RTA

HDR

STATEMENT OF QUALIFICATIONS

Streetcar System Modernization Master Plan

New Orleans Regional Transit Authority
RFQ #2025-009

Mar 21
2025

Letter of Interest

March 21, 2025

Regional Transit Authority (RTA)
Attn: Procurement Department
2817 Canal Street
New Orleans, LA 70119

RE: Statement of Qualifications (SOQ) for Streetcar System Modernization Master Plan (RFQ #2025-009)

Dear Selection Committee,

The New Orleans streetcar system provides mobility for New Orleans residents and visitors. RTA will be leading a streetcar system modernization master plan to enhance the accessibility, safety, and efficiency of the existing system while considering capital and operating costs and maintaining the historical legacy of the system. As demonstrated in our SOQ, the **HDR Engineering, Inc. (HDR)** team has the experience to work with RTA to develop a successful modernization masterplan.

HDR (Prime Consultant)
The HDR team, led by project manager Jim Hecht, provides RTA with unparalleled experience with streetcar planning and implementation. Jim has extensive experience managing streetcar projects, from planning through construction, as an owner and a consultant. He will leverage his streetcar project lifecycle experience by providing forward-thinking solutions considering lifecycle costs. HDR has been a major consultant on 11 of the 17 US streetcar systems that have opened since 2013, and we are a major consultant on 9 of 9 new streetcar systems currently in design and construction and are scheduled to open by 2030. Our streetcar modernization experience with accessibility and long-term strategic planning experience highlighted in our SOQ includes the Southeastern Pennsylvania Transportation Authority (SEPTA) Trolley Modernization Program and the Tampa Streetcar Extension and Modernization Study. We also provide experience maintaining projects of historic significance through our Dallas Area Rapid Transit (DART) Dallas Streetcar project. We leverage this national experience through our local offices. HDR has been providing services in Louisiana since 2005, and we currently have offices in Metairie (New Orleans area), Baton Rouge, and Lafayette.

Subconsultants
Bonton Associates (DBE) Based in Baton Rouge, Bonton Associates (Bonton) has been delivering sustainable public infrastructure projects since 2012. Their experience includes providing Americans with Disabilities Act (ADA) compliant design for the Downtown Thibodaux Sidewalks project and the East Baton Rouge Parish ADA Transition Project. ***Streetcar System Modernization Masterplan:*** Bonton will provide ADA compliance, site assessments, and public engagement.

Raul V. Bravo + Associates, Inc. (DBE) Since 1979, Raul V. Bravo + Associates (RVB+A) has provided transit passenger vehicle assessments, planning, design, manufacturing oversight, and research that adheres to safety and ADA regulations. RVB+A has experience with San Francisco historic cars, and the Kansas City, Seattle, Portland, and Washington DC streetcars. They also have provided Federal Transit Agency (FTA) compliance reviews of federally-funded projects. ***Streetcar System Modernization Masterplan:*** RVB+A will support vehicles and fleet transition.

The Estopinal Group (DBE) Based in New Orleans, Estopinal Group (TEG) has over 25 years of experience providing strategic communications and public engagement, which provides them with an extensive knowledge of the community. Their project experience includes the RTA Rider Education Campaign and the Regional Planning Commission Public Participation Guide, Citizen Participation, and Community Outreach. ***Streetcar System Modernization Masterplan:*** Estopinal will support public engagement.

Integrated Logistical Support Incorporated (ILSI Engineering) (DBE) Based in New Orleans, ILSI Engineering (ILSI) is a civil engineering and construction management firm, which was founded in 1994. Their project experience includes the RTA Elysian Fields Avenue and St. Claude Avenue Streetcar Extension; Canal Street Bus and Streetcar Terminal; and the Canal Street Ferry Terminal. ***Streetcar System Modernization Masterplan:*** ILSI will support visioning, conditions assessment, track, maintenance facilities, and local/state requirements.

DBE Goal: HDR will meet the 32 percent DBE project goal through meaningful assignments to Bonton, ILSI, Estopinal, and RVB+A.

PROJECT APPROACH

Vision and Goals. HDR will collaborate with RTA and the community to define the project purpose and create a clear vision for the masterplan. Goals may include universal accessibility, improved travel times, enhanced safety, increased ridership, and maintaining the historical legacy. These goals will be used as metrics to evaluate the performance of the modernization scenarios.

Existing Conditions Analysis. To obtain a clear assessment of RTA's streetcar assets, we will review condition records including as-built plans, inspection records, capital replacements, corrective maintenance, and fault logs. Based on the records, we will conduct a high-level state of good repair assessment for vehicles, stations, track, power, communication and signals, and maintenance facilities. The data collection will be supplemented by discussions with RTA maintenance staff and visual inspections with photos as needed. For the stations and stops, we will conduct an existing conditions analysis with a project-specific field survey form with the goal of universal access.

For the initial performance analysis, we will review RTA's existing records on travel time and headway, collect additional data, if necessary, and conduct a ride-along with RTA operations staff to identify areas of low track speed, frequent streetcar bunching, and traffic congestion. We will also review streetcar accident data and other safety data to identify hotspots.

We will leverage our peer review experience on the Southeastern Pennsylvania Transportation Authority (SEPTA) trolley modernization program and Community Streetcar Coalition to identify industry best practices and lessons learned. We will gather and research applicable regulations including ADA and the National Historic Preservation Act. The results will be summarized in an existing conditions report, and urgent findings will be immediately elevated to the RTA project manager. The existing conditions report is the baseline to compare the effectiveness of alternative scenarios.

Engagement. Obtaining stakeholder input on alternative scenarios and building consensus on the proposed recommendations will be essential to project success. We will work with RTA staff to develop a comprehensive engagement plan that is inclusive of the general public, elected officials, and the project advisory committee. The project advisory committee, consisting of business owners, neighborhood representatives, and institutional leaders, will provide guidance through the project. Engagement tools may include collateral, virtual and in-person community workshops, elected officials briefings, and a public relations campaign. Similar to our experience on Kansas City Streetcar, Atlanta Beltline Streetcar East Extension, and S- Line in Salt Lake City, we will prioritize collaboration, confirming that the project meets technical requirements and aligns with the community's vision for improved mobility, livability, and quality of life.

Streetcar Modernization Scenarios. Based on the project vision and goals, existing conditions analysis, and engagement input, we will develop modernization scenarios, which may include:

- ADA Accessibility to stations, within stations, and for vehicle boarding
- Stop rebalancing
- Off-board fare payment
- Train control upgrade and real-time next streetcar arrival data

- Transit signal priority and transit priority measures
- Streetcar service changes
- Traction power upgrades associated with changes to streetcar service
- OCS Conversion from Trolley Pole to Pantograph
- Potential enhancements to maintenance facilities

For the potential modernization scenarios, we will evaluate implementation feasibility, existing system impacts, risk and benefit comparison, cost estimates including long-term operating and maintenance (O&M), and regulatory compliance.

We will group the most beneficial improvements into two to four combination scenarios for further evaluation. The combination scenarios will range from limited changes with relatively lower cost to more robust improvements having a higher cost. For the combination scenarios, we will develop a ridership model to estimate ridership and fare revenue increases, implementation schedules, cost estimates and funding plans. We will summarize the results into a Scenarios Report, for the RTA Board to approve a Final Streetcar Modernization Master Plan.

CAPABILITY TO HANDLE PROJECT-SPECIFIC ISSUES

Jim will work with our key staff to develop an initial project risk register along with mitigation strategies to address potential project-specific issues. He will update the risk register monthly. We will leverage our extensive streetcar experience to provide forward-thinking cost-effective solutions that minimize project impacts during implementation.

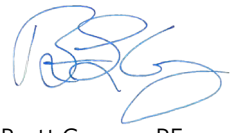
PROJECT SCHEDULE

HDR is committed to meet the schedule, so the RTA Board of Commissioners can approve the preferred alternative by September 2026. A detailed project schedule is included in our SOQ.

ACKNOWLEDGEMENTS

We acknowledge the receipt of Addendum I dated February 10, 2025, Addendum II dated March 10, 2025, and Addendum III dated March 18, 2025. We look forward to the opportunity to work with the RTA to develop a cost-effective streetcar system modernization masterplan that provides accessibility, enhances safety and efficient services, while maintaining the historic legacy. If you have any questions or need additional information, please contact me by email: Brett.Geesey@hdrinc.com or phone 337.347.5598.

Sincerely,
HDR Engineering, Inc.



Brett Geesey, PE
Vice President

1.15 ADDENDA

Proposers shall acknowledge receipt of all addenda to this Request for Proposals. Acknowledged receipt of each addendum shall be clearly established and included with each proposal. The undersigned acknowledges receipt of the following addenda.

Addendum No. I, dated February 10, 2025

Addendum No. II, dated March 10, 2025

Addendum No. III, dated March 18, 2025

HDR Engineering, Inc.
Company Name

Brett Geesey, Vice President
Company Representative

RFQ 2025-009

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Statement of Qualifications

1 Section 1: Firm Information

HDR Overview

Founded in 1917, HDR specializes in engineering, architecture, environmental, and construction services, focusing on transportation and infrastructure. As an industry leader with over 13,000 staff in 200 offices, HDR provides resilient and cost-effective solutions through a multidisciplinary team of engineers, planners, scientists, architects, and economists. Our integrated approach focuses on risk management and identifying opportunities to provide smooth transitions between project phases. We leverage our national experience and best practices through our local offices.

HDR Louisiana Overview

HDR has a strong presence in Louisiana, with 44 professionals based in our Metairie, Baton Rouge, and Lafayette offices. Our team delivers comprehensive planning, engineering, and environmental solutions across the state. We specialize in infrastructure planning, energy, design, and construction management, verifying compliance with regulatory requirements while addressing community needs.

With decades of experience in Louisiana, HDR has contributed to major transportation and environmental initiatives, including transit planning, bridge design and inspections, flood risk reduction, and coastal restoration. Our environmental and permitting specialists have successfully navigated complex regulations, facilitating compliance and efficiency for projects such as the Bonnet Carré Spillway bridge and various wetland restoration efforts.

