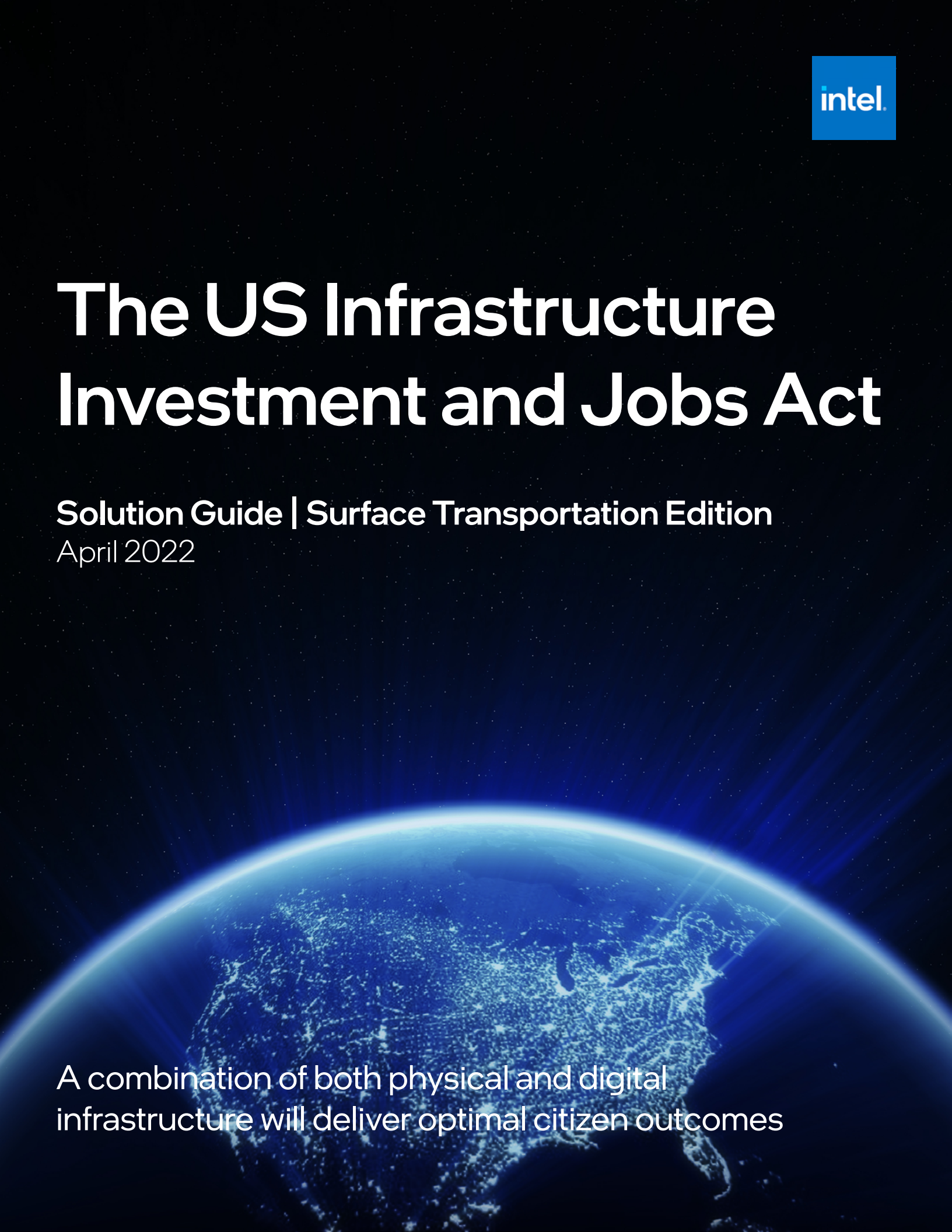


The US Infrastructure Investment and Jobs Act

Solution Guide | Surface Transportation Edition
April 2022

A satellite view of the Earth from space, showing the curvature of the planet and the United States. The landmasses are highlighted with a glowing blue network of lines, representing infrastructure. The background is a dark blue space with stars.

A combination of both physical and digital infrastructure will deliver optimal citizen outcomes



“The digitization of everything – and the four superpowers (ubiquitous compute, cloud-to-edge infrastructure, pervasive connectivity, and AI) – are driving unprecedented demand for semiconductors. The Infrastructure Investment and Jobs Act reaffirms the commitment to improving the lives of all who call America home and mirrors Intel’s purpose to create world-changing technology that improves the life of every person on the planet. Together we have the potential to fully realize our nation’s economic, climate and sustainability goals.”

- Pat Gelsinger, CEO,
Intel Corporation

Authors



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GM, Global Strategy and Marketing, Video, Cities & Transportation, Intel

Sajid leads Strategy & Marketing for the Video, Smart Cities & Transportation sector at Intel. He focuses on global sector strategy, working closely with thought leaders and key eco-system partners on how technology can improve lives in urban environments. His current focus is on the Infrastructure Investment and Jobs Act and the tremendous opportunity that it brings about to improve lives and drive positive outcomes through the deployment of a combination of physical and digital infrastructure.



Gregg Descheemaeker

GM, US Education, State & Local Government, Intel

Gregg is the General Manager of Intel's U.S. Public Sector, State and Local Government team. His team is responsible for business development and demand creation for Intel's data centric technologies in the public sector segment. Descheemaeker has over 25 years' experience in the Government, Enterprise, and Cloud markets. He helped develop Intel Online Services' hosted data center business, was U.S. Director of Sales for Intel's ISS consulting services, and was on several teams responsible for securing design wins for education technology platforms, reference platforms such as first generation blade servers, video conferencing, and home healthcare solutions before moving into his current role.



Glen Allmendinger

Founder & President, Harbor Research, Inc.

Glen has done pioneering research and consulting work focused on the development of Smart Adaptive Systems for Buildings, Healthcare, Retail, Transportation, Energy and Cities, helping clients to determine the structure of emerging opportunities, competitive positioning, and design of new business models. He has provided consulting to the National Research Council on technology and competitiveness and has served on the boards of over a dozen technology ventures.

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Foreword

The Infrastructure Investment and Jobs Act (IIJA) is a once-in-a-generation opportunity to improve citizen outcomes for decades to come

“The 2020’s will be one of the most transformative periods in transportation.” USDOT Secretary Pete Buttigieg, March 23, 2022.

Secretary Buttigieg’s quote from SXSW succinctly captures the sea change that we expect to experience in the coming decade. What makes this change transformative is the close connection between transportation, public safety, economic strength and sustainability. With a once-in-a-generation investment in U.S. infrastructure underway, this vision now has the financial backing to become reality.

The Infrastructure Investment and Jobs Act, a \$1.2 trillion investment in U.S. infrastructure, was passed into law in November 2021. About half of the investment is allocated to surface transportation - roadways, railways, airports, seaports and public transit. The other half is planned for core infrastructure - sustainability, smart grid, broadband, education, and related investments. To ensure equitable distribution of funds, we must learn from past infrastructure initiatives.

Investment in physical infrastructure is critical; however, decision makers that are looking to optimize outcomes

should recognize modern infrastructure is a combination of physical and digital investments. We call this *The New Infrastructure*, a synergistic interplay that drives tangible social and economic outcomes. Physical infrastructure alone cannot fully address the multitude of needs of our modern, information-driven economy, nor does it ensure future success.

Digital infrastructure, built on core superpower technologies - IoT, 5G, AI and Cloud - will extend this New Infrastructure build-out to create lasting impact. These technologies are available today, deployment-ready and have become interwoven into our daily lives. This New Infrastructure, a powerful combination of physical upgrades and digital advancements, will foster unprecedented outcomes like:

- **Vision Zero:** There were 38,680 traffic fatalities in 2020, the highest yearly total since 2007. Combining physical infrastructure upgrades with new digital technologies can help reduce deaths and achieve Vision Zero¹.
- **Climate:** Between 2000 through 2014, the use of 511 intelligent transportation systems across US cities led to a significant decrease in

1. Shepardson, David, Reuters, “U.S.Traffic Deaths soar...” June 3, 2021. ([Link](#))

urban traffic congestion, saving over 10 billion pounds of CO2 emissions².

