Force and WE LEAD Initiative are suggested within those program descriptions.

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7. Conclusion

The Ladders of Opportunity study examines the underrepresentation of female engineers at the N.C. Department of Transportation. The analysis confirmed a substantial underrepresentation of women, particularly in entry-level engineering roles and leadership positions.

Using the existing conditions review and multiple layers of employee feedback, two innovative initiatives are proposed to address this underrepresentation. **The Women in Engineering (WE) Task Force** aims to increase female hires in entry-level engineering roles while the **Women in Engineering Leadership (WE LEAD)** Initiative seeks to provide women with greater access to leadership opportunities.

In addition to these two key initiatives, other recommendations are provided, covering areas such as performance evaluations, mentorship programs, targeted trainings, and career pathway planning to create a work environment that values diversity of thought and ideas and is supportive of career growth and advancement for its employees. The alignment of these strategies with the NCDOT's strategic goals indicates the Department's potential to make significant progress towards achieving the outcomes discussed in this report.

Ladders of Opportunity serves as a pivotal roadmap for NCDOT, not only illustrating the underrepresentation of women in its engineering workforce but providing assertive measures to address the issue. The proposed initiatives and recommendations present a feasible pathway towards a more diverse workplace, reinforcing NCDOT's commitment to providing equitable opportunities and paving the way for female engineers to reach new heights in their careers.

A diverse workforce at NCDOT offers numerous advantages. An inclusive work environment fosters a variety of perspectives, driving creativity and innovations in addressing complex transportation challenges. Additionally, diverse teams are often more equipped to understand and address the needs of a wider audience, resulting in more comprehensive and effective public service. Moreover, being intentional can enhance morale, reduce turnover, and attract top talent, as current and prospective employees see NCDOT as an organization that values and supports diversity. By embracing these initiatives, the department not only moves towards greater equality and representation, but also strengthens its organizational capacity to meet future demands and evolve as a leader in the transportation sector.

Appendix A: The Data

of Engineers at NCDOT (December 2023)

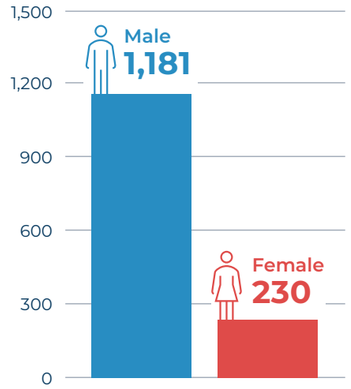

Figure A-1. Number of Engineers at NCDOT

of Engineers per Classification (December 2023)

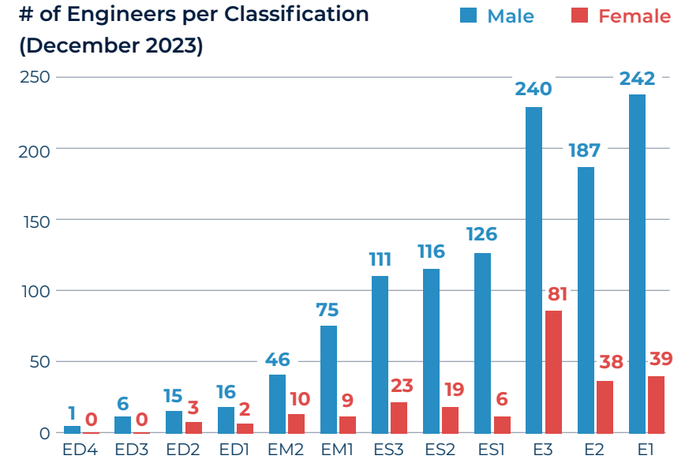

Figure A-2. Employees By Engineering Classification

of Engineers in Central Units (December 2023)

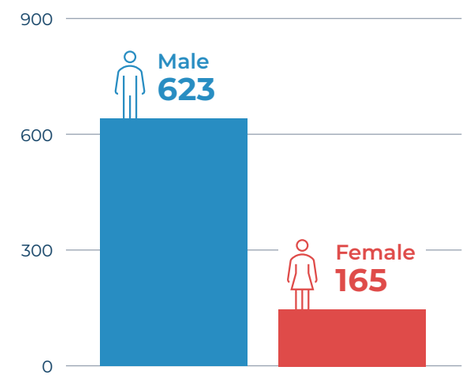

Figure A-3. Engineers in Central Units

of Engineers in Highway Divisions (December 2023)

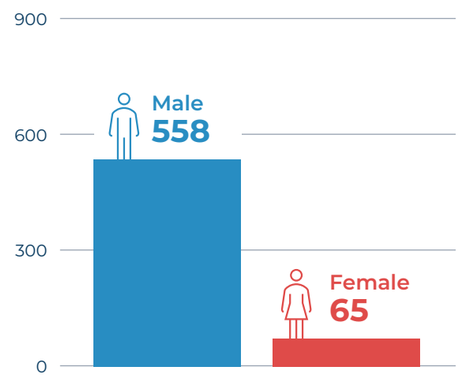

Figure A-4. Engineers in Highway Divisions

of Engineers in Central Units (December 2023)

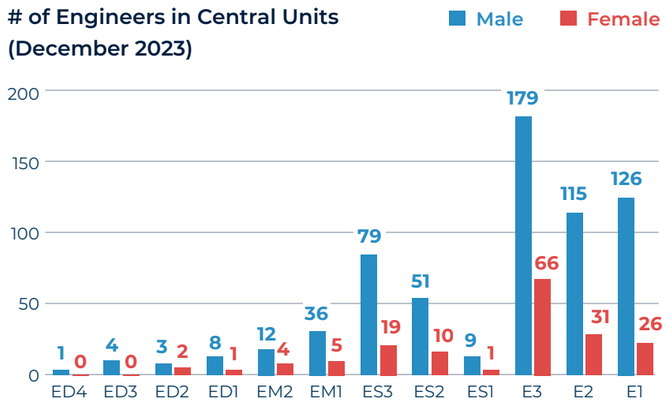

Figure A-5. Engineers by Classification in Central Units

of Engineers in Highway Divisions (December 2023)

