

Fayez Shahin P.ENG., CP3P, PMP

Executive Leader in Rail and Transit Infrastructure and Visionary Public Transport executive with over 25 years of global experience leading the planning, design, and delivery of complex, multi-billion-dollar rail and transit programs. Proven expertise in high-speed rail, Metro, LRT, BRT, and multimodal hubs across North America and the Middle East. Recognized for strategic leadership, feasibility studies, stakeholders engagement, and technical excellence in all delivery models. Adept at aligning infrastructure with urban development, sustainability, and economic growth.

Fayez has an outstanding communication and leadership skills with extensive experience in FIDIC and Alternative Finance and Procurement (AFP).

In addition, Fayez is very experienced in Design and Construction Management, System Integration, Project Delivery Models, Procurement Option Analysis, Stakeholder Engagement, Constructability and Construction Staging, Value Engineering, Transit Oriented Development Strategy and Analysis, RCD & PSOS Development, Risk Analysis, continuous improvement workshops, lessons learned sessions, Claims and Change Management, RFQ and RFP Development and Evaluation.

Program Management (PMO), Project Management/Construction Management (PM/CM), financial and economic modelling of transit projects,, RFQ as well as RFP Development and evaluation utilising delivery models including DBB, DB, BOT, P3/Alternative Finance, Progressive as well as Turnkey (FIDIC).

Furthermore, Fayez is experienced in Engagement with business development teams in developing technical and financial proposals and yearly work plans including staffing planning and forecast. In the last 20 years, Fayez Led and managed design and construction teams in various organizations including mentoring, coaching, annual assessment, reviewing career objectives, mobilizing, demobilizing and monitoring performance KPIs.

Representative Experience

Senior Director with SYSTRA on Egypt High Speed Program (2024-Current) – US\$20 Billion. Providing advise on Interface, integration, delivery, Verification and validation and resolving design and construction issues for the 600 KM High Speed Program in Egypt – 350 Km/h (2024 – Current)

- *Lead the development and delivery of the 660 Km high speed Railway including stations, track, traction substations, systems and depots*
- *Developed yearly work plan including staffing planning and resources*

Education

Executive Leadership Certificate, Rotman School of Management, University of Toronto, Toronto, ON, 2016

M.S. in Transportation Engineering, The Ohio State University, Columbus, Ohio, USA, 1992

B.S. in Civil Engineering, (Transportation Engineering), University of Jordan, Amman, Jordan, 1987

Experience

2024–Current

SYSTRA, Senior Director for the High Speed Rail Network in Egypt – 350Km/h – 660 Km

2020–2024

Arcadis, Toronto, ON, Associate - Director, Construction/Integration Management, Rail and Transit.

2017–2020

WSP Canada Inc., Toronto, ON, Project Director, Rail & Transit Canada

2013–2017

WSP | Parsons Brinckerhoff, Saudi Arabia, Design & Construction Director

2003–2013

SYSTRA JV, Saudi Arabia, Design and Construction Manager/Engineering Manager

1996–2003

Consolidated Engineering Company, Khatib & Alami, Dubai, UAE, Design Manager / Project Manager

1995–1996

Hammon, Jonson, Wallen & Associates-Research and Development Department, Oakland, California, USA, Senior Transportation Engineer

1990–1995

The Ohio State University, Center for Mapping & GIS, Columbus, Ohio, USA, Research Associate

Memberships

Certified Public Private Partnership Professional (CP3P) (Membership No. 200865691)

Professional Engineer – Ontario (No. 100531894)

Certified Project Management Professional (Membership No. GIOPM-2015-01-70052)

Saudi Council of Engineers No. 38839

Languages

English

Arabic

- *Provided weekly progress reporting dashboard to the client including staffing, resources and burn rate analysis.*
- *Track and Over head catenary system Construction staging and sequencing analysis and review.*
- *Oversight of Railway safety and security review in coordination with ISA to resolve the hazard log issues related to track, systems and civil works.*
- *Oversight of anticipated risk, hazard and security issues*
- *Engage with contracting authority and Ministry of Transport to review multimodal transportation stations with LRT, BRT and other lines railway stations.*
- *Developed the financial and economic analysis as they pertain to the feasibility and procurement option analysis of the New Capital Intermodal station including traffic forecast, revenues, capital costs (CAPEX), O&M costs (OPEX) and Internal Rate of Return*
- *Lead the interdisciplinary review of the high speed line in coordination with track, civil , Systems and other disciplines*
- *Lead the Interdisciplinary Review meetings including Architectural design excellence and integration with all rail and MEP systems.*
- *Engage with Client to resolve Design Excellence and Architectural issues related to the high speed program.*
- *Develop construction management plan, organization as well as Roles and responsibilities.*
- *Developed the Integration Plans and Procedures*
- *Review construction progress, issues, staffing and outstanding issues*
- *Engage with Stakeholders, Cities, Developers and Utilities to resolve outstanding items*

