tmf**o**rum
smart city
benchmark app

An App made for Smart City Leaders

Developed by TM Forum in collaboration with: City Protocol Society, HyperCat, Open & Agile Smart Cities, Shanghai Academy, Smart Cities Council, and the World e-Governments Organisation, to enable Peer-to-Peer Smart City Benchmarking and Strategy Development.

Together we work with more than 500 cities worldwide.

The Smart City Leaders Benchmarking App

If you run a smart city project, this App is for you. With various local stakeholders, benchmark progress in your city against best practices and develop a shared vision for the next couple of years.

Developing a strategic approach to your Smart City activities

Smart city projects and teams have grown in number all around the world with:

- Open Data
- Citizen Co-Creation of Digital Services
- Urban Innovation Technology
- Hackathons
- City-Data-Dashboards, and more.

The number of funding initiatives, standards, and publications is escalating alongside tactical projects and ad hoc city-to-city organizations. Engaging the significant stakeholders in your city and co-creating a vision, priorities and joint activities is a foundation for success. The first step is to agree where you are today, align your visions as a city, agree on governance models and ensure the entire team is focused on the same strategy to develop over the next few years.

To help you do this TM Forum has been working with key stakeholders to develop a comprehensive benchmarking model for use by you and your city's team. This model has now been developed into an accessible app. Local participants can learn about and appreciate what other stakeholders are achieving. The benchmark uses the 'smart city framework' ISO 37106 at its core, and is well aligned with industry standards such as BSI. TM Forum has identified the critical best practices and standards into an easy to follow format.
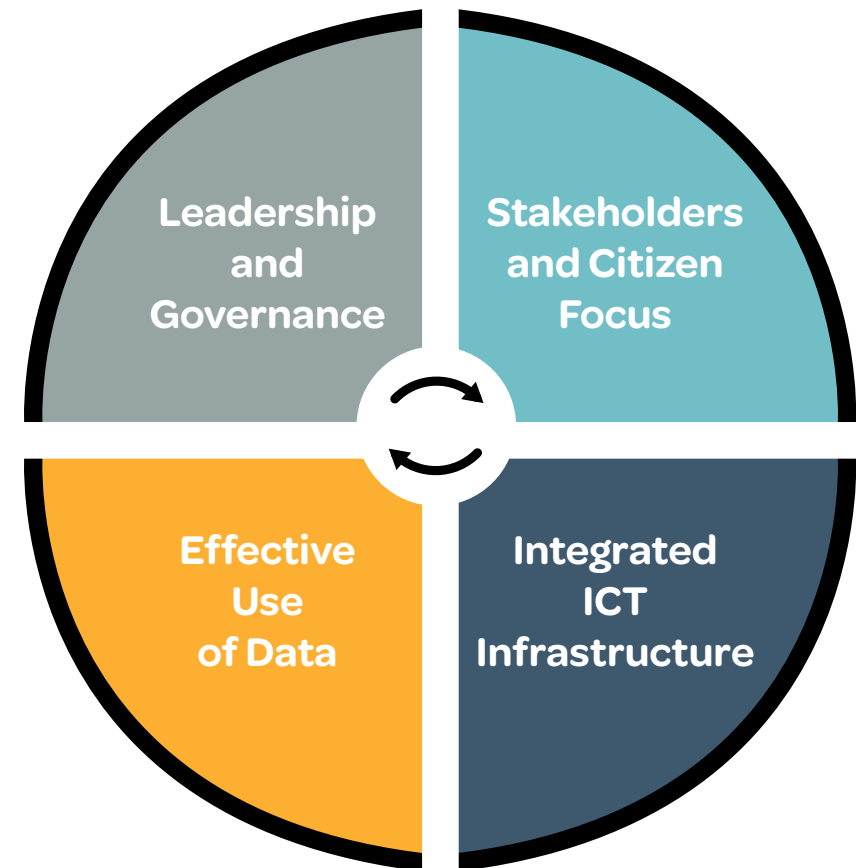
Why use a standard framework as the foundation?

ISO 37106 and other similar strategy standards create frameworks that put the basic foundations in place. You benefit from the experience and reflection of hundreds of practitioners from different cities in different countries, who have debated and contributed to the creation of this strategic framework.

ISO 37106 and TM Forum's Benchmark is based on four practices that underpin every smart city:

- Leadership and Governance
- Citizen focus and stakeholder engagement
- An integrated approach to ICT
- Effective use of data

The maturity Benchmark asks 25 evidence-based questions about each of these four areas, allowing the city to gauge how strong its foundations are, how much work has been done, and what is planned for the next couple of years. The Benchmark points to a range of global standards from ISO, IEC, BSI, ITU-T and case studies. The references and case studies in the model are updated annually, but always based on the same foundation. The Smart City Maturity and Benchmark Model underpinning the App can be downloaded **here**.