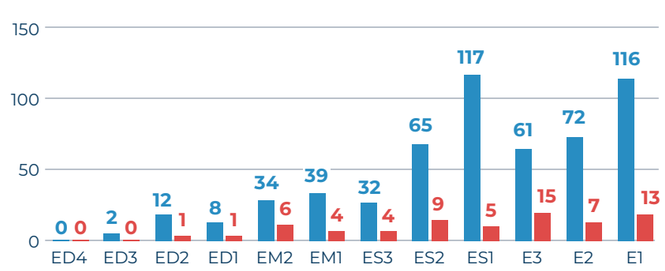

Figure A-6. Engineers by Classification in Highway Divisions

of Female Engineers (December 2023)

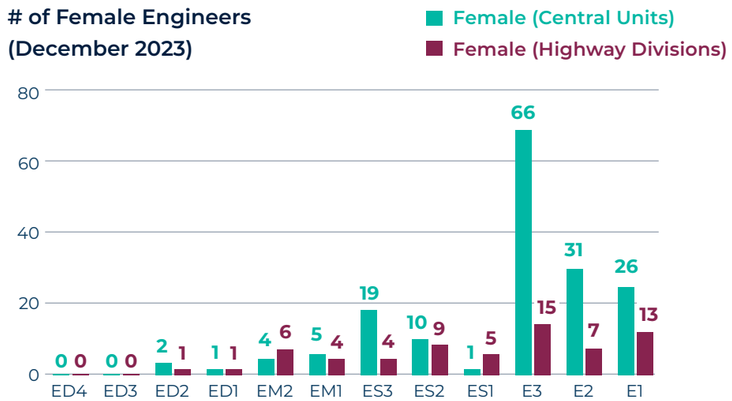

Figure A-7. Female Engineers by Classification

Retirements and promotions are not included in turnover rates.

Central Units		08/2018 - 12/2018	01/2019 - 12/2019	01/2020 - 12/2020	01/2021 - 12/2021	01/2022 - 12/2022	01/2023 - 12/2023
Job	Gender	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)
Engineer I	Male	8.33	1.54	1.41	3.20	5.36	3.15
Engineer I	Female	7.14	9.38	2.86	none reported	none reported	3.85
Engineer II	Male	1.05	3.70	0.98	2.86	3.42	0.87
Engineer II	Female	4.00	3.45	3.70	none reported	9.09	none reported
Engineer III	Male	1.75	1.12	0.57	1.14	3.41	none reported
Engineer III	Female	none reported	none reported	1.43	4.11	3.28	none reported
Engineering Supervisor I	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor I	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor II	Male	none reported	none reported	1.89	1.85	3.85	none reported
Engineering Supervisor II	Female	none reported	none reported	none reported	none reported	8.33	none reported
Engineering Supervisor III	Male	none reported	1.35	none reported	1.45	1.25	1.27
Engineering Supervisor III	Female	none reported	none reported	none reported	8.33	none reported	none reported
Engineering Manager I	Male	4.00	3.85	none reported	3.33	3.70	2.78
Engineering Manager I	Female	14.29	none reported	none reported	none reported	none reported	none reported
Engineering Manager II	Male	none reported	9.09	none reported	none reported	none reported	8.33
Engineering Manager II	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director I	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director I	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director II	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director II	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director III	Male	none reported	none reported	none reported	none reported	25.00	none reported
Engineering Director III	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director IV	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director IV	Female	none reported	none reported	none reported	none reported	none reported	none reported

Field Units (Highway Divisions)		08/2018 - 12/2018	01/2019 - 12/2019	01/2020 - 12/2020	01/2021 - 12/2021	01/2022 - 12/2022	01/2023 - 12/2023
Job	Gender	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation (exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)	Voluntary Separation Rate %(exoluding Retirees)
Engineer I	Male	1.89	4	none reported	none reported	3.67	6.90
Engineer I	Female	none reported	none reported	8.33	14.29	none reported	16.67
Engineer II	Male	none reported	1	none reported	none reported	none reported	1.39
Engineer II	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineer III	Male	none reported	1	none reported	none reported	none reported	6.56
Engineer III	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor I	Male	4.12	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor I	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor II	Male	1.75	2	1.61		1.59	1.54
Engineering Supervisor II	Female	none reported	1	none reported	none reported	none reported	none reported
Engineering Supervisor III	Male	3.45	none reported	none reported	none reported	none reported	none reported
Engineering Supervisor III	Female	none reported	none reported	none reported	33.33	none reported	none reported
Engineering Manager I	Male	none reported	none reported	none reported	none reported	none reported	2.56
Engineering Manager I	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Manager II	Male	2.94	none reported	none reported	none reported	none reported	2.94
Engineering Manager II	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director I	Male	none reported	none reported	none reported	none reported	16.67	none reported
Engineering Director I	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director II	Male	none reported	none reported	none reported	none reported	7.69	none reported
Engineering Director II	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director III	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director III	Female	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director IV	Male	none reported	none reported	none reported	none reported	none reported	none reported
Engineering Director IV	Female	none reported	none reported	none reported	none reported	none reported	none reported