With ARCADIS working as part of Mobilinx JV for the Design and Build of HurOntario LRT (20 Km with 22 Stations and Stops, 13 TPSSs, and one Maintenance and Storage Facility). Metrolinx, HurOntario LRT, Toronto, ON (December 2020-2024) – \$6 Billion

Role: As Integration/Construction Management Director *duties and responsibilities included:*

- *Lead the Interface and Integration of Civil, Architectural, track, Systems, Rolling Stock and Operations.*
- *Developed the financial and economic analysis as they pertain to the feasibility and procurement option analysis of the LRT including traffic forecast, revenues, capital costs (CAPEX), O&M costs (OPEX) and Internal Rate of Return.*
- *Engage with CA to resolve Design Excellence and Architectural issues related to Stations, Stops, TPSSs and other Facilities*
- *Lead the constructability review of HuLRT in coordination with Systems and other disciplines*
- *Lead the design of HuLRT Design of Facilities, track and Systems civil design and provide responses to the Contracting Authority and Stakeholders*
- *Lead the Interdisciplinary Review meetings of HuLRT including Architectural design integration with track, MEP and Systems*
- *Developed and lead the building Permit and site plan approval process and negotiations with the Cities*
- *Engage with various stakeholders to review and coordinate interchange stations with Go TRAIN, GO Bus, local bus and other modes of transport to create seamless multi-modal transport hubs.*
- *Developed the Design/Integration Plans and Procedures for HuLRT*
- *Oversight of Railway safety and security review in coordination with ISA to resolve the hazard log issues*

- *Lead the Verification and validation process of HuLRT*
- *Managed Design Consultants Schedule, claims and changes, cost and risk.*
- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*
- *Engage with Stakeholders , Cities, Developers and Utilities to resolve outstanding items*
- *Engage in Compliance Review Meetings with Contracting Authority to resolve non-conformance issues*
- *Engage in DIG Meetings with Contracting Authority to resolve outstanding design and construction issues*
- *Engage with CA to resolve transit oriented opportunities related to Stations and Stops.*
- *Engaged with business development teams in developing technical and financial proposals*
- *Developed yearly work plan including staffing planning and resources*
- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*

With WSP Canada Project Management Consultancy reporting to VP for Rail and Transit. Metrolinx/Toronto Transit Commission, Ontario Line (Relief Line South), Toronto, ON (December 2018-December 2020) – Ontario Line is part of Toronto \$28 Billion subway program.

Role: As Project Director & Consultant's representative duties and responsibilities included:

- *Developed the feasibility study, analysis, risk and sensitive analysis as they pertain to the financial and economic analysis of the Ontario Line. The feasibility study includes traffic forecast, revenues, capital costs (CAPEX), O&M costs (OPEX) and Internal Rate of Return.*
- *Developed procurement option analysis for the delivery of the Relief Line South.*
- *Oversight and review of the project schedule, cost and risk register.*
- *Developed different conceptual designs and reviews for Systems and CBTC.*
- *Developed conceptual design for elevated structures (Bridges) and stations.*
- *Developed Sponsors' requirements for the Ontario Line.*
- *Developed Transit Oriented Development (TOD) Strategy and Site Analysis for the Ontario Line Stations.*
- *Communication with key stakeholders (TTC, Utilities, City of Toronto, IO and Metrolinx).*
- *Developed functional requirements for East Harbour Station.*
- *Review of Environmental Report (TPAP), RCD, ISRS (15% Design) and SRS (30% Design) of the Relief Line South.*
- *Review of the architectural, structural, and MEP design of the underground stations.*
- *Managed Design Consultants Schedule, claims and changes, cost and risk.*
- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*
- *Developed yearly work plan including staffing planning and resources*
- *Led and managed WSP's team (including mentoring, coaching, annual assessment, reviewing career objectives, hiring, firing and performance KPIs).*

With WSP Canada Technical Advisory and Construction Oversight Consultant (P3 - DBF), reporting to VP for Rail and Transit. Viva Next Rapid Transit Project, Regional Municipality of York, York Region, ON (\$1.5B, 2017-2019) – Viva Next Rapid transit project involves the construction of semi-exclusive right-of-way bus rapid transit with transit priority signal in York Region.