- **Economic Growth:** Infrastructure investments can add as much as \$3 to gross domestic product (GDP) growth for every \$1 spent³. Incorporating new technologies into physical infrastructure can help accelerate and multiply this impact.

This eBook contains **100+ digital infrastructure solutions**, all powered by Intel technology and organized by the key investment areas addressed in The Infrastructure Investment and Jobs Act. These solutions are available from a robust ecosystem of partners that support Intel's core principle of open standards that enable interoperability

and collaboration. At Intel, we take pride in how this approach has made technology more widely accessible by fostering innovation and delivering cost effective, secure, end-to-end solutions.

When identifying shovel-ready projects and infrastructure upgrades, it is important to think about how digital infrastructure can help improve outcomes for citizens. The information in this eBook can help define and drive transformational projects across the nation.

*Sajid Khan
Gregg Descheemaeker
Glen Almendinger*



Grand Central Terminal (pictured) in NYC was a transformational US infrastructure investment that serves as an example of the citizen benefits that can be enabled through bold action - benefits that carry on far into the future.

2. Cheng, Dr. Aaron, London School of Economics, "Technology more effective at managing traffic..." May 26, 2020. ([Link](#))
3. Council on Foreign Relations, "The State of U.S. Infrastructure" November 8, 2021 ([Link](#))

1

Infrastructure is Evolving

The definition of “infrastructure” is not static



Aqueduct, 312 B.C. - A.D. 226



Steam-powered railways, 1784



Electricity infrastructure, 1881

Advances in infrastructure have driven growth and prosperity for millennia. The basic structures, systems and facilities that citizens use for transportation, water, energy, and communications have been vital to economic and social development.

Before industrialization, infrastructure consisted mainly of roads and canals. Canals were used for transportation and irrigation. Sea navigation was aided by ports and lighthouses. A few advanced cities had aqueducts that serviced public fountains and baths, while fewer had sewers.

Between 1700 and the 1900s, many new and novel advances in infrastructure occurred, including railways, electricity, water distribution, telegraph networks and the subway. With the advent of the 20th century, the first electrical power station was built in England, setting the stage for the modern power transmission and distribution grid. Soon after, Marconi harnessed radio waves to create instantaneous long-distance communications.

Throughout history, infrastructure developments have driven advances in civilization supporting the growth of modern industrial economies. Infrastructure innovations are complex, unpredictable, capital intensive and anything but static.



The New Infrastructure: The Evolution from Dirt to Digital

1

4,600 years ago

The first street grids for city organization



Major cities of the Indus Valley civilization in modern-day Pakistan



Blocks divided by a grid of straight streets running north-south and east-west



Each block subdivided by small lanes

3

200-300 years ago

Steam & Steel Revolutionizes Transport



The invention of the steam engine makes railway transportation possible



Railways lead to an improvement in transportation, agriculture, and manufacturing during the 1800's



The way people and goods moved across long distances is transformed



These innovations set the stage for innovations like internal combustion engines and jet turbines

2

2,000 years ago

Roads, Bridges & Waterways



Romans are among the first to see infrastructure engineering and investment as strategic



Major development and expansion of roads, bridges and aqueducts



Advancemanets helped secure safety of trade routes

4

100 years ago

U.S. Roadways and Airports connect cities



With the rise of the automobile came the US Interstate Highway System



The first national roads for cross-country travel are created



Following World War II, Commercial aviation begins to become what is a primary mode of long-distance travel today

5

Today

Digital Becomes the New Infrastructure



Massive technological change driven by the Internet, developments in semiconductors, and improved telecommunication



Combinations of innovation create new developments like Cloud, 5G, AI, and IoT



These developments create the new digital infrastructure we have today



By combining digital and physical infrastructure, these technologies create new value for citizens and policymakers alike

What is in the Infrastructure Investment and Jobs Act?

\$1.2 trillion in total funding over ten years

Congress has approved and passed the Infrastructure Investment and Jobs Act (IIJA) which represents the largest investment in our infrastructure in decades. This “once-in-a-generation” bipartisan law will invest hundreds of billions of dollars to upgrade and modernize U.S. transportation systems and physical infrastructure.

IIJA represents a generational shift in what constitutes infrastructure and how projects will get defined and deployed. The key stakeholders and participants need to ensure that it includes a focus on digital transformation for

infrastructure. This means not only investments in core digital infrastructure, such as wireless broadband and IT systems, but also taking advantage of opportunities to integrate digital technologies into physical infrastructure including roads and bridges, electric grids, water systems, airports, trains and more. Modernizing our infrastructure with digital technologies will dramatically improve how we utilize, maintain, and manage the foundational systems of our economy and lives.





\$6B over 5 years for Amtrak's Northeast Corridor (NEC)

Amtrak is receiving \$6B to repair and expand the NEC, with projects including the acquisition of new passenger trains, service expansions and upgrades, ADA compliance, and eliminating NEC project back-haul.



Houston's ship channel Project II receives \$142M boost

The IIJA includes more than \$142M in funding for the US Army Corps of Engineers to widen and deepen the Houston ship channel in their FY22 work plan for the IIJA. This funding will help continue a project that is aimed at addressing current and future supply chain disruptions.



Denver International Airport (DIA) Expansion

Following the September 2021 award of contracts for design consulting and project management for a new runway at DIA, the airport is receiving over \$59M in funding through the IIJA Airport Infrastructure Grant Program which could be allocated to this and future projects.

Recent IIJA-funded projects across the US

The law allocates about \$1.2 trillion in total funding over ten years, including \$550 billion in new spending during the next five years, divided between investments in transportation systems (\$284 billion) and investments in core infrastructure (\$266 billion), including:

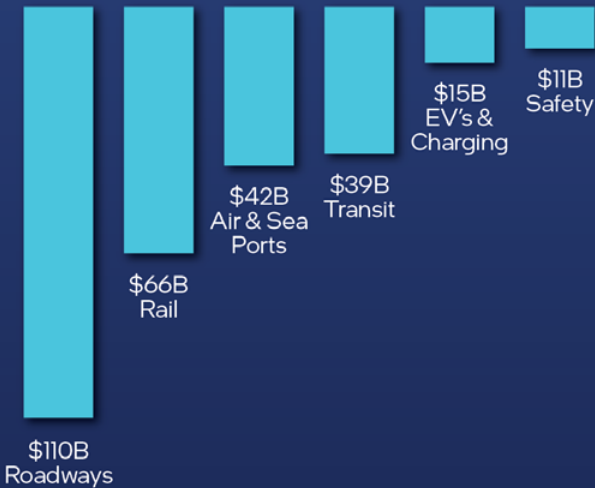
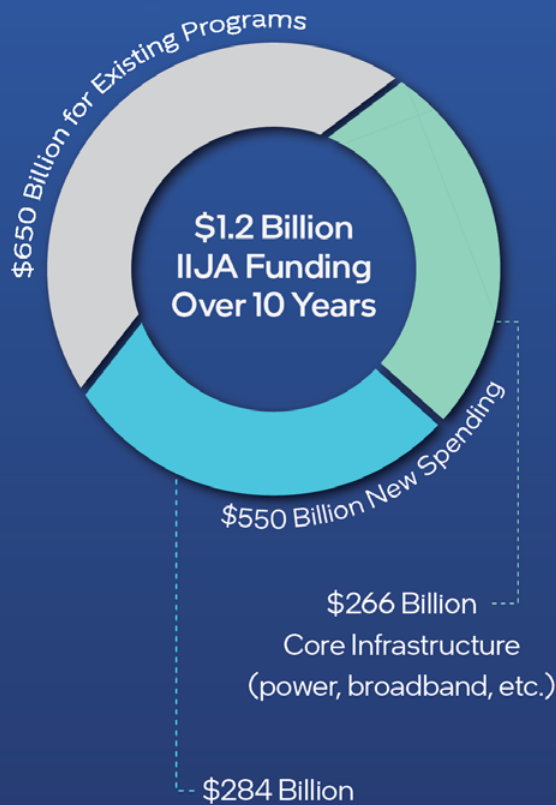
- **Transportation:** roads and bridges; passenger and freight rail; airports, ports, and waterways; public transit; electric vehicles; safety systems.
- **Core Infrastructure:** the power grid, water/wastewater systems, protecting the environment and expanding broadband communication services, protecting the environment and expanding broadband communication services.

