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## Reconnecting Communities through Infrastructure

Built primarily in the 1950s and 1960s, our impressive interstate system provides connections to commute to work, visit friends and family, and allow for delivery of goods we count on. However, this network of roads and bridges often cut through and divided neighborhoods, restricting access and opportunity.

As part of the Bipartisan Infrastructure Law, significant funding has been allocated to Reconnect Communities and Neighborhoods to rectify these decisions of the past. HDR is proud to have been part of planning and implementing these type of solutions since the 1980's, all across North America. From Seattle to the City of Brotherly Love, we are working side-by-side with our clients to reconnect communities and stitch them back together. Oftentimes the solution involves a structurally supported, urban space or park over the highway that fosters integration, encourages mobility, and promotes economic development.

From the planning and concept stage through design, construction and even rehabilitation, HDR's teams have collaborated to make these connections a reality. With over 11,000 professionals nationwide, we push open the doors to what's possible each and every day.

## FSS

Reimagining urban connectivity for over 40 years: from conceptual planning through design, construction, and rehabilitation, HDR partners with clients and the communities they serve to bring connections to life. Services include:

- Landscape Architecture & Urban Design
- Environmental Documentation
- Civil Engineering
- Bridge & Structural Engineering
- Mechanical & Electrical Engineering
- Fire & Life Safety
- Building Structural
- Community Engagement
- Stakeholder Facilitation
- Constructibility & Cost Estimating
- Funding Support
- Program Management

### HDR by the Numbers

No. 1 Top 25 in Bridges No. 3 Urban Design No. 5 Top 20 in Transportation No. 5 Top 10 Environmental Science No. 6 Landscape Architecture No. 6 Top 500 Design Firms No. 8 Planning

### **Envision** Planning & Consulting

"Working within enormous constraints, the HDR team gave form to public aspiration with a conceptual design that both reconnects a neighborhood and creates an extraordinary urban environment." - *City of Seattle Principal Urban Designer* 





### **State Route 520 Transit & HOV Projects**

Seattle, Washington

SR 520 is a critical highway for the Puget Sound Region, linking densely populated cities and some of the largest employers in the state. The four mile long project, including the more than 40-year-old SR 520 Evergreen Point floating bridge across Lake Washington, was very vulnerable to windstorms and earthquakes and needed to be replaced. As the GEC, HDR worked closely with WSDOT to replace the bridges along SR 520 and increase the safety, reliability and mobility of the corridor.

#### **Montlake LID & Pedestrian Land Bridge**

Envisioned as a mitigating component for the expansion of a highway through the historic Olmsted Bros planned parklands and boulevards, the Montlake Lid and Pedestrian Land Bridge serves as **a springboard to restore this Montlake area** to some semblance of the 1904 Olmsted Plan with a modern appeal. HDR has led the development of the project for WSDOT including alternatives analysis, defining lid programing, engineering validation, and stakeholder coordination including Seattle Design Commission endorsement. HDR assisted WSDOT in navigating the redesign of a single 1400-foot lid into a 'smarter lid' design comprised of a ~700' lid with partner pedestrian land bridge to minimize mechanical ventilation costs. The project, delivered via design-build, is currently in the finishing stages of construction and **implements visions HDR has created for landscape character, transit hub features and non-motorized connections**. When complete the lid will serve as a gateway to nearly 300 acres of adjacent parklands and the University of Washington.

### **Roanoke LID Bridges**

Planned to bridge a gap in a historic boulevard and parkway created by the 1960's construction of State Route 520, the Roanoke Lid will serve as a new community gathering space designed around the basic design principles of the Olmsted Bros. including opportunity for prospect, play and movement. HDR's landscape architects, planners and engineers have led the development of the project together with WSDOT, gathering praise from stakeholders and an endorsement from the Seattle Design Commission. The lid serves as an elegant 'delta' transitioning from state owned non-motorized facilities to city owned and maintained facilities. **The lid design showcases HDR's ability to aid in developing strong partnerships between the state and city to begin the development of a unique open space.** 

