



Victor Kandle, Administrator
County of Hawai'i Mass Transit Agency
25 Aupuni Street
Hilo, Hawai'i 96720

May 1, 2024

Dear Mr. Victor Kandle,

Environmental Systems Research Institute, Inc. (Esri) is pleased to submit the following response to the County of Hawai'i regarding its request for Professional Services Qualifications – TA. 7 – 114 - Programming Services (Public Transit App Development). We have based our response upon our 55 years of experience in successfully supporting and training professionals in geographic information systems. Esri's sole business is developing and supplying advanced geographic information systems (GIS) and providing GIS training and consulting services for our clients. We are fully dedicated to supporting you in any way possible and look forward to further discussions on how we can meet your requirements.

We look forward to discussing this opportunity with you at length.

Sincerely,

Todd Kingman
Sr. Account Manager
Esri, inc.
tkingman@esri.com
(909) 369-5638

1. The name of the firm or person, contact information including email address, the principal place of business, and location of all of its offices

Contact information

Todd Kingman, Sr. Account Manager
tkingman@esri.com
(909) 369-5638

Offices

Esri's Corporate Headquarters are located at 380 New York Street, Redlands, CA 92373. Esri has offices in the following locations:

- *Regional and Local Offices (33):* Honolulu, HI; Phoenix, AZ; Redlands, CA; Sacramento, CA; San Diego, CA; San Francisco, CA; Santa Monica, CA; Denver, CO; Fort Collins, CO; Tysons, Washington D.C.; Washington D.C., Washington D.C.; Miami, Florida; Atlanta, GA; Chicago, IL; Kansas City, KA; Boston, MA; Portland, ME; Minneapolis, MN; St. Louis, MO; Charlotte, NC; Waverly, NC; New York, NY; New York City, NY; Columbus, OH; Portland, OR; Johnstown, PA; Philadelphia, PA; Dallas, TX; Houston, TX; San Antonio, TX; Arlington, VA; Olympia, WA; Lodi, WI
- *International Offices (16):* Abu Dhabi, AE; Dubai, AE; Sharjah, AE; Vienna, AT; Melbourne, AU; Ottawa, CA; Zurich, CH; Beijing, CN; Cairo, EG; Paris, FR; New Delhi, IN; Rotterdam, NL; Singapore, SG; Aylesbury, UK; Cardiff, UK; Edinburgh, UK
- *Individual Home Offices/Remote Employees:* Esri has many more employees supporting from home office locations or remotely as well throughout the United States and internationally.

2. The age of the firm and its average number of employees over the past five years

Esri was founded in 1969. The average number of domestic employees employed at Esri for the past five years has been 4,427 (YTD)

3. *The education, training, and qualifications of the individual, or if a firm, its key employees in accordance with HRS 103D-304 and/or the professional and scientific occupation series contained in the United States Office of Personnel Management's Qualifications Standards Handbook (<https://www.opm.gov/policy-data-oversight/classification-qualifications/general-schedule-qualification-standards/#url=GS-PROF> [opm.gov]);*

As a part of Esri Professional Services, our Transportation Practice provides transportation-focused consulting and implementation services in support of all modes of transportation, including maritime ports, railroads, aviation, rapid transit, and roads and highways. Our consultants hold advanced degrees and expertise in the fields of transportation engineering, operations research, transportation planning, mathematics, GIS, and computer science. Specific services include process engineering, feasibility assessment, system design, programming, technology transfer, system installation, and support. Responsibilities include project management and scheduling, development of conceptual and logical designs, hardware and software systems integration, algorithm design, and application documentation.

4. *A list of recent projects and the names of up to five clients who may be contacted, including at least two for whom services were rendered during the preceding year*

Preceding Year:

Michigan Department of Transportation, Roads & Highways Implementation

The Michigan Department of Transportation (MDOT) has seven regions and is responsible for Michigan's 9,669-mile state highway system, comprised of all M, I, and US routes. MDOT also administers other state and federal transportation programs for aviation, intercity passenger services, rail freight, local public transit services, the Transportation Economic Development Fund (TEDF), and others. Their mission is to provide the highest quality integrated transportation services for economic benefit and improved quality of life. Some of their strategic objectives include: moving Michigan toward zero deaths through the incorporation of safety in all our transportation efforts, fostering and sustaining partnerships to optimize operations and achieve customer-centered results, providing cost-effective, integrated and sustainable transportation solutions, and understanding customers' most important needs to achieve a more customer-focused agency that results in better service and lower cost.