Transportation investments include immediate funding for highway, safety, transit, passenger rail and aviation activities. Funding will be allocated to make our nation's highways more

efficient and safer for passenger and commercial transportation. Beyond road systems, investments will repair our nation's transit systems, improve intercity passenger rail service, and modernize airport infrastructure across the country. The bill will provide the largest investment in history in public transit, as well as the largest investment in roads and bridges since the construction of the interstate highway system.

Digitally-enabled infrastructure sets the stage for creating economic opportunity, fostering equitable access to transportation, and future-proofing in the face of climate changes. Innovative transportation and infrastructure will help make every city, town and community more resilient and adaptable helping citizens improve their quality of life.

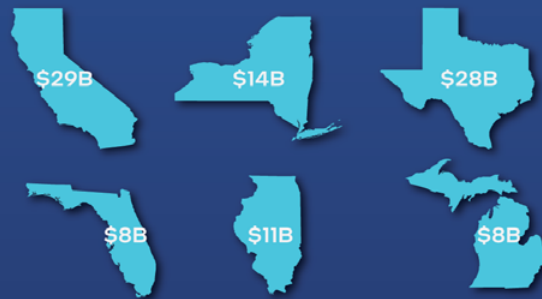
What's in the IIJA?



Federal funding is distributed to states and localities via Formula Grants & Competitive Grants

Formula Grants*: \$307B to States

Six states receiving the greatest amount of formula grants due to scale of infrastructure and population



* Estimates include road/bridge formula grants only, which account for ~90%+ of total formula grants (ASCE)

Competitive Grant Process: ~\$120B

- ~\$120 billion of competitive grants available over first 5 years
- Process administered by USDOT
- Grants available to state & local government

Local Government Opportunities

- Local governments (cities, counties, communities) will receive sub-allocations of formula grants based on population and scale of infrastructure and be able to compete for federal grants

“[The IIJA] is going to transform America and put us on a path to win the economic competition of the 21st Century that we face with the rest of the world...4,000 projects have already been announced [and] this year we will start fixing over 65,000 miles of highway and 1,500 bridges in disrepair.

- President Biden on the IIJA in the State of the Union Address, March 1st, 2022

Digital Technology will Drive Infrastructure Innovation

Increased impact of “superpower” technologies on transportation infrastructure

Over the last several decades, the digital transformation of every aspect of human and business affairs has been profound. Silicon, network, software and platform technology innovations have become a critical part of our development. The undeniable and non-reversible effects are visible everywhere, including our infrastructure. It can be tempting to look at the progress and sophistication of our transportation systems and their impact on society and think that the impact of technology is nearly over. In fact, it's only just begun.

Now more than ever technology is critical to how we safely and economically move ourselves and goods from one place to another.

Multiple “superpower” technology developments, evolving in parallel, are reinforcing and accelerating one another: ubiquitous computing, pervasive connectivity, edge to cloud infrastructure and AI. Cloud infrastructure resources are providing unprecedented computing scale. Faster, more pervasive wireless networks,



5G and mobile computing devices are extending the reach of computing. Artificial intelligence (AI) is bringing intelligence to the data generated and collected by these devices. And embedded technologies at the edge are connecting and integrating a broad array of physical equipment and infrastructure systems with digital capabilities.

Today, most citizens, businesses, and institutions understand the out-sized impacts and benefits that technology can bring to our daily lives. Adding embedded sensors, automation, communications, and computing will enhance and extend the value of physical infrastructure to support a more sustainable and equitable future.

Superpower Technologies



“Digital technology is transforming the world at an accelerated pace, driven by what I call the four “superpowers”: cloud, connectivity fueled by 5G, artificial intelligence (AI) and the intelligent edge. They are superpowers because each expands the impact of the others. And together, they are reshaping every aspect of our lives and work. This goes straight to Intel’s purpose and my own passion: creating world-changing technology that touches and improves the lives of every person on the planet.” - Pat Gelsinger, CEO, Intel Corporation

Each of these technologies are powerful on their own, but together their impacts are multiplied. Human-connected devices and machine-connected IoT devices generate exponentially more data. Connected networks enable us to capture data and deliver it to the cloud for analysis. AI models can then analyze and capture new insights and optimize the way machines, systems and people interact.

The core digital technologies driving digital transformation -- ubiquitous computing, pervasive connectivity, cloud to edge infrastructure and AI -- have the potential to multiply the impact of physical infrastructure investment and create massive new opportunities for states, counties, cities and communities. The combination of the physical infrastructure with digital infrastructure is what we call the **New Infrastructure.**

The New Infrastructure Helps Enable Positive Citizen Outcomes

Combining physical “concrete and steel” infrastructure with digital infrastructure



The \$25 trillion U.S. economy relies on a vast network of public infrastructure. This network ranges from roads and bridges to ports and transit systems, airports, electrical grids, water treatment systems, inland waterways, dams and levees, and waste management and treatment systems. Since the 1960s, when much of the country’s major civil infrastructure systems were developed, the U.S. population has more than doubled. Now, much of the nation’s existing infrastructure needs upgrades, expansion and modernization as it extends beyond its intended lifespan.

Poorly maintained infrastructure can impose large costs on the U.S. economy. The American Society of Civil Engineers (ASCE) has compiled regular “report cards” on the state of U.S. infrastructure since the 1980s. In its 2021 report, the ASCE found that the nation’s infrastructure averaged a “C-,” up from a “D+” in 2017 and the highest letter grade in twenty years. Still, the group estimated that there is an “infrastructure investment gap” of nearly \$2.6 trillion this decade that, if unaddressed, could

cost the United States \$10 trillion in lost GDP by 2039⁴.

In addition to the threat to human safety of catastrophic failures such as bridge collapses or dam breaches, inadequately maintained roads, trains, and waterways have many diverse impacts on our economy including traffic jams, unnecessary pollution, disrupted supply chains and more. For example:

- Delays and avoided trips caused by traffic congestion cost the U.S. economy over \$30 billion, and 248,000 American jobs⁵.
- Delays and avoided trips due to the poor state of U.S. airports cost the economy over \$35 billion per year⁶.
- Nearly one in three bridges need repair, and there are 167.5 million daily crossings on 43,578 structurally deficient U.S. bridges in poor condition⁷.

There is an “infrastructure investment gap” of nearly \$2.6 trillion this decade that, if unaddressed, could cost the United States \$10 trillion in lost GDP by 2039.

American Society of Civil Engineers (ASCE)
2021 Report Card

- Poorly maintained roads are bad for the environment - transportation represents the largest source of greenhouse gas emissions caused by carbon dioxide emitting from vehicles⁸.

Collectively, these impacts cost our economy billions of dollars in lost productivity and reduced efficiency. Investing in the safety, efficiency and reliability of our transportation systems and physical infrastructure will increase safety for our citizens, strengthen sustainability and help insulate the economy from unexpected shocks.