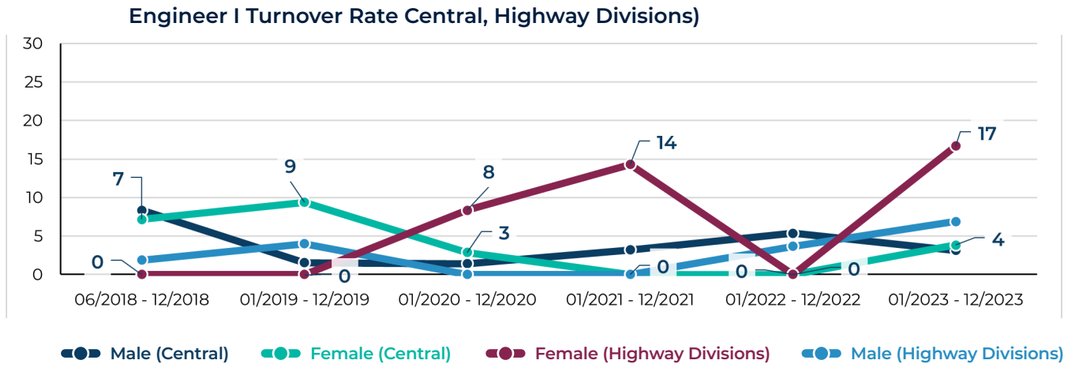

Figure A-8. Engineer 1 Turnover Rate by Gender (2018-2023)

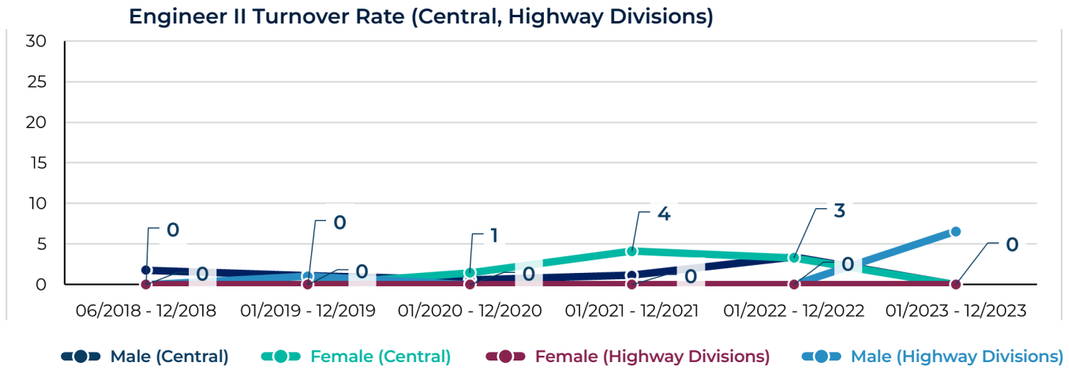

Figure A-9. Engineer II Turnover Rate by Gender (2018-2023)

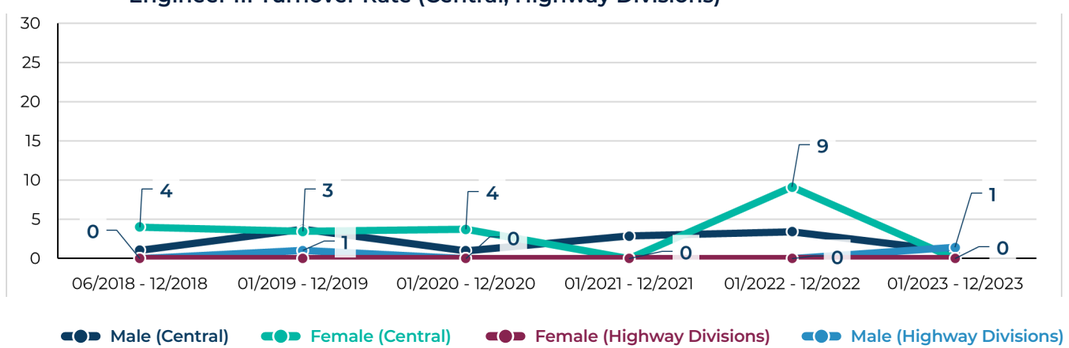

Figure A-10. Engineer III Turnover Rate by Gender (2018-2023)

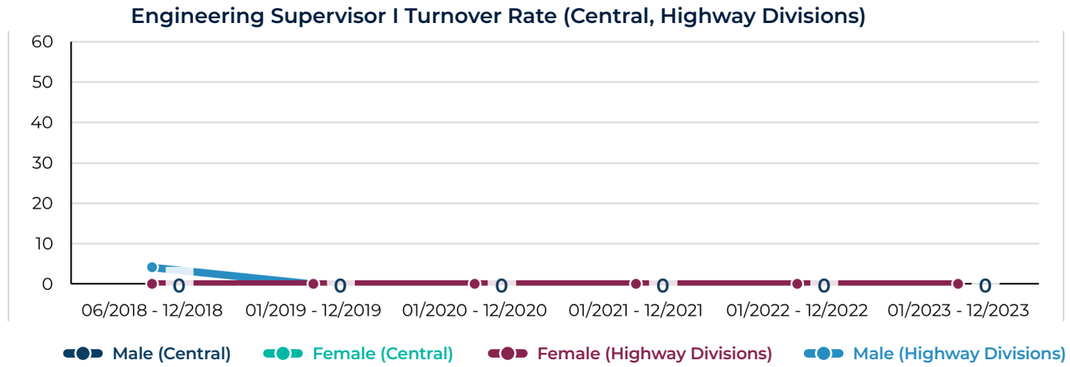

Figure A-11. Engineering Supervisor I Turnover Rate by Gender (2018-2023)