### **Eastside Transit & HOV Project**

As part of the State Route 520 Program to address HOV capacity, transit and nonmotorized mobility, and modern environmental BMP's, HDR provided initial visioning, conceptual and design-build oversight for the completion of three community defining lids and one enhanced overcrossing capping State Route 520. Through a series of community focused charettes and community collaboratives the HDR team developed a series of lid concepts detailing functional and area programing, core transit and non-motorized mobility improvements and corridor defining set of aesthetic design standards. Programming captured approximately 14.5 acres of public right of ways into community centric open spaces or otherwise non-highway specific use. HDR partnered with WSDOT to provide services for an accelerated design-build delivery providing prescriptive layouts for lid landscape and urban design features and corridor wide aesthetic design standards.

**FJS** 



#### **Urban Core Strategic Plan: I-480 LID** Omaha. Nebraska

The Greater Omaha Chamber's Urban Core Committee selected HDR to help develop a strategic plan for the City's core. This plan was based on significant input from the Urban Core Committee, over 60 community stakeholders, elected officials, and City staff. This process led to the creation of a series of guiding principles and a visionary goal of adding 30,000 new residents and 30,000 new employees to the core, all within 20 years. Key elements of the plan included the identification of 11 "big moves/anchor projects" that would act as catalysts for additional investment within the Urban Core; the establishment of a Total Mobility System (which equally accommodates pedestrians, cyclists, personal vehicles, and transit); and the creation of design guidelines that would focus on urban form and the creation of "walkable urbanism." With the implementation of two mega-projects in the Urban Core, the I-480 LID was identified as a "big move". This LID would allow for the reconnection of Downtown Omaha with Midtown Crossing and the Blackstone District and create a new programmable and highly activated public open space that would become a significant catalyst for redevelopment, property values, and tax revenue.



**Jim Ellis Freeway Park Restoration** Seattle, Washington

HDR is assisting Seattle Parks and Recreation in the process of restoring the world's first freeway cap park located atop Interstate 5 and ancillary structures. This nationally registered historic space for the City of Seattle was designed by Angela Danadjieva and the office of Lawrence Halprin originally in 1976 with an addition to the park in 1982. HDR is tasked with bringing cap park spaces back to their former glory, of highly active, light filled, and vibrant community spaces. Our landscape architects and engineers are supporting the reactivation of park spaces, increasing accessibility, addressing deferred maintenance, and siting a new concierge and restroom building atop the lid. With the lid structure being owned and operated by WSDOT, HDR has provided the interface for evaluating and assessing compatibility of proposed improvements with the structural limitations of the lid. The project completed a masterplan for the extent of the park and has begun final design of a core project area along Seneca Street. Parkwide features include wayfinding, lighting, and restroom redesign.

# **F**S

## **Making the Dream a Reality**

Design & Construction



### I-579 Urban Open Space Cap (Frankie Place Park)

Pittsburgh, Pennsylvania

The I-579 Urban Open Space "Cap" is a new, urban three-acre green space that reconnects Pittsburgh's historic Hill District with the city's Downtown business and cultural center. In the 1950s and 1960s, construction of the former Civic Arena, in concert with other development activities, led to the demolition of entire blocks of homes and businesses in the Lower Hill neighborhood, essentially separating the Hill from Downtown Pittsburgh. During that same time, Crosstown Boulevard was built, creating an additional barrier; this highway later became federal Interstate 579. Improvements also include pedestrian pathways, bicycle routes, performance areas, rain gardens for storm water management, and artistic elements.



I-5 Rose Quarter - Wielder Interchange Portland, Oregon

The Rose Quarter project will add auxiliary lanes and shoulders to I-5, the main north-south freeway on the West Coast. It will also redesign the local street network to be more multimodal, with features specifically for pedestrians and cyclists. The addition of a pedestrian and bicycle bridge across I-5 will complement these accessibility improvements. But the most dramatic change will be the highway cover, which will replace five existing bridges with a continuous structure that will better reconnect the two sides of I-5. The added surface space will provide opportunities for various types of public spaces and create development opportunities. It will also create new options for bicycle facilities, making the area more walkable and bike friendly.