Firm Contact Information

HDR Engineering, Inc.
1 Galleria Blvd, Suite 1920, Metairie, LA 70001
Brett.Geesey@hdrinc.com
337.347.5598
Submittal Date: March 21, 2025

HDR Streetcar Experience

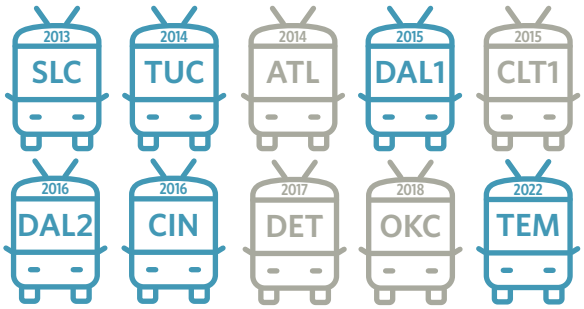
We have helped communities by implementing or modernizing streetcars in cities such as Tampa, Atlanta, Orange County, Kansas City, Washington D.C., Tucson, and Philadelphia. Effective communication is essential for project success, enabling our team to reach a consensus on necessary enhancements to maximize mobility while minimizing impacts on the community and environment.

HDR has modernization experience through our work with the Tampa Streetcar. While this is a modern streetcar the premise of the line is historic in nature. In planning for the streetcar, preserving the history as much as possible was important. Our team completed final design for the Dallas Streetcar. This is a modern streetcar with a portion of the alignment routed though a historic area which required an innovative solution that did not use an overhead contact system (OCS). The HDR team worked closely with the community and developed a solution with battery power through the historic section and lower catenary wires through this section to preserve the historic look of the community while still providing streetcar service.

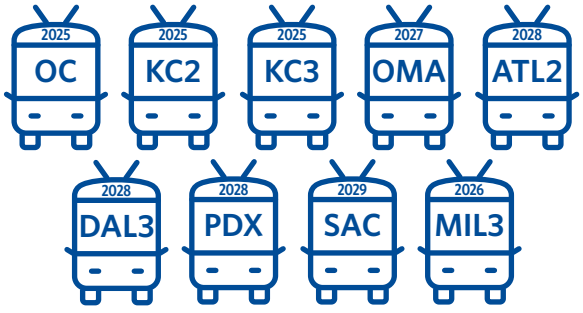
Familiarity with New Orleans RTA Streetcar System

Previously HDR assisted the RTA with several streetcar projects. HDR was responsible for the **Environmental Assessment and Preliminary Engineering for the Streetcar Expansion Project** which included reviewing and assessing three streetcar lines. Our team also assisted RTA with an Alternatives Analysis for the French Quarter to Central Business District assessment. Most recently we completed the final design for the **Rampart/St. Claude** line. HDR understands the significance of the streetcar system and important role it plays in enhancing mobility for the city.

HDR has been a major consultant on 11 of the 17 streetcar systems opened in the U.S. since 2013.



HDR is a major consultant on 9 of the 9 new streetcar systems in design and construction scheduled to open by 2030.



HDR is Engineer of Record (EOR) on 13 of the streetcar projects that have opened since 2013 or are anticipated to open by 2029.

The following table summarizes our experience delivering similar projects for public agencies and details how we build trust through conversations and gain consensus by encouraging collaboration. As outlined in this proposal, HDR has extensive experience in streetcar planning, design, procurement, and construction phase services. We will leverage our comprehensive knowledge of the streetcar project lifecycle to build consensus and proactively address project risks during the planning phase for overall project success.

	LOCATION	Opening Date	EOR	PROJECT MANAGEMENT	DATA COLLECTION	COORDINATION & AGREEMENTS	DESIGN STUDIES & REPORTS	DESIGN DEVELOPMENT	CONSTRUCTION PLANNING	PUBLIC OUTREACH	REAL ESTATE SUPPORT	SAFETY & SECURITY	PROCUREMENT SUPPORT
HDR NATIONAL STREETCAR EXPERIENCE	Atlanta, GA	2028		●	●	●	●	●		●			
	Cincinnati, OH	2016	✓	●		●	●	●	●	●		●	●
	Dallas, TX (Oak Cliff)	2015	✓	●	●	●	●	●	●	●	●	●	
	Dallas, TX (Bishops Arts)	2016	✓	●	●	●	●	●	●	●		●	
	Fort Lauderdale, FL	NA		●	●	●	●	●	●	●	●	●	●
	Kansas City, MO (Downtown)	2016	✓	●	●	●	●	●	●	●	●	●	●
	Kansas City, MO (Main Street)	2025	✓	●	●	●	●	●	●	●	●	●	●
	Kansas City, MO (Lakefront)	2025	✓	●	●	●	●	●	●				●
	Milwaukee, WI	2018	✓	●		●	●	●	●	●		●	●
	Milwaukee, WI (Riverfront)	2023	✓	●		●	●	●	●				●
	Omaha, NE	2027	✓	●	●	●	●	●	●	●	●	●	●
	Portland, OR	2028		●		●	●			●			
	Sacramento, CA	2029	✓	●	●	●	●	●	●	●	●	●	●
	Salt Lake City, UT (S Line)	2013	✓	●	●	●	●	●	●			●	●
	Salt Lake City, UT (Sugarhouse Ext.)	TBD	✓	●	●	●	●	●	●	●	●	●	
	Tacoma, WA	2023	✓	●	●	●	●	●	●	●	●	●	●
	Tampa, FL	TBD		●	●		●			●			
	Tempe, AZ	2022		●		●	●			●			
	Tucson, AZ	2014		●		●	●		●	●	●	●	●
	Washington, DC	2016		●		●	●		●	●	●	●	●

UNSURPASSED EXPERIENCE DELIVERING RIGHT-SIZED SOLUTIONS FOR COMMUNITY-BACKED PROJECTS

2 Section 2: Project Team

Qualifications of Key Personnel

Jim Hecht | *Project Manager*

Jim is a senior transit project manager with extensive experience managing light rail and streetcar projects as an owner and consultant. He has successfully led projects from planning through construction and service initiation, overseeing environmental permitting, right-of-way acquisition, utility agreements, and regulatory approvals. Skilled in contract management and stakeholder engagement, he specializes in LRT and streetcar project delivery, verifying regulatory compliance. Jim has played key roles in major transit projects. His experience includes leading alternatives analysis, conceptual engineering, environmental documentation, and the FTA Small Starts application for the Downtown Los Angeles Streetcar. His work on the Orange County Streetcar, Downtown Los Angeles Streetcar, and Sacramento Downtown/Riverfront Streetcar further highlights his expertise in guiding projects through complex regulatory, design, and construction phases.

Thomas Perry | *Deputy Project Manager*

Thomas is a senior program manager specializing in transit and multimodal infrastructure. He currently leads the final design of the Atlanta Streetcar East Extension, addressing hybrid/off-wire vehicle feasibility, system enhancements, and stakeholder engagement. In the first phase, Thomas led four planning studies: 1) Existing System Enhancement and Improvements, 2) Vehicle Analysis, 3) Grass Turf Feasibility, and 4) Public Involvement and Stakeholder Engagement Strategy. He created a user-friendly executive summary to engage key stakeholders and the public. Previously, he managed the $200M Benning Road Reconstruction and Streetcar Extension in Washington, DC, overseeing design, environmental approvals, and public outreach. As a former program manager for the DC Streetcar Program, Thomas directed the design and construction of the H Street/ Benning Road Line and Anacostia Extension, providing successful project delivery and safety integration.

Nicholas Stadem | *QA/QC*

Nick is a senior project manager with project experience that includes management of multi-discipline freight and transit track design, highway/rail grade crossing safety analysis, zone establishment, and construction services. His project management experience includes leading the Kansas City and Omaha streetcar final design and the Dallas Union Station to Oak Cliff Streetcar. His track design experience includes mainline and non-revenue track design for streetcar, and maintenance and storage yard design in commuter rail.

Laura Everitt | *Project Principal*

As a former resident of New Orleans, Laura has extensive experience in transit planning, policy development, and stakeholder engagement. With a background in urban planning, law, and environmental sciences, she has successfully led various projects, including transit development plans, microtransit feasibility studies, and long-range master plans. She successfully managed Broward County's Transit Development Plan, delivering a comprehensive strategy under a tight timeline. She led the Cabarrus County Microtransit Feasibility Study, enhancing transit services through data-driven recommendations. Her work on the DeKalb County Transit Master Plan in Georgia and North Carolina's Statewide Locally Coordinated Plan highlights her ability to develop cost-feasible transit visions.

Ruth Krieger | *Regulatory Compliance Task Lead*

Ruth is the transportation architecture director at HDR with over 25 years of experience in architectural design. Ruth leads accessibility efforts across projects, focusing on compliance with ADA standards and enhancing functionality for diverse communities. Her expertise includes developing ADA-compliant designs for BRT systems, streetcars, and modern trolley stations. Ruth worked with the Southeastern Pennsylvania Transportation Authority (SEPTA) on modernizing trolley stations, contributing to design excellence and accessibility.

Rachel Haney | *Engagement Task Lead*

Rachel is the HDR Louisiana strategic communications lead based in Metairie. She currently manages the delivery of a comprehensive internal and external communications strategy for the Sewerage and Water Board of New Orleans (SWBNO), leveraging her local expertise to provide services such as communications planning, crisis communications support, content development, and media strategy. With over 15 years of experience in public relations and communications, Rachel has a strong background in managing outreach for major public projects, including the Port of New Orleans Louisiana International Terminal Project and the

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Louisiana Housing Corporation programs. Her deep local knowledge helps drive effective community engagement and impactful messaging across various sectors.

Gina Thomas | *Peer Agency Review Task Lead*

Gina is the Global Bus Rapid Transit Practice lead and one of three Executive Officers on the Board for the Community Streetcar Coalition. With extensive experience from initial alternatives analysis and planning-level cost estimating to final design and construction, Gina coordinates across disciplines and identifies potential issues early to facilitate smooth project progression. Gina is adept at identifying cost-saving opportunities, developing cost estimates, and creating construction phasing/staging plans.

