NORTHEAST TRANSPORTATION WORKFORCE CENTER

Environmental Work in the Transportation Sector

CAREER PROFILE

NAME: Nicole Freeman

TITLE: Director of Transportation Planning

DEGREE: Urban Planning & Economics

COMPANY: City of Newton, Massachusetts

According to the City of Newton, Transportation "is fundamental to the quality of life in Newton." This statement and initiative is guided by the Newton Leads 2040 Transportation Strategy with the goal of Newton's transportation systems being safe, smart, accessible, livable and sustainable by 2040. The current Mayor of Newton, Mayor Fuller has stated, "I want to see our villages linked by a transportation system convenient and safe for drivers, bicyclists and pedestrians, and where wonderful open spaces and a greener, more sustainable environment thrives. I will continue to be a strong and tireless advocate for all the city's residents, and I care deeply about making sure Newton is a city where we respect people with different opinions and where we stay true to being a city that is welcoming, inclusive, and diverse." This statement drives the 2040 initiative for the City of Newton.

Q. What is your current role at the organization?

A. I am the director of transportation planning at the city of newton.

Q. How did you get to this point in your career? Any key points along that pathway?

A. I studied Urban Planning and Economics as an undergraduate at MIT and Stanford (transferred), after which I worked part time as a bike planner at Stanford University while I pursued my first career as a professional bike racer.

More recently, I worked from 2007-2015 as the Director of Bike Programs for the City of Boston, 2015-2016 in Seattle as Chief of Active Transportation and currently work as Director of Transportation Planning in Newton, MA.

I spent time in Boston and one year in Seattle before I came to Newton. My job in Boston was the my most important, impactful job I have ever held to date. I worked for the Mayor Menino, to start up his bike initiative, Boston Bikes. I built the Boston Bike Share Program from the ground up. We went from 0 and added almost 100 miles of bike lanes, installed and put in 3,000 bike rack parking spaces, launched one of the first bike share programs in the country and created a myriad of other programs. We also reached out to get new riders and kids families to get kids and parents biking. Boston went from the worst cycling city in the U.S. to a recognized leader. I ended up moving on to Seattle because this position reported directly to the Mayor. I chose Seattle because the Boston job was directly linked to Mayor Menino. When Menino left, I think the new Mayor wanted to carve a

new space for himself. The Bike Share initiative was very much Mayor Menino's legacy and the new Mayor needed something else.

Then I moved onto Seattle to work as Chief of Active Transportation for the City of Seattle. Doing this, I got to oversee the expansion of bike share, worked on their New Mobility Playbook and helped with the creation of the Summer Parkways program. I was there for one year and then I came back to Massachusetts where I was hired as Director of Transportation for the City of Newton. Shortly thereafter, the job was split into operations and planning. So, I am the Director of Transportation Planning for the city of Newton.

Q. Were there any experiences that helped to best prepare you for the work that you do?

A. Boston was just an amazing opportunity. Reporting to the mayor allowed us to get things done. It was a new and very progressive initiative and the mayor's strong support helped push the program through and circumvented the bureaucracy of transportation to get it done. It meant a lot of staff that might have otherwise caused friction for progress, were supportive, albeit sometimes reluctantly. We were very dependent on the Boston Transportation Department (BTD) and the Department of Public Works (DPW) because they were reviewing the plans and working to move it forward. It was just such a brilliant structure for driving change and one of the best experiences of my career.

Q. What does a day in the life of your position look like?

A. Yesterday was fairly typical. I had ten emails that required some thought and time. Usually there are questions from the mayor. Today's included whether to take a position on a specific transit project. I responded about positions that we should take on transportation projects. This usually involves researching on the project and then making a proposal of recommendation position to the mayor. Another task was we were trying to put in planning locations for a few bus shelters. We had to reach out to the Massachusetts Bay Transportation Authority (MBTA) to see if we want to proceed with this or not. We are also working on getting the electrical vehicle car share company to operate in Newton—which entailed today working so working with lawyers and the company to develop a contract was another part of my day discuss contract issues. Another part of this day was a development project that would propose some bike pedestrian trails that would connect to the 'T' and to parks, and working with preservation people to decide on options for routes. We are also wrapping up a project regarding a bike path in West Newton that is about to go out to bid—so a lot of this work now is around resolving emerging issues and solutions. Often times there will be a couple of meetings and there might be one project to work on for a few hours: whether designing bike lanes, and writing memos, or preparing presentations. Remember, this was just one day of a five day work week.