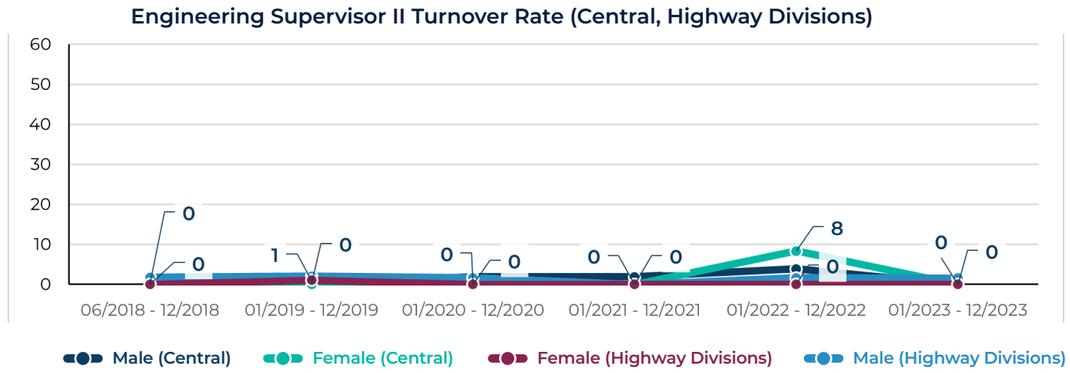

Figure A-12. Engineering Supervisor II Turnover Rate by Gender (2018-2023)

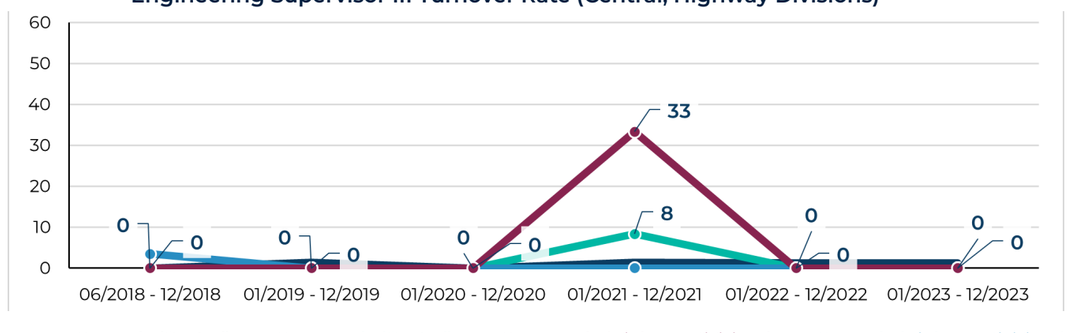

Figure A-13. Engineering Supervisor III Turnover Rate by Gender (2018-2023)

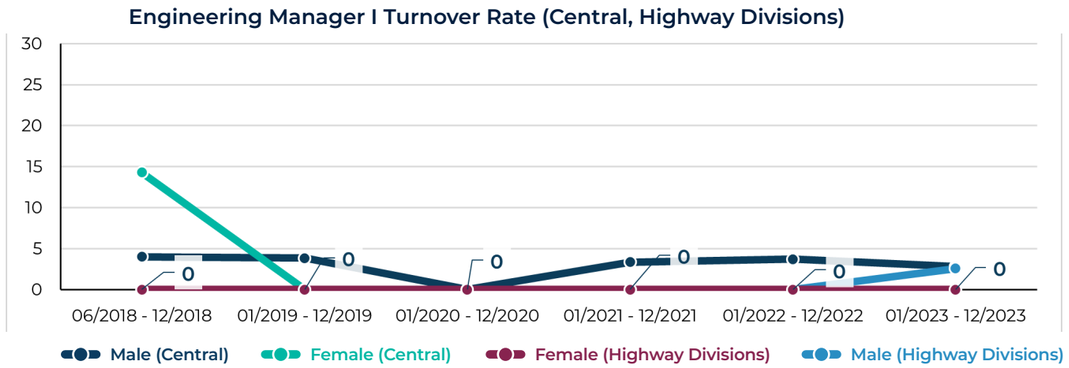

Figure A-14. Engineering Manager I Turnover Rate by Gender (2018-2023)

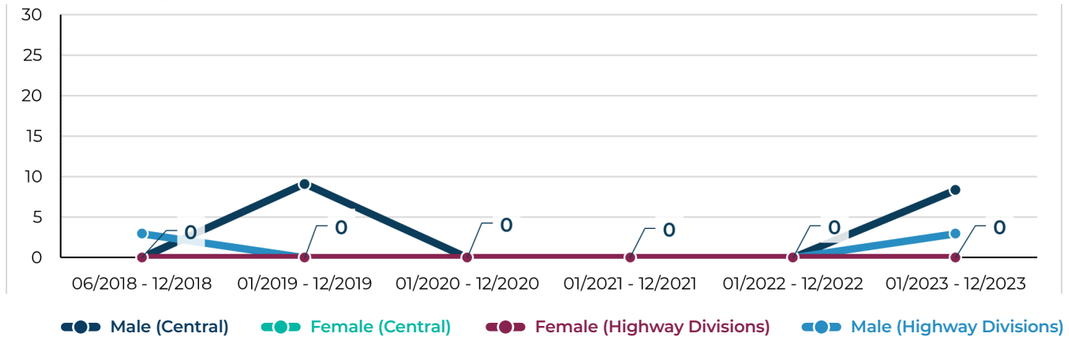

Figure A-15. Engineering Manager II Turnover Rate by Gender (2018-2023)