Joseph Robberts | *Systems and Communications Task Lead*

Joseph is an experienced transit and rail systems professional specializing in project management, systems analysis, design engineering, and system integration. He provides planning, design, and construction management services for transportation system and facility communication solutions. Joseph has experience in systems engineering, construction, maintenance, start-up, and activation of traction power, train control, OCS, and communications and central control systems.

Marcus Huerta

National Historic Preservation Task Lead

Marcus is an Architectural Historian who specializes in the built environment and meets the Secretary of the Interior's Professional Qualification Standards for architectural history. He has extensive expertise in architectural and historic site surveys, National Register of Historic Places (NRHP) eligibility evaluations and nominations, Historic American Buildings Survey (HABS) documentation, historic structure reports, condition assessments, disaster recovery, and archival research. Marcus has submitted compliance reports to 13 State Historic Preservation offices and has worked with municipal transit agencies, private developers, state Departments of Transportation, the U.S. Army Corps of Engineers, and other governmental and private entities.

2 Organizational Chart

RTA

Project Manager
Jim Hecht, PE [1] ★

Project Principal
Laura Everitt, ESQ., AICP, LEED GA [1] ★

QA/QC
Nick Stadem, PE [1] ★

Deputy Project Manager
Thomas Perry, PE [1] ★

Existing Conditions and Scenarios
Thomas Perry, PE [1] ★

Systems & Communications
Joseph Robberts, PMP [1] ★

Transit Service
Jim Schroeder, PE [1] ★

Rail & Systems
Eric Sitiko, PE [1] ★
William Lin, PE [1] ★

Vehicles
Marcin Taraskiewicz, PE [1] ★
Joseph Tax, PE [1] ★
Theresa Zemelman, PE [4] ★

Fleet Transition
Devin Rouse, PE [4] ★

Track
Ronald Schumann, PE [3*] ★

Maintenance Facilities
Tom Fodor, PE [1] ★
Sheena Zimmerman [1]
Derek Kelly, PE [3*] ★

OCS
Grace Baird [1]

Traction Power
Paul Soleyn [1]

Transit Signal Priority
Robert Acevedo [1]

Utilities
Ronke Osibajo, PE [1]

Engagement
Rachel Haney [1] ★

Communications
Meagan Morvant [1]

Public Involvement
Marcus Bonton, PE [2*] ★
Denise Estopinal [5] ★

Visioning
Louis Jackson [3] ★

Regulatory Compliance
Ruth Krieger, AIA, LEED AP, ENV SP [1] ★

Local and State Requirements
Iam Tucker [3] ★

Federal Requirements
Ruth Krieger, AIA, LEED AP, ENV SP [1] ★

National Historic Preservation
Marcus Huerta [1] ★

ADA
Ruth Krieger, AIA, LEED AP, ENV SP [1] ★
LaDarien Beene, PE, PTOE [2*] ★
Lauren Kennedy [1]

Support Services

Peer Agency Review
Gina Thomas, PE, ENV SP, LEED AP [1] ★

GIS
Rhys Bellman [1]

Risk Assessment
Trent Eakin, PE [1]

Funding Strategy
Mat Olson [1]

Capital Cost Estimation
Mike DiGregorio [1]

O&M Cost Estimation
Laura Grams [1]

Conditions Assessment
Jest Jackson, PE [3] ★

Site Assessments
Aaron Hargrove, PhD [2] ★

LEGEND

1. HDR
2. Bonton Associates
3. ILSI Engineering
4. Raul V. Bravo and Associates
5. The Estopinal Group

** Louisiana PE*
★ *Resumes Included in the CQ Form*

Coordination Between Firms

HDR understands that the success of a project relies on effective coordination among firms to keep the project on schedule and within budget. Our project manager, Jim Hecht, will oversee team coordination and verify that our teaming partners are engaged in a meaningful way. He will collaborate closely with the HDR team to manage staffing and define roles while adhering to the schedule established by the RTA. Jim will meet on a weekly basis with team members including subconsultants who are currently performing work assignments. This will allow Jim to know how the project is progessing and be able to identify any issues and address them as they arise. The HDR Team will use a shared file system to host all files and conceptual drawings. This allows the team to be able to access any files needed and prevents version control issues.

Participation of DBE Firms

ILSI Engineering: *12%*

- » Visioning
- » Condition assessment
- » Track
- » Maintenance facilities
- » Local and state regulations

Bonton Associates: *8%*

- » Site and station assessments
- » Public outreach support
- » ADA compliance (Accessibility)

The Estopinal Group: *12%*

- » Public engagement support

Raul V. Bravo + Associates: *5%*

- » Vehicles
- » Fleet transition

Subconsultant Overview

Since 2012, **Bonton Associates** (DBE) has a municipal public works focus and specializes in holistic planning and design for lasting public infrastructure solutions. Based in Baton Rouge, their data-driven approach integrates cutting-edge technology and fosters intuitive solutions. Their experience includes providing Americans with Disabilities Act (ADA) compliant design for the Downtown Thibodaux Sidewalks project and the East Baton Rouge Parish ADA Transition Project.

Established in 1994, **Integrated Logistical Support Incorporated** dba **ILSI Engineering** (DBE) is a 100% minority/woman-owned New Orleans-based business with expertise in civil and structural engineering, construction management, inspection, and program management. With a solid track record of successful projects across federal, state, and municipal sectors, ILSI has demonstrated its capability in managing complex infrastructure needs. Their project experience includes the RTA Elysian Fields Avenue and St. Claude Avenue Streetcar Extension; Canal Street Bus and Streetcar Terminal; and the Canal Street Ferry Terminal.

Founded in 1979, **Raul V. Bravo + Associates, Inc. (RVB+A)** (DBE) specializes in passenger and freight rail systems. They provide expertise in vehicle design, infrastructure, operations, and maintenance, delivering tailored solutions for public and private sector clients worldwide. RVB+A has experience with San Francisco historic cars, and Kansas City, Seattle, Portland, and Washington DC streetcars.

The Estopinal Group (TEG) (DBE) TEG is a leading strategic communications firm in New Orleans. With over 25 years of expertise in public relations, marketing, and brand management, they have a deep understanding of the New Orleans area and Louisiana. Specializing in public outreach, issue advocacy, and community engagement, TEG crafts effective strategies to shape public perception and build support through collaboration. Their project experience includes the RTA Rider Education Campaign and the Regional Planning Commission Public Participation Guide, Citizen Participation, and Community Outreach.

3 Section 3: Project Understanding

Understanding

New Orleans is a city rich in history, and few symbols are as synonymous with its identity as the streetcar. For over 190 years, streetcars have provided mobility to both residents and visitors, shaping the city's development and serving as the backbone of its transit network. However, as transit options evolved, streetcar tracks were removed in some areas, changing mobility and accessibility. Earlier this year, RTA signed a Federal Consent Decree to make the St. Charles line ADA accessible. Since 2004, RTA has added four other lines to New Orleans' streetcar network.

The purpose of the Streetcar Modernization Master Plan is to provide a strategic plan that balances the historic preservation and character of the popular streetcar transit service with universal accessibility. This plan focuses on enhancing safety and efficiency while considering funding, capital, and operating costs for effective future implementation. The modernization master plan will focus on ADA compliance modifications to support universal accessibility while also planning for traction power upgrades, trolley-pole to pantograph conversion, and signal and communications integration. Improvements in speed, reliability, frequency, and safety will be addressed, along with a fleet transition strategy to enhance passenger capacity, procurement, and maintenance.

Obtaining stakeholder input on alternatives and building consensus on the proposed recommendations will be essential for project success. By leveraging our extensive experience and industry best practices, HDR will work with RTA to create a modern, efficient, and accessible streetcar system that honors New Orleans' legacy while providing mobility for all. HDR is committed to providing recommendations to the RTA Board of Commissioners by September 2026.

Objectives, Opportunities, Contraints, and Issues

OBJECTIVES

Accessible System. Verify full compliance with the ADA to provide access for all riders.

Safe and Efficient Service. Reduce crash rates and vehicle conflicts while delivering consistent, dependable service. Offer real-time information to empower riders in their decision-making.

Cost-Effective Operations. Balance recommended benefits with capital and operating costs to support long-term financial sustainability.

Honor Historic Legacy. Uphold and celebrate the historical significance of New Orleans streetcars while maintaining their role as a vital part of the city's mobility network.

CONSTRAINTS

The New Orleans streetcar network has evolved over time. The St. Charles Line was commissioned in the early 19th century, while the other lines were established in the 21st century. The organic growth of the streetcar network has resulted in each line being designed with **different technologies and system types**.

The historic aspect of the system should be preserved as much as possible while modifying vehicles to be accommodating to all. While manufacturing and industry have adjusted the market, we are still facing **supply chain issues and navigating around Build and Buy America regulations** should US manufacturers not manufacture what is necessary. As this project advances, our team will review the risks associated with the suggested equipment and evaluate their availability in the market. The long and rich history of the city lends the **roadway network to be narrow and confined**. As we navigate through the scenarios, our team will evaluate the accessibility of the track and stations and how they align with the proposed modifications. Our team will identify constraints that may constrict the constructability of future stations through our conceptual design process.

Additionally, **restoring older vehicles often faces challenges due to their condition and obsolescence** identified during the documentation phase, which can impact the project's life extension goals. It is essential to anticipate and plan for unexpected surprises. As we collaborate with you on the system's modernization, we will be transparent in the risks we identify and provide mitigation measures in a risk register.

OPPORTUNITIY

The streetcars of New Orleans are an important part of the city's cultural and historical heritage and remain a symbol of the past. Over time, safety standards, population

growth, and the speed of daily life have changed, requiring modifications to keep up with modern demands. To keep streetcars operating safely and efficiently, updates must be made to meet current regulations and improve accessibility, while maintaining their historic charm.

PROJECT APPROACH

Task 1: Project Management

At the beginning of the project, **Jim Hecht**, project manager, and key staff will attend a project kick-off meeting with RTA to discuss project goals, risks, and schedule. Jim will hold regular recurring meetings with RTA to discuss project status. For each meeting, he will provide an agenda, meeting notes, and action items to RTA for review and approval.

