MATTHEW R. HUSTON P.E.

Senior Transportation Planning Engineer

Mr. Huston is a senior transportation planning engineer in HNTB's Arlington office. His experience spans the spectrum of transportation planning and design, from feasibility studies and concept development to schematic design and preparation of final construction documents. Mr. Huston has thirteen years of experience in municipal, infrastructure, roadway, pipeline, and site development projects. His planning work has included redevelopment master planning, feasibility studies, and corridor studies. His design projects have included drainage design, sanitary sewer design, site grading and paving, roadway geometrics, retaining wall design, traffic control, and construction phasing. He has done schematic and final design on urban arterial, railroad grade separation, and freeway projects. His work has included intersection realignment, drainage studies, detention pond analysis and design, and structural analysis on waterfront facilities. Representative projects include:

Route 1 MOT Analysis – Alexandria, VA (Client: Virginia Department of Transportation). Created CORSIM model for 1.4 miles of U.S. 1 and 5 miles of the Capital Beltway, including a cloverleaf interchange and six signalized intersections. Modeled existing conditions, calibrated to match speed and delay run results. Extracted travel time, delay, queue length, and vehicle miles traveled as measures of effectiveness for comparing five maintenance of traffic phases.

Arlington Boathouse EIS – Arlington, VA (Client: National Park Service). Conducted transportation analysis of four alternative sites for boathouse along Potomac River in Arlington and Alexandria. Assessed bicycle, pedestrian, transit, automobile, and school bus access to sites. Analyzed accessibility for boat trailers. Developed trip and parking generation at the sites and analyzed impacts on existing parking facilities. Conducted accident rate analysis. Analyzed level of service for automobile egress from sites. Wrote the transportation sections of the affected environment and environmental consequences chapters of the Environmental Impact Statement.

Adams Morgan Transportation and Parking Study – Washington, DC (Client: District of Columbia Department of Transportation). Led data collection and technical analysis phases for this study. Conducted parking space and physical features inventories of 224-acre study area. Conducted turning movement counts. Created maps of bus routes and stops, bicycle routes, parking areas, wheelchair ramps and crosswalks, and intersection control types. Developed a package of recommended transportation solutions, including parking, transit, traffic, and pedestrian improvements.

Maine Avenue Traffic Study – Washington, DC (Client: District of Columbia Department of Transportation). Led traffic data collection effort for analyzing impacts of changing access to sites on the southwest waterfront. Conducted detailed assessment of traffic impacts for consolidating access to the cruise docks. Oversaw analysis of relocating access to fish market. Incorporated change in trip generation within and adjacent to study area based on planned development.

Blacksburg Transit Center – Blacksburg, VA (Client: Blacksburg Transit). Assessed alternative sites for proposed transit center on or near the Virginia Tech campus, looking at vehicle accessibility, proximity to activity centers, land availability, and other factors. Developed facility program requirements, such as number of bus bays, parking, and amenities. Conducted comparison with similar existing transit centers in Virginia. Developed two options for site plan at preferred location.

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Firm
HNTB Corporation

Education
B.S.E., 1991, Civil Engineering and Operations Research, Princeton University, Princeton, NJ

Professional Registrations
Professional Engineer, #37897: VA

Professional Affiliations
American Planning Association

Hire Date with HNTB
2000

Years of Experience with other Firms
8

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EXHIBIT NO.24

North Carolina State University Transit Service Analysis — Raleigh, NC (Client: North Carolina State University). Developed three alternative bus route systems to provide minimal, moderate, or high level of transit service. Estimated ridership and operating costs for each alternative.

American University Transportation Analysis — Washington, DC (Client: American University). Led the collection of turning movement counts at four intersections and parking occupancy inventory at three parking facilities. Analyzed parking inventory to develop entry and exit rates, durations of stays, and peak occupancy. Used the data to project automobile trip generation at proposed School of International Service building. Assessed impacts at signalized intersections and on pedestrian crossings due to proposed building.

FM 1960 Express Streets — Houston, TX (Client: Houston-Galveston Area Council). Researched prototypical express streets. Organized and participated in a charrette to examine how an express street concept could be applied to Houston arterials. Further developed the charrette results, applying the concepts to two typical intersections. Coordinated with urban designers, landscape architects, and traffic modelers.