Q. What skills have you gained in the work? Are these unique or transferable to other disciplines?

A. I've learned that planning is much more process oriented—which is about working hand in hand with constituents. It's quite a different skill set than what I did for Boston which was focused on deliverables.

Q. What do you enjoy most about your job?

A. I enjoy some of the more complex projects where we are trying to bring in a new innovation. Transportation has flipped on its head in the last 10 years regarding the way transportation has changed. We are working to bring an electric vehicle car share to Newton. We are also working on a $300,000 contract to use taxis for and to replace taxis with an on-demand shared mobility company that will provide transportation services for seniors. Another part of my work is wondering if cities of our density can support a privately funded bike share system—because when the population is lower and cannot support the bike share system,

it will often break down. So, new mobility is hard sometimes because there's not much you can do with it in a small city like Newton. I think that it is so much more interesting on a city/regional level. When it comes to the work of planners, there is the sort of traditional work—the city is going to re-construct and re-design a roadway and you're responsible for carrying the project from conception through concept, design and implementation. This is not really my strength. I much prefer the new mobility and operations work. But, the whole other side of transportation, like operations work, that is more analytical, dynamic, innovative, and transformative, I enjoy.

Q. What are some of the challenges you have faced in the work? How did you overcome them?

A. In Boston, being a young female, educated and trying to create change, it was a tough place. But I was so committed to what we were doing. Our group that worked together was incredibly passionate and just loved the work and it was so rewarding. We had each other and that compensated. Now it's sort of different. The bike world is a little more of a sub-culture and an image so there was a lot more camaraderie. In Newton, everyone is lovely and it is an easier place to work.

Q. What are some of your own personal characteristics and values that make you a good fit for this type of work?

A. I thrive in a dynamic fast-paced environment that requires a lot of multitasking with analytic projects. I thrive with highly complex, innovative, and new projects that are sort of entrepreneurial on the edge of public/private sector—the projects that require a business mind. As I said, these are not really the core skill sets required to be a planner. Planners typically need to excel in process, communications, patience and tend to have a better design sense than I do. That is not so much of this world—most of it is about the planning and the planning process.

Q. What is something that you want people to know about the work that you do?

A. For people that love transportation planning, the nice thing about the suburbs is that people tend to be nice, it is less cut throat, it is a manageable pace, it is less formal a hierarchical and you have more interactions with the mayor and department heads. It is a slower pace and I think some people might like to be able to dive deep on certain items that they might not get to otherwise. On the other hand, bigger cities are much more dynamic, large scale, there is more "professional suffering" and a harder environment to survive on a personal level. But there are cool and incredible opportunities and projects, and much more connection to other professionals to build networks.

Overview of Position as it Relates to Transportation

The role of a transportation planner is best described as "the planner of the transportation system of tomorrow." This requires work in the public and private sectors and/or engaging with government policy and the final details before the beginning of building work. This includes designing research methods and survey techniques for proposed transportation projects; assessing the impact of recent building developments on transportation systems; modeling traffic flows; recommending improvements for transportation systems; collaborating with engineers; and analyzing information related to transportation such as policy, impact reports, or long-term planning needs.

In the public sector, transportation planners typically provide services for government bodies and contractors, examining current traffic and population trends and determining the effectiveness of proposed and constructed roads. Transportation planners also plan new roads based on future predicted populations. Alongside transport engineers, developers, and environmental planners, transportation planners work to ensure that estates, commercial, and industrial zones have the correct transport infrastructure and also that they adhere to environmental legislation.

In the private sector, transportation planners work for public transport companies typically examining effectiveness of timings and schedules, as well as volume of transport services to ensure that these systems are working optimally. Transportation planners will also work to and be involved in the decision making process to compose new routes when transportation service providers are not functioning optimally.

