David Hook P. ENG.
Project Engineer – Transportation

Mr. Hook is a Transportation Engineer with IBI Group and has over 14 years of professional experience in transportation planning and engineering design. As a senior member of IBI Ottawa's transportation planning team, David's core responsibility is to manage the production of transportation impact assessment studies and development-related transportation facility design projects. He also has a wide array of experience in construction inspection, contract administration, public meetings, environmental assessment studies, community design plans and graphics/visualization. Mr. Hook's work is driven by his enthusiasm for Sustainable Transportation, Transit-Oriented Development and the adaptation of technology through Intelligent Transportation Systems.

Representative Experience

Transportation Planning

Since joining IBI Group in 2006, Mr. Hook has completed over 150 transportation studies in Ontario and beyond. Notable projects include:

- **Smithville Urban Boundary Expansion Study, Niagara Region (2020)**

  Mr. Hook provided transportation input to a team of land use planners on the design of a proposed community expansion that would ultimately house a total population of 6,200 new residents. David helped inform the placement, right-of-way and intersection configuration of new collector roads for the community, including a recommendation of potential regional bypass road alignments that took into consideration both physical and land-use restrictions. The functional community design was presented to the Region for consideration of inclusion within the future urban boundary expansion.

- **Canada Border Services Agency Traffic Modelling (2019-2020)**

  Mr. Hook managed the simultaneous studies of two international Ports of Entry to determine the operational benefits of expanded border crossing facilities. This work involved a detailed analysis of historical data to simulate existing conditions based on observed operating characteristics using microanalysis software *Vissim*. The detailed modelling was used to project future operating conditions for a 25-year lifecycle based on proposed capacity increases, processing improvements and modified travel patterns through each facility.

- **Baha Mar Waterpark, Nassau, Bahamas – EnCo Intl./Baha Mar Resort (2018-2019)**

  Mr. Hook managed the undertaking of a Transportation Impact Study and Parking Utilization Study for the Phase 2 expansion of the Baha Mar Resort to include a 14.1-acre waterpark and 500-seat restaurant. The key objective of these studies was to determine the impact on the existing parking supply and demonstrate that sufficient parking capacity is available to accommodate the projected employee and local guest parking demands during both the low and high tourism seasons. The analysis relied on a first-principles approach based on fundamental data to estimate the impact of the development on the internal and external

Education

B.Sc. (Civil Engineering), University of New Brunswick, Fredericton, NB, 2005

Experience

2006–Present
IBI Group, Ottawa, ON, Project Engineer – Transportation

2005–2006
Construction Technology Centre Atlantic, Fredericton, NB, Research Associate

2004
Hillside Consulting Engineers Ltd., Fredericton, NB, Summer Student, Transportation/Civil

2003
ADI Ltd., Saint. John, NB, Summer Student-Architectural Services

Memberships

Professional Engineers of Ontario, Licensed Member

Canadian Institute of Transportation Engineers, Member

Awards

City of Hamilton Award of Excellence – North End Neighbourhood Traffic Management Plan (2019)

Training

Bicycle Facilities Design Course (2014)

Transit-Oriented Development (2010)

Rail-Volution - Portland, Oregon (2010)

Intelligent Transportation Systems Workshop (2006)

Safety Training

Fall Arrest (2008)

Confined Space Awareness (2008)

transportation network. The transportation study was approved by the Ministry of Public Works in October 2019 with minimal concerns.

- **Château Laurier Addition, Ottawa – Capital Holdings Inc. (2016-2020)**
  This high-profile project involved a major addition to the back of the historic Chateau Laurier Hotel to provide residential apartment/long-term accommodation suites. Mr. Hook was responsible for preparing a Parking Study and Transportation Overview as part of the Site Plan Approval process. The Parking Study included a utilization study to establish the overall parking demand of both the existing and proposed structure, while the Transportation Overview included a geometric review of the planned site access configuration and below-grade parking facility using the computerized vehicle turning template software, *AutoTurn*.
- **Claridge Icon, Ottawa – Claridge Homes (2012-2014)**
  Mr. Hook was the lead transportation engineer representing the client for a mixed-use development at 505 Preston Street that would be the city's tallest building. Located adjacent to a future LRT station and an urban arterial mainstreet, the study considered a multitude of transportation alternatives in constrained automobile traffic conditions. The study was approved with very few transportation-related concerns from the City or the public.
- **Mer Bleue Expansion – Master Transportation Study, Ottawa – Claridge/Caivan/Mattamy/Richcraft (2017-2018)**
  Mr. Hook assisted with the development of a Master Transportation Study - a key technical support document for the Mer Bleue Expansion Area Community Design Plan. This new community would ultimately provide over 3,600 residential units, commercial blocks, parks and schools. The development of this Plan was integrated with the Municipal Class EA process and involved an evaluation of road network alternatives prior to the selection of a preferred plan. Public consultation and stakeholder engagement were key components of the study.
- **Cardinal Creek Village, Ottawa – Tamarack (2013-2014)**
  Mr. Hook formed part of a team of traffic engineers to develop a transportation master plan for a major suburban expansion consisting of 3,500 residential units and a mixed-use core. His role was to develop trip generation, distribution and assignment for multiple traffic zones throughout the development of the land-use plan using software packages including *Synchro* and *Traffix*. The methods in which Mr. Hook employed for this large-scale traffic analysis permitted the traffic model to be updated quickly each time there were changes to the development plan.
- **Laurentian Place – 1357 Baseline Road, Ottawa - SmartCentres (2008)**
  Mr. Hook contributed to the preparation of a Community Transportation Study for the redevelopment of the former Laurentian High School site. As the redevelopment was contentious with the surrounding community, an analysis of neighbourhood cut-through traffic was conducted in which Mr. Hook developed complex algorithms to determine the existing percentage of cut-through traffic on every possible route through the neighbourhood by means of a license plate survey. His work allowed thousands of time-stamped data records to be analysed in an instant.