The budgets to support infrastructure are primarily driven by state and local governments, who must juggle long-term investments with shorter-term programs. This uneven pattern of spending has had serious consequences for the nation's economic health. Investments in better roads and bridges, more efficient public transit systems and more environmentally friendly water and power systems can boost job creation, economic growth and quality of life. Many economists see infrastructure spending as having a significant multiplier effect: the economic gains that come from infrastructure investment generate values and benefits far greater than initial spending. A 2014 University of Maryland study found that infrastructure investments added as much as \$3 to gross domestic product (GDP) growth for every \$1 spent⁹.

It is imperative that cities and communities become more sustainable, affordable, safe and equitable, ultimately providing all citizens with a high quality of life. Infrastructure is increasingly seen as a key driver of the attractiveness and competitiveness of states and municipalities and infrastructure investments directly correlate to

4. American Society of Civil Engineers, “2021 Report Card on America's Infrastructure”, December, 2021 ([Link](#))

5. US Travel Association, “Study: Road Congestion Cost U.S. Economy...” May 22, 2019 ([Link](#))

6. Council on Foreign Relations, “The State of U.S. Infrastructure” November 8, 2021 ([Link](#))

7. American Road & Transportation Builders Association, “Bridge Report” 2022 ([Link](#))

8. US EPA, “Sources of Greenhouse Gas Emissions,” 2020 ([Link](#))

9. Council on Foreign Relations, “The State of U.S. Infrastructure” November 8, 2021 ([Link](#))

increases in real estate value¹⁰.

With physical and digital worlds becoming permanently intertwined, investment in the New Infrastructure can generate profound impacts for citizens across states, counties, and municipalities. The design and development requires a shift

Many economists believe that infrastructure spending has a “multiplier effect,” adding as much as \$3 to gross domestic product (GDP) growth for every \$1 invested in infrastructure.

University of Maryland Study
2014

in thinking about how citizens and physical infrastructure will interact and how they will be integrated. Our approach should strive for much more than just upgrading aging infrastructure; it should look forward to a unified, intelligent system of systems that incorporates physical and digital infrastructure and supports citizens in new and novel ways.

We have the opportunity to invest and develop a new generation of digitally enabled infrastructure systems that are self-sensing, self-controlling and

self-optimizing, providing better outcomes to our cities and states. Digital technologies have the potential to reduce the cost and complexity of maintaining infrastructure equipment and systems. The return on investment (ROI) from digitally enabled systems can be realized quickly, sometimes in just months rather than years.

Technologically advanced infrastructure presents an opportunity for federal, state, and local institutions to invest for the future the benefit of the public. Compared to traditional infrastructure, it will generate superior longer term economic, competitive, and environmental benefits.

The delivery, operation, and management of infrastructure is the lifeblood of any economy. This is equally true at the federal, state, and local levels. It is critical to keeping goods, services and energy flowing, as well as boosting productivity and ensuring economic development and job creation. The Infrastructure Investment and Jobs Act will empower states, counties and local municipalities to make significant modernizations—both physical and digital—that can raise the quality of life for citizens and improve the ability of public agencies and departments to deliver higher quality services.



10. Sage Real Estate Group, “How the New \$1.2T Infrastructure Bill Could Impact...” November 23, 2021 ([Link](#))

The New Infrastructure

Combining physical infrastructure with digital technologies drives transformational outcomes for citizens

Physical Buildout



Digital Augments



Resulting Outcomes

Climate

The US transportation sector accounts for 29% of all greenhouse gas emissions, the greatest share of all sectors; electrifying transit can reduce related emissions by 67%.

Safety

US road deaths for the first 9 months in 2021 increased 12% to 31,720. Intelligent Transportation Systems can reduce accidents and help achieve Vision Zero.

Economy

US cities using Intelligent Transportation systems can save time and money, including more than \$4.7B per year in lost productivity.

Physical Infrastructure



Public Transit



Airports & Sea Ports



EV Charging Stations



Roads



Railways

Digital Technologies



A.I.



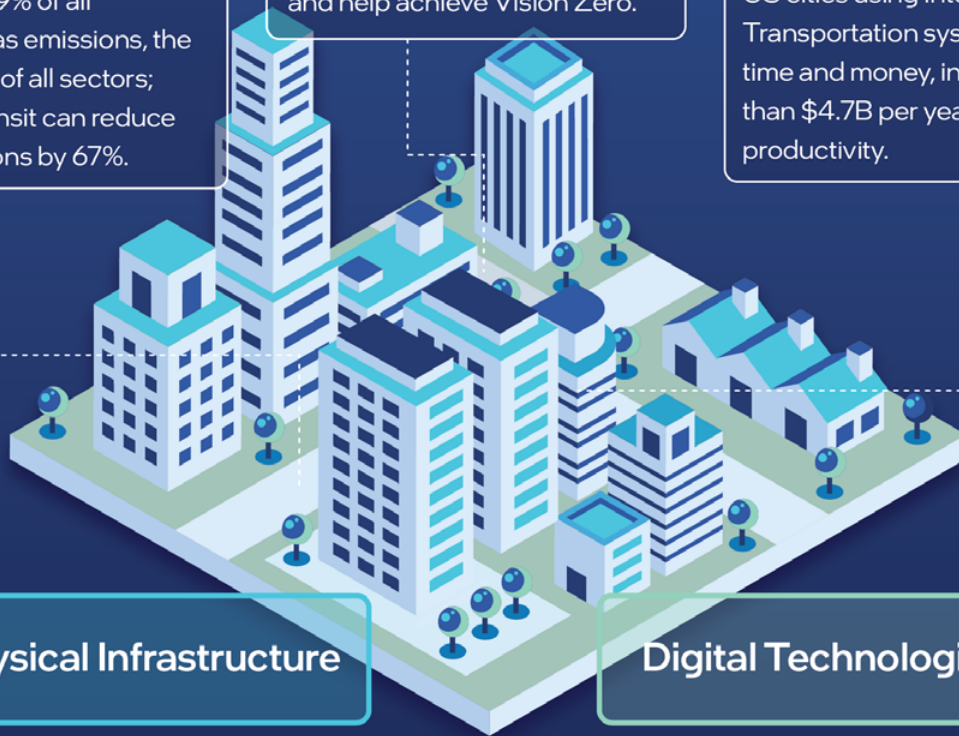
Edge-Cloud



IoT



5G



Digital Infrastructure Solutions

100+ market-ready solutions

To deploy this New Infrastructure, it is imperative to develop both a physical and digital infrastructure strategy. As roads are built, deploy digital technologies that will help reduce traffic fatalities. As traffic lights are installed, plan to augment the project with digital technologies that help reduce gridlock, manage traffic, save time, and reduce emissions. Take a “Dig Once” approach: dig once for New Infrastructure projects, assess the outcomes and deploy digital technologies for future upgrades. This approach will help address the vast potential of the IIJA, and result in the most positive outcomes for citizens.

Prioritizing opportunities could prove to be challenging to state, county and local municipalities and their respective agencies and departments. As state and local officials think through their priorities, understanding what technology opportunities they can address will be important.

To this end, we have curated list of solutions from Intel and our partners. The solutions in this section are broken down into 5 groups: 1) Roads, 2) Railways, 3) Public Transit, 4) Maritime Ports, and 5) Airports.

Many of the solutions have uses that span multiple segments. In those cases, you will find them listed in multiple groups in the table of solutions provided. You can use the table on page 34 to look up a solution that fits a specific segment.