Monocacy National Battlefield Transportation Plan — Frederick, MD (Client: National Park Service). Created a three-tier transportation plan to improve access among sites at this Civil War battlefield. During site investigations informally interviewed park patrons, took turning movement counts, and reviewed roadside safety. Wrote a detailed report summarizing the findings.

Monocacy National Battlefield Wayfinding Plan — Frederick, MD (Client: National Park Service). Created a wayfinding plan for vehicular access to this Civil War battlefield. Three levels of wayfinding were proposed: along regional highways, along the state road that accesses the park, and within the park.

Harpers Ferry National Historical Park Wayfinding Plan and Bus Analysis — Harpers Ferry, WV (Client: National Park Service). Analyzed bus operations at Harpers Ferry National Historical Park, comparing operating costs to other national park transit systems as well as peer municipal transit systems. Recommended operational changes to allow service expansion using the same fleet.

Everglades National Park — Homestead, FL (Client: National Park Service). Conducted field investigations of existing transportation conditions in the park, including infrastructure and operations. Wrote a report outlining findings and recommending course for further study in support of the General Management Plan (GMP) process. Developed alternative transit service schemes to meet the objectives of three GMP alternatives. Interviewed local tourism agencies to identify partnership opportunities for NPS.

Judiciary Square Transportation and Security Study — Washington, DC (Client: District Department of Transportation). After extensive field studies, developed 36 alternative actions for improving transportation and transportation-related security in this courts- and tourist-oriented district. Coordinated with study advisory committee to refine potential solutions. Drafted a package of recommendations covering parking, roadway, and security elements.

Detroit Metropolitan Airport Inter-Terminal Shuttle Study — Detroit, MI (Client: Wayne County Airport Authority). Developed and analyzed three alternative inter-terminal shuttle service and operating plans, covering size and number of vehicles, headways, number and location of stops, and staffing requirements. Researched available vehicle types.

Myrtle Beach International Airport Terminal Replacement – Myrtle Beach, SC (Client: Horry County Department of Airports). Developed layout and conducted truck turning analysis for delivery dock at proposed new terminal. Revised trip distribution and assignment on new roadway network. Analyzed level of service at critical weaving areas.

Akron-Canton Airport Landside Study – Canton, OH (Client: Akron-Canton Airport). Conducted observations and data collection of Akron-Canton Airport's roadways and parking. Developed short-, mid-, and long-range recommendations to address current problem spots and prepare the airport for activity growth. Analyzed parking transaction data to determine duration of stay and peak activity times. Forecast the needs for hourly, daily, and economy parking, as well as rental car ready/return spaces. Developed conceptual site plan and parking garage layout to meet future demand.

San Antonio Airport Parking Garage – San Antonio, TX (Client: City of San Antonio Department of Aviation). Developed alternative configurations for planned parking garage on constrained site at San Antonio International Airport. Considered future roadway configuration and necessary stand-offs from air traffic control facilities. Examined placement of ground transportation center and rental car ready/return spaces. Consulted with design architect to ensure functionality of the design.

West Fayetteville Road Improvement Study – Atlanta, GA (Client: City of Atlanta Department of Aviation). Developed Synchro models for two signalized intersections in this one mile corridor. Created VISSIM microsimulation models to compare existing conditions, future no-build conditions, and future conditions after implementing improvements identified in the EIS.

IH 75 / Aviation Boulevard Interchange Alternatives Analysis (2003) – Atlanta, GA (Client: City of Atlanta Department of Aviation). Refined expansive CORSIM models for five alternative interchange configurations to provide access to a new international terminal at Hartsfield-Jackson Atlanta International Airport. Developed method for extracting relevant MOE data from the NETSIM and FRESIM output file. Examined travel time to terminal and to Delta Air Lines facilities along various routes. Computed system delay and total vehicle miles traveled for each alternative.

Hartsfield-Jackson Atlanta International Airport Long Range Planning – Atlanta, GA (Client: City of Atlanta Department of Aviation). Developed ten alternative conceptual layouts for ground transportation center to meet the space requirements for buses, airport and hotel shuttles, limos, and taxis. Prepared conceptual cost estimates for three alternative terminal access roadway concepts. Examined right-of-way requirements.