Environmental Assessment and Master Planning Studies

- **Updates to the Cost Calculations for the 2013 Transportation Master Plan – City of Ottawa (2017) –** Mr. Hook was the Project Manager for this assignment which involved the development of a refined capital cost estimating procedure to more-accurately estimate the Capital Costs for arterial roadway network modifications based on the City's 2031 Affordable Plan. This assignment reviewed and refined the existing benchmark costing methodology to establish a higher level of accuracy for roadway infrastructure capital costs at the early planning stages. The refined estimates were instrumental in defining the City's Capital Budget and reviewing the long-term affordability of these projects for subsequent updates to the TMP.
- **Vanguard Drive Extension Environmental Assessment – City of Ottawa (2017-2018) –** Mr. Hook undertook traffic analysis for both existing and future conditions and drafted the Need and Opportunity portion of the Environmental Study Report, following the Municipal Class EA process. He also provided functional designs for alignment alternatives to help identify the potential property impacts for each and guide the Evaluation of Alternatives component of the assignment.
- **Hospital Link/Cumberland Transitway Connections Environmental Assessment – City of Ottawa (2009) –** Mr. Hook assisted with various steps of the EA process; most notably the technical analysis of the corridor alternative selection process among a technical advisory group, various stakeholders and the City of Ottawa. He developed and successfully utilized a system for providing real-time evaluation results of evaluation criteria to stakeholders in graphical format throughout each of the stakeholder evaluation sessions.

Transit-Oriented Development

- **Parliamentary Precinct: Blocks 1, 2, 3 Sector Plan (2013)**
  Mr. Hook was the sole transportation consultant forming part of a team of architects and urban designers in the Master Planning of the redevelopment of three city blocks adjacent to Parliament Hill and only steps away from Ottawa's future Confederation Line light-rail transit system. His role was to provide direction to the development of design guidelines for future redevelopment of the site and ensure that the development plans were complimentary to the City's transportation vision for the downtown core.

Intelligent Transportation Systems (ITS)

- **Ottawa Traffic Operations Centre Relocation – Ontario Ministry of Transportation (2008–2010) -** Mr. Hook served as the lead inspector to the relocation of the Eastern Ontario Traffic Operations Centre. This involved the re-routing of fibre-optic cables, new civil infrastructure, materials testing, installation of network components and traffic surveillance cameras for an 8-lane divided highway through the core of Ottawa, while continuously maintaining critical video feeds to the Ministry's control room. He has since provided inspection services for the ongoing expansion of the Ministry's Advanced Traffic Management System (ATMS) for Highway 417 as well as other locations in eastern Ontario.

Roadway Planning & Design

- **Leitrim Road & Kelly Farm Drive Intersection – Tartan (2018-2019) –** Mr. Hook designed and managed the Functional and Detailed Design of this signalized, projected intersection which now serves as an additional access to the existing Findlay Creek community in Ottawa's south end as well as a direct access to the Barrett Lands subdivision. The design overcame challenges with respect to the accommodation of all the necessary roadway features, including a Multi-Use Path, in a constrained right-of-way and accommodated the specific requirements of the NCC along the site's northern boundary adjacent the Greenbelt. Mr. Hook also prepared the Tender and Construction packages and served as Project Manager throughout the construction phase of this project. The intersection was opened to the public in fall 2019.
- **Terry Fox Drive & Huntsville Drive Intersection Modifications – The Regional Group (2017-2018) –** Mr. Hook undertook the functional (RMA) and detailed design of intersection modifications to include traffic signalization at this Development Charge funded intersection. The intersection was designed in accordance with the City of Ottawa's draft 'Protected Intersection' guidelines which implements design features of the Ontario Traffic Manual Book 18 to provide safe crossing facilities for cyclists and pedestrians. Mr. Hook also prepared and executed the tender of these works as well as managed the project during construction.
- **Beechwood Avenue Cycle Track – City of Ottawa (2017)** – Mr. Hook was Project Manager for the design and implementation of improved bicycle infrastructure over a two-block section of Beechwood Avenue. The project involved continuous coordination with utilities and City staff to find a design solution in this highly-constrained urban environment while meeting minimum utility offset and accessibility requirements both above and below grade
- **North End Traffic Management Plan – City of Hamilton (2016-2017)** – Mr. Hook was responsible for the detailed design of traffic calming measures for 7 intersections as well as a school bus lay-by in the north end of Hamilton, Ontario. The project involved minor modifications to storm sewers and integration of bio-swales to reduce flow to an ageing storm sewer system.
- **Eagleson Road & Fernbank Road Intersection Modifications – City of Ottawa (2013-2014) –** As project manager, designer and contract administrator, Mr. Hook was responsible for the functional and detailed design of intersection improvements consisting of road widening, traffic signal relocation, new bicycle facilities and drainage modifications. The project involved coordination with utility companies, preparation of tender documents and contract administration/inspection during construction.