

HELPING YOU MAKE INFORMED DECISIONS ABOUT
INFRASTRUCTURE POLICIES AND PROGRAMS



Economics, Finance & Statistics





Informed Decision Making Throughout the Life Cycle of Your Assets

In today's economic environment, federal funding is increasingly constrained and agencies require decision support and prioritization tools to maximize the benefits of scarce resources. Aging infrastructure, climate change uncertainty and advancements in transportation technology increase the demand for alternative funding strategies and fresh approaches to prioritize investments and programs.

Our staff of more than 30 economists, statisticians and finance professionals has experience in economic analyses, applied research, planning and decision support for federal, state and local transportation agencies. We conduct benefit-cost, economic impact, and life cycle cost analysis for project selection, business cases, prioritization, grant applications and alternatives analysis. With extensive experience in developing dynamic and integrated long-range financial programs, our expertise is utilized in strategic decision-making including budgeting, capital expenditure prioritization and debt planning. We leverage statistical analyses to uncover trends and insights and test assumptions to help our clients make informed and objective business decisions.

Supported **95 successful grant applications** for federal discretionary grants and received **\$2.3 billion in federal funds** for key highway, rail, port, transit, bike, pedestrian, freight and multimodal projects.

What We Do



Planning and Decision Support



Benefit-Cost and Economic Impact Analyses



Life Cycle Cost Analysis



Economic Development Assessment



Regulatory Impact Analysis and Business Cases



Sustainability and Resiliency Analysis



Risk Analysis and Management



Statistical Analysis



Financial Analysis and Funding



Market Analysis and Forecasting



Grant Application Support



Commodity Flow Analysis for State Rail and Freight Plans

A Sustainable Value Analysis Process Ensures Adequate Funding

Our Sustainable Value Analysis process is a risk-based approach compliant with the financial planning requirements of the United States and Canadian federal governments, state and provincial agencies, Class I railroad operators, and metropolitan planning organizations. Whether it is for public-private partnerships, financial planning or third-party reviews, the benefit of our holistic approach to financial modeling is to efficiently find the best solutions to adequately fund your transportation projects.

Sustainable Value Analysis



PLANNING

- When and where should it go?
- Is it affordable?
- How reliable is it?



DESIGN

- Which investment level delivers best economy of scale?
- Which design best suits purpose and need while minimizing impacts?



CONSTRUCTION

- Which delivery mechanism yields highest value-for-money?



OPERATION & MAINTENANCE/ASSET MANAGEMENT

- When should a system be replaced?
- Which system should be replaced?

Innovative & Adaptive Approaches to Meet Our Clients' Challenges

A hallmark of our approach is integrating economics with planning and engineering to develop appropriate solutions directed to our clients' priorities. This is particularly challenging in an era of climate change and uncertainty, technology disruptions, and funding pressures. We have developed procedures for directly tying benefit analysis with the outputs from travel demand and micro-simulation models used to understand the demand, mode choice, and traffic impacts of transportation improvements. This allows us to better calibrate the models and present performance measures to decision makers. Using tools such as Cal-B/C, REMI or IMPLAN, we can calculate benefit-cost ratios and estimate economic impacts for various scenarios and investments. We can also tie risk analysis to incorporate uncertainty into scenario planning.



CLIMATE CHANGE & UNCERTAINTY

Evaluating the solutions and strategies of asset maintenance and replacement will help clients prioritize projects and more effectively allocate their budgets.



PERFORMANCE MEASUREMENT

Performing benefit-cost analysis to establish performance measurements provides decision support and helps clients decide whether projects meet their goals.



FUNDING PRESSURES

Developing innovative suggestions for revenue sources, providing elasticity modeling and evaluating whether those solutions will cover project costs will help our clients plan for future funding pressures.



AGING INFRASTRUCTURE

Assets require effective operation, maintenance, upgrades and expansion throughout their lifecycle. Our experts write asset management plans to define programs and meet federal requirements.



NEW TECHNOLOGY

Rapid technology advancement makes scenario planning difficult. Our experts use Monte Carlo simulations to model variabilities of dynamic inputs so clients can manage the risk of future projects.



Our Experience



For-Hire-Vehicle Study: Intro 144B

NYC DOT New York, NY

HDR led the 144B Study to develop a For-Hire-Vehicle (FHV) sector growth management policy and criteria for the evaluation of options. We advised the New York City Department of Transportation as well as the New York City Taxi and Limousine Commission in refining FHV management options to include quantity-limited licenses for access to a restricted service areas, a VHT or VMT fee on operations in certain areas of the city, a minimum FHV utilization standard and a minimum FHV fare by specific geography or time of day. Final results were presented to the mayor's office.



Cal-B/C Benefit-Cost Model

Caltrans Sacramento, CA

The California Department of Transportation developed the first version of the Cal-B/C benefit-cost model nearly 20 years ago. Cal-B/C is one of the earliest multimodal sketch planning models and its methods have been adopted by several states and countries for prioritizing projects and submitting grant applications. HDR has worked with Caltrans to update the Cal-B/C documentation and add model capabilities for transit, active transportation, safety and consumer surplus benefits as well as developed online training materials.



Cottonwood Canyons Transportation Action Plan

UDOT, Salt Lake City, UT

HDR helped Utah Department of Transportation prepare a corridor area plan for Big Cottonwood and Little Cottonwood Canyons and evaluate options to address recreation-based congestion, transit, avalanche mitigation and parking as well as adding roadway capacity, gondolas and rail. HDR synthesized all planning efforts and produced a list of prioritized projects for implementation. A component of the plan explores possibly introducing user fees to access the area. To determine the effects and to better understand how the road users and visitors value travel time savings, we designed a survey that explored visitors' trips habits to either canyon in both the winter and non-winter seasons.



Texas-Mexico Border Transportation Master Plan

TxDOT Austin, TX

The 1,254-mile Texas-Mexico border is North America's busiest gateway for people and goods. HDR helped the Texas Department of Transportation develop the Texas-Mexico Border Transportation Master Plan—a collaborative, multiyear and data-driven effort by TxDOT, its binational partners and stakeholders—to improve cross-border mobility, trade and transportation. This process identified both challenges and opportunities as well as the strategies needed to address those challenges for the region. As the lead consultant, HDR led public outreach, infrastructure assessment, forecast and economic analysis, identification of strategies and recommendations, and the drafting of the final report.

Pictured on cover: Mobile River Bridge | Adams, AL; Uintah Basin | Utah; Council Bluffs Interstate System | Council Bluffs, IA

Our Story

We specialize in engineering, architecture, environmental and construction services. While we are well-known for adding beauty and structure to communities through high-performance buildings and smart infrastructure, we provide much more than that. We create an unshakable foundation for progress because our multidisciplinary teams also include scientists, economists, builders, analysts and artists.

Our employees, working in more than 200 locations around the world, push open the doors to what's possible each and every day.

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We practice increased use of sustainable materials and reduction of material use. © HDR, all rights reserved.

