A blurred, dark blue-tinted photograph of a crowd of people walking, likely in an urban setting. The motion blur gives a sense of activity and movement. The text is overlaid on this background.

# THE CONNECTIVE

a smart region consortium

**Greater Phoenix:** building the nation's  
most innovative & connected region

# Greater Phoenix Smart Region Consortium

Together, through a public-private partnership, the Greater Phoenix region has made a commitment to developing the smart communities of the future.

Join us as we build the world's smartest and most connected region through unprecedented, intentional collaboration.

## Partnership Support:



# Introduction

Communities across the globe are deploying technology to compete globally, accelerate solutions to real challenges facing their residents, and enhance the quality of life and well-being for all residents and businesses. Communities that fail to adapt risk becoming part of the digital dustbowl.

Around the world, cities have been experimenting with new technologies to solve many challenges associated with mobility, congestion management, citizen well-being and health, and service accessibility to vulnerable segments of the population and at-risk neighborhoods. These cities that have implemented technology solutions not only to reduce the cost of providing access to quality services, but also to enhance revenue and spur economic development. Over time, these cities have come to understand that it is not a single project that makes them smart, rather it is the process of using technology to continually improve government efficiency, enhance citizen well-being and solve complex problems.

Globally, cities are engines of economic growth with capacity and tools to enhance regional competitiveness. Nationally, cities are challenging conventional thinking and capitalizing on new opportunities by making intentional long-term investments. Consequently, cities across the globe are striving to become the next premier “smart city,” engaging in a new kind of 21st century arms race to be crowned the premier smart city in the world. However, a single smart

city without the ability to connect itself to the surrounding region cannot optimize its comparative advantages.

The Greater Phoenix Smart Region Consortium (“Consortium”) is a process and framework anchored upon the region’s collaborative nature and its civic institutions. The Consortium is designed to ensure that all the communities across the Phoenix Metropolitan region have the

tools and skills needed to evolve and prosper in the new digital age. The Consortium’s objective is to empower Greater Phoenix communities to build the nation’s largest and most connected Smart Region, bolstering local economies with smart development and

policies rooted in connectivity, mobility, equity and sustainability. Reaching beyond municipal jurisdiction limits, it enables communities to implement smart city solutions that are interconnected, seamless, affordable and interoperable. Through data and analytics, the Consortium will guide cities on their path to enhance resident quality of life and maximize their resources. The Consortium will work in Greater Phoenix because the region has a legacy of collaboration.

***“The Consortium’s objective is to empower Greater Phoenix communities to build the nation’s largest and most connected Smart Region.”***

# Why Greater Phoenix?

The Greater Phoenix region, consisting of two counties and more than 30 unique communities, is one of the fastest growing economic centers in the United States (U.S.). Since 2000, the region has added more than 1.3 million residents. This growth has led Maricopa County to become the 4th largest county in the U.S. and Phoenix to grow to the 5th largest city. With an economy of nearly \$243 billion per year, the region is home to multiple leading research institutions, nerve center operations for many Fortune 500 companies and a strong emerging tech scene. The region's growth both in terms of population and economy are predicted to remain well above the national average over the next five years. This growth, combined with a robust legacy in semiconductor, electronics, and aerospace design and manufacturing, makes the region an ideal location to develop, test and implement the next generation of city-focused embedded technologies. Additionally, business and municipal leadership across the region understand that technology is an effective tool for handling the rapid changes they are experiencing.

***"...with a robust legacy in semiconductor, electronics, and aerospace design and manufacturing, makes the region an ideal location to develop, test and implement the next generation of city-focused embedded technologies."***

**Stronger Through Intentional Collaboration**  
Many of the problems facing modern cities are not geographically bound; and solutions that are simply won't solve them. The understanding that modern problems require intentional, collaborative actions drives the need to develop solutions at a regional scale. Additionally, intentional collaboration yields many other benefits:

- Creates economies of scale by leveraging regional assets
- Reduces procurement costs
- Increases ROI from interoperable technology deployment
- Shifts the risk of smart city deployment from the city to the Consortium
- Enhances services to residents
- Saves revenue for communities in delivering urban services
- Enhances reputation of the region
- Vets and implements faster through cooperative testing across the region
- Increases opportunity to attract and grow technology companies
- Reinforces the regional identity around people, place, technology
- Supports the local startup community

