

Internship Program Final Presentation Summer 2025

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Electrical & Computer Engineering

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Traffic Engineering

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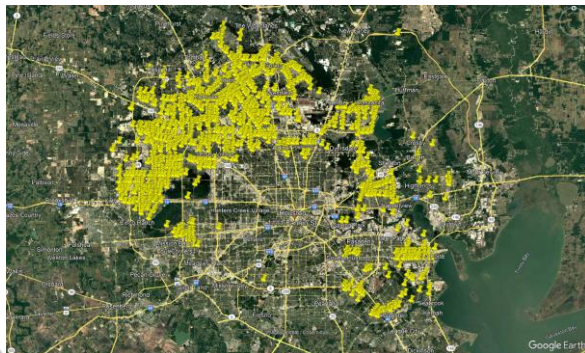
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Traffic Signal Operations

Yellow and Red Clearance Intervals

- Conducted a comprehensive review of intersection geometry and speed limits for all 1,101 signalized Intersections in Harris County
- Reduced wait times by 12%, significantly boosting traffic flow and enhancing roadway safety through precise calibration of yellow and red clearance intervals

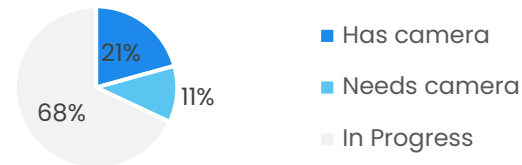


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Traffic Control Signal Cameras

- Systematically evaluating and prioritizing the deployment of signal cameras at key intersections based on a strategic analysis of intersection complexity, school speed zones, railroad crossings, and flood-prone areas.
- Leveraging data-driven resources (HCFCD, OCE, FEMA) to ensure cameras are installed at intersections in Harris County that need them the most.

Live Traffic Signal Camera
Summary



Real-Time Incident Response

- Collaborated directly with Traffic Signal Technician Joseph Utlely to troubleshoot, maintain, and repair malfunctioning traffic signals following storm-induced outages in Pasadena this summer.
- Restored critical signal operations swiftly, reinforcing system reliability and public trust.



Traffic Engineering Studies

Field Visits

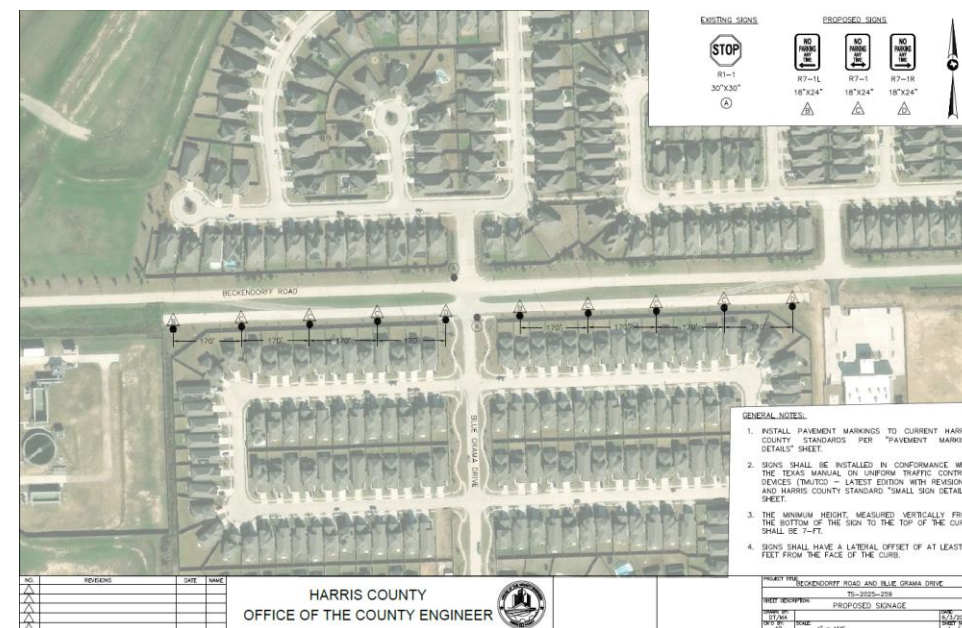


- Conducted field visits to determine need for additional traffic control devices



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AutoCAD Civil 3D Drawings



- Created AutoCAD drawings to include in memos for my assigned traffic studies

Many Thanks

Thank you to Kristian, Oziegbe, Sabur, Quinton, Tristan, Angelica, Artie, Braven, DaeJohr, and Daisy for giving me the guidance needed to be successful during my internship with this department. Additionally, thank you to Joseph for letting me shadow you in the field. Lastly, thank you to Dawn, Mahathi, and the entire OCE for giving me this experience.



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