Source: www.environmentalscience.org/career/transportation-planner

Transportation Planning

"In this field of study, you'll learn how to use math and science to design, develop, and improve transportation systems. You'll explore ways to keep traffic moving as well as ways to encourage the use of subways, buses, and bikes. And you'll study other forms of transportation, including trains, planes, and ships."

—College Board

Transportation Planning Directors

The main role of Directors is logistics and planning regarding transportation, as well as the management of other transportation managers on the team. In the public sector, directors may work for government bodies or contractors: examining trends, determining effectiveness of proposed structures, and bidding on projects.

Nicole is the Director of Transportation at the City of Newton Public Works Department. The Departmental Division serves under Mayor Setti. D. Warren. This position requires that Nicole direct and manage all aspects of Transportation Division including capital projects, operations, traffic design, active transportation, parking and asset management.

This includes: Designing, planing and executing multiple major capital projects on-time and on-budget; Overhauling parking programs with implementation of state-of-the-ark kiosk technology, new standard operating procedures for parking appeals, shared parking program (in progress), and on-street charging (in progress); Partnering with Planning Department to design City's first modern Complete Streets projects: $4M reconstruction of West Newton and $3M reconstruction of Newtonville; and spearheading the first large-scale regional suburban bike share system, launching in 2018.

Source: www.environmentalscience.org/career/transportation-planner

Overview of General Skills and Requirements

Transportation planning directors are required to have the skills to analyze information and data regarding market research, censuses, and environmental impact studies. This is necessary for the purposes of decision-making around planning options and choosing appropriate action plans regarding community development projects. Transportation planners must also have clear and effective communication skills as they interact with colleagues, stakeholders, and investors, as well as prepare and present reports to a wide variety of audiences. Finally, planners must be able to man age projects, oversee tasks, and plan assignments for themselves and others.

Transportation planners require certain credentials. Most require a Master's degree from an accredited planning program. People who hold a Bachelor's degree in Urban and Regional Planning can qualify for a small number of jobs as assistants or junior planners. Additionally, some entry-level positions require 1 to 2 years of work experience in a related field (i.e., architecture, public policy, or economic development). Acceptable experience can also be attained through internships related to Urban and Regional Planning either while enrolled in school or post-graduation.

Looking into the future, transportation planners will be needed to develop revitalization projects and addressed issues regarding population growth, environmental degradation, movement, and resource scarcity. Common challenges are predicted to be: population change, affordable housing needs and transportation systems; all of which can address high- and low-density populations. As communities emerge and grow they will require development and improved infrastructure regarding housing, roads, sewer systems, parks and schools. As a result, the employment of urban and regional planners is projected to grow 13 percent from 2016-2026. This employment growth is driven by demographic, transportation, and environmental changes.

Sources: Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Urban and Regional Planners. U.S. Department of Labor CareerOneStop: Transportation Planners Occupation Profile.

GLOSSARY

- **Carshare** – a model of car rental where members can rent cars for short periods of time, often by the hour. The model is often promoted as an alternative to car ownership.
- **On-Demand Transit** – any fixed route system of transporting individuals that requires advanced scheduling by the customer, including services provided by public entities, nonprofits, and private providers; often used in rural areas.
- **New Mobility** – emphasizes use of on-demand transit, shared mobility, and technology use such as fully or partially self-driving cars, electric vehicles, and vehicles with some combination of those elements.
- **Community Development** – a process where community members come together to take collective action and generate solutions to common problems.

Type of Projects Carried Out by the City of Newton, Massachusetts

DEDHAM-NAHANTON STREETS

Traffic Signalization project to upgrade traffic signal equipment, improve intersection alignment geometry, improve multimodal safety and operations and implement signal coordination.

WASHINGTON STREET CORNER

Conceptual design to improve safety and pedestrian accommodations, improve traffic flow, and ADA compliance.

NEEDHAM STREET

MassDOT led and funded project to pave and improve Needham Street. Project upgrades to traffic signal equipment, improves roadway alignment geometry, improves multimodal safety with projected bike lanes and crossings, and implements signal coordination.