New Hires

Number of Male and Female New Hires in Central Units and Highway Divisions

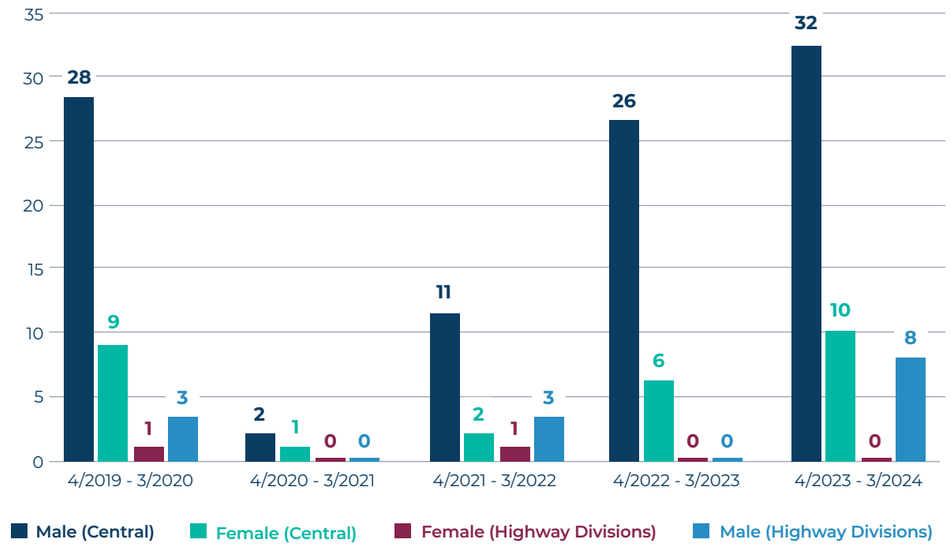

Figure A-16. Number of Male and Female New Hires in Central Units and Highway Divisions

Male and Female New Hires in Central Units and Highway Divisions

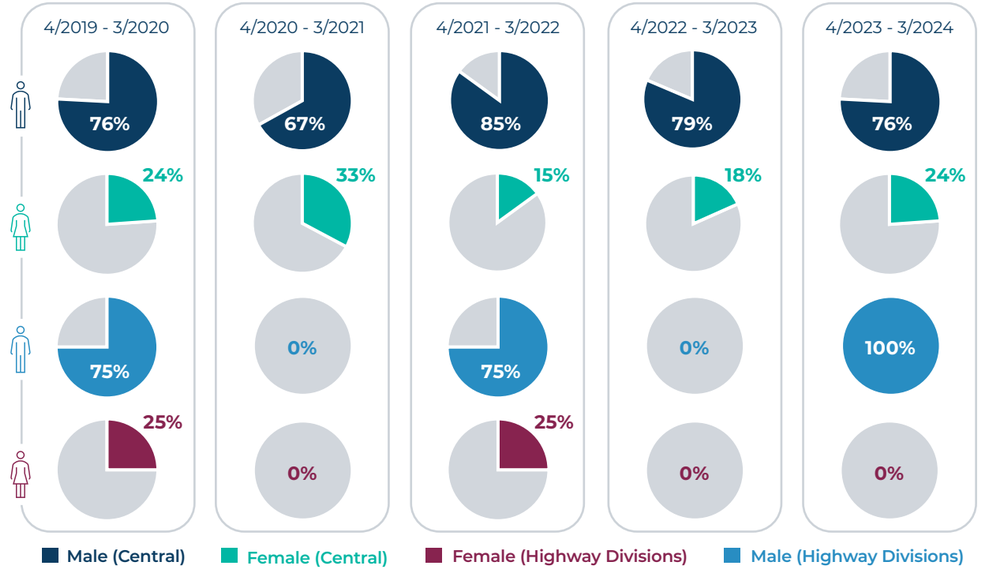

Figure A-17. Male and Female New Hires in Central Units and Highway Divisions

Number of Male and Female New Hires in Central Units and Highway Divisions 4/2019 - 3/2024

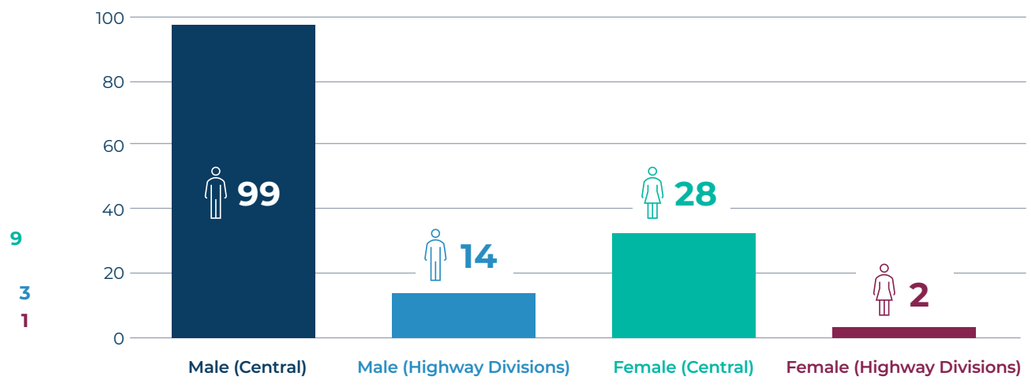

Figure A-18. Number of Male and Female New Hires in Central Units and Highway Divisions 4/2019 – 3/2024