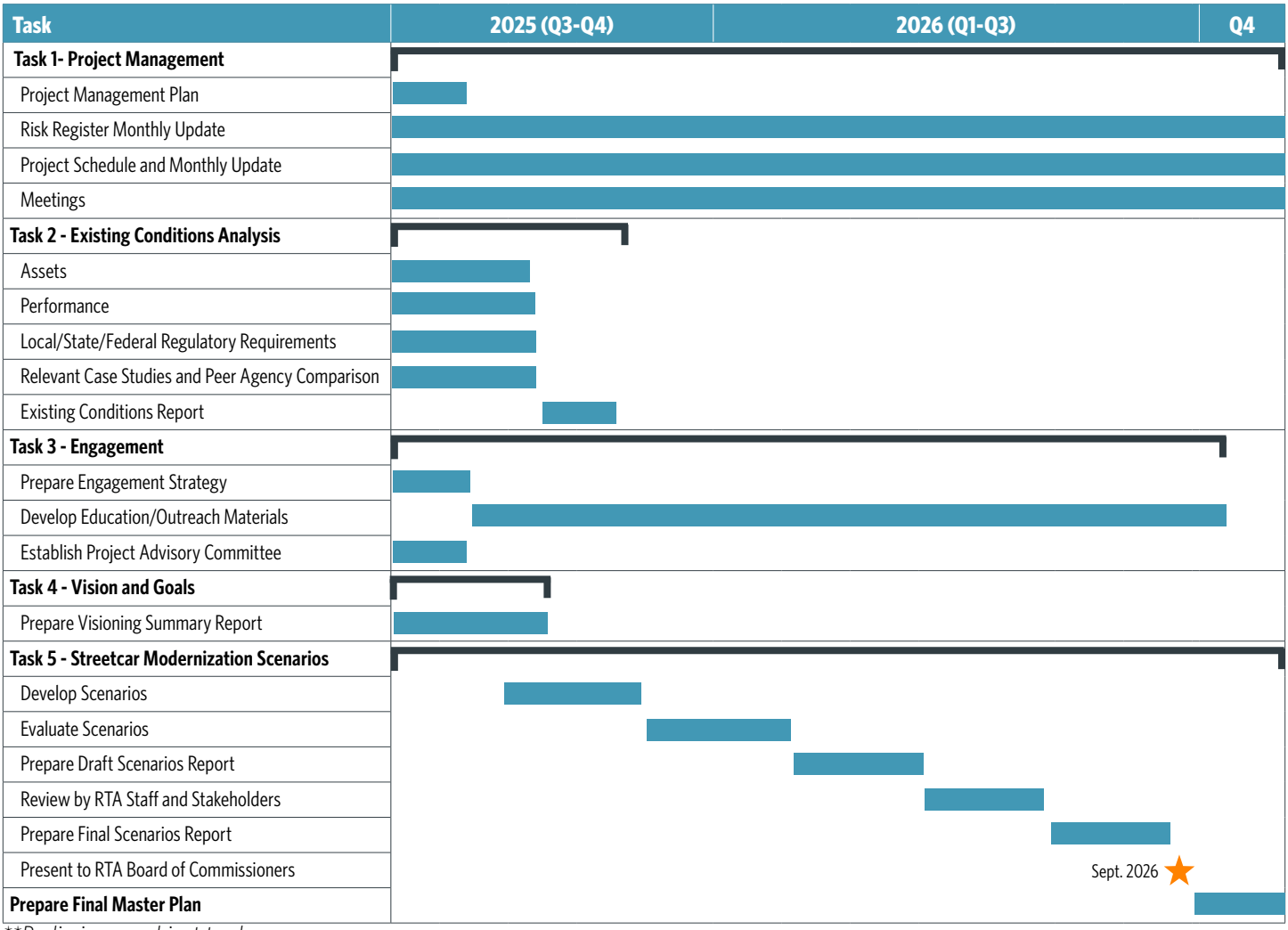
Jim will prepare the **Project Management Plan (PMP)**, which includes the scope of work, budget, schedule, staff roster, meeting schedules, quality control plans, and document control plans. He will also work with the key staff to develop an initial risk register along with mitigation strategies. Jim will hold weekly meetings with the HDR team (including subconsultants) to discuss the project status. He will update the risk register and schedule monthly throughout the project.

SCHEDULE MANAGEMENT

Based on the project scope, Jim created the following preliminary schedule for the RTA Board of Commissioners to approve the preferred alternative for the final plan by September 2026. The schedule is aimed at maximizing stakeholder engagement, allowing them to understand alternatives and provide feedback. Jim will review the schedule with RTA at the project kick-off meeting. He will provide RTA with an updated schedule and progress report monthly to document project progress. If the schedule slips due to gaps in information, technical challenges, or stakeholder feedback/issues, he will develop a recovery schedule to meet the original schedule and communicate our recovery plan.

BUDGET MANAGEMENT

Jim will work with the task leads to determine the number of hours each staff member will need to complete their assigned task. The timing of each task and estimated hours will help establish project budget expenditures. Each week, Jim will receive a report showing how many



***Preliminary, subject to change*

hours staff have charged to each task. By comparing the estimated budget expenditures with the actual costs and the estimated task percent complete, he will assess whether the project budget is progressing as planned. If the project is not on track, he will adjust make adjustments consistent with the budget plan. Given potential project uncertainties, such as existing streetcar data or concerns raised during the during the engagement process, he may need to adjust the initial work plan and budget allocations and notify RTA, as necessary.

Task 2: Existing Conditions Analysis

STREETCAR SYSTEM ASSETS

We will work with RTA to obtain streetcar system condition records, including:

- As-built construction documents (FTA reports and reviews)
- Inspection records
- Ongoing maintenance programs
- Operations and maintenance manuals and standards
- Preventative Maintenance Inspection (PMI) records
- Capital replacements pertaining to vehicles, communications, and signals, the overhead contact system (OCS), traction power, track, maintenance facilities, and stops.
- Corrective Maintenance (CM) records
- Fault Logs (in-service failures and investigation reports)
- Traction power voltage logs and supporting TPSS documentation
- State of Good Repair (SGR) projects (e.g., catenary, and ties)

We will review the existing records to confirm they provide a clear assessment of RTA's streetcar assets. If additional information is required, we will schedule additional inspections or surveys. Based on the records, we will conduct a high-level SGR assessment, evaluating critical infrastructure such as the traction power system, overhead contact system, signal system, communications system, and vehicles. We will start by reviewing the **St. Charles Line**, the nation's oldest continuously operating streetcar line and a National Register of Historic Places landmark. This assessment will guide our strategy for modernizing the Canal, Loyola, and Riverfront lines to improve system performance and achieve ADA compliance. Urgent findings will be immediately elevated to RTA's project manager to facilitate proactive decision-making.

VEHICLES

HDR will produce an existing condition report of the 900, 400, and 2000 series streetcars in accordance with **Federal Transit Administration (FTA)** requirements and best practices. This will include an evaluation of the fleet's maintenance and reliability history, condition of a representative sample of the fleet, and design documentation of each streetcar type to develop a holistic understanding of RTA's fleet.

COMMUNICATIONS AND SIGNALS

HDR will review the existing headend, wayside, and onboard communication infrastructure conditions. We will review existing as-built documentation to obtain a general understanding of the network architecture and the communication subsystems that are currently installed. Next, we will conduct an on-foot visual inspection at the headend facility to review the headend infrastructure at the control center, maintenance facility, yard, wayside station stops, and onboard communications systems. We will take site photos to document the location and equipment and provide a narrative description of each communications subsystem, including the existing condition of the headend, wayside, and onboard equipment.

RTA maintains streetcar-specific signal infrastructure and connects traffic preemption equipment to the City of New Orleans traffic signal controls. HDR will review the existing conditions of the signal infrastructure and interfaces with the traffic system. We will perform an on-foot visual inspection of signal operation, including traffic preemption. Visible signal components will be inspected and qualitatively rated using the **FTA TERM (Transit Economic Requirements Model)** scale. The condition ratings will be based on inspection findings including, but not limited to, the visible signal equipment infrastructure (poles, arms, guys). We will take site photos to document the site location and equipment.

POWER

HDR will review the **overhead contact system (OCS)** component existing conditions including wires, assemblies, poles, and the existing trolley pole to wire interface. We will review available OCS documentation to identify areas for special focus, including complex wire arrangements at special trackwork sections, sectionalization, and locations of in-span assemblies that impact wire to trolley pole interface. Once this review is complete, we will perform an on-foot visual inspection of the streetcar alignment to provide updated as-built schematics and documentation, using the FTA TERM scale, the existing conditions of OCS components. Inspections will include site photos and narratives describing the existing conditions by area and component.

HDR will also coordinate with RTA maintenance staff to quickly identify existing conditions and high-priority issues from those closest to the day-to-day streetcar operations. We will discuss existing trolley pole functionality and to identify sections experiencing potential issues such as "hard spots" in the wire and difficulties with wire transitions between sections. Additional focus areas for the conditions assessment include evidence of accelerated wire wear, condition of insulated cables, condition of OCS support infrastructure, evidence of arcing, and condition of OCS over special trackwork elements.

Due to the nature of the overhead contact system, certain conditions, such as wire wear, may necessitate supplemental inspections at wire height performed by the RTA maintenance staff or a combination of RTA maintenance staff and HDR. We may recommend a scan of the contact wire for the entire route to provide empirical data of how the system is performing. This data will also help to inform the analysis of the trolley pole to pantograph conversion.

TRACTION POWER

We will also review the existing conditions of the **traction power supply system (TPS)** components including each traction power supply substation (TPSS) which includes incoming power utility supply interface, incoming power supply system voltage, AC switchgear, transformer-rectifier units (TRU), DC switchgear, positive feeder connecting DC switchgear to OCS, negative return system from running rails to the TPSS negative bus, protective relay system, LV power supply system for internal use of the TPSS, SCADA system interface, grounding system, and pedestrian and vehicular access to the TPSS, AC LV supply system for passenger stations (illumination, HVAC, other machinery and plant and wayside systems facilities (signaling and communications huts/bungalows), and wayside duct banks pertaining to TPS.