Charlotte Center City Transportation Study – Charlotte, NC (Client: City of Charlotte). Did some minor GIS work. Researched best practices regarding parking policies for central business districts.

I-95 and I-495 HOT Lanes – Fairfax County, VA (Client: Fluor Corporation). Researched the safety record of HOT lanes in southern California as part of planning for HOT lanes in northern Virginia. Developed a preliminary express bus service plan, identifying candidate transit stations at activity centers, preparing conceptual station designs, and estimating costs.

Virginia Tech Master Plan Update – Blacksburg, VA (Client: Hanbury Evans Wright Vlattas). After researching previous studies, developed transportation infrastructure requirements for three campus build-out scenarios. Estimated implementation costs for roadway improvements, parking facilities, and expanded transit service.

Johns Hopkins University Traffic Analysis – Baltimore, MD (Client: Johns Hopkins University). Led traffic analysis for new entry into university. Conducted field observations to understand the roadway network geometry and its operations. Set forth evaluation criteria to assist the University in selecting among the candidate corridors. Evaluated the corridors qualitatively using the criteria, and assessed the current operations of key intersections in all the corridors. Reviewed the proposed roundabout and parking garage at the South Gate for operational concerns.

United States Naval Academy Gate One – Annapolis, MD (Client: United States Naval Academy). Developed and analyzed alternative roadway and parking lot layouts for proposed visitors' access center. Coordinated work with architecture, landscape architecture, and civil engineering disciplines. Wrote a report documenting traffic impacts. Produced dimensioned site layout for inclusion in solicitation for design-build contractor.

Dulles Airport Hourly Parking Lot Assessment – Herndon, VA (Client: Metropolitan Washington Airports Authority). Analyzed operations at hourly parking lot and developed alternative improvement schemes at the entry plaza, exit roadway, and wayfinding within the lot. Proposed revisions to internal circulation aisles and access to valet parking area.

Dulles Airport Automated People Mover Tunnels – Herndon, VA (Client: Metropolitan Washington Airports Authority). Deputy Package Manager for design of Automated People Mover (APM) tunnels and baggage tug tunnels at Dulles International Airport. Coordinated work of civil, structural, MEP, and architectural disciplines. Developed design schedules. Reviewed drawings for coordination and quality. Prepared responses to design review comments. Reviewed plans and specifications for compliance with client comments. Compiled design report and wrote introductory material. Created composite vehicle dynamic envelope for two competing APM suppliers' systems. Refined typical tunnel sections, identifying placement of MEP systems outside APM vehicle dynamic envelope. Prepared matrices defining design responsibilities among adjacent project design teams. Analyzed tunnel MEP systems routing through APM stations. Tracked the changing basis of design as the project evolved. Compiled requests for information. Evaluated access requirements for APM vendor. Reviewed drawings by adjacent project design teams, and prepared and compiled review comments. Prepared tunnels fire alarm system schematic.

Anacostia Park Traffic Study – Washington, DC (Client: National Park Service). Developed method for collecting parking data for three zones within Anacostia Park and adjacent neighborhood. Scheduled data collection teams to work various sections of the Park based on anticipated peak usage times.

Charlotte Douglas International Airport Roadways – Charlotte, NC (Client: City of Charlotte). Developed six alternative recirculation ramp configurations as part of the design of a new access road into the airport. Selected preferred concept based on factors such as cost and ease of wayfinding. Updated traffic volume assignment responding to changes in the planned on-airport roadway network and the distribution of trips from the region. Analyzed level of service using Highway Capacity Software for the merge, diverge, and weaving configurations on the proposed access roadway.

Dulles Airport Landside People Mover Study – Herndon, VA (Client: Metropolitan Washington Airports Authority). Generated conceptual horizontal alignment for elevated people mover guideway to serve proposed consolidated rental car facility. Considered structural span lengths over existing roadways, minimizing wetlands impacts, and providing good pedestrian circulation between station and parking garage.

