SHA Analytics, LLC

Risk Assessment Support Services

Helping infrastructure owners make risk-based decisions from planning through construction

SHA Analytics, LLC transforms project risk assessments into actionable insights that help infrastructure owners make informed decisions throughout project delivery by identifying and quantifying project risks, establishing risk-informed contingencies, evaluating delivery strategies, optimizing risk allocation, meeting federal requirements, and managing risk from planning through construction.

Planning

Risk Assessment Framework
Tailored, standardized risk management framework that enables consistent risk identification, assessment, and mitigation, across programs and projects.

Early Risk Identification
Initial risk register to provide early visibility into project risks to enable timely mitigation.

Alternative Delivery Evaluation
Identify optimal delivery strategy through a risk-informed process, improving risk allocation, value for money, and confidence in procurement decisions.

Financial & Cash Flow Tools
Custom decision support tools to stress test funding scenarios by identifying funding shortfalls and fiscal cliffs within a risk-adjusted framework.

Design

Facilitated Risk Workshops
Identify design-level risks and mitigation strategies with cross-functional teams to support design advancement and minimize downstream impacts.

Monte Carlo Risk Analysis
Risk-adjusted forecasts that quantify the range and likelihood of cost and schedule outcomes, increasing confidence in successful project delivery.

Risk-Based Contingency Budgets
Bottom-up quantitative risk analysis provides a transparent, project-specific basis for setting contingency.

Federal Oversight Compliance
Support federal funding and oversight requirements by integrating risk management with financial planning, contingency management, and required federal reporting.

Procurement

Pre-Bid Budget Validation
Validate LOP budget and confirm contingency levels are aligned with the project's residual risk before procurement.

Risk-Informed Procurement
Support effective risk allocation by applying quantitative risk analysis tailored to the selected procurement strategy and collaborating with legal teams to integrate risk allocation provisions into procurement documents.

Alternative Delivery Support
Achieve successful commercial close or establish a defensible GMP through iterative quantitative risk analysis, collaborative risk workshops, and contractor negotiation.

Construction

Risk Register Management
Maintain a current project risk register, ensuring mitigation strategies remain effective and risks are proactively managed throughout construction.

Contingency Monitoring
Gain early visibility into contingency sufficiency by quantifying remaining risk exposure and contingency utilization.

Project Controls Integration
Maintain a complete picture of project status by integrating risk into Project Controls reporting and aligning risk exposure with change orders.

Funding Agency Oversight
Independent oversight of funded projects delivered by partner agencies through risk reviews, change log evaluations, project status assessments, and financial reporting.

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SHA Analytics, LLC

Selected Project Experience

I-5 North County Enhancements

LA Metro · $500M+ FHWA Major Project · 2021-Present

Supporting LA Metro through design, bid, and construction of a $500M+ FHWA Major Project to widen I-5 and implement ITS between I-405 and I-210. SHA Analytics, LLC developed the Project's initial risk register, guided Metro through FHWA's Cost Estimate Review, prepared the Initial Financial Plan and subsequent annual updates, and continue to lead risk assessment workshops and quarterly Monte Carlo simulations to produce risk-adjusted cost and schedule forecasts.

I-105 Express Lanes

LA Metro · $1B CM/GC Delivery · Dec 2022–Present

As lead for quantitative risk analysis, SHA facilitates workshops with the Contractor, Design team, legal team and Metro to identify, quantify, and allocate risk for this $1B CM/GC ExpressLanes project, now under construction. During the pre-construction phase, SHA's risk assessment supported CM/GC pricing negotiations and contract document development. During construction, SHA continues to provide risk updates, prepare annual federal financial plan updates, ensuring alignment with FHWA Major Project requirements.

SR-57/SR-60 Confluence

LA Metro · $500M+ FHWA Major Project · 2020–Present

SHA Analytics, LLC led risk analysis for the SR-57/SR-60 Confluence Project through design and FHWA Major Project designation, including the Initial Financial Plan and FHWA risk workshop. During construction, SHA leads biannual risk updates and annual FHWA Financial Plan updates, assessing change orders, risk exposure, and contingency budget sufficiency, for SGVCOG as the delivering agency and Metro as the oversight agency.

Sepulveda Transit Corridor

LA Metro · $25B Transit Corridor · 2023–Present

As part of Metro's financial advisory team, SHA led the initial quantitative risk assessment of private-sector Pre-Development Agreement (PDA) alternatives ahead of Locally Preferred Alternative selection in January 2026. With the LPA approved, SHA will lead the comparative risk assessment supporting the Value-for-Money analysis, evaluating risk exposure and allocation across P3 and conventional delivery for this $25 billion corridor.

LAX Automated People Mover

LAWA · $4.9B DBFOM P3 · 2016–2018

This $4.9 billion, 30-year APM concession was the largest U.S. airport P3 contract at Financial Close and the largest contract ever awarded by the City of Los Angeles. SHA led the pre-procurement risk-adjusted lifecycle cost analysis, working with LAWA's project management, legal, financial, and technical teams to optimize cost and risk allocation between LAWA and the private developer. This analysis was instrumental in supporting a successful procurement and Financial Close in 2018.

East San Fernando Valley Transit Corridor

LA Metro · $3.6B Light Rail Transit · 2018–2020

SHA Analytics LLC led the quantitative risk analysis comparing conventional and P3 delivery for this proposed light rail line along Van Nuys Boulevard, informing Metro's Value-for-Money evaluation and procurement decision. The work included risk allocation scenarios between public and private entities, market sounding with industry stakeholders to validate assumptions, and new guidance documents to standardize how Metro approaches quantitative risk assessment in VfM.

Clients: LA Metro · Caltrans · LAWA · Metrolink · BART · High Desert Corridor JPA · Illinois DOT · City of Inglewood · City of LA · Federal Railroad Administration · PA NYNJ

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