We will conduct a full review of available TPS related documents and plans and will perform a site review to verify if any major changes have taken place since the documents were prepared and last updated. We will coordinate with RTA O&M staff to identify traction power supply related trouble spots (repeated tripping of DC power supply, overloading of transformers, cases of frequent requirements of maintenance and/or replacement of TPS equipment, electrical safety concerns, frequent OCS low voltage issues resulting in extra run-times of streetcars, power utility supply reliability issues) to help identify weak spots in the TPS configuration that need further review and rectification.

TRACK

We will review the existing as-built plans, specifications and the design criteria manuals in force for each constructed segment of the streetcar system. In addition, we will review derailment and traffic accidents to determine if there is a pattern to the locations or traffic issues. We will identify opportunities for separating streetcar and vehicular traffic. We will conduct a walking field inspection of the track and maintenance facilities with the as-built plans in hand to identify any components that are damaged, worn or need repair/upgrade. It would be beneficial if RTA maintenance staff accompany the inspection teams. We will measure track gage to verify they are in tolerance. We will focus on curves and turnouts, because these locations receive the most wear from the vehicles. We will check gage sidetrack wear and track drainage to evaluate adequacy and maintenance issues. We will coordinate with the vehicle review team for wheel/rail interface issues, and we will coordinate with the communications/signals and power review teams for elements related to systems integration.

MAINTENANCE FACILITIES

The HDR team will tour the existing **Carrollton Service, Inspection, and Storage (SIS) Facility** and **Canal SIS Facility** to understand current operating conditions. We will also interview key RTA O&M staff to obtain an understanding of current operating practices and challenges. Specifically, the tour and interview will provide an existing assessment of:

- Vehicle repair positions and associated shops
- Workshops and material storage areas
- Support facilities including offices, restrooms, lunchrooms, and locker areas
- Building and yard storage for equipment, parts, and materials
- Vehicle storage, parking, washing, charging, and fueling
- Site and building security requirements

PROJECT SPOTLIGHT: HDR has significant experience in upgrading O&M facilities with historic significance and tight constraints, as we did for a 100+ year old **San Francisco Municipal Transportation Agency (SFMTA)** bus yard originally designed for cable cars and upgraded to handle battery electric bus maintenance and storage, while accounting for housing and joint development opportunities.

STOPS AND STATIONS

HDR will conduct field investigations to define and confirm the universe of station elements that are included in the RTA Streetcar system. We will develop a project-specific field survey form based on our prior similar experience. We will review available documents and develop a list of items to be recorded at each station including:

- Station width and height
- Station access
- Standard parts and materials
- Customer amenities
- Station crash protection
- Signage and wayfinding
- System, route, and station nomenclature, branding and colors
- Furniture

We will evaluate the existing conditions with the goal of universal access in mind. Our experience creating accessible stations and stops will allow us to focus on the areas that will be key to providing an accessible system such as adequate space for ramps and lifts, signage, furniture and amenities. Field investigations will be done using Bluebeam sessions on iPads or tablets, and our teams will take the photographs in Bluebeam so that they are location tagged on the existing conditions plans. We will also analyze the locations of the stops and spacing between stops.

PERFORMANCE

Travelers have multiple options and are highly sensitive to perceived differences in total trip time and comfort at each stage of their trip. We will assess the existing performance of the streetcar system to establish a baseline to measure how proposed improvements might result in improved performance, including increased ridership, fare revenues, and reduced operations and maintenance costs. We will quickly review RTA's available records on travel time and headway adherence to confirm they are sufficiently complete, so there is time to collect additional data if necessary. We will identify operational challenges that hinder travel speed, service frequency, and on-time performance. We will conduct a site visit, including a ride-along, with RTA streetcar operators and operations staff to learn where there are opportunities for operational enhancement such as areas of low track speed, locations with frequent streetcar bunching and areas of frequent traffic congestion. We will review streetcar operations at different times of day to confirm locations where there are delays. HDR will identify delay locations and confirm the locations are consistent with RTA operations experience. We will look at streetcar system ridership and travel patterns and compare them with the current way that operations are scheduled over the various legs of the constructed streetcar network.

Perceived safety is a key element in a person's decision to take transit – people will not choose an option that comes with a risk to personal safety. We will review streetcar accident and other safety data to identity hotspots. We will compare operations and maintenance costs from the RTA's streetcar system with other comparable US streetcar systems using the **Federal Transit Administration's (FTA) National Transit Database (NTD)**.

REGULATORY REQUIREMENTS

Listed on the National Register of Historic Places, the streetcar system must be compliant with **The National Historical Preservation Act (NHPA)** which mandates that historic sites must take into consideration the impact of any modifications or improvements. HDR will assess the historic nature of the streetcar system including standards for internal and external appearance of streetcars, integration of streetcars within the city environment, and overall passenger experience.

We will also analyze the applicability of the Program Comment to Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way (2019) with a focus on the activities-based approach. This analysis will identify proposed activities that may be exempt from Section 106 review and those that will require further analysis under Section 106. This analysis could provide early identification of potential adverse effects to historic properties and propose ways to avoid, minimize, or mitigate those potential effects.

Historic sites, such as the St. Charles Line, are not exempt from ADA regulations. We will perform a streetcar system assessment, including vehicle and station areas, and document specific regulations that apply to the streetcar with respect to sight, hearing, and mentally-impaired individuals, persons with mobility impairments. Reviews will include platform to streetcar height differences, audio and visual warning systems for impaired individuals, emergency egress configuration on streetcars, announcement methods on streetcar vehicles, and accommodations for streetcar drivers. We will assess the system based on any other local, state, and federal regulations.

CASE STUDIES AND PEER AGENCY COMPARISON

Over time, most legacy streetcar systems have been decommissioned or converted to light rail transit (LRT). However, a few North American agencies maintain operational historic streetcar systems. Potential agencies for peer review include:

- **San Francisco Cable Car System** is the most similar domestic streetcar system. This 19th-century system has similar characteristics to the New Orleans streetcar system. As the only other streetcar system listed on the National Historic Register, it is street-running with limited right-of-way, tourist attractions, and closely identified with its respective cities. It also faces similar challenges with respect to its state of good repair and operation.
- **Massachusetts Bay Transportation Authority's (MBTA) Mattapan Line** faces similar challenges with modifications. While the PCC streetcar vehicles date back to the 1940s, they must also balance maintaining their heritage concept and complying with current standards.
- **The National Streetcar Museum** in **Lowell, Massachusetts** operates a small heritage streetcar system managed by the National Park Service. While it is significantly smaller than the New Orleans system, it faces similar challenges related to track upkeep, vehicle maintenance, and wayside devices such as hand-throw switches and frogs.

Numerous studies and modernization programs have been conducted on these and other nearby streetcar agencies. We will research and compare those programs with the needs of the RTA system to determine an optimum approach to planning, design, and engineering lessons learned. Specifically, we will focus on programmatic goals of modernization and planning, design, and engineering considerations. We will contrast and compare vehicle and platform structures, interfaces between vehicles and platforms, and interfaces between vehicles and tracks, switches, and streets. We will review and analyze the streetcar infrastructure, including central control systems, power systems, power delivery systems, and wayside structures supporting the infrastructure.

PROJECT SPOTLIGHT. Supporting **Southeastern Pennsylvania Transportation Authority (SEPTA)'s Trolley Modernization Program**, HDR conducted research and analysis to further develop station design recommendations and guidance based on best practices at peer agencies in the United States and Europe. Our team performed research on industry best practices and lessons learned for light rail and streetcar systems, including platform design, ADA compliance, station/stop distances, furniture, station elements, branding, and maintenance. The peer agencies selected – **Massachusetts Bay Transportation Authority (MBTA)**, **San Francisco Municipal Transportation Agency (SFMTA)**, and T**oronto Transportation Commission (TTC)**–share many similarities with the SEPTA trolley modernization program. We conducted interviews with agency staff members and researched the transit systems. We are prepared to further develop this review and leverage our in-depth knowledge of the SEPTA trolley modernization program for the RTA.

Leveraging Community Streetcar Coalition (CSC). As a CSC founding member, HDR has direct access to assist with collaboration between streetcar agencies and systems engineering and vehicle manufacturing firms. This allows our team to provide up-to-date information on evolving technologies in the streetcar industry. These technologies include off-wire vehicles, on-route charging opportunities, and recent advancements in near- and full-level vehicle boarding. **Gina Thomas**, Peer Agency Review Task Lead, has been on the CSC Board since 2018 and is currently a CSC Executive Officer. Gina and other HDR staff have participated in peer exchanges through CSC. Every year, CSC sets aside a budget to help fund these exchanges, which cover time and travel costs for agency staff to learn other systems. This offers a chance to share knowledge across streetcar systems and reduce costs for RTA through shared expenses and outcomes.

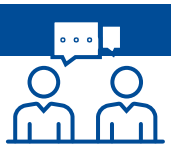
Recently, CSC held a Virtual Summit with MBTA, SFMTA, and SEPTA to discuss modernization challenges and opportunities in meeting ADA, safety, and federal requirements. **Key takeaways from previous CSC peer exchange relevant to the RTA Modernization Program include:**

- Aging infrastructure across many systems is driving increased competition for funding, prompting agencies to consider other funding programs to help supplement the typical FTA funding sources.
- Most legacy agencies are undergoing similar modernization efforts by setting accessibility goals and prioritizing short-term versus long-term objectives to allow for phased improvements as funding becomes available. For example, SEPTA is procuring new Alstom vehicles, which require system infrastructure upgrades. HDR recently completed the SEPTA Trolley Modernization guidelines to address new on-street stations to accommodate new, longer vehicles and other infrastructure and operational improvements.
- Efforts to standardize vehicle procurements aim to reduce costs by combining options across multiple agencies. However, with century-old infrastructure far from modern standards, off-the-shelf vehicles are not an option, making new fleet purchases costly without

significant upgrades. Given these challenges, cross-agency collaboration is essential to develop innovative industry-wide while addressing each system's unique constraints.