## **Regional Transformation**

Deployed correctly, technology can connect residents, tourists, customers and businesses to their neighborhood and community. The ability to seamlessly move from the office to a lunch meeting to home to happy hour, can change people's perception of where they live, work and play. High connectivity is rapidly becoming an expected norm. Young-



adults who grew up in a digital world expect their community to embrace the digital age; and seniors are not only embracing technology, but they are integrating it into their caregiving roles, augmenting their mental fitness routines and managing aspects of their health with it. For the communities in the Greater Phoenix region, this means that they need to rethink and transform every aspect of the urban form and how services are delivered to every demographic segment. This need for a regional transformation was first envisioned by the Partnership for Economic Innovation – a passionate collective of community, business and opinion leaders, dedicated to fulfilling the economic potential of Greater Phoenix and implementing a strategic economic acceleration plan, Velocity, to transform our economy into a global force for innovation and technology. The Velocity plan calls for supporting innovation and making intentional investment into the factors that drive economic competitiveness. The Smart Region Consortium further supports this transformation by allowing the region to intentionally invest in solutions for regional opportunities and threats that will enhance resident and business quality of life, driving sustainable growth.

***“The Smart Region Consortium further supports this transformation by allowing the region to intentionally invest in solutions for regional opportunities and threats that will enhance resident and business quality of life, driving sustainable growth.”***



The Consortium is a collaborative research and implementation partnership between public sector, academia, industry and civic institutions to drive the creation, advancement and adoption of smart city technology to improve the quality of life for all citizens and businesses within our communities. Participating in the Consortium means committing to become an innovative region that intentionally collaborates on issues that impact the quality of life and well-being for all residents and businesses. Through participation, partner communities will

be provided the tools to cultivate internal and external innovation, employ data-driven decision making, and bring smart city initiatives from blueprint to reality. Built from the strategies and lessons from smart cities across the globe, the process and framework of the Consortium is designed to:

Transform the Greater Phoenix region into a global leader in public-sector governance and private sector innovation to support sustainable, resilient, healthy and equitable communities and neighborhoods.

# Consortium Governance

## Residents Needs and Challenges

⊕ Drives the creation of opportunity projects

## Leadership Council

⊕ Determines which projects to focus on

## Opportunity Project Teams

⊕ Develop plan to deploy or research/test solutions

## Executive Team

⊕ Manages the process and provides support

The Consortium structure will include a Smart Region Leadership Council, an Industry Advisory Commission, an Executive Team and Opportunity Project teams.

### Leadership Council

The Leadership Council will be comprised of one voting seat for each Greater Phoenix Smart Region Consortium member community, as well as one seat for each of the Consortium members: Arizona State University (ASU), the Institute for Digital Progress (iDP), the Greater Phoenix Economic Council (GPEC), and the Maricopa Association of Governments (MAG). The Smart Region Leadership Council will serve as the voting council for determination and approval of the Smart Region Opportunity Projects.

Non-member communities that are a part of the Greater Phoenix region will be invited to attend and participate in Leadership Council functions and meetings.

### Executive Team

The Executive Team will monitor the financial health of the Consortium, track performance on key metrics, and lead the process to ensure that the short-term and long-term Smart Region goals are being met. The Executive Team includes include ASU's

Center for Smart Cities and Regions' (CSCR) Co-Director Diana Bowman, iDP Executive Director Dominic Papa, GPEC President and CEO Chris Camacho, MAG Director Eric Anderson, and an annually appointed community representative.

### Industry Advisory Commission

The Industry Advisory Commission will consist of private industry partners who will serve as technology and implementation advisors. Members from the Industry Advisory Commission will attend Smart Region Leadership Council meetings and be included on applicable Leadership Council communications, but will not have voting rights. Members will be expected to provide valuable insight and information to the Leadership Council. Examples of the insights and support the Industry Advisory Commission is expected to provide include:

- Assisting the Leadership Council in defining short-term and long-term goals
- Defining success metrics
- Providing feedback on technological best practices
- Technical advisory
- Research support

## Opportunity Project Teams

Opportunity Project Teams (OPT) will be made up of subject matter experts, city representatives, researchers and private-sector stakeholders, with the singular goal of finding or developing an appropriate solution for the identified and approved opportunity project or regional challenge. These teams will be responsible for reporting out and sharing results of technology tested to solve their opportunity project.