East Downtown TIRZ – Houston, TX (Client: East Downtown Redevelopment Authority). Municipal and transportation engineer for redevelopment master plan of an 80-acre zone east of Houston's CBD. Conducted site analysis of deficiencies in streets, sidewalks, and public utilities. Evaluated automobile and pedestrian connectivity to adjacent neighborhoods and districts. Developed hierarchy of proposed street types by cross section. Prepared the proposed on-street parking inventory for the zone. Created prototypical block types.

Westheimer Corridor Mobility Study - Houston, TX (Client: Houston-Galveston Area Council). Transportation planning engineer for mobility study of 11-mile urban arterial corridor. Developed seven access control improvement concepts and identified preliminary locations for applying each. Coordinated work of urban planners developing urban village concepts for travel demand reduction. Wrote comprehensive report. Coordinated the work of two subconsultants. Developed ten alternative typical sections for ultimate roadway configuration.

SH 36 / US 90A Feasibility Study – Rosenberg, TX (Client: Texas Department of Transportation). Lead engineer and deputy project manager for railroad grade separation feasibility study. Managed two subconsultants. Developed about a dozen alternative alignments to handle interchange between four highways while grade separating at two railroads. Conducted two public workshops and led three meetings with City of Rosenberg officials. Developed evaluation criteria and led consultant team to identify and refine the most feasible alternative.

US 96B Feasibility Study – Silsbee, TX (Client: Wilbur Smith Associates). Lead engineer and deputy project manager for railroad grade separation feasibility study. Developed several alternative solutions improve an existing at-grade highway/railroad intersection, including three viable horizontal alignment options. Determined vertical alignment requirements. Developed criteria for evaluating alternatives taking into account environmental, engineering, traffic, and economic issues. Conducted preliminary drainage impact analysis. Determined construction phasing requirements. Coordinated preliminary environmental review. Prepared conceptual-level cost estimates. Prepared exhibits for and conducted public meeting.

SH 249 Extension Major Investment Study – Montgomery County, TX (Client: Wilbur Smith Associates). Lead engineer and deputy project manager for major investment study for new location 13-mile-long rural divided highway. Developed about a dozen alternative corridors. Developed measures of effectiveness for engineering considerations. Directed the work of other engineers in evaluating the various corridors through three levels of screening. Prepared technical memoranda documenting evaluation results. Coordinated with other consultants on environmental and traffic issues. Prepared presentation materials for three public meetings.

SH 249 at Beltway 8 Interchange – Harris County, TX (Client: Harris County Toll Road Authority). Prepared drainage impact study for this interchange project that added three direct connectors and relocated slip ramps. Study included hydrograph development, calculation of detention requirements, detention pond routing model, 100-year sheet flow analysis, estimation of fill in the 100-year floodplain, and required storm sewer modifications. Prepared technical report including exhibits.

Terminal B U-Ramp Study, Intercontinental Airport – Houston, TX (Client: Brown and Root). Developed multiple alternative design concepts to improve recirculation from passenger drop-off to a new parking garage. Developed list of constraints. Conducted workshop to evaluate alternative design concepts and select three viable alternatives.

Presented viable alternatives and methodology to client. Wrote report summarizing findings and outlining prioritization of alternatives.

JFK Boulevard Service Road Study – Houston, TX (Client: Houston Airport System). Analyzed existing conditions and land use along JFK Boulevard service roads at Bush Intercontinental Airport. Developed questionnaire to obtain data on tenant demand to convert one-way operation to two-way operation. Authored report describing findings.

Airport Connector Enhancement – Houston, TX (Client: Harris County Toll Road Authority). Prepared funding proposal package for landscape enhancements to 3.75-mile-long highway corridor. Developed cost estimates. Assembled graphics.

US 69 Schematic Design – Lumberton to Zavalla, TX (Client: Parsons Brinckerhoff). Revised horizontal and vertical geometrics of Kountze Relief Route, based on results of Value Engineering study, including new ramps and new grade separation. Revised horizontal geometrics of US 69 at interchange with US 96 in Lumberton, TX. Revised horizontal geometrics of US 69 at FM 421, including ramp and frontage road revisions.

US 59 Schematic Design from Spur 10 to SH 99 – Ft Bend County, TX (Client: Texas Department of Transportation). Revised intersection layouts for half-dozen intersection to provide additional capacity. Revised cross sections for 12 miles of limited access roadway, including improving code on Geopak criteria files.