Male and Female New Hires in Central Units and Highway Divisions 4/2019 - 3/2024

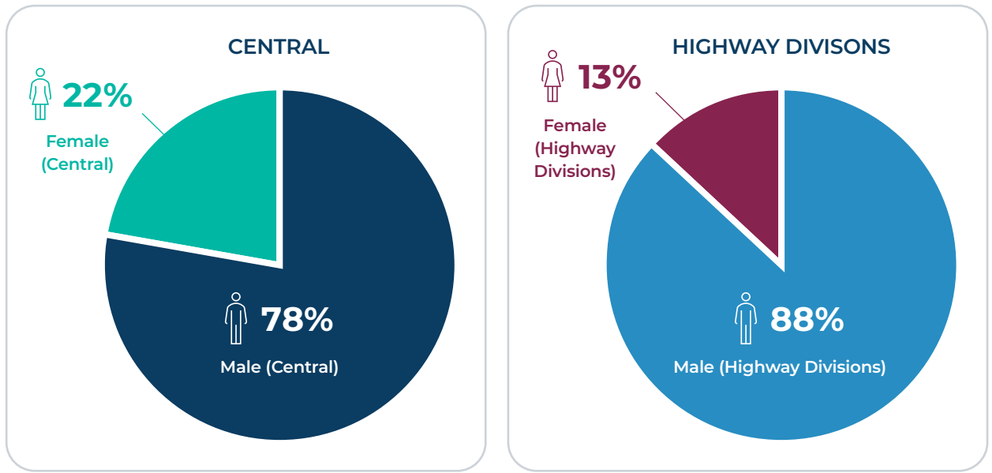

Figure A-19. Male and Female New Hires in Central Units and Highway Divisions 4/2019 – 3/2024

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Appendix B: Interview Questions

Interview Questions for Engineers

1. Please confirm your classification. How long have you been with NCDOT? How long have you been in this classification?
2. Are you a professional engineer? If not, do you plan to pursue this certification (if mid or entry level)? Do you think NCDOT has sufficient training and support programs for employees pursuing their Professional Engineering degree? Do you think a PE is required for all the positions that list it as a requirement? If not, can you provide an example?
3. In your opinion, do women in engineering classifications at NCDOT have the same opportunity for advancement as men in engineering classifications? If not, can you elaborate? What could NCDOT do to address this disparity?
4. In your opinion, are promotions awarded based on merit? If not, what protocols could be put in place to more align promotions with qualifications?
5. In your opinion, is salary aligned with classification? (e.g., Are you aware of people in different classifications making the same salary or someone at a lower classification making more than someone at a higher classification?) If no, does this seem to disproportionately affect women?
6. Do you think there are sufficient mentorship opportunities for employees at NCDOT? Are you aware of mentorship opportunities specifically for women?
    - For executives, do you mentor any employees or have you ever? If yes, have you mentored women engineers? What did you learn from that experience? Do you think your mentorship helped that woman advance at NCDOT?
7. Are there opportunities for employee growth and professional development? Are there any specific programs for women engineers? Are any of these programs tied to advancement?
8. Generally, do you feel supported by leadership? Do you think leadership values gender equity?
9. Do you think you have been treated fairly and equitably regarding promotions and opportunities for advancement?
10. In your opinion, how important is networking during non-work hours for career advancement at NCDOT? If it is very important, does this disproportionately impact women engineers? What might the department do to level the playing field for employees who aren't able to participate in events during non-work hours?
11. Have you or do you work a flexible or hybrid schedule? If so, do you think you have less opportunity for advancement than an employee working full-time in the office?
12. Does your supervisor encourage work-life balance activities? Do you think work-life balance is a priority for leadership?

13. Did your supervisor (or HR) explain to you the requirements for advancement for your classification? If so, do the requirements and process for being promoted seem equitable to you? Are there any that might disproportionately affect women engineers? Are you aware of the organizational structure of your group?
14. Do you participate in performance evaluation and/or professional goal setting with your supervisor? If so, do they help or hinder promotions or raises? Is there discussion about how to advance your career at NCDOT? Do performance reviews offer any opportunities for mentorship? For executives, How can the Dept build accountability for advancing women engineers into the annual appraisals and performance plans of staff and management?
15. Are you aware of any specific DEI training for employees?
16. Does the Department communicate a commitment to internal equity? If so, how? If so, do you feel this commitment is communicated by all levels of the Department? If not, what could the Department do to better communicate this commitment?
17. Are there job requirements and selection criteria used in the hiring process for engineers that might inadvertently reduce the number of women who apply or limit their chances for being hired?
18. In your experience, are interview panels diverse? Think back to when you were hired, is there anything you would change about the process?
    - For supervisor/management/executive.....Think about the last 2 or 3 hiring panels you were on. Were women (other women if the interviewee is a woman) on the panel? Do you recall how many people were interviewed for the position? Do you recall how many were women? Was a woman hired? If not, why not (less education, less experience, no PE, etc)?
19. Are you aware of the Department doing outreach activities/programs specifically for girls and young women who may aspire to be engineers? Does the Department have internships specifically for women?
20. Did you go through the transportation engineering associates program? If so, do you think it benefited your career at NCDOT and your chances for promotion? Please elaborate. What changes, if any, would you recommend for the program?
21. To sum up, what do you think is the biggest obstacle to women engineers advancing to management and executive roles? What is the most important thing the Department could do to remove this obstacle?
22. Anything else you'd like to add?