## Funding Structure

The Consortium is funded through industry, community, university and grant funding. The Executive Team is recruiting public

and private membership based on a tiered membership structure.

## Industry Partners

For industry partners, the Consortium will offer a two-tiered industry membership plan. Founding Partner membership fee is at least \$250K annually and Strategic Partner membership is a minimum of \$50K annually. Fees can be covered in part through in-kind donation and such agreements will be determined case-by-case by the Executive Team. Industry partner membership will require a minimum three-year commitment, with the three-year membership commitment renewed during the second year of membership.

## Industry Membership Dues:

Membership Tier	Annual Membership
Founding Partner	\$250,000
Strategic Partner	\$50,000

## Industry Membership Benefits:

Industry Benefits	Founding Partner	Strategic Partner
Industry Advisory Commission	X	-
Leadership Council meetings	X	X
Industry-led research opportunities	X	-
Opportunity to develop and test smart region technology in partnership with ASU*	X	X
Host and teach workforce development classes	X	-
Co-development of Innovation Center(s)	X	X
Open data from smart region programs and pilots	X	X
Co-development opportunity for related technology research	X	X
Co-produce research papers	X	-
Access to world-class interdisciplinary team of ASU faculty, researchers, the faculty network, and students from engineering, law, business, sustainability and public policy	X	-
Logo inclusion on marketing materials	X	X
Access to ASU Decision Theater	X	-

\*May be tested with an individual community at their discretion

## Community Partners

Each community partner is requested to make a non-binding pledge to support the Consortium for multiple years in order to enable multi-year, community-driven research projects. Contracts for the Consortium will be renewed on an annual basis. The membership fee is determined by community size. Each Consortium member

will have representation on the Smart Region Leadership Council. To foster regional participation, some communities may also elect to participate as an observer for no costs but will not have voting privileges nor access to training programs. Observing cities will be able to participate in cooperative procurement but will not receive any of the other benefits listed in the table below.

## Community Membership Dues:

Membership Tier	Annual Membership
Large - Population greater than 1 million	\$200,000
Medium - Population less than 1 million and greater than 100,000	\$75,000
Small - population less than 100,000	\$35,000

## Community Membership Benefits:

Community Benefits	Large	Medium	Small	Observer
Voting Seat on Leadership Council	X	X	X	--
Leadership Council meetings	X	X	X	X
Community-lead research opportunities	X	X	X	--
Support developing a core team	X	X	X	--
Workforce training seats	25	13	6	--
Open data management from smart region programs and pilots	X	X	X	--
Support establishing an innovation sandbox	X	X	X	--
Support deploying pilots	X	X	X	--
Co-hosting Innovation Center(s)	X	X	X	--
Co-operative procurement	X	X	X	X
Logo inclusion on marketing material	X	X	X	--
Best-practice result access	X	X	X	X
Access to Consortium resources including the digital platform	X	X	X	--

## Workforce Training Seats:

Community Size	Tasc Seats	Network Academy Seats	Deployment and Management Seats	Total Seats
Large	5	18	2	25
Medium	3	9	1	13
Small	2	3	1	6

## University Funding

Leadership at ASU is committed to supporting technology adoption, research and development, and testing on their campus and in their community. As part of this commitment, ASU has agreed to provide \$1 million in funding to support the CSCR's work program.

## Grant Funding

The Consortium will continue to seek out and participate in grant opportunities to bring further investment and funding into the Greater Phoenix Smart Region. The federal government, as well as many large corporations, allocates capital in the form of grant money to be used for the expansion of smart city initiatives every year. The Consortium optimally positions the region to galvanize resources and expertise required to successfully compete for grant opportunities.

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# The Consortium Process

## Regional Convening

The Consortium will convene regional leaders from cities, towns, community partners and industry to collaboratively unlock the power of smart city technology. The purpose of regional convenings are to create alignment on opportunities, challenges, research priorities and procurement, and to share results. Regular convening will happen on a quarterly basis. When possible, meeting and updates may be provided as part of GPEC's regular community engagement or MAG's engagement. These regular convenings will determine where the Consortium should focus, how opportunity projects will be measured, and where testing and scaling will take place. During the initial months of the Consortium, convenings will be more often until consensus on the vision, roles and responsibilities of all parties is achieved.