Like many highway agencies, MDOT manages and maintains a broad spectrum of information about their roadways. Often, this information is distributed throughout the agency in multiple, disparate systems. The public safety department might maintain crash data based on mileposts located along the highway, while the maintenance department may locate sign and pavement assets based on a distance from a known point of origin.

MDOT recognized that Esri's ArcGIS Roads and Highways is a linear referencing system solution that makes it possible for the organization to integrate data from multiple linear

referencing system (LRS) networks to get a comprehensive view of their roadways. MDOT saw value in the fact that ArcGIS Roads and Highways communicates updates to the LRS so they can continue working without waiting for GIS to clear edit queues. It also enables maintenance of MDOT's LRS and associated data with built-in and repeatable quality control and workflow management tools.

Contact:

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Massachusetts Department of Transportation, Massachusetts' Project Intake Tool (MapIT)

Esri supported transit customers and other transportation customers with location-based capital project needs assessments, submissions, analysis, and reporting. One specific example is the MassDOT MapIT solution which is being extended to include MBTA workflows. MapIT is a workflow-driven, web-based tool to allow municipalities and regional planning authorities to define the location of proposed capital projects (transit, pedestrian, bicycle and highway) and enter standardized project details. The location and details are processed against pre-defined variables to programmatically review the proposed projects system impact (environmental, equity, network planning, operations, etc.) and automatically collect necessary information based on location intersection. The workflow includes an automated the approval process and integration with their authoritative capital project management solution.

Contact:

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Other References:

Tennessee Department of Transportation, Roads & Highways Pilot Project

Between 2018 and 2020, Intergraph/Hexagon Geospatial subcontracted Esri PS Transportation LRS team on behalf of their end-customer, the Tennessee Department of Transportation (TDOT). The Pilot project focused on establishing a Roads and Highways pilot environment, performing technology transfer workshops, and assisting in the assessment of gaps and implementation planning from their GeoMedia-based system to ArcGIS Roads and Highways. The project allowed TDOT to evaluate Roads and Highways COTS functionality and workflows for maintaining LRS and roadway inventory data.

Following the Pilot project, Esri supported the full statewide Roads and Highways GeoMedia to ArcGIS Roads and Highways Implementation phase providing

- **Project Planning** - Initiation and project management
- **Solution Design and Data Migration** - Solution architecture, Staging environment, Geodatabase design, Migrate LRS network, Migrate LRS events
- **Configuration and Training** - Roads and Highways solution configuration, Roads and Highways knowledge transfer, Workflow configuration

Contact:

John Hicks, Planning Supervisor

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City of Los Angeles, LA GeoHub

The City of Los Angeles aspired to apply its vast amount of data and technological know-how to its high-priority and cross-cutting citywide initiatives. Yet it quickly encountered a hurdle common to most cities. Invaluable spatial data was locked away in departmental silos, not easily sharable among city workers, let alone the public.

To meet its objectives, Los Angeles worked in a highly collaborative engagement with Esri to enable the citywide GeoHub. This effort was the first deployment of Esri's Hub program, which combines technology and processes to help complex organizations transform their approach to tackling initiatives. More important than the technology required to integrate multiple data sources is the approach and philosophy needed to bring diverse groups of experts together to collaborate on cross-cutting initiatives.

GeoHub gives city staff, businesses, app developers, nonprofit organizations, and the public access to the city's location-based data through an online portal. People can download and access web services linked directly to data sources. They can also visualize the data as online maps using ArcGIS. GeoHub combines the city's geographic data into a location-as-a-service platform, allowing users to access live, continuously updated data directly from the city as a service—rather than as a static download—and create dynamic applications on the fly. GeoHub enables them to produce their own maps and apps, not just consume what's created by the city.