TASK 2 DELIVERABLES

- Existing Condition Report in accordance with FTA Transit Asset Management requirements and best practices. Recommendations will focus strictly on achieving and sustaining a good state of repair and will not include any expansion investments.
- Updated as-built schematics for key systems.
- Case studies summary memo.



Task 3: Engagements

Our approach to stakeholder and community engagement for the RTA Streetcar Modernization Masterplan is rooted in our deep understanding of the local context, combined with HDR's national streetcar planning and design experience. We are dedicated to implementing an inclusive engagement strategy that places people at the center of our work.

By leveraging our local knowledge and established relationships, we will engage the community in a collaborative, transparent, and accountable manner to directly address their concerns, build trust, and gain support for streetcar modernization.

We will work closely with RTA to create a comprehensive engagement strategy that explores modernized streetcar infrastructure through the lens of accessibility, safety, efficiency, enhanced connectivity, and sustainability. This strategy will be data-driven and tailored to resonate with different stakeholder groups, verifying that messaging is clear, relevant, and accessible. Our recommended engagement plan provides multiple channels for involvement and creates an inclusive environment where all voices are heard. This includes efforts to engage the following key audiences in addition to the public.

RTA Staff. We will coordinate with RTA to confirm that staff members are kept informed and involved in the process, providing internal briefings, workshops, and updates to maintain alignment and support throughout the project.

Elected Officials. We will provide RTA with tailored materials and resources to share with these stakeholders at key points in the process, helping to secure continued backing for the streetcar modernization.

Project Advisory Committee. HDR will support RTA in forming a Project Advisory Committee that will provide guidance throughout the process. Our team will identify key stakeholders, including business owners, neighborhood representatives, institutional leaders, and transit advocates to provide a diverse range of perspectives. The committee will act as a sounding board, offering feedback on key project components.

We will focus on the core concerns of the community to promote understanding and generate enthusiasm for the future of New Orleans' Streetcar System. Our goal is to "tell the story" by sharing the established vision, modernization feedback, and next steps through the following tools:

Informational materials, including presentations and digital resources across multiple channels to explain streetcar operations, address challenges, and highlight the project's vision and goals.

Virtual and in-person community workshops to confirm the community's needs/desires are properly represented in the feasibility study. These engagement opportunities will be flexible to fit varying schedules and needs and aimed at:

- Educating the community on the established vision
- Discussing challenges to fulfill modernization priorities set by the community
- Garnering support for a path forward

Project Advisory Committee quarterly meetings.

Key stakeholders and elected official briefings to share findings.

Findings report of public feedback on modernization scenarios to inform recommendation.

Public relations campaign to share the community-driven vision for the future of our city's streetcar.

Our track record of community engagement and strategic communication demonstrated through past leadership on projects such as the Kansas City Streetcar, Atlanta Beltline Streetcar East Extension, S Line (formerly Sugarhouse) Streetcar, and Sacramento Streetcar Final Design, showcases our ability to successfully integrate engineering and community perspectives. These projects resulted in streetcar systems that were supported by the community and met local mobility and livability goals. Our approach to the New Orleans RTA Streetcar Modernization will similarly prioritize collaboration, confirming that the project not only meets technical requirements but also aligns with the community's vision for improved mobility, livability, and quality of life.

Task 4: Vision and Goals

We will collaborate with the community to define the project's purpose and create a clear vision for the New Orleans Streetcar system. Through our Collective Visioning process, we will engage various stakeholders, gather comprehensive feedback, and establish measurable goals. These goals be used as metrics to evaluate the performance of the modernization scenarios studied in Task 5. Likely metrics will include universal accessibility, improved travel times, increased ridership, and reduced operations and maintenance costs.

The Collective Visioning process will be completed within the first 90 days from notice to proceed and includes the following tasks:

1. **Audit existing communications and wayfinding** to identify strengths, gaps, and areas for improvement.
2. **Facilitate a kick-off workshop with RTA leadership and staff** to set the stage for the visioning process, align stakeholders on objectives, and provide insights to shape the overall strategy.
3. **Develop a comprehensive survey to gather input** from community members, employees, and key stakeholders. This survey will focus on three primary areas:
    - » Assessing current sentiment and customer experience to understand existing conditions
    - » Identifying modernization priorities to guide future improvements
    - » Exploring visioning questions to capture long-term aspirations and goals
4. **Use innovative and traditional multi-channel outreach methods** to foster broad participation. Tactics will include:
    - » Conducting intercept surveys on streetcars to engage riders directly
    - » Placing yard signs at streetcar stops to raise awareness
    - » Displaying onboard streetcar advertisements
    - » Utilizing digital advertising to reach a wider audience
    - » Sending push notifications through the RTA mobile app to encourage responses
5. **Establish an advisory committee to provide ongoing guidance** throughout the visioning process. The initial meeting will serve as a focus group to explore visioning themes and gather insights.
6. **Engage key stakeholders and elected officials** to gather their feedback and build support for the project.
7. **Compile insights and findings** from the above activities into a comprehensive Visioning Summary Report. This report will:
    - » Document the New Orleans Streetcar vision and goals based on community and stakeholder feedback
    - » Define key performance indicators to track progress and measure the effectiveness of efforts toward achieving the vision and established goals

This collaborative and data-driven approach will help the New Orleans Streetcar system evolve in alignment with the community's long-term vision and needs.

Task 5: Streetcar Modernization Scenarios

HDR will develop modernization scenarios based on the analysis of existing conditions, project goals, and engagement input.

PROVIDE ADA ACCESSIBILITY TO STATIONS, WITHIN STATIONS, AND FOR VEHICLE BOARDING

One of the study goals is to identify alternatives to configuring vehicles and stops to provide ADA-compliant boarding and to reach a consensus with stakeholders and regulators on the preferred approach for the New Orleans streetcar system. This is the primary driver of system modifications, and other recommendations will consider this initial key decision.

If vehicles remain high-floor, high-level platforms will be required to provide level or near-level boardings, or wayside mini-high platforms, wayside lifts, or on-vehicle lifts will need to be provided. If low-floor replicas or modern vehicles are acceptable, then platforms and ramps up to the platform will not be as substantial, lifts will not be necessary, and options for vehicle-based deployable lifts versus true-level boarding will need to be considered.

HDR will prepare a typical platform with the proposed vehicle exhibits, provide a cost estimate per platform and vehicle or vehicle modification, list the advantages and disadvantages of each approach, and make recommendations to RTA, stakeholder groups, and regulators.

In addition to boarding and alighting at streetcar stations, passengers must safely and comfortably ride in the vehicles. We will work with the vehicle team to create solutions that address compliance issues on various car types. We will develop modernization scenarios for the station areas to provide adequate space for required ramps and boarding areas, clear wayfinding, and a fare payment system (on-board or off-board) to enhance the passenger experience and streetcar system performance.

REBALANCE STOPS

Especially on the **St. Charles Line**, many stops lack basic passenger amenities and are closely spaced. Each stop adds significant time to the average trip and may discourage ridership. Given the likelihood that several streetcar modernization scenarios may include the construction of new stations with raised platforms, canopies, lighting, benches, off-vehicle fare collection, and other passenger amenities with significant capital cost and ongoing maintenance cost, we will identify scenarios that optimize ridership and contain costs by consolidating and providing fewer stops. HDR will review each existing stop location for ridership, transfers, and connections to key land uses and recommend revised stop locations. For any new stations, we will consider where they will be built relative to the existing stops so that streetcar service can continue to be provided during their construction.

PROVIDE OFF-BOARD FARE PAYMENT

Streetcar dwell times at stations would be significantly reduced if passengers boarded through every streetcar door and did not have to pay or show proof of payment to the streetcar operator. Alternatively, roving fare inspectors/transit ambassadors could be deployed to maintain fare compliance, address security concerns, and provide rider assistance. Raised platforms that provide **ADA-accessible vehicle boarding** would be designated as fare-paid zones. HDR will evaluate whether fare machines would be required on each platform, whether infrastructure is needed at platforms to support credit card payments or the possibility of using a combination of a mobile phone app and 3rd party ticket sales to eliminate fare machines. HDR will estimate the cost per station for off-board fare payment and the time savings achieved at each stop.

UPGRADE TRAIN CONTROL AND PROVIDE REAL-TIME NEXT STREETCAR ARRIVAL DATA

RTA's streetcar schedule provides the arrival times and the time interval for future streetcar arrivals. If the service schedule is not consistently provided, riders will be discouraged and choose another way to make their trip.

Based on our review of the RTA schedule, headway adherence, and additional data collection (if needed), HDR will determine if there are areas for streetcar operation improvements. If improvements need to be considered, HDR will review communications systems and procedures between streetcar operators and the control center and recommend cost-effective systems that keep the streetcars on-schedule and avoid headway bunching. HDR will also recommend that RTA consider replacing the published schedules with established headways and real-time information in each station and via apps on the next streetcar arrivals. HDR will estimate the cost of infrastructure to create the next streetcar arrival system.

IMPLEMENT TRANSIT SIGNAL PRIORITY AND TRANSIT PRIORITY MEASURES

HDR will compare the run times from the existing conditions assessment with theoretical run times that could be achieved without traffic or traffic signal delays. We will develop alternatives to reduce the delays and present them to the City of New Orleans' traffic engineer for refinements. HDR would estimate the time savings achieved by each recommendation and the capital cost to implement each modification.

CONSIDER CHANGES TO STREETCAR SERVICE

Using a travel demand model of the streetcar system, HDR will compare travel demands with the amount of service currently provided by the streetcar network and highlight any discrepancies. We will recommend adjustments to the streetcar routes or service frequencies that better match travel demands.

HDR will also work with RTA to identify priority extensions of the streetcar network with the following goals:

- Improve ridership catchment
- Provide direct connection to major destinations and intermodal hubs
- Bridge first/last mile gaps within the existing network
- Provide connections to major future development
- Not preclude other high-capacity transit corridor projects identified in the Strategic Mobility Plan (e.g., Veterans/Airport corridor)

HDR cost estimators will develop order-of-magnitude costs required to deliver each extension. We will hold up to two workshops with RTA staff to collaboratively develop a **Multiple Account Evaluation (MAE)** framework, which will assess the costs and benefits of potential route expansion options to optimize return on investment. The outcome will be a preferred extension/combination of extensions that will be considered for route network development.