[Intel® IoT Market Ready Solutions](#)

The Intel® IoT Market Ready Solutions program is designed to help members of our broad ecosystem of partners strengthen their delivery of solutions through unique support and scaling opportunities. These solutions give authorities and end-customers scalable, repeatable, end-to-end solutions. That means less time, cost, and risk. These solutions are made up of sensors, edge hardware, software, cloud, and analytics from across the IoT ecosystem. By choosing Intel IoT Market Ready Solutions, customers get scalable, repeatable solutions designed to solve key challenges in vision technology, mobility, traffic management, and more. Intel has already vetted these solutions, so decision makers can move forward with the assurance of intelligent connectivity, exceptional performance, and easy manageability.

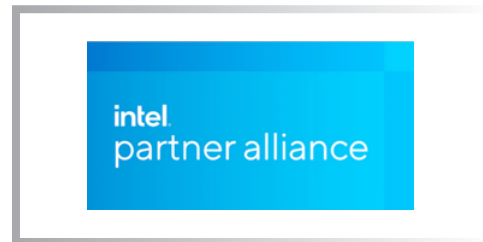
Intel® IoT RFP Ready Kits

Intel® IoT RFP Ready Kits are technology offerings that have been deployed and tested in the field, and provide bundled hardware, software, and support. The technologies are scalable and designed to grow with customer requirements, enabling faster time to market.



Intel® IoT Solutions Alliance

Customers can also find optimized solutions through the Intel IoT Solutions Alliance, one of the world's most trusted ecosystems for hardware, software, systems, and services. The Intel IoT Solutions Alliance helps providers deliver first-in-market IoT solutions. A global ecosystem of more than 800 industry leaders, the Alliance offers its members unique access to Intel technology, expertise, and go-to-market support. By accelerating the design and deployment of intelligent devices and analytics, technology providers can win greater market share. With more than 6,000 solutions, from hardware and software to systems and services, Intel helps fulfill nearly every requirement in a range of markets. Early access to Intel road maps and design support enables Alliance members to stay ahead of the competition, as well as help reduce risk.



Road Infrastructure Solutions

The solution spotlights that follow are available now or will become available in the near future. These are illustrative possibilities to demonstrate the breadth of solutions that are available.

For an extended list of Intel partner solutions, please see the master solution table on page 34.

Case Study

Providentia++

Challenge

The Providentia++ (P++) project builds upon an extensive infrastructure of radar, lidar sensors, and cameras installed at a highway section and adjacent urban area in Munich.

Providentia++ goal is to improve infrastructure-based sensor fusion for automated driving in terms of robustness and inclusiveness.

Use-Cases

Traffic management

Edge services

Solution

The project covers "over-all-fusion" with research of methods for dependable perception; that is the robust fusion of all sensor data from the vehicle and infrastructure using low latency wireless communications (LTE, 5G). The project also studies "vehicle global control" through the generation of a global environment view, created with all available data, to reliably guide autonomous vehicles in a mixed traffic scenario where automated vehicles coexist with manual vehicles. Finally, P++ aims at providing high availability by enabling dependable and fault-free continuous operations under adverse environment conditions.

Results

Intel Labs developed a dependable interlocked system of vehicles and infrastructure components that increased the robustness and intelligence of the infrastructure.

In the process, Intel expects to facilitate access to a wide range of time-synchronized and annotated datasets from both vehicle and infrastructure and develop a clear understanding of requirements needed for large-scale deployments and value-added services in traffic management and roadside infrastructure.



Cisco Smart Connected Roadways

Solution Overview

Cisco® Smart Connected Roadways helps secure and connect Intelligent Transportation Systems, allowing vehicles, roadways, travelers, and traffic management centers to all communicate with each other in near real time.

Value Proposition

- Enhanced safety through fewer accidents and collision-related deaths, faster incident response, and automated near real-time weather and traffic alerts
- Lower total cost of ownership through incorporating existing infrastructure and eliminating redundant, proprietary systems with limited or no interconnectivity

Solution Components

- Intel® Atom™ / Core™ / Xeon™
- Altera Stratix 2
- Virtex-II Pro
- Arria 5 GX
- NIC
- Intel® SSD
- Davra software

Solution Summary

Use case	Traffic Management	Geo	WW
Company	Cisco	More Info	Link
Product	Smart Connected Roadways		



Mayflower Insite Sentinel Optical Sensors

Solution Overview

Through the use of Sentinel devices, traffic management groups within local governments can perform operations like classifying vehicles, measuring traffic flow and bicycle lane usage, counting pedestrians and tracking bike or pedestrian movement. All sensor and device data can be collected, integrated and viewed into the Smart Cities and Places platform.

Value Proposition

- Easy to deploy on street lighting furniture or building facades
- Data anonymization at the edge to help ensure citizen privacy
- Pan/tilt/zoom (PTZ) camera powered by industry-leading technologies

Solution Components

- Intel® Atom™
- Intel® Movidius™ Myriad™ X VPU
- AI-analytics software

Solution Summary

Use case	Traffic Management	Geo	WW
Company	Mayflower	More Info	Link
Product	Insite Sentinel Optical Sensors		





Capgemini 5G Road-Side Unit (RSU)

Solution Overview

Designed in conjunction with application developers, enterprises, operators, and device makers, the Smart RSU solution enables intelligent transportation applications like traffic management, EV charging, smart lighting, and connected vehicle services. By placing computing at the network edge, the Smart RSU solution reduces network latency and processing times.

Value Proposition

- Vehicle and pedestrian detection in busy intersections using 5G-connected camera feeds and AI to optimize traffic
- Identifying and warning pedestrians and drivers of potential collisions through V2X
- Alerting drivers to road conditions
- Allowing city traffic controllers to dynamically establish green-light corridors for emergency vehicles

Solution Components

- Intel® Converged Edge Reference Architecture (CERA)
- Capgemini Engineering ENSCONCE MEC Platform
- Intel® 5G FlexRAN and Capgemini Engineering 5G Frameworks
- Intel® distribution of OpenVINO™
- Intel® Xeon™, FPGAs

Solution Summary

Use case	Edge Services	Geo	WW
Company	Capgemini Engineering	More Info	Link
Product	5G Road-Side Unit (RSU)		



GRIDSMART System

Solution Overview

GRIDSMART is the world's only single camera solution for intersection actuation, traffic data collection and situational awareness. The GRIDSMART system uses computer-vision tracking algorithms to track moving objects at intersections, providing near real-time data to manage the timing of traffic lights and improve intersection efficiency and safety.

Value Proposition

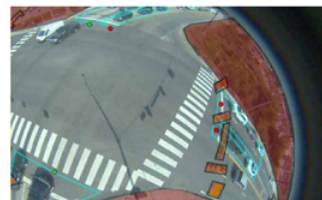
- The industry's only horizon-to-horizon visibility, including center-of-intersection views where cars, bikes and pedestrians cross paths
- The GRIDSMART Engine includes a suite of vision-tracking algorithms to create a 3D model of objects approaching an intersection
- Internal cybersecurity team available to all customers

Solution Components

- Intel® Core™
- Intel® SSDs

Solution Summary

Use case	Traffic Management	Geo	WW
Company	Cubic GRIDSMART	More Info	Link
Product	GRIDSMART System		



Railway Solutions

The solution spotlights that follow are available now or will become available in the near future. These are illustrative possibilities to demonstrate the breadth of solutions that are available.

For an extended list of Intel partner solutions, please see the master solution table on page 34.

Case Study

Switzerland Rhaetian Railway

Challenge

The Glacier Express and Bernina Express, run by the Rhaetian Railway (RhB), services Alpine tourist destinations. Limited mobile signal coverage along the route prevented passengers from accessing the Internet on their devices. RhB also wanted to be able to present location-specific information to passengers.

Use-Cases

Connectivity

Location-specific Infotainment

Solution

The Passengera platform, hosted on railway-compliant Advantech onboard servers powered by Intel technologies uses an advanced antenna system to deliver uninterrupted Wi-Fi infotainment and enables new business and marketing opportunities. The solution enables passengers to log in through a web-based app on their devices to access the Internet and GPS-synchronized content over an onboard Wi-Fi network, which is integrated into Advantech servers. Passengers receive pop-up information on their mobile devices, notifying them when GPS-synchronized content matches their current location.