Role: As Project Director duties and responsibilities included:

- *Review of preliminary, intermediate and detailed design of Viva Next Rapid Transit Project.*
- *Value Engineering and Constructability Reviews.*
- *Developed scope, design and construction functional requirements for BRTs, Stations, Stops and transit signals.*
- *Review of bridge design and elevated structures.*
- *Oversight of Project delivery including schedule, risk, cost and claims.*
- *Oversight of Health, Environmental and safety issues including detours.*
- *Oversight of geotechnical investigation and topographical surveys.*
- *Review of asphalt and red asphalt mix design.*
- *Review of road signals, signs and transit priority signals.*
- *Review of sites analysis, construction staging and earthwork design.*
- *Review of traffic management and safety during construction.*
- *Interface with key stakeholders (York Region, Metrolinx, TTC and utilities).*
- *Review of drainage analysis.*
- *Managed Designers and Subconsultants.*
- *Develop yearly work plan including staffing planning and resources*
- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*
- *Led and managed WSP's team (including mentoring, coaching, annual assessment, reviewing career objectives, hiring, firing and performance KPIs).*

With WSP Canada Technical Advisory and Construction Oversight Consultant (P3 - DBF), reporting to VP for Rail and Transit. Eglinton Crosstown LRT, Metrolinx (P3 – DBFM), Toronto, ON (\$6B, 2016-2017) – Project Features included: 2 Routes (Eastbound & Westbound) with a total of 20 Km, 25 stops & stations and 1 Depot; Total length of railway: 20 Km; Elevated Section (Viaduct): 1 Km; Underground Section (Tunnel): 10 Km; Passenger Stations: 25 stops and stations; 1 Maintenance Workshops; Signalling System: UTO in the Depot, ATO in the underground section and ATP-M in the at-grade section; Traction Power: Overhead Catenary System.

Role: As Director of Rail and Transit - duties and responsibilities included:

- *Oversight of project delivery including schedule, risk, cost and claims.*
- *Value Engineering and Constructability Reviews.*
- *Stakeholders Engagement (TTC, City of Toronto, Metrolinx, IO and utilities).*
- *Developed scope and requirements for the procurement of Systems equipment and materials; led negotiations with suppliers.*
- *Reviews of Design and construction with regards to staging, safety, operations and maintenance requirements.*
- *Led the development of System Performance and Failure Management Analysis (SPFMA) and System Operations and Failure Recovery (SOAFR).*
- *Review of the CBTC design for normal and degraded operations.*
- *Led the development of Rule Book and standard operating procedures.*
- *Led the development of the concept of operations and maintenance.*
- *Led the development of emergency and degraded operations.*

- *Led the conceptual design for the Operations Control Centre (OCC) and Backup Operations Control Centre (BOCC).*
- *Managed the overall requirements.*
- *Managed Designers and Subconsultants.*
- *Led and Managed System design teams. (including mentoring, coaching, annual assessment, reviewing career objectives, hiring, firing and performance KPIs).*

With WSP Middle East PMO Consultant, reporting to Project Director. Implementation of Makkah Metro Phase 1 (FIDIC Yellow Book– Design & Build), Makkah Mass Transit Company, Saudi Arabia (\$20B US, 2013-2016) – Provided Strategic Advice/Support to the client regarding the development and delivery of Makkah Metro and BRT in Saudi Arabia.

Role: As Design and Construction Director duties and responsibilities included:

- *Oversight of project delivery including schedule, risk, cost and claims.*
- *Developed the financial and economic analysis as they pertain to the feasibility and procurement option analysis of Makkah Metro including traffic forecast, revenues, capital costs (CAPEX), O&M costs (OPEX) and Internal Rate of Return.*
- *Review of preliminary, intermediate and detailed design of Makkah Metro Phase 1.*
- *Lead the Integration Process of the Makkah Metro Phase 1*
- *Oversight of Railway safety and security certification in coordination with ISA*
- *Developed design and construction functional requirements.*
- *Tender Document preparation for Metro Phase 1.*
- *Reviewed Tunnel design and underground stations.*
- *Reviewed earthworks and site analysis.*
- *Reviewed elevated structures design and retaining structures.*
- *Review of Technical and Financial Tenders.*
- *Recommendations and Findings of the review of tenders.*
- *Led the negotiation process with contractors.*
- *Construction staging and sequencing analysis and review.*
- *Oversight of Geotechnical investigation and Topographical Surveys.*
- *Interface with the City, Developers and Investors for transit-oriented development and multi-modal stations opportunities.*
- *Value Engineering, Site Analysis and Constructability Reviews.*
- *Reviews of design and construction with regards to staging, safety, operations and maintenance requirements.*
- *Engage and support all stakeholders including City, utilities, private developers and other authorities in design, procurement coordination, construction and interface activities.*
- *Coordinate with other directors and managers.*
- *Oversight of engineering and construction activities.*
- *Support of Makkah Mass Transit Company in all design, coordination, construction and Interface activities.*
- *Engaged with business development teams in developing technical and financial proposals*
- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*
- *Led and managed WSP Engineering and Construction teams including mentoring, coaching, annual assessment, reviewing career objectives, hiring, firing and performance KPIs.*

With SYSTRA Joint Venture (Systra, Canarail, Khatib & Alami and Louis Burger Group) Designer and Implementation Supervision Consultant, reporting to the Project Director.