About the City of Newton, Massachusetts

Environmental sustainability is one of Newton's main initiatives. This initiative is being achieved through the utilization of the City's designation as a "Green Community", implementation of energy initiatives, promotion of energy conservation efforts, and reduction of energy consumption throughout the City by 20% by the year 2020.

Since 2010, the City of Newton has set out to become a leader in environmental sustainability. Previous efforts toward this goal have been the adoption of the "Stretch Code" which requires higher energy efficiency levels in new construction and additions, and achieving "Green Community" status from the state.

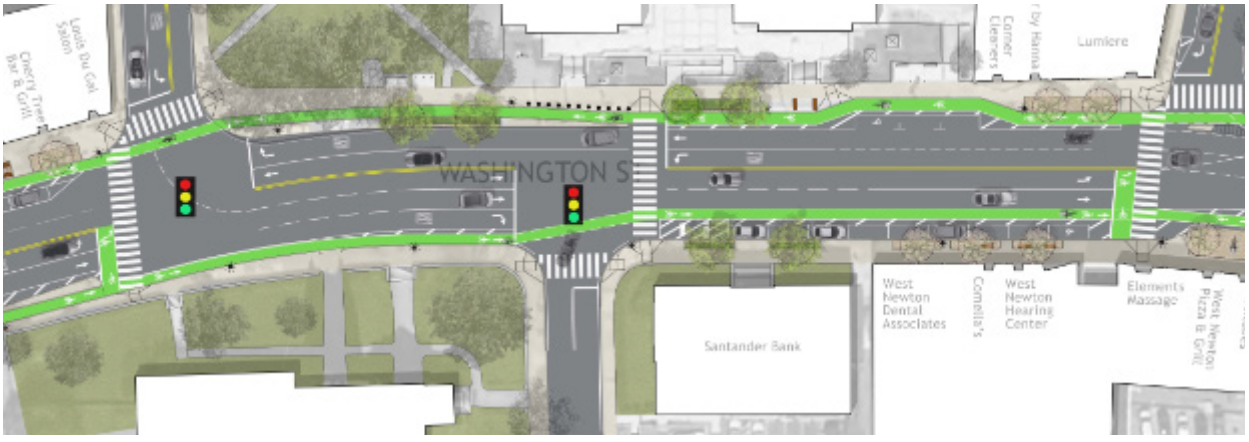
Source: www.newtonma.gov/gov/executive/metrics/environmental_sustainability.asp

Key Skills

- **Reading Comprehension** – Reading work-related information.
- **Complex Problem Solving** – Noticing a problem and figuring out the best way to solve it.
- **Critical Thinking** – Thinking about the pros and cons of different ways to solve a problem.
- **Active Listening** – Listening to others, not interrupting, and asking good questions.
- **Judgment and Decision Making** – Thinking about the pros and cons of different options and picking the best one.
- **Coordination** – Changing what is done based on other people's actions.
- **Active Learning** – Figuring out how to use new ideas or things.
- **Systems Evaluation** – Measuring how well a system is working and how to improve it.
- **Systems Analysis** – Figuring out how a system should work and how changes in the future will affect it.
- **Time Management** – Managing your time and the time of other people.
- **Monitoring** – Keeping track of how well people and/or groups are doing in order to make improvements.

Abilities Needed for Success

- **Written Comprehension** – Reading and understanding what is written.
- **Oral Expression** – Effective spoken communication.
- **Written Expression** – Effective communication in written form.
- **Deductive Reasoning** – Using rules to solve problems.
- **Inductive Reasoning**– Making general rules or coming up with answers from lots of detailed information.
- **Oral Comprehension** – Listening and understanding what people say.
- **Problem Sensitivity** – Noticing when problems happen.
- **Fluency of Ideas** – Coming up with lots of ideas.
- **Near Vision** – Seeing details up close.
- **Originality** – Creating new and original ideas.
- **Information Ordering** – Ordering or arranging things.
- **Visualization** – Imagining how something will look after it is moved around or changed.



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