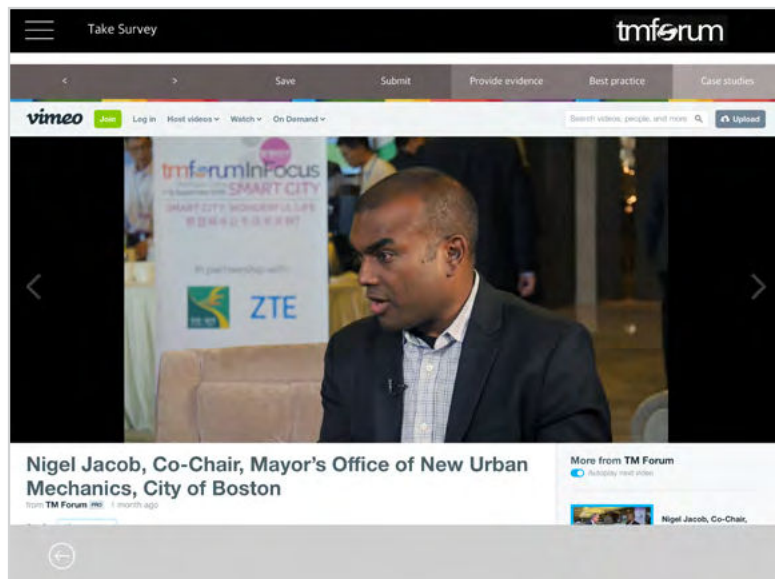## Clear Unambiguous Scoring of the 100 Statements in the Survey

0 Not started
There are no discussions taking place today.

1 Informal
There are exploratory steps taken towards defining an objective.

2 Documented
An objective has been formulated in working minutes or publicly communicated.

3 Planned
A plan to realize objectives is in place.

4 Deployed
A solution delivering against the objective has been delivered.

5 Some impact
There is measurable impact and value generated by the solution.

6 Significant impact Most, if not all, of the solution delivers high value.

7 Maximum impact There is no way the solution can deliver more value than it is doing now.

Evidence based peer-to-peer learning from other cities

To get the Benchmark working for your city, it needs to be customized with evidence about what's happening locally. It is easy to add evidence into the App, and this needs to be done by a small number (e.g. 1-3) of people with a good knowledge of what's going on in your city.

When the evidence is uploaded, the next step is to invite local stakeholders to take the Benchmark. They download the App to a tablet device, logon using LinkedIn and select their city. The survey will take an hour or two to complete. Detailed scoring metrics (see diagram) mean that participants know exactly how to rate each activity.

Alongside the factual evidence about their city, participants see the relevant global standards and case studies, including video interviews with smart city leaders. This process often has an energizing effect – it builds confidence and a sense of co-creation of a strategic vision. It exposes local stakeholders to global standards and the global smart cities movement, which will inspire and energize participants.

Nigel Jacob, Co-Chair, Mayor's Office of New Urban Mechanics, City of Boston

Discover who is doing what in your smart city and connect to peers in other cities

As participants take the survey, they can indicate that they are partly responsible for a section of the survey, for example, 'creating a living lab environment' or 'developing a plan of ICT assets'. This associates their LinkedIn profile with that part of the survey, and their profile shows up in the results. With multiple stakeholders involved, finding out who is working on what is often a revelation and can quickly spark ideas about even better local collaborative working.

If the city chooses to publish its results openly, leaders can see the Benchmark and the LinkedIn profiles of those with similar responsibilities in other cities around the world, creating peer-to-peer networks of smart city practitioners.

Case Study: City of Mexico looks to a data-driven future

Who: City of Mexico

What: Needs to assess its as-is situation and spot gaps and opportunities to use technology to tackle urban challenges

How: Using TM Forum's Smart City Maturity & Benchmark Model as one of its tools

Results: Was able to break departmental siloes and see the 'big picture'. Found opportunities to use data better

Like many cities globally, Mexico is looking at how it can use technology to tackle some of the challenges around issues such as transportation, water supply and managing government services.

As smart city initiatives get underway, Mexico City is using TM Forum's Smart City Maturity & Benchmark Model to help shape the transformation.
Ismael Villegas Ochoa, Executive Direction of Electronic Government and Policies of Information Technologies and Communications, is leading the change.

He says, "We used the Maturity Model as a tool to gather all the information about our current state. Then we looked for gaps that we can fill with new efforts or projects."

"We learned a lot about new opportunities from using the Maturity Model," he adds. "Typically our offices and departments work in separate ways – in silos. Previously it was difficult to see them all together but the model helped us to do that. It provides a comprehensive set of questions so it was very useful."

For example, using the Maturity Model particularly helped the City of Mexico spot opportunities to use its data better and speed up this work – and therefore its results.

Mexico is now taking steps to better use and manage the data from the many sensors it has around the city, and is looking to unify the information into a central platform or data hub.
"We are also working on an open data initiative," says Villegas.

He comments, "At the end of the year we will review our situation again with the Maturity Model."

Read Full Case Study

Case Study: Smart City Maturity Model unifies plans for the City of Atlanta

Who:	City of Atlanta
What:	Needs the ability to map, measure and monitor its smart city strategy
How:	Using TM Forum's Smart City Maturity & Benchmark Model as one of its tools
Results:	The city now has a clearer understanding of its current situation and a process for measuring progress going forward

Like many cities, Atlanta's population is growing at an incredible rate. The city's low-cost urban lifestyle combined with the convenience of the world's busiest airport has people "taking up residency in droves". Although new development is occurring all around the city, much of Atlanta's infrastructure is ageing – some over 100 years old.

These issues create new challenges for the city and its citizens. The City of Atlanta recently established a centralized smart city initiative, SMARTATL, to tackle these concerns through an integrated technology approach.

"Atlanta is very outcome-driven," Torri Martin, City of Atlanta's Director of SMARTATL commented. "This mindset is embedded