EVALUATE TRACTION POWER UPGRADES ASSOCIATED WITH CHANGES TO STREETCAR SERVICE

If increased service on any segment of the streetcar network or extensions to the streetcar network is proposed, HDR will perform traction power load flow analyses to determine if additional traction power infrastructure is required. We will identify equipment requirements and possible locations and provide a cost estimate for additional traction power.

CONSIDER CONVERSION FROM TROLLEY POLE TO PANTOGRAPH

Based on the existing conditions analysis, HDR will develop **streetcar OCS modernization scenarios** that focus on updates to wire configuration, assemblies, and other OCS components to provide a smooth and safe transition between trolley pole and pantograph operations, including:

- Improve wire and assembly performance
- Reduce wire and assembly wear to maximize usage and time between required replacements
- Provide key system updates required for transitioning from trolley pole to pantograph operation
- Provide required procedure and process updates to facilitate the transition to pantograph operation

HDR will work with the RTA maintenance staff to determine the implementation feasibility for different scenario alternatives and identify impacts to the existing system during the transition. The scenarios will include a description of required updates, analysis of existing system impacts, risk and benefits comparisons, cost estimates for system updates and long-term operating and maintenance, and implementation phasing and sequencing.

FLEET

HDR will develop fleet overhaul and wayside upgrade options that minimize service disruptions and enhance the passenger experience. Vehicle conditions will influence turnaround times, costs, and the modernization schedule. Each option will address ADA upgrades for the 900-series streetcars alongside wayside modifications, considering impacts on the entire fleet. We will optimize passenger capacity and comfort by evaluating seated and standee configurations during peak hours. The team will also assess obsolete and grandfathered systems, ensuring replacements meet current regulations and are effectively integrated into existing vehicle architecture.

MAINTENANCE FACILITIES

HDR will develop a Space Needs Program through stakeholder interviews, user questionnaires, and data from similar facilities to identify inefficiencies and future needs. On-site observations and user feedback will provide both quantitative and qualitative insights, resulting in a detailed plan outlining space requirements for safe and efficient operations. Using an interactive approach, we will translate this data into concept plans for facility modifications. Through charrette workshops, we will collaborate with users to develop and refine site and building plans. The final concept, shaped by stakeholder input, will serve as the basis for cost/benefit analyses, cost projections, project timelines, and phasing strategies.

Evaluate Scenarios

Based on the identified streetcar system improvements, HDR will work with RTA to recommend two to four combinations of improvement scenarios for evaluation. These scenarios will range from limited scope/low cost to more comprehensive/higher cost. For each scenario, we will provide a detailed project description and an assessment of the following:

Service and Ridership Benefits. HDR will develop and calibrate a ridership model to replicate actual ridership data. We will modify the ridership model to reflect changes made to stop locations and running times, estimate increases in ridership resulting from the improvements, and translate the increased ridership to increased fares.

Implementation of Timeline and Sequencing. HDR will create implementation schedules for each scenario component using Microsoft Project. Schedules include key milestones, such as funding applications and approvals, environmental clearance, design, reviews and approvals, permits, construction, and procurements.

Estimated Capital and O&M Costs

The HDR team will develop capital and O&M costs for each scenario. The capital costs will be based on estimates on station upgrades, track re-design and relocation, vehicles, ADA upgrades, and other capital improvements. We will gather necessary information from RTA regarding current capital costs, including expenses for tracks, vehicles, and station amenities. This information will serve as a benchmark for evaluating the changes in capital costs post-modernization. The capital cost estimates will be part of the scenarios incorporated into the modernization framework strategy.

We will also develop O&M cost estimates for the scenarios. We will request O&M cost information from RTA to establish a baseline for current and projected O&M costs. The O&M cost estimates developed by the HDR Team will consider near-term costs and projections for longer-term costs. These long-term cost projections will help RTA understand how O&M will be impacted throughout the modernization process and in the future, beyond the immediate changes. While our initial focus will be on the St Charles Line, the capital and O&M cost estimates will be scalable and applicable to modernizing the streetcar system.

Funding Strategies

One of our key goals is to recommend and position projects for maximum program funding competitiveness, including identifying key partnerships. Our funding team proactively engages in project development and coalition building to help verify that, once awarded, the project can be successfully implemented, meet program goals, and achieve stakeholder expectations.

HDR will review the existing funding and grant pursuit strategy for the Streetcar Modernization Master Plan. We will evaluate the strengths and weaknesses of potential individual project elements with respect to the primary objectives, evaluation criteria, readiness requirements, and evolving federal policies for existing and anticipated funding programs. Development of these strategies includes identifying and evaluating potential federal, state, and local funding partners, as well as private and value-capture sources.

These strategies may include potentially integrating traditional and innovative financing approaches. We will evaluate potential funding opportunities such as the **Federal Transit Administration (FTA) Capital Investment Grant (CIG)** program and coordinate with the Louisiana Department of Transportation and Development (LADOTD) on possible state funding sources. In addition to leveraging HDR's success with the CIG program, we will determine possible funding revenues from local sales tax revenues through engagement with Orleans and Jefferson Parish leadership.

EXPERIENCE SPOTLIGHT. Since 2009, HDR has helped clients secure $7.1B in U.S. Department of Transportation (USDOT) discretionary grant funding through over 240 awards nationwide.

Delivery and Implementation Risks

The HDR team will develop a risk register for the delivery and implementation of each scenario. We will identify things that could happen that could result in delays and/or increased costs. We will categorize each risk by the order of magnitude of potential delays, cost increases, and the likelihood of the risk occurring.

We will identify mitigation measures for each risk. Expected risks for streetcar modernization include delays reaching consensus amongst stakeholders, legal challenges related to perceived compliance with regulations, delays obtaining funding, delays obtaining approvals to modify the public right-of-way, delays resolving utility conflicts, issues related to construction bidding, challenges during construction and issues during vehicle modifications or new vehicle procurement.

Regulatory Compliance

Our team will adhere to local, state, and federal regulations in developing the master plan framework. We will collaborate with interagency partners, including the City of New Orleans, Louisiana DOTD, Orleans Levee District, and the U.S. Army Corps of Engineers, throughout the scenario process and implementation strategy. Leveraging our relationships with the City, we will evaluate ADA improvements and streetcar stops, complying with local water, sewer, and drainage infrastructure requirements. We will also review existing and planned upgrades to coordinate corridor enhancements. To streamline permitting, we will engage key stakeholders early to identify potential concerns and establish strategies for expediting approvals.

TASK 5: DELIVERABLES

- Draft Scenarios Report
- Final Scenarios Report
- Final Master Plan

4 Section 4: Featured Experience

Tampa Streetcar Modernization Study

City of Tampa | Tampa, FL

HDR defined improvements along the existing 2.7-mile track and the vehicle maintenance facility, maintenance yard, and station stops. We completed STOPS modeling, created a comprehensive evaluation of community, cultural, and environmental impacts, developed capital and operating cost estimates for the improvements, and provided detailed financial planning for implementation. Project decisions were driven by an extensive engagement program that included four large-scale public workshops and dozens of workshops and meetings with local community leadership, property owners, business and neighborhood associations, and key partners/stakeholders, resulting in strong support for project implementation.

SEPTA Modern Trolley Station Design & Development Manual

Interfleet Technology | Pittsburgh, PA

HDR recently completed guidelines to modernize one of the nation's largest light rail systems which started in 1906 as a streetcar system. Similar to RTA, SEPTA's goal was to modernize its trolley system to meet the needs of today and tomorrow, which meant a faster and more user-friendly service for everyone. The SEPTA modernization program included preparing guidelines and conceptual designs for:

- New, longer vehicles
- New on-street stations
- Infrastructure + operational improvements
- Proposed line extensions

Key challenges included ADA accessibility, station spacing, and urban integration. HDR confirmed design standards, developed station typologies, and established a permitting process with stakeholder input. The team focused on platform design, station amenities, and green infrastructure, collaborating with partners, including the Philadelphia Water Department. We developed innovative station typologies, such as curb extensions, floating stations, and dedicated right-of-way stations. HDR emphasized stations as "front doors" to communities, balancing operational needs, feasibility, and public engagement. The final manual provided clear guidance on station design, providing consistent, accessible public transit for the city and suburbs.

Dallas Streetcar

Dallas Rapid Transit | Dallas, TX

The Dallas Streetcar starter line was the first streetcar in the United States to be designed, built, and operated using off-wire vehicles. This unique project included the rehabilitation of a 100-year-old structure (Houston Street Viaduct), Since the starter line opened, a 0.7-mile extension has been added to Bishop Arts District. HDR worked with the contractor to refine the preliminary engineering design and develop several cost-saving innovations. Our innovations resulted in a price that was 20 percent lower than the next bidding team and significantly improving safety. We phased final design to sequence with construction through four design packages, enabling project construction to move forward as design was incrementally completed. We worked with the vehicle manufacturer on wayside infrastructure requirements and traction power needs for charging.

Kansas City Streetcar

City of Kansas | Kansas City, KS

The Kansas City Downtown Streetcar starter line began service on May 6, 2016, and has provided over 5 million trips in just two years, more than double initial projections. Due to strong public support for expansion, the City of Kansas City, Missouri, the Kansas City Area Transportation Authority (KCATA), and the Kansas City Streetcar Authority (KCSA) formed a Project Team to develop materials for the Federal Transit Administration (FTA) Section 5309 Capital Investment Grant Program – New Starts to support a 3.5-mile extension. HDR served as the lead consultant for the downtown streetcar, taking it from planning to opening day in just five years, and also led the Main Street Extension, a 3.5-mile expansion with additional maintenance and storage facilities. HDR had a key role in the Riverfront Expansion, a 0.7-mile extension into the Berkley Riverfront area, guiding transit mode and route selection, refining stop locations with stakeholders, and managing public outreach through meetings, "streetcar strolls," and coordination with KCSA. HDR oversaw utility relocations for the Main Street Extension, keeping over 20 utilities on schedule, and leveraged drone footage and design renderings for risk reviews. HDR conducted financial analyses that helped secure an FTA TIGER grant covering 20% of construction costs. To date, HDR has supported seven contracts for the Downtown Line and Main Street Extension and is currently overseeing construction for the extensions, set to open in 2025.