GeoHub features many city-generated web mapping apps that are designed to provide transparency and empower people to take part in their government. Street Wize, for example, allows residents to track current and upcoming permit and construction activity around the city so they can plan accordingly to avoid delays.

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Contact:

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Idaho Transportation Department, Roads & Highways Implementation

The Idaho Transportation Department (ITD) is committed to providing high quality, cost-effective transportation systems that are safe, reliable and responsive for the economical and efficient movement of people and products. Idaho’s transportation system is an integrated network of more than 60,000 miles of roads, about 4,000 bridges, 1,887 miles of rail lines, 125 public airports, and the Port of Lewiston. Of these, the transportation department has jurisdictional responsibility for almost 5,000 miles of highway, more than 1,700 bridges, and 30 recreational and emergency airstrips. Also included on the state highway system are 30 rest areas and 10 fixed ports of entry.

For highway agencies like ITD, Linear Referencing is the underpinning for location, from project planning to end-of-life asset management. By 2015, ITD was evaluating next steps for their existing Linear Referencing System (LRS). It had been custom developed and had ongoing usage since the 1970s, requiring a lot of double entry, and only GIS experts could enter data into that system. It also was not responsive to realignments or other location changes made to the highway system.

ITD recognized ArcGIS Roads and Highways as a solution that enables organizations to integrate data from multiple LRS networks, providing a comprehensive view of their roadways. Therefore, they decided to leverage their advantage program to conduct an ArcGIS Roads and Highways prototype. The prototype revealed that ArcGIS Roads and Highways could help ITD to move forward into more modern releases of software and apply industry best practices, all through commercial-off-the shelf products.

In 2016, ITD contracted Esri Professional Services to lead implementation work for ArcGIS Roads and Highways. The implementation included LRS data conversion; editing configuration and training; support for dual carriageways; event editing workflows; ITD iPlan integration; inclusion of HPMS reporting tool; and Winter Operation Support (WARS).

This LRS enables ITD employees to produce precise data, analytics, and maps by synchronizing road data and provides an outstanding data-stewardship service to the entire department, as well as outside of ITD. For example, someone in the Planning Section can enter data about Federal Aid, while someone in Roadway Data can enter information on traffic counts. The system also provides quicker access to data, which can then be used by anyone at headquarters or in the districts to make data-driven decisions about planning, project funding, or asset management.

Contact

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5. promotional or descriptive literature which the individual or firm desires to submit.

Esri helps organizations solve problems using GIS technology. Our mapping and analytics software connects people across every industry so they can unlock their data's full potential and inspire positive change. With our GIS solutions, Esri users are creating the maps that run the world.

Our Work

Esri builds ArcGIS, the world's leading mapping and spatial analytics system. ArcGIS combines the science of geography with powerful GIS technology to reveal deeper insights into your data. ArcGIS provides integrated maps, data, and apps that help you deliver useful content and capabilities on any platform or device. With ArcGIS, anyone can apply spatial reasoning to make smarter decisions and improve results.

Esri pioneers major advancements in GIS technology. We reinvest nearly 30 percent of our annual revenue in research and development to grow the capabilities of our platform. We update ArcGIS several times each year with new functionality, improved performance, and greater interoperability with data and enterprise systems. Our commitment to innovation allows us to rapidly address the changing and emerging needs of our user community.

We believe in helping our users apply ArcGIS to support their missions, and so we offer user education and training, technical support, and consulting services. Our education and training options include both classroom and online instruction to meet a wide range of budgets, schedules, and training needs—as well as unlimited self-paced e-Learning at no additional cost. In addition, our technical support staff is available to answer questions about Esri products, and our professional services team can provide consulting and project support to help you achieve your goals.

Our History

Esri was founded in 1969 with the belief that geographic science can solve difficult problems and promote positive change in business, government, and the world at large. Our early mission was to organize and analyze geographic information, helping land planners and land resource managers make well-informed environmental decisions. These first land studies resulted in maps that revealed opportunities for development.