The 1,500-foot highway cover concept will **reconnect local streets and create new community spaces for future development and economic opportunities.** Depending on the final design, the cover will be able to support buildings from three to six stories tall.



I-35 Capital Express Central Austin Austin, Texas

Interstate 35 has been the north-south backbone of personal, business and freight transportation in Texas since 1962. Its congestion is well known, ranking in Texas's top five most congested freeways for nearly a decade. Perhaps most importantly, since its completion, it has been a socioeconomic, visual and psychological barrier between east and west Austin. HDR assisted TxDOT with schematic design and environmental evaluation of highway mobility improvements with plans to stitch and cap segments to repair communities and spur development. **The HDR team assisted TxDOT in completing the final EIS in one of the most expedited schedules in Texas history.** 

### **Specialty Services & People**

Land developments near transportation infrastructure can truly flourish with greater exposure and accessibility, and HDR has been helping cities and state agencies nationwide in maximizing this potential. We design urban revitalization and mobility solutions to meet a broad range of local and regional objectives: connecting communities, attracting investment, and reducing congestion.

Our teams of urban planners, urban designers, architects, engineers, economists, and scientists bring the experience, knowledge and creativity needed to envision and create developments unique to each community and urban context. Understanding the dynamic relationship between urban infrastructure and land development is a hallmark of our practice.

Combining holistic urban planning and building design with extensive stakeholder outreach, we listen to the needs of all parties, including owners, developers and the community that will benefit from this new connection. The result is integration that fits naturally with a community's landscape and enhances quality of life.

### **Our People**



**Matt Gurrad**, PLA Sr. Landscape Architect



**Nader Noroozi**, PhD, PE, PMP *Fire & Life Safety Lead* 



**Roger Eaton**, PE Program Manager



**Daphne Federing** Economist & Grant Writer



**Justin Doornink**, PhD, PE Structural Engineer



**Stephanie White** Strategic Communications

### Landscape Architecture

As a fully integrated design firm, our landscape and site designs are holistically linked to the building envelope and engineering systems. We create spaces that are unique, yet an inextricable part of the whole. We begin with visioning sessions that establish high-level goals for what the design needs to achieve, and then develop a language for spatial quality that responds to user needs. We consider public and private as well as interior and exterior connections that are vital for creating inviting, active sites. We focus on the human dimension of design and strive to elevate the expression of the natural environment as it relates to the entire project context.

### **Engaging the Local Communities**

HDR takes considerable pride in designing education and awareness campaigns that inspire positive results. We are committed to utilizing best-in-class, purposeful strategies that support defendable, transparent stakeholder coordination while emphasizing development of easy-to-understand public facing materials for digital and in person distribution. Throughout the process, we capture and demonstrate where the input and ideas of the neighborhood are manifested within the Design Team output.

### Structural

Our versatile Structural Engineers are equipped to address the wide variety of challenges associated with these structures. We engage our structural team early in the planning process to develop design concepts that function for their purpose and are feasible to construct. Topside developments typically include various transportation networks and urban developments that may even include buildings, and our team has the experience and suite of skillsets to address these design challenges and to maximize topside development potential to reconnect communities.

### Fire & Life Safety

HDR's fire and life safety (FLS) experts are an integral part of the team to verify these life-saving elements are planned for and incorporated into cut-and-cover and lid tunnel projects. We have collaborated with owners to convey risk and develop solutions that comply with local and national fire protection requirements. Additionally, our FLS team has the capacity to perform sophisticated fire and evacuation modeling to predict fire behavior, smoke movement, and evacuation scenarios, enhancing our ability to design effective safety measures. Throughout design, we engage with key stakeholders, owners, local fire and building departments, emergency responders, and regulatory authorities, to verify structural integrity, life safety, property protection, business continuity, and environmental measures are employed.