JOSHUA FRYE

Jcfrye3@gmail.com | 571.420.5294 | LinkedIn: www.linkedin.com/in/joshua-frye

Summary

Entry-level Civil Engineer with hands-on experience in traffic engineering and transportation planning across the state of Virginia. Proficient in traffic analysis with simulation tools to assess and improve traffic operations and safety. Eager to apply technical expertise to contribute to impactful transportation projects across various locations.

Education

University of Virginia - Charlottesville, VA **Expected Graduation May 2025**

Bachelor of Science in Civil Engineering

- GPA: 3.23
- Relevant Courses: Traffic Operations, Transportation Facilities Design, Linear Algebra, Urban Planning: Neighborhoods, Cities, Regions Introduction to Geotechnical Engineering, Structural Mechanics, Water Resources Engineering
- Involvement: Trigon Engineering Society, American Society of Civil Engineers, Institute of Transportation Engineers

Skills

- VISSIM, TrafficSynchro, PTV Vistro, Visio, AutoCAD, Civil3D, MicroStation, ArcGIS, Excel, Word, PowerPoint

Experience

Traffic Engineering Intern – ATCS PLC, Herndon, VA **May 2024 – August 2024**

- Developed and calibrated PTV VISSIM simulation models for interchanges in Manassas and Winchester, VA
  - Configured roadway geometry for a partial cloverleaf and traditional interchange
  - Analyzed origin-destination matrices and performed volume balancing in excel to determine traffic routing and volumes
  - Adjusted simulation settings (desire speeds, speed reduction zones, conflict areas, and priority rules) to reflect real-world conditions and improve model accuracy
  - Ran simulations and fine-tuned model behavior based on field observations, resulting in optimized network performance
  - Compiled measures of effectiveness into detailed reports, supporting data-driven recommendations for interchange improvements
- Contributed to Fatal Crash Reviews for the Lynchburg VDOT District by compiling and organizing key documentation
  - Documented fatal crash segments, including roadway characteristics, crash history, DAR information, and existing infrastructure to inform analysis
  - Developed safety recommendations to mitigate future crashes, based on documentation and field condition assessments
- Assisted in the submission of a 30% signal timing plan for a single mast-arm intersection in Catlett, VA
  - Used MicroStation to design the phasing diagram and color sequence chart, and to lay out the proposed signals, signage, and VDC 360 camera placement along the mast arm
  - Integrated additional design layers, including right of way and utilities

Transportation Engineering and Planning Intern – Gorove Slade, Fairfax, VA **June 2023 – July 2023**

- Conducted a comprehensive Traffic Impact Study for an affordable housing development in Loudoun County, VA
  - Estimated trip counts under future conditions using ITE Trip Generation and forecasted traffic volumes with PTV Vistro, incorporating growth rates and background developments
  - Constructed a TrafficSynchro network and generated HCM 200 reports for existing and future conditions, concluding that no mitigations were necessary
  - Developed Visio graphics for Level of Service and verified access compliance with VDOT
- Completed Special Exception Scoping Document and Trip Generation Memo for Gleedsville Kennel in Loudoun County, VA
  - Used client predictions to made educated assumptions on the number of AM and PM Peak Hour trips generated
  - Implemented volumes into Scoping Document and Trip Generation Memorandum to prove no mitigations were necessary
- Field Visits: Collected heavy vehicle counts at active construction sites, measured road widths and assessed road conditions
- Collaborated on a team of five interns to deliver a presentation on sustainable practices in Transportation Engineering, focusing on FHWA and NACTO best practices and Gorove Slade case studies, Role: Crosswalk Specialist

Traffic Engineering Intern – Williams Sale Partnership (WSP), Herndon, VA **June 2022 – August 2022**

- Used AutoCAD to map underground utilities for the City of Alexandria as a part of the ITS Alexandria Project
- Set up TrafficSynchro networks to produce HCM 2000 Reports for Congress Heights Commute Trip Reduction in DC
- Made use of MicroStation to implement traffic calming measures such as Rapid-Rectangular Flashing Beacons into plan sheet for Evergreen Mill Road Crosswalk Study
- Conducted field visits in the City of Alexandria for ITS Alexandria, to perform cabinet and junction box surveys, map underground utilities, and measure distances between cabinets, curbs, etc