Results

The Passengera solution on the Glacier Express and Bernina Express trains demonstrated value within its first months of service by providing passenger demographic data for developing targeted promotions and increasing viewership with high-quality content. RhB has achieved higher opt-in rates, deeper passenger engagement, and increased customer satisfaction with the solution. The passenger preferences and information generated by the Passengera solution equips RhB with data to enhance the passenger experience and to market new products and services.



Cisco/Davra Connected Mass Transit

Solution Overview

The Cisco/ Davra Mass Transit Solution (MTS) is a dynamic ETA system that responds to changing variables to keep riders informed of schedule changes and arrival times. Information is shared on digital signage at all bus and train stations and on the transit vehicles themselves.

Value Proposition

- Improve customer service by keeping riders informed of schedule changes and arrival times
- Share information on digital signage on transit vehicles and train stations
- Improve transit operations by gathering data for proactive diagnostics and maintenance
- Enhance cross-system monitoring to help increase safety and efficiency

Solution Components

- Intel® Atom™/ Core™/ Xeon™
- Altera Stratix 2
- Virtex-II Pro
- Arria 5 GX
- NIC
- Intel® SSD
- Davra software

Solution Summary

Use case	Station solution	Geo	WW
Company	Cisco/ Davra	More Info	Link
Product	Mass Transit Solution (MTS)		



Cisco Connected Railways

Solution Overview

Cisco Connected Rail helps rail companies achieve safety, mobility, and efficiency objectives. The solution is a set of validated reference architectures, design documentation, and implementation guides co-created with global rail industry stakeholders. Cisco Connected Rail is built on existing architecture—there's no set starting point.

Value Proposition

- Consolidate multiple single purpose applications into one converged, open-standards IP network
- Enhance passenger and employee safety with improved monitoring, automated compliance measures, and other automated systems
- Deploy new services with high-speed, train-to-trackside wireless infrastructure

Solution Components

- Intel® Atom™/ Core™/ Xeon™
- Altera Stratix 2
- Virtex-II Pro
- Arria 5 GX
- NIC
- Intel® SSD
- Davra software

Solution Summary

Use case	Platform solution	Geo	WW
Company	Cisco	More Info	Link
Product	Connected Railways		





Wabtec Asset Track and Status Download

Solution Overview

The Asset Tracking and Status Download (ATSD) is a web- and mobile-friendly application that provides railroad operators with locomotive and train health information in real time.

Value Proposition

- Remote access to the locomotive to provide near-real-time data from the locomotive control system, event recorder system.
- Reporting of locomotive snapshot data and analytics of data parameters to provide alerts and information for insightful decision making
- Ability to update via over the air software updates

Solution Components

- Intel® Core™

Solution Summary

Use case	Platform solution	Geo	WW
Company	Wabtec	More Info	Link
Product	Asset Track and Status Download Application		



Acer Intelligent Transportation E-Ticketing

Solution Overview

The Acer e-Ticketing System can be applied to metro rail transit, light rapid transit, and bus rapid transit. Passengers, who use stored value cards, can be quickly charged through the gate at stations and the eGate validator will deduct fare from the contactless card automatically

Value Proposition

- Complete e-ticketing system supports multiple methods of payment and multi-issuers' transaction in one device
- Support multi-group transfer discount based on parameter settings
- Support multiple fare deduction modes, group ticket and periodical ticket application
- Flexible design for support of local business rules

Solution Components

- Intel® Atom™/ Core™

Solution Summary

Use case	Station solution	Geo	WW
Company	Acer	More Info	Link
Product	Acer Intelligent Transportation E-Ticketing System		



Public Transit Solutions

The solution spotlights that follow are available now or will become available in the near future. These are illustrative possibilities to demonstrate the breadth of solutions that are available.

For an extended list of Intel partner solutions, please see the master solution table on page 34.

Case Study

Chicago Transit Authority (CTA)

Challenge

The Chicago Transit Authority (CTA) operates the U.S.' second largest public transportation system. On an average weekday, approximately 1.6 million rides are taken on the CTA's bus and rail systems. Leveraging technology to help meet increasing rider demand and improve passenger experience was paramount.

Use-Cases

Asset management

Proactive demand response

Solution

City Tech Collaborative (City Tech), together with the Chicago Transit Authority, Genetec, Intel, and Microsoft, developed new tools to provide near real-time insights on bus occupancy across multiple vehicles. With Intel-based compute, Genetec was able to integrate and analyze data to create projection models for proactive demand management for transit.

Results

A pilot implementation on CTA's 79th street bus line allowed CTA to proactively meet route ridership demand, reduce both passenger crowding and wait times, and provide a safe, socially distanced rider experience. More broadly, this effort demonstrates how existing assets and advanced technologies can improve short-term operations while also building a foundation for continued innovation. Looking beyond the immediate threat of COVID-19, enhanced monitoring, management, and operations capabilities can improve customers' experiences and increase transit agencies' resilience in the face of future disruptions



Getac Video Mobile Edge Solution

Solution Overview

Getac's Video Mobile Edge Solution delivers a Mobile Data Terminal (MDT) and in-vehicle video monitoring system, all-in-one.

Value Proposition

- Alleviates the need for two separate devices that may be required to operate similar systems (i.e., a laptop or tablet, as well as in-car video)
- LTE and FirstNet availability, blackbox recording, built-in crash sensors, a trigger box for automatic recording activation
- Seamlessly integrate with Getac Video Body Worn cameras

Solution Components

- Intel® Core™

Solution Summary

Use case	Fleet safety and security	Geo	WW
Company	Getac	More Info	Link
Product	VRX-20 DVR		



Passengera Infotainment Solution

Solution Overview

Passengera and Advantech teamed up to create an infotainment solution to enable buses with in-vehicle WiFi, integrated GPS, and an on-board infotainment platform.

Value Proposition

- Travel information: interactive map, notifications, points of interest, station services
- Onboard services: e-commerce enabled food ordering, surveys, feedback
- Entertainment: movies, TV, music, games, books, magazines
- Advertising & monetization

Solution Components

- Intel® Atom™/ Core™

Solution Summary

Use case	Connectivity, infotainment	Geo	WW
Company	Passengera/ Advantech	More Info	Link
Product	Passengera Infotainment / PIS		



Maritime Port Solutions

The solution spotlights that follow are available now or will become available in the near future. These are illustrative possibilities to demonstrate the breadth of solutions that are available.

For an extended list of Intel partner solutions, please see the master solution table on page 34.



Awake.ai Maritime Port Solutions

Solution Overview

Awake.AI offers Smart Port as a Service™, Berth Planning, API solutions and Professional services for port digitalization and autonomous shipping.

Value Proposition

- Enable transparent and real-time status sharing of ports and vessels
- Connect port actors through a multimodal communication channel
- Predict, monitor, and optimize storage usage
- Asset tracking & monitoring using computer vision
- Increased productivity in planning, operations and delivery times

Solution Components

- Intel® Atom™ / Core™ / Xeon™
- Intel® distribution of OpenVINO™

Solution Summary

Use case	Port operations, digital twin	Geo	WW
Company	Awake.ai	More Info	Link
Product	Smart Port as a Service™, Berth Planning, API solutions		



Advantech Intelligent Harbor Solutions

Solution Overview

Advantech offers a variety of intelligent maritime port solutions including smart crane systems, wireless communication systems, and port operations analytics solutions.