Our earliest maps used transparent overlays that had to be manually positioned and manipulated to display relevant information. In 1982, we automated these processes with the release of ARC/INFO, the first commercial GIS software. ARC/INFO used a computer to display geographic features and a database management system to assign attributes to those features.

In the 1990s, Esri reengineered ARC/INFO to take advantage of faster and cheaper computers, menu-driven user interfaces, network processing, and electronic data publishing. The result was

ArcGIS, a modular, scalable platform that could be made available both on the desktop and across the enterprise.

Esri continued to make ArcGIS more accessible by introducing web services and mobile GIS tools. In the early 2000s, we began providing basemaps, data, and other content through hosted web services. In 2012, we released an all-new ArcGIS Online, a cloud platform that lets anyone easily discover and share content online. We later debuted ready-to-use apps and developer tools that allow you to incorporate ArcGIS functionality into virtually any application or business process.

Today, Esri is the global market leader in GIS. We deliver GIS solutions to organizations of all kinds—from local governments and tech start-ups to national agencies and Fortune 500 companies. While we've evolved to meet new challenges and address new opportunities, our roots remain planted in the values we established in 1969. We're as committed as ever to helping organizations apply geographic science to make the world a better place.

In 2021, we released ArcGIS 10.9, the newest generation of the ArcGIS platform. You can deploy ArcGIS on the web and across the enterprise to deliver maps, data, and apps to anyone who needs them.

Our Capabilities

Esri is a financially stable, privately owned corporation with a policy of zero debt. Private ownership means no stockholders forcing short-term decisions at the expense of long-term objectives. All our revenue is directly related to our GIS technology, and we anticipate consistent annual growth over the next three years.

Esri is headquartered in Redlands, California, and maintains 10 regional offices throughout the United States. We also have more than 80 international distributors that support Esri users in more than 150 countries. Our partner network includes more than 2,200 partners that provide software and services based on Esri technology.

Esri fosters global alliances with major technology leaders that specialize in areas that complement our ArcGIS platform. Alliances with these companies let us develop services and solutions that offer clear business value to our joint clients. These alliances include data, software, and hardware companies such as Microsoft, Autodesk, SAP, Adobe, Amazon Web Services, Cisco, IBM, SAS, and Trimble.

Our Customers

Esri's top priority is helping customers use GIS technology to solve important challenges. We invest in our customers, seek to understand the issues and opportunities they face, and work closely with them to build viable solutions. As a result of this commitment to customer success, our platform has become widely pervasive and supports users in many industries.

Today, Esri software is used by more than 350,000 organizations including:

- Most US federal agencies and national governments
- All 50 US state health departments
- Each of the 200 largest US cities
- More than 24,000 state and local governments worldwide
- More than 75% of Fortune 500 companies
- 45 of the top 50 petroleum companies
- More than 7,000 colleges and universities
- More than 13,000 nonprofits worldwide
- Many others in dozens of industries

Our users are more than just customers—they're invaluable contributors to the GIS community, providing unique insights into all the ways people are using GIS. Many of them are industry leaders who pioneer new use cases and advocate for product enhancements that will better support their workflows. We apply their feedback, ideas, and breakthroughs to refine our software and accommodate industry trends and user needs. This means everyone can benefit from the work Esri and our user community have done to make ArcGIS a powerful GIS platform that supports organizations in every industry.

To help our users successfully apply GIS, we provide many opportunities for users to grow their GIS knowledge and learn from each other's successes. For example, we offer unlimited access to e-Learning resources so users can develop their skills at their own pace. We also provide online community spaces where users can connect with each other and share ideas, content, and code. In addition, we share user success stories through blog posts, newsletters, and events like the Esri User Conference, the largest GIS gathering in the world. These learning opportunities expose users to the best practices they need to solve many real-world problems using GIS.

We believe it's our job to foster a strong user community that, working together, helps create a smart and sustainable future. We are proud that many of our users are applying GIS to save lives, confront poverty, protect the planet, and prepare future generations for success. To support this good work, we offer affordable access to Esri software, data, and services for nonprofits, educators, and disaster relief organizations. We also take an active role in the work these organizations are doing, creating tools and resources that help them achieve their missions.