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Interview Questions for HR

1. Tell me about your role and the responsibilities of your office.
2. How long have you been with the department?
3. Does the department publish data about staff diversity? Is this broken out by engineers and non-engineers? Does the department have goals for staff diversity? If so, what happens if these goals aren't met?
4. What type of Diversity, Equity and Inclusion training is provided? Is it mandatory? Is there any training specific to supervisors and managers? Would you say leadership is supportive of this training?
5. Explain the hiring process from the time a hiring manager decides they have a need until a person being hired.
6. In your experience, are interview panels diverse? Does HR have any input in how these panels are structured?
7. What type of documentation do hiring managers need to provide to show their applicant selection was objective and unbiased?
8. How often are knowledge, skills and abilities reviewed? Classifications? Salaries? When was the last comprehensive update to any of these?
9. In your opinion, are there job requirements and selection criteria used in the hiring process for engineers that might inadvertently reduce the number of women who apply or limit their chances for being hired?
10. Are there formal, published career paths for different tracks within the department? For example, if someone starts at Engineer I. Is there a track to show them how they can advance to Engineering Director IV?
11. Do you think there are sufficient mentorship opportunities for employees at NCDOT? Are you aware of mentorship opportunities specifically for women?
12. We've heard about a program that was done in the past called Legacy Leadership. Some of our interviewees mentioned how that program helped them advance their career at NCDOT. Can you tell me about that program and why it was discontinued?
13. Are there opportunities for employee growth and professional development? Are there any specific programs for women engineers? Are any of these programs tied to advancement?
14. In your opinion, is the promotion process based on objective criteria? Does this information have to be submitted to HR? Do you receive many complaints from people who didn't receive promotions? If so, are they fairly evenly distributed between men and women?
15. What is the performance evaluation process? Does it include a goal-setting component, or is there a separate goal-setting meeting for employees?

16. What is the Department's policy on flexible or hybrid schedule? Are you aware of if influencing one's ability to advance at the Dept?
17. Does the Dept offer programs, benefits, etc. that encourage work-life balance? Do you think work-life balance is a priority for leadership?
18. Are you aware of the Department doing outreach activities/programs specifically for girls and young women who may aspire to be engineers? Does the Department have internships specifically for women?
19. Do you think the transportation engineering associates program has helped increase the number of women at the Department? What changes, if any, would you recommend for the program?
20. What is the process for filing a grievance about the behavior of a manager or supervisor? I know that information is confidential but can you share if you receive a significant number of grievances that are related to gender discrimination? If so, have any new policies been put in place?
21. Anything else you'd like to add?

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Appendix C: Survey Questions and Results

Summary of Survey Responses

Aside from the demographic questions and the space for comments at the conclusion of the survey, all the survey questions were Likert-scale, asking respondents to state on a scale of 1-5 how much they agreed with the prompt. 1 signifies strong disagreement, whereas a 5 signifies strong agreement with the statement. In order to summarize the responses, each prompt's scores were averaged. The average score for each question is displayed in the table below. In order to highlight the different experiences across employees at NCDOT. The averages were calculated for all responses, responses for only engineers, responses from only female engineers, and responses from only male engineers. The averages in the table are color coded according to the legend below to highlight when there is strong unity in responses and when there are obvious differences between averages.

Prompt	All Classifications	Engineering Classifications	Female Engineers	Male Engineers
My supervisor(s) treat everyone fairly, regardless of gender.	4.17	4.41	4.06	4.64
NCDOT treats employees fairly, regardless of gender.	3.78	4.06	3.53	4.36
My supervisor(s) treat everyone fairly, regardless of race and ethnicity.	4.20	4.46	4.21	4.63
NCDOT treats employees fairly, regardless of race and ethnicity.	3.76	4.04	3.70	4.26
I feel valued by the Department	3.29	3.68	3.36	3.90
I feel valued by my supervisor.	3.88	4.12	3.80	4.34
I feel empowered to speak up at meetings.	3.64	4.02	3.64	4.24
My gender influences how I am treated at work.	2.30	2.34	2.93	2.00
My gender has influenced my career progression (i.e., promotions or professional development opportunities).	2.21	2.26	2.91	1.89
My race or ethnicity influences how I am treated at work.	2.27	2.18	2.43	2.03
My race or ethnicity have influenced my career progression (i.e., promotions or professional development opportunities.)	2.23	2.15	2.26	2.08
I am included in meetings that will give me the experience and exposure to advance my career.	3.17	3.68	3.44	3.82
I am given opportunities to present my work.	3.50	3.95	3.61	4.16
I have the opportunity to participate in initiatives, workgroups, or committees at NCDOT.	3.24	3.86	3.71	3.96
NCDOT fosters a culture of equity.	3.45	3.75	3.35	3.96

Prompt	All Classifications	Engineering Classifications	Female Engineers	Male Engineers
My unit fosters a culture of equity.	3.66	3.96	3.48	4.24
My immediate supervisor and co-workers foster a culture of equity.	3.90	4.17	3.94	4.31
NCDOT leadership institutes policies and practices that promote gender equity.	3.62	3.86	3.27	4.18
NCDOT leadership institutes policies and practices that promote racial equity.	3.59	3.85	3.33	4.10
The policies and practices from NCDOT's leadership translate into the actions of my supervisors and co-workers.	3.61	3.84	3.38	4.08
NCDOT has an effective strategy to attract young women in high schools to engineering and to the Department.	2.90	3.02	2.68	3.21
NCDOT has an effective strategy to attract young women in college to engineering and to the Department.	2.96	3.14	2.84	3.31
NCDOT has an effective strategy to attract racially and ethnically diverse persons in high schools to engineering and to the Department.	2.98	3.18	2.89	3.34
NCDOT has an effective strategy to attract racially and ethnically diverse persons in college to engineering and to the Department.	3.08	3.35	3.08	3.51
I am happy with my career at NCDOT.	3.51	3.94	3.63	4.11
I see a bright future for myself at NCDOT.	3.26	3.70	3.33	3.91
NCDOT leadership encourages mentorship between supervisors and their employees.	3.04	3.31	2.95	3.52
There have been sufficient opportunities for mentorship during my career at NCDOT.	2.86	3.20	2.87	3.40
Mentorship opportunities are available to all employees, regardless of gender.	3.14	3.55	3.26	3.73
Mentorship opportunities are available to all employees, regardless of race and ethnicity.	3.15	3.54	3.21	3.73
I have attended a professional development event hosted by NCDOT in the past year.	2.76	3.75	3.69	3.81
I attended a conference this year that was not hosted by NCDOT.	2.43	3.30	3.11	3.41
There are sufficient trainings, workshops, and other professional development opportunities available to all NCDOT employees.	3.23	3.83	3.56	4.01
Membership in professional organizations, conference attendance, and general networking are supported and encouraged for all NCDOT employees.	3.00	3.52	3.25	3.69
NCDOT offers the training necessary to advance to positions of leadership.	2.92	3.46	3.11	3.64
It is clear to me how to advance my career at NCDOT through promotions. There are sufficient opportunities to advance my career at NCDOT.	2.58	3.05	2.92	3.16
My supervisor and I discuss career advancement at annual performance evaluation meetings.	2.56	2.90	2.80	2.97