Value Proposition

- Real-Time communication and data transmission between edge devices and cloud-based management system
- Automated cargo handling, asset tracking, and task management
- Intelligent gate and truck management
- Wi-Fi communication for open area and moving assets to connect to network infrastructure

Solution Components

- Intel® Atom™/ Core™
- Intel® Celeron®

Solution Summary

Use case	Port operations	Geo	WW
Company	Advantech	More Info	Link
Product	DLT-V83, TREK-773, PWS-870, TREK-668		



Getac Port Management

Solution Overview

Getac devices provide a tool to execute comprehensive strategies for container yard management, optimizing terminal capacity and providing complete visibility over performance and maintenance needs. They can also integrate directly with harbor pilot boats to help guide larger vessels to their assigned berths, facilitating smooth logistics and efficient cargo handling.

Value Proposition

- Optimize processes such as running navigation apps and managing port containers and berth space, improve security and get a clear picture of the port's performance
- Continuous always-on communications
- Navigation/ piloting support

Solution Components

- Intel® Atom™/ Core™/ Xeon™
- Intel® distribution of OpenVINO™

Solution Summary

Use case	Port operations	Geo	WW
Company	Getac	More Info	Link
Product	Getac Rugged Computing for Smart Ports		





Nexcom Port and Warehouse Management

Solution Overview

Nexcom solutions for maritime port and warehouse management bring the intelligent edge to the supply chain.

Value Proposition

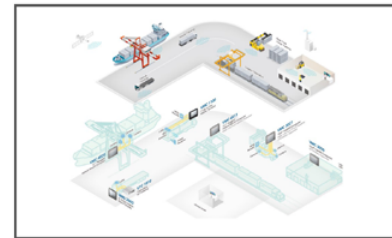
- Global navigation satellite system (GPS/Glonass/Galileo/BeiDou) and WWAN connections
- Built-in ports such as USB/COM/DIO to connect analog or IP cameras and other peripherals
- Real-time comms. between driver and central control room, VMC 1100 provides the capability of wireless connection from GPS, WLAN to WWAN

Solution Components

- Intel® Atom™/ Core™

Solution Summary

Use case	Port operations	Geo	WW
Company	Nexcom	More Info	Link
Product	VMC-4020, VMC-1100, VMC-4511		



Airport Solutions

The solution spotlights that follow are available now or will become available in the near future. These are illustrative possibilities to demonstrate the breadth of solutions that are available.

For an extended list of Intel partner solutions, please see the master solution table on page 34.



22Miles Interactive Wayfinding Kiosk

Solution Overview

The 22Miles Interactive Wayfinding Kiosk is a powerful digital signage solution that improves the wayfinding experience by helping end-users navigate busy, complex transportation hubs and buildings. The solution features interactive, near real-time navigation, mapping, and information, all easily managed from the 22Miles Publisher Pro CMS.

Value Proposition

- Provide wayfinding with near real-time, turn-by-turn mobile wayfinding
- Inform and engage travelers with dynamic proximity-based pop-up messaging, augmented reality content, and 3D map views.
- Deliver quick information access combined with boarding pass scanners
- Provide dynamic content updates based on click behavior analytics

Solution Components

- Intel® NUC

Solution Summary

Use case	Kiosks, Digital Signage	Geo	WW
Company	22Miles	More Info	Link
Product	Interactive Wayfinding Kiosk		





iOmniscient IQ-FeverCheck*

Solution Overview

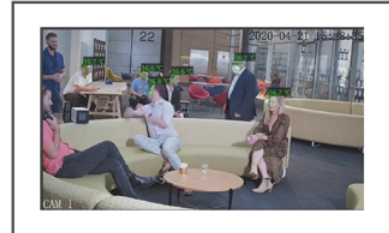
IQ-FeverCheck is an automated, cost-efficient en-mass screening system for people with elevated temperature for large complex facilities. It is part of the comprehensive IQ-AntiContagion Suite which provides software for managing Social Distancing, contactless access control, evacuation and PPE detection.

Value Proposition

- Help prevent cross-infection
- Identify and alert individuals with an elevated temperature reading
- Enhanced resilience at border, transportation hubs, grocery stores, schools, campuses, offices and residential buildings.

Solution Components

- Intel® Core™ / Xeon™



*It is the responsibility of Intel's partners and end-users to determine solution efficacy, whether additional regulatory approvals (such as FDA 510k in the US) or privacy laws impact the ability to leverage thermal cameras in particular use cases and settings, and whether other restrictions apply.

Solution Summary

Use case	Elevated temperature detection	Geo	WW
Company	iOmniscient	More Info	Link
Product	IQ-FeverCheck* Cameras		



Genetec Kiwivision Analytics Suite

Solution Overview

Security Center VMS with KiwiVision Analytics Suite. Unifying security, operations, data and compliance within a comprehensive airport security strategy.

Value Proposition

- KiwiVision automatically detects individuals, vehicles and objects, so operators know where to focus their attention
- Detect tampering and identify cameras needing maintenance, so you never miss on critical footage
- Ensure the privacy of people. Keep movements, actions and events recognizable only when needed

Solution Components

- Intel® distribution of OpenVINO™
- Intel® Core™



Solution Summary

Use case	Airport Safety and Security	Geo	Americas
Company	Genetec	More Info	Link
Product	Kiwivision Analytics Suite		

Master Solutions Table (1/3)

Infrastructure Solutions	Roadways	Airports	Marine Ports	Public Transit	Railways
22 Miles Interactive Wayfinding Kiosk Solution	✓	✓			
Acer ITS Smart Parking & Transportation E-ticketing Solution	✓	✓			
Adlink - MXC 6000 Electronic Highway Tollbooth & Surveillance	✓				
Advantech-1551 + VEGA-330 Vision AI Ready Platform (APJ ODM)	✓				
Advantech ARK-2250S (NEMA TS2 Certified) Traffic Controller	✓				
Advantech ITA3650 Highway Traffic Management	✓				
Advantech TREK eBus				✓	
Advantech Train Mounted Pantograph Monitoring System					✓
Agent Video Intelligence innoVi AI at the Edge Kit	✓				
AllGoVision AI Powered Video Analytics	✓				
Alphainfo AlphaVRS	✓				
Alstom Signaling Solutions					✓
Arrow Electronics Balto by Seneca with IVAR	✓				
AvidBeam Video Analytics			✓		
Avnet AI-Cube	✓				
Awake.ai Smart Port and Shipping Platform Situational Awareness			✓		
Awiros Video Intelligence Application Suite	✓				
Axis Communications AXIS Camera Station - Video Management Software Solution	✓				
AxxonSoft Video Surveillance & Analytics Kit	✓				
Axxon Intellect (PSIM) AI Vide Analytics, Security, Occupancy/Social Distancing, Facemask Detection		✓			
Chengdu Yuntu Wisights Smart Roadside Parking System	✓	✓			
Cisco IoT Solutions for Connected Roadways and Intersections, Improve Public Safety, Increase Operational Efficiency, and Optimize Traffic Management	✓				
Cisco Mass Transit	✓				
Cisco End-to-end Solutions for Transportation Authorities To Simplify the Path To Safer, More Efficient, and Connected Railways					✓
Cisco IoT Solutions for Terminal Operations and Ports, Enhance Throughput and Improve Efficiency in Container Handling and Terminal Yards			✓		
Cisco IoT Solutions for Aviation & Airports, Enhance Customer Experience, Safety & Security, Ground Operations, Cargo & Logistics, Safe Return to Travel		✓			
Cittati CittaGeo				✓	
ComBoxTechnology Passengers counter	✓				
Congatech Realtime Workload Consolidation Starter Set	✓				
Digifort IP Surveillance System Digifort Cloud	✓				
Digitalware Epiphany Intelligence Platform	✓				
Real Sense Temperature Measuring Camera System		✓			
EdgeVision Traffic	✓				
Elenium Automation Touchless Access Control kiosks Providing Self-Service With Computer Vision, Voice Recognition, Biometrics, and Cloud Platforms		✓			