FM 365 Grade Separation at SH 347 and Kansas City Southern Railroad – Port Arthur, TX (Client: Texas Department of Transportation). Prepared schematic design. Prepared final horizontal and vertical geometrics for FM 365, SH 347, at grade access road and ramps, and temporary detour. Created project cross sections and performed earthwork calculations using Geopak. Coordinated work of subconsultant on drainage, retaining walls, signing & striping, and illumination. Led two utility coordination meetings with local utility companies, including pipeline companies. Coordinated all design issues with client. Coordinated bridge design and TCP.

IH 45 from Tamina Road to FM 1488 – The Woodlands, TX (Client: Texas Department of Transportation). Prepared horizontal and vertical geometrics for 4.5 miles of frontage roads and cloverleaf interchange. Led drainage design effort for entire project, including storm sewer and roadside ditches. Prepared drainage area maps. Prepared detention pond grading plans and outlet design. Created project cross sections and performed earthwork calculations using Geopak.

SH 21 from FM 158 to Texas Ave – Bryan, TX (Client: Texas Department of Transportation). Prepared schematic design. Prepared horizontal and vertical geometrics for 2.7 km of boulevard section, including realigning intersection at FM 158 and FM 1687 to enhance safety and mobility. Led storm sewer design for project. Prepared drainage report recommending design changed for mitigating 25-year storm at depressed section. Prepared bridge layout over Still Creek. Created project cross sections and performed earthwork calculations using Geopak

US 90A Reconstruction – Stafford, TX (Client: Texas Department of Transportation). Developed vertical geometrics and project cross sections for two access roads. Revised annotation of plan and profile sheets and typical sections. Revised westbound profile. Developed method for creating cross sections for parking areas adjacent to highway. Developed automated method for creating contour plans for intersection grading.

Beltway 8 Ramp Reversals – Houston, TX (Client: Westchase District). Lead engineer. Prepared horizontal and vertical geometric design for two ramps along Beltway 8. Prepared

conceptual traffic control scheme. Assisted with preparation of Categorical Exclusion environmental documentation.

SH 45 at US 183 Interchange – Austin, TX (Client: Texas Turnpike Authority). Delineated drainage areas and determined inlet locations on mainlanes and frontage roads using Geopak Drainage. Designed two water quality ponds and three detention ponds. Performed QA/QC on storm sewer plan and profile design. Prepared preliminary frontage road and ramp vertical alignments. Developed preliminary construction phasing and traffic control plans.

Port of Houston Woodhouse Terminal – Houston, TX (Client: DMJM). Performed structural inspection and analysis of dock structure. Prepared report evaluating dock under crane and railroad loading.

Village Estates Feasibility Study – Humble, TX (Client: Village Estates). Prepared a feasibility study for proposed assisted-living facility, including sanitary sewer capacity, water line capacity, parking requirements, on-site utilities, and detention requirements.

Northeast Medical Center Hospital – Humble, TX (Client: FKP Architects). Designed parking lots, site utilities, and drainage. Created detention pond hydrologic routing model in order to recommend improvements to pond operation.

Waterford Harbor Bulkhead Repair – Kemah, TX (Client: Waterford Harbor). Evaluated several options for bulkhead stabilization. Designed drilled shaft secondary retaining structure.

Downtown/Midtown Street Reconstruction – Houston, TX (Client: Metropolitan Transit Authority of Harris County). Prepared traffic control plans on Main Street in CBD. Prepared traffic control plans on San Jacinto Street in Midtown. Prepared five preliminary signal layouts along San Jacinto Street. Prepared SW3P plans for Main Street and San Jacinto Street.

Manchester Terminal – Houston, TX (Client: Manchester Terminal). Analyzed capacity of aging dock structure, originally constructed as cotton loading facility. Prepared report allowing client to evaluate cranes for suitability to be used on dock.

West Bellfort Reconstruction – Houston, TX (Client: City of Houston). Designed over 1,000 linear feet of cantilever retaining wall.

IH 45 at Beltway 8 South – Houston, TX (Client: Brown and Gay Engineers). Designed overhead sign structure foundations. Prepared preliminary construction sequencing. Prepared quantity take-offs for all traffic items.