SMART CITIES: TRANSPORTATION AND MOBILITY

KEEPING TOMORROW’S CITIES MOVING.

Mobility is at the heart of everything we do, both individually and commercially. Battelle is advancing Smart City solutions that help transport people and goods more efficiently and safely.

We believe that a Smart City transportation solution goes beyond traffic management. It’s about designing systems that improve safety and mobility for everyone in our evolving urban environments, from commercial drivers to cyclists and pedestrians. We’re helping cities find innovative technology solutions to address a variety of mobility challenges, including:

• Developing integrated public transit solutions that meet the needs of aging populations and younger urban dwellers who choose not to drive
• Improving access to jobs, healthcare, education and other opportunities
• Reducing road congestion and improving transportation system efficiency
• Making roadways safer for cyclists, pedestrians and private and commercial drivers
• Designing infrastructure solutions that can adapt to emerging technologies such as self-driving vehicles
• Improving energy efficiency and reducing environmental impacts

TRANSPORTATION AND MOBILITY PLANNING

We work with cities, regional planning authorities, technology developers and military clients to develop comprehensive mobility solutions. Our multidisciplinary teams bring a broad and deep perspective to mobility planning that encompasses multiple stakeholder groups and industry sectors. We plan transportation systems and mobility solutions that drive economic progress and opportunity, bridge gaps for underserved communities and increase public safety. Our teams can help you:

• Evaluate the mobility needs of industry sectors, communities and visitors
• Frame objectives and priorities for the transportation system that address broader goals, including economic development, environmental concerns, emergency planning and public health
• Develop a comprehensive plan that integrates technologies, systems and new approaches to transportation and logistics
TECHNOLOGY DEVELOPMENT, VALIDATION AND DEPLOYMENT

Battelle has been working to advance transportation technologies for nearly 50 years, with experience spanning highway, rail, transit, aviation and maritime. Over the last decade, we have led the development and deployment of numerous large-scale connected vehicle research projects for the U.S. Department of Transportation, the Department of Homeland Security and a variety of state and local agencies and commercial organizations. Now we’re applying that experience to accelerate implementation of transportation technologies. We can design, test and validate new technologies before commercial rollout and assist cities with deployment of individual technologies or integrated systems. Our experience includes:

• Connected Vehicle technologies and applications, including Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) technologies
• Self-driving vehicle technologies
• Rail safety and automation, including Positive Train Control (PTC) and Communication-Based Train Control (CBTC)
• Safety applications for transit vehicles, cyclists and pedestrians
• Human factors

HUMAN FACTORS RESEARCH

Battelle’s Center for Human Performance and Safety provides a human-centered approach to development and evaluation of programs, systems and products. We apply human factors, behavioral science and engineering tools and techniques to address the needs and requirements of users, operators and maintainers in the transportation field.

DATA SYSTEMS AND ANALYSIS

Smart transportation systems run on data. Battelle brings together statisticians, data scientists, mathematicians, computer scientists, data managers and database and applications developers to develop advanced solutions for data acquisition, storage and analysis. We turn data into a valuable knowledgebase that benefits transportation system planners, city agencies, transit authorities and consumers. Our capabilities include:

• Machine Learning
• Predictive Analytics
• Natural Language Processing
• Application and Database Development
• Knowledge Management
• High Performance Computing