Design and Implementation of the North-South Railway Project, Saudi Railways (SAR) (P3 – Design, Build, Operate and Transfer (BOT)), Saudi Railways (SAR), Riyadh, Saudi Arabia (\$10B US, 2003-2013) – The total SAR Project encompasses the construction of approximately 2400 kilometers of track, as well as sidings, yards, Passenger maintenance shops, six passenger stations, freight maintenance shop and administrative facilities. **The SAR project include high speed electrified rail at 300Km/h (1000KM) and 1400 freight lines at 100Km/h.**

Role: As Design and Construction Manager (Engineering Manager) duties and responsibilities included: Managed Technical, Engineering and Construction Aspects of the project. Developed system parameters, data collection and analysis, technical coordination with SAR/PIF, Saudi Aramco, Ministry of Transport, utilities, Ma'aden, and local authorities. Reviewed and provided answers/solutions to construction design queries and difficulties. Technical/Construction Coordination with contractors. Review of Specifications, Structures, Hydrological analysis and Track Construction. Overall review of technical and construction issues related to the implementation of the project including shop drawings, material selection, construction method statements, implementation schedule, progress meetings, planning and staffing.

- *Developed the financial and economic analysis as they pertain to the feasibility and procurement option analysis of North-South Railway including traffic forecast, revenues, capital costs (CAPEX), O&M costs (OPEX) and Internal Rate of Return.*
- Oversight of the detailed Review of the preliminary, intermediate and detailed design of alignment, track, stations and Depots.
- Review of various method statements for the construction of all stages of Railway tracks, earthworks, structures, buildings and coordinating the statements with mechanical, electrical, systems and rolling stock.
- Oversight of material and equipment selection for stations, track, right-of-way and maintenance workshops.
- Detailed review and management of shop drawings for all stages of railway tracks, earthworks, structures, and buildings. (Follow the approval codes A , B with comments and C rejected)
- Detailed review of Geotechnical, topographical, hydrological and structural technical reports related to construction as submitted by contractors.
- Issue Notices to the contractor as per requirements and needs and per the progress of the project (Notice to correct in case of delays in progress, other administrative issues)
- Issue NNCs (Non Conformity compliance) to contractors in case of any construction deviations from specifications and/or approved shop drawings and/or contract conditions and also request the Contractor to make the required correction/adjustment to close the NNC's
- Frequent site visits to the concerned construction sites to ensure progress, implementation as per schedule, SPECS, Shop Drawings as well as General and Particular conditions of Contracts. Meetings with the Engineer's staff for proper progress and quality construction.
- Lead and minute monthly progress meetings with the Contractors related to progress in construction, pending items, issues need immediate action and resolve them in coordination with the client and contractor
- Prepare RFAs (Request for Approvals) to document technical issues that require modification/changes/amendments including cost/time impact, if any, and submit to client for approval.
- Overall management and supervision of material and equipment selection for the railway as well the FAT tests (Factory Acceptance Tests)

- Overall management of the implementation of Railways and its related buildings and infrastructure including Technical input and answer to construction/Engineering issues, coordination with stakeholders, client, contractors and various disciplines for successful implementation of a well-coordinated railway
- Oversight of Testing and Commissioning activities including static and dynamic testing as well as trial run.
- Oversight of Railway safety and security certification in coordination with Rail Authority and SAR.

With Khatib and Alami Design Consultantancy reporting to Resident Engineer. Design and Supervision of Infrastructure and Buildings for Khafji Homeownership – Neighborhood 1, ARAMCO, KSA (\$1.8B US, 1996-2003) – Khafji homeownership project involves the construction of a new neighborhood including roads, utilities, infrastructure, buildings, fixtures, treatment plants and traffic signals.

Role: As Project Manager duties and responsibilities included:

- *Provided weekly progress reporting to the client including staffing, resources and burn rate analysis.*
- *Value Engineering and Constructability Reviews.*
- *Review of construction safety, staging and sequencing.*
- *Developed design and construction functional requirements for roads, bridges, culverts, pavement and transit signals.*
- *Oversight of project delivery including schedule, risk, cost and claims.*
- *Oversight of health, environmental and safety issues including detours.*
- *Traffic management and analysis.*
- *Review of bridge design and underpasses.*
- *Review of culvert design.*
- *Review of road design*
- *Oversight of Geotechnical investigation and interpretation.*
- *Review of asphalt mix design.*
- *Review of road signals, signs and transit priority signals.*
- *Review of sites, drainage and earthwork design.*
- *Review of utilities.*
- *Manage Designers and Subconsultants.*