## Regional Opportunity Projects

Opportunity projects are agreed upon opportunities or threats that the region wants to collectively work towards solving over the next five years. These projects are determined through the convenings and are voted on by the Leadership Council. If approved, solutions for these projects will be studied by a dedicated OPT.

The OPT will be responsible for determining if an Opportunity Project can be addressed with off-shelf technology or by technology that requires additional research and development to meet the specific community needs. The OPT will be responsible for moving the solution through a process that includes: research, validating & testing, result sharing, implementation, and scaling. In order to meet regional requirements, the solution may go through multiple iterations.

Each opportunity project will conclude with a public report, including guidelines and recommendations for adoption and implementation, which will be part of a Smart Region Spec Book. Associated data will be made available to Consortium members and the public.

Additionally, the OPT may recommend that a specific Opportunity Project might be well-suited for solution crowdsourcing and for engaging the broader entrepreneurial community with reverse pitch events managed and hosted by the Consortium, in partnership with iDP.



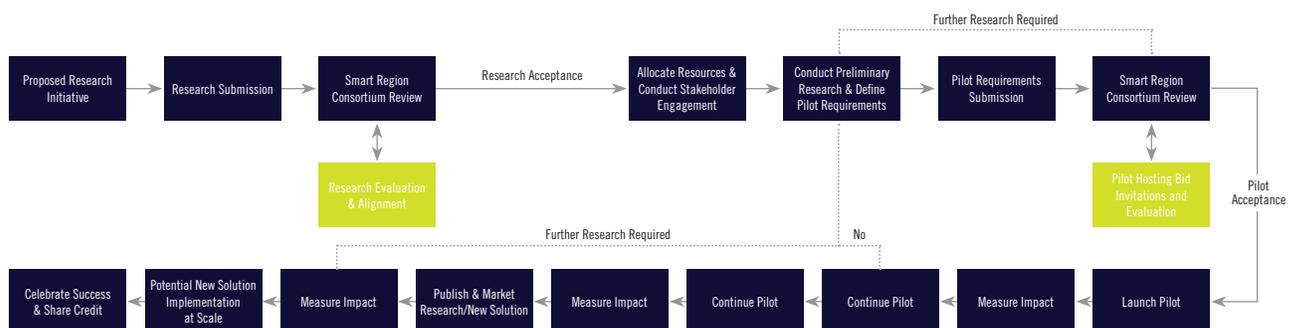
## Creating a Baseline

The first step to becoming a smart region is developing an understanding of our communities' common problems. In order to begin building this understanding CenSCR and iDP have entered into a strategic partnership to create an initial baseline assessment (the Smart Region Analysis and Digital Roadmap, or SRADR) of the region's strengths, weaknesses, opportunities and threats related to smart city technology. The SRADR will result in a report that the Leadership Council will use to determine the baseline and initial inventory of potential opportunity projects. Communities will be able to use this report as a starting point to help build buy-in for intentional collaboration on smart city opportunities and challenges.

## Research

Communities and OPT, in partnership with ASU and industry, will create a portfolio of research designed specifically to support and advance the needs of the Greater Phoenix Smart Region Consortium. Where appropriate, pilot programs will be initiated on ASU campuses or within participating communities. In order to use this research to drive economic development and support the region's innovation ecosystem, a formalized seed funding program will be established by CenSCR around this portfolio of work. At its core, the research and seed funding are designed to ensure that smart city technology developed through the consortium is built with input and feedback from the communities. It will not be a platform to promote technology in search of a problem.

## Processes to Evaluate and Select Research Initiatives for Seed Funding



## **Validation & Testing: Piloting**

In order to support the development of technology built from our community's needs, the Consortium will work with iDP to establish innovation sandboxes to test technology that originates from the consortium. The first sandbox will be located on the ASU campuses.

Communities in the Consortium may elect to develop an innovation sandbox, but it will not be required to pilot technology that is developed through the Consortium. Communities that elect to designate a geography as an innovation sandbox for piloting smart city technology will be supported by the iDP, which has arranged support for deploying IoT infrastructure within the chosen community areas.

Technology that concludes with a successful pilot will be reported to the Consortium by the OPT overseeing it. These will inform the Smart Region Spec Book and will be ready for scaling, regional adoption and procurement.