Master Solutions Table (2/3)

Infrastructure Solutions	Roadways	Airports	Marine Ports	Public Transit	Railways
EverFocus Electronics EverFocus Intelligent Edge Solution for Transportation	✓				
FETCI-Digital Vehicle Service Platform (DVSP)	✓				
Genetec Fleet Monitoring				✓	
Genetec Security Center VMS with KiwiVision Analytics Suite. Unifying Security, Operations, Data and Compliance Within Comprehensive Airport Security Strategy.		✓			
Getac Technology Video Solutions	✓				
Gorilla Technology Intelligent Video Analytics Recorder	✓	✓			
GPC Freight, Highways, & Woundcare Measure	✓				
Graymatics India Private Limited AI driven Advanced Video Analytics	✓				
Green Ideas Technology Smart Outdoor Lighting	✓				
GRIDSMART Technologies System	✓				
Hitachi Visualization Suite	✓				
Hitachi Edge Gateway and Smart Video Camera	✓				
Honeywell advanced technologies and analytics for airside operations, healthy terminals, and integrated safety and security systems.					
IEI Integration IVS-300-ULT3-QGW	✓				
iEi Integration Tank Ruggedized Surveillance Solution	✓				
Indra Natua On-board Equipment for Control and Location				✓	
Indra Airports, End to End Solutions Addressing Customer Experience, Operations Digitization, Infrastructure Optimization, and Corporate Sustainability		✓			
Intelligent Security Systems (ISS) SecurOS UVSS	✓	✓			
Intelligent Security Systems (ISS) SecurOS Velox	✓				
Intersection IxNConnect	✓				
iOmniscient iQ-Fever Check, Part of the IQ-AntiContagion Suite To Manage Social Distancing, Contactless Access Control, PPE Detection		✓			
iOmniscient IQ Roads	✓				
IPG GearBox	✓				
ISSD Electronics Specto Incident Detection System	✓				
JHCTech - ETC Solutions	✓				
Johnson Controls Metasys® Building Automation System, Central Control for Airport Facility Systems		✓			
Johnson Controls OpenBlue Solutions for Sustainable Building Management, Air Treatment & Location Management		✓			
Kapsch Trafficom-RIS-9160 and RIS-9260 V2X Roadside ITS Stations	✓				
Klas Telecom TRX Connected Transport Platform	✓				✓
Lecoo AI Smart Transportation and Access Solution	✓				
LG-MRI BoldVu Kiosks	✓	✓		✓	✓
MACNICA Intelligent Stereo Camera	✓				
Merit LILIN High Speed Automatic Number Plate Recognition	✓				
Milestone Xprotect VMS: Large Crowd People Counter		✓			
Moxa Smart & Connected Mobility	✓				✓
NCS Smart Carpark Solution	✓	✓			
NCTech Imaging iSTAR Pulsar+	✓				
NEC I:Delight Enables Touchless Passenger Checkpoints from Curb-To-Gate For Touchless, Safe, and Seamless Air Traveler Experience		✓			
Nexcom Train Intelligent Digital Security					✓
Nexcom Port Management & Warehouse			✓		
Nvent/Shroff Railway Signaling and Communications					✓
Okaya Electronics 3D LiDAR Evaluation Starter Kit	✓				
Omnivex Moxie Digital Signage	✓	✓			
Parifex NANO CAM	✓				
Passengera Infotainment				✓	✓
Plate Smart Technologies - Plate Smart	✓				

Master Solutions Table (3/3)

Infrastructure Solutions	Roadways	Airports	Marine Ports	Public Transit	Railways
Ricardo Panto Inspect Pantograph Solutions					✓
SAIMOS Real-Time Situational Awareness Video Analytics for People Counting		✓			
Seebot Soluções Inteligentes Agent + Traffic Optimization	✓				
Sensormatic Vision Agents for Occupancy and Queue Measurement & Social Distancing for Retail environments		✓			
Shanghai Ruishi Machine Vision Technology Roseek Intelligent Transportation System Smart Camera Development Kit	✓				
Shanghai Ruishi Machine Vision Technology Shenzhen JHC Technology Development Road Pricing Inspection System	✓				
Siemens Sitraffic Traffic Controller	✓				
Siemens TEV - Traffic Eye Video	✓				
Siemens Mobility Rail Automation – Rail Signals, Signs, Safety Turnkey solutions					✓
SkyLab Transport Accelerator (STA)	✓		✓		
SkyLab Multi-Edge Computing (MEC)	✓		✓		
SmartAxiom Edge Blockchain IoT Security and Management	✓				
Software Product Group Navigation Kiosk with Pedestrian Traffic Monitoring	✓				
SprinxTech - Automatic Incident Detection (A.I.D.)					
ST Engineering S*Park	✓				
SuperMicro - Outdoor Edge Systems	✓				
Thales Level Crossing Solutions					✓
TietoEVERY Scalable Edge Reference Platform	✓				
TWI Detection System for Improving Safety at Railway Crossings					✓
Uncanny Vision Gate ANPR	✓				
VEHANT TECHNOLOGIES TrafficMon (Traffic Monitoring vSolution)	✓				
Verizon Smart City Suite - Public Safety & Security	✓				
Videonetics Intelligent Video Management Software and Intelligent Traffic Management Solution	✓				
Accident Avoidance Kit for Delivery Logistics			✓		
Vnomics Fleet Management				✓	
ZheJiang Uniview Smart City Solutions	✓				
Zotera Radius, Zotera Stratos, & Zotera Insight	✓	✓		✓	✓

Getting Started

A combination of both physical and digital infrastructure will improve the lives of all

The Infrastructure Investment and Jobs Act represents a once-in-a-generation piece of legislature, and it is up to us to ensure that the funding delivers outsized positive impacts on our nation's transportation safety and sustainability goals while ensuring that the funding equitably delivers economic opportunity for all who call America home.

Delivering these out-sized benefits

for all Americans will not happen with investments in concrete and steel alone. Digital infrastructure powered by the superpower technologies – IoT, AI, 5G, and Cloud – are the vehicles of transformational change that will augment our investments in physical infrastructure and help us achieve the full potential of the IIJA.

The definition of the word 'infrastructure' has never been static; history teaches us that the rise of city planning, roads, railways, electricity, and other critical technological innovations layer upon each other to define the word 'infrastructure.' Today, in the 21st century, the definition of the word infrastructure needs to evolve and change to comprehend the pace of human innovation and technological advancement to include market-ready superpower technologies that can deliver out-sized positive citizen outcomes.

This is the *New Infrastructure*: a combination of both physical and digital infrastructure that will improve the lives of all.

To successfully realize the opportunity contained within the IIJA, federal, state, and local coordination and collaboration with the private sector will be critical.



As you consider digital infrastructure and its impact, you may wonder: how do I get started? How can I drive the greatest impact? What attributes do I look for when I choose digital technologies?

Intel and our partners are here to help.

Intel's architecture is based on open standards, allowing different technologies to work seamlessly across hundreds of different independent vendors. This modular, building-block style approach provides a simpler path to upgrade over time as technology evolves.

When scoping out a new project or upgrading existing infrastructure, a "dig once" approach that includes both physical and digital infrastructure from the planning stage forward should be considered to maximize value for all stakeholders.

We believe that the true potential of physical infrastructure can only be realized when combined with innovative digital technologies to enable the best citizen outcomes.

Intel is committed to improving the lives of citizens everywhere through technology. We look forward to working together to unlock the full potential of the IIJA the once-in-a-generation opportunity it represents.

Get in Touch

The following industry experts are available to help you identify Intel technology solution partners for your specific situation and needs

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Global Transportation: Syamak Nazary, syamak.nazary@intel.com

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April 2022

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