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Prompt	All Classifications	Engineering Classifications	Female Engineers	Male Engineers
My supervisor supports my career advancement.	3.34	3.67	3.52	3.79
I receive the tools and training I need for career advancement.	2.83	3.31	3.07	3.48
Promotions are given to the most qualified employee, regardless of their gender.	2.89	3.40	2.92	3.67
Promotions are given to the most qualified employee, regardless of their race or ethnicity.	2.88	3.40	3.02	3.62
Promotions are given based on personal relationships more than qualifications.	3.19	2.97	3.20	2.85
Opportunities to qualify for promotions are available to all employees, regardless of their gender.	3.33	3.86	3.43	4.11
Opportunities to quality for promotions are available to all employees, regardless of their race or ethnicity.	3.33	3.86	3.48	4.10
I have been promoted within the last two years.	2.24	2.47	2.42	2.52
I have been denied a promotion within the last two years.	2.57	2.78	2.93	2.66
NCDOT leadership promotes workplace flexibility for employees (i.e., opportunities to work from home, flexible work hours).	3.21	3.52	3.32	3.61

Summary of Survey Comments

The survey concluded with an open-ended question allowing respondents to share additional comments. The feedback received was varied, reflecting a spectrum of experiences and viewpoints within NCDOT. Notably, there were many expressions of dissent from participants regarding the organization's current state of diversity, equity, and inclusion. Favoritism, limited growth prospects for non-engineers, and perceptions of unjust hiring and promotion decisions were cited as recurring issues. Additionally, some hinted at their discontent over the heavy emphasis on race and gender diversity, suggesting instead a need to focus on experience, qualifications, and performance. However, despite the concerns shared, some positive comments suggested approval for the organization's strides towards diversity and inclusion, and some communicated satisfaction with their professional environment and opportunities for advancement. Overall, while certain areas show progress, these comments indicate the need for further efforts to ensure that all employees feel valued and have equal opportunities for advancement within the NCDOT.

Appendix D: Goal-Setting Example

Success Strategy Session

Manager/Supervisor Preparation	*Notes, Recommendations & Improvement Plans*	*Employee Preparation*
Work Review • Am I satisfied with the work the employee has produced since our last meeting? • What is my level of satisfaction based on? • How well did the employee accomplish their objectives? • Did the employee manage any issues or challenges, and did they use assigned procedures for doing so? • How did the employee perform any special assignments? • Did the employee experience other successes? • How might I help?	Cooperation Commitments:	**Work Review** • Did I accomplish or exceed the expectations the company has set for me? • How do I know? • Were all job responsibilities/tasks accomplished? • Did I face any issues or challenges and how did I respond or overcome them? • Have I completed any special assignments? What is my progress on any assignment? • What other successes/goals have I achieved? • What help might I need going forward?
Employee Development *Based on previous interactions and conversations with the employee; what personal developmental areas is the employee working on and what else should be considered as areas of reinforcement or improvement?* Areas For Reinforcement or Improvement • Attendance and Punctuality *Is employee working effectively during hours assigned?* • Attitude and Skills *Is employee positive and committed to continuous improvement related to job knowledge and skills?* • Team Dynamics *Is employee's teamwork professional, supportive of others and cooperative?* • Problem Solving *Has the employee faced any problems or challenges? Were they able to solve or overcome them? How?* • Communication *Is employee a clear and effective communicator as needed in the performance of their job?* • Time Management *Is employee effectively managing priorities and tasks?* • Organization *Is employee organized in the details of their work?*	Cooperation Commitments:	**Personal Development** *What personal development areas am I currently working on and what else should I consider as areas for improvement?* Areas of Accomplishment or Improvement • Attendance and Punctuality *Am I working effectively during the hours assigned?* • Attitude and Skills *Am I consistently positive and committed to the continuous improvement of my job knowledge and skills?* • Team Dynamics *Has my interaction with teammates been professional, supportive and cooperative?* • Problem Solving *Have I faced any problems or challenges? Was I able to solve or overcome them? How?* • Communication *Have I experienced any communication challenges with other departments, co-workers, or customers?* • Time Management *Do I effectively manage my work priorities and tasks?* • Organization *Have I effectively organized my work responsibilities?*
Going Forward • What discoveries have been identified from the *Work Review* or *Employee Development* sections? • What objectives should the employee set going forward? • What employee work or responsibilities should I participate in? • What is my coaching plan for the employee going forward? _____ _____ _____	Cooperation Commitments:	**Going Forward** • What have I discovered based on the *Work Review* and *Personal Development* sections? • What objectives should I set going forward? • What assistance would I like to get from my Manager/supervisor? • What are my improvement goals/objectives? 1. _____ 2. _____

Employee:	Scheduled Meeting Date:	Scheduled Meeting Time:

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Creating New Pathways for Advancement for Women in Engineering at the North Carolina Department of Transportation

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