Additionally, through an iLab program, the Consortium will welcome proposals from entrepreneurs, innovators and private sector businesses that seek to utilize the region to propose new proof of concept, and to test and develop new smart city technologies which they believe will improve the quality of life for the citizens of Greater Phoenix. Because the solution may involve new technology, processes, and policies, public training may be required to implement and scale the technology successfully.

## **Competency Framework Development**

The Consortium will work with member communities to build a smart city core team within their community to effectively and efficiently implement and scale recommended solutions. The purpose of the core team is to allow the community to be more agile, break down department silos and pave the way for digital transformation. A core team allows for a more effective way to communicate and mobilize resources for smart region projects. The core team will serve as the main point of contact within the community for the Consortium, and will be relied upon to champion and carry out the smart region and smart city initiatives.

To ensure that the core teams and city departments have the skills required to successfully deploy and scale smart city solutions, the Consortium will develop a competency framework and provide three training programs focused on leadership, technology, deployment and management. The outcome of the training programs is to enable easy and seamless technology adoption within each community.

## **The Academy for Smarter Communities**

The Academy for Smart Communities (TASC) is designed to teach high-level government employees strategic foundations and tactics for leading their communities through the smart city process.

## **Networking Academy**

The Networking Academy is aimed at strengthening and building the technical skills required to operate and maintain new technology solutions.

## **Deployment and Management Academy**

The Deployment and Management Academy (DMA) is aimed at providing deployment and management skills required to manage the implementation and scaling of solutions.

## **Implementation & Solutions at Scale**

By developing solutions from the beginning with a region-wide scale, proven solutions that emerge from the Consortium process will be ready for implementation across the region.

## **Cooperative Purchasing Agreement Program**

The Consortium is planning to work with state agencies to develop a cooperative purchasing agreement. This agreement will allow communities to reduce procurement costs and deployment timelines while abiding by all federal, state and local statutes. Communities will benefit from greater purchasing power, economies of scale, administrative savings, interoperability across the region, as well as an accelerated opportunity for solutions to scale across the region.

## **Data**

Because all data generated through pilots and scaling is public domain, it will be shared using a smart region portal in accordance with all relevant federal, state and local statutes on privacy, data and security. This portal will be managed and maintained by MAG. For more than 50 years, MAG has been a trusted community partner in joint data. MAG will continue to provide the same trusted service for smart

region data. For communities that elect to provide MAG data from their smart region pilots and deployment, MAG will provide the following: a website for data, data security, data cleaning, data anonymity and standardization. However, communities may elect to build and maintain their own portal without participating in the regional portal.

Access to online tools will be granted to all community members where pilot programs and regional initiatives status and data will be viewable, along with the CenSCR research initiative findings. Additionally, iDP has partnered with Marketplace.city to provide the Consortium communities access to a database of solutions, vendors with verified projects and pilot implementation results from across the globe.

Notwithstanding anything else herein, data generated through any activity on ASU property will be solely owned by ASU. ASU will have sole discretion on the use of such ASU data, including whether or not to share such data publicly.

## **Smart Communities Network**

iDP has partnered with multiple other smart communities across the country and globe through the Smart Gigabit Communities and Sister Cities Exchange Programs and will bring these relationships to the Consortium. Many of these communities are facing similar challenges and would benefit from the solutions being developed within our region. The Consortium will educate technology solutions providers on what worked in the Greater Phoenix region to build better solutions for communities across the network.

## Best Practice Sharing

The Consortium will provide resources to coordinate and facilitate best practice sharing across Greater Phoenix and with industry partners. This will be done through Smart Region Spec Books. These books will be developed in partnership with industry, OPT and the Consortium Executive Team. These spec books will serve as a collection of technology-focused reference material, accessible to all communities, and will serve as a tool for future procurement. These books will also create a baseline level of requirement for technology adopted to help promote interoperability.

The Consortium will publish an annual progress report and review, detailing the outcomes of the Consortium and summarizing the outcomes of each Opportunity Project. Finally, at the conclusion of each year, the Consortium will host a Greater Phoenix Smart Region Symposium in one of the member communities, where all partners will be invited to highlight some of the most beneficial smart region initiatives, review the progress of the past year and plan for the following years.

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