Galveston Trolley

City of Galveston | Galveston, TX

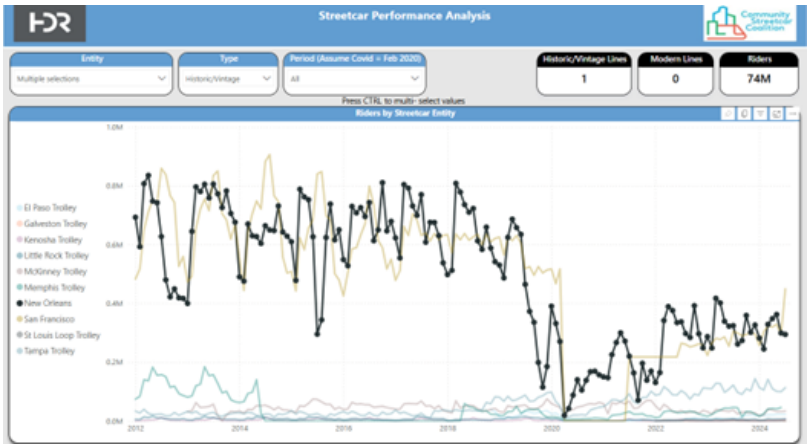
Post Hurricane Ike, HDR was contracted to assist with the recovery of the Galveston Trolley System. This included leading the inspection of the Galveston Trolley system and the impacts the hurricane placed on the system to include review of track and switches. Once funding was secure in 2017, HDR led the repair and replacement of the track and switches. This included evaluation of the condition of the trolley track and switches followed by recommendations of replacement of damaged track and switches. HDR supervised crews during replacement construction.

Value-Added Features and Capabilities

As a supplement/appendix to the hardcopy existing conditions report, HDR recommends a digital GIS-based user-friendly map documenting the existing conditions report in a geo-referenced electronic map of the entire system. This will be a digital summary of the on-foot visual inspections in a user-friendly GIS map with geo-referenced site photos and specific conditions assessments, along with proposed solutions/mitigations.

In addition to the CSC peer exchanges, HDR has been leading the CSC effort to visualize FTA's NTD O&M data through Power BI Dashboards. HDR is leading the CSC initiative to create Power BI Dashboards of FTA NTD O&M data across streetcars providers. This initiative offers a comprehensive overview of the streetcar market in the US and presents a schedule-saving opportunity for RTA. This comparison effort has been underway since last summer, allowing HDR to hit the ground running at notice to proceed, without needing to gather this information.

Additionally, Raul V. Bravo and Associates served as the Federal Transit Administration Project Management Oversight Consultant (FTA PMOC), conducting compliance reviews for quality assurance, technical oversight, system safety and security, risk analysis, and other key project elements.



02

Rate Sheet and Schedule

HDR Engineering, Inc.

Attachment 1 – Scope of Services
Exhibit A
Rate Sheet and Schedule

Note: Please include a separate Rate Sheet for each firm on the project team

A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	D. Hourly Overhead and Profit	E. Fully Loaded Hourly Rate (B + C + D)
Project Manager	$140.26	N/A	$246.63	$386.89
Project Principal	$105.77	N/A	$185.99	$291.76
QA/QC	$98.32	N/A	$172.89	$271.21
Deputy Project Manager	$142.09	N/A	$249.85	$391.94
Systems and Communications	$105.10	N/A	$184.81	$289.91
Transit Service	$144.26	N/A	$253.66	$397.91
Rail and Systems	$77.31	N/A	$135.93	$213.24

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of _10___%.

Annual escalation of Fully Loaded Hourly Rates shall be _4___% per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

**HDR Engineering, Inc. (HDRE) uses a single indirect rate recovery format that combines all indirect costs, including fringe benefits and payroll taxes, into a single indirect cost pool. Specifically, the HDRE indirect rate is a labor overhead rate that is applied to the direct labor base for the HDRE segment, consistent with HDRE's disclosed accounting practices. Unlike other companies who have multiple rate recovery structures with a separate G&A rate and/or fringe benefits rates, HDRE has chosen the single rate recovery format. This indirect rate is audited by multiple external parties, including the Defense Contract Audit Agency and the Nebraska Department of Transportation, so that our clients' interests are protected.*

HDR Engineering, Inc.

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Vehicles	$102.12	N/A	$179.56	$281.68
Accessibility	$80.09	N/A	$140.82	$220.91
GIS	$35.94	N/A	$63.20	$99.14
Financial Strategy	$75.83	N/A	$133.34	$209.17
Capital Cost Estimating	$108.13	N/A	$190.14	$298.27
O&M Cost Estimating	$110.44	N/A	$194.20	$304.64
Risk Assessment	$84.14	N/A	$147.95	$232.09

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of 10 %.

Annual escalation of Fully Loaded Hourly Rates shall be 4 % per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

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OCS	$108.20	N/A	$190.26	$298.46
Traction Power	$136.28	N/A	$239.63	$375.91
Ridership Estimates	$91.85	N/A	$161.51	$253.36
National Historic Preservation Act	$42.33	N/A	$74.43	$116.76
Transit Signal Priority	$99.09	N/A	$174.24	$273.33
Traffic Engineering	$110.45	N/A	$194.22	$304.67
Utilities	$84.34	N/A	$148.30	$232.64

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of 10 %.

Annual escalation of Fully Loaded Hourly Rates shall be 4 % per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

HDR Engineering, Inc.

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A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	D. Hourly Overhead and Profit	E. Fully Loaded Hourly Rate (B + C + D)
Public Outreach	$66.90	N/A	$117.64	$184.54
Communications	$38.16	N/A	$67.10	$105.26
Peer Agency Review	$91.89	N/A	$161.58	$253.47
Maintenance Facilities	$86.22	N/A	$151.61	$237.83

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of 10 %.

Annual escalation of Fully Loaded Hourly Rates shall be 4 % per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

Bonton Associates

Attachment 1 – Scope of Services
Exhibit A
Rate Sheet and Schedule

Note: Please include a separate Rate Sheet for each firm on the project team

A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	D. Hourly Overhead and Profit	E. Fully Loaded Hourly Rate (B + C + D)
Principal/Project Advisor	$88.94	$53.58	$214.71	$357.23
Project Manager	$62.15	$29.25	$103.65	$195.05
Engineer Intern	$49.19	$23.46	$83.79	$156.44
Project Associate	$40.72	$19.72	$71.09	$131.53

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of 0 %.

Annual escalation of Fully Loaded Hourly Rates shall be 4 % per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

ILSI Engineering

Final rates will be negotiated with our Prime consultant upon award.

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A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	D. Hourly Overhead and Profit	E. Fully Loaded Hourly Rate (B + C + D)
Principal	$310			
Sr. Program Manager	$275			
Program Manager	$235			
Civil Engineer	$155			

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of ____%.

Annual escalation of Fully Loaded Hourly Rates shall be ____% per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.

Attachment 1 – Scope of Services
Exhibit A Rate Sheet and Schedule

A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	Overhead and Profit	Hourly Rate(B + C + D)
Quality Engineer + SME *Paul Burys*	$ 75.00	-	$ 109.89	$ 184.89
Quality Engineer + SME *Frank Ames*	$ 60.69	-	$ 88.92	$ 149.61
Light Rail Fleet Inspector + SME *Steve Fretwell*	$ 70.50	-	$ 103.30	$ 173.80
Electrcial Engineer (Comms & Signals) *Peter Falce*	$ 79.01	-	$ 115.77	$ 194.78
Electrical Engineer (Comms & Signals) *Carl Conti*	$ 70.00	-	$ 102.56	$ 172.56
Civil Engineer + Track Maintenance technician + Safety Assessor *Devin Rouse*	$ 130.00	-	$ 190.48	$ 320.48
Project Manager *Ken Boyd*	127.28	-	186.48	$ 313.76
Mechanical Engineer (Vehicles) + Project Manager *Avani Bhatt*	87.55	-	$ 128.28	$ 215.83
Mechanical Engineer (Track) *Mehdi Taheri (PhD)*	$ 84.62	-	$ 123.99	$ 208.61
Mechanical Engineer (Vehicles) *Theresa Zemelman (PE)*	$ 50.00	-	$ 73.26	$ 123.26
IT Expert *David Gallo*	$ 92.74	-	$ 135.88	$ 228.62
Data Management Expert *Lubna Shereen*	$ 40.00	-	$ 58.61	$ 98.61
SOP Engineer *Julio Monroy*	$ 70.35	-	$ 103.08	$ 173.43
Light Rail Legislation + Buy America Expert *James LaRusch*	$ 125.00	-	$ 183.15	$ 308.15
Buy America Expert *Robin Hazy*	$ 95.50	-	$ 139.93	$ 235.43
CAD Expert *Kristin Lam*	$ 40.85	-	$ 59.85	$ 100.70

The Estopinal Group

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Note: Please include a separate Rate Sheet for each firm on the project team

A. Position Title	B. Hourly Salary Rate	C. Hourly Benefit Rate	D. Hourly Overhead and Profit	E. Fully Loaded Hourly Rate (B + C + D)
Strategic Communications / Stakeholder Engagement	$175.00	n/a	n/a	$175.00
Creative Director	$125.00	n/a	n/a	$125.00
Project Coordinator	$90.00	n/a	n/a	$90.00

Direct costs shall be reimbursed by the RTA at cost plus an administrative fee of ____%.

Annual escalation of Fully Loaded Hourly Rates shall be _0___% per year (not to exceed 4%). This escalation percentage applies to both the initial 3-year term of the contract as well as any 1-year additional terms that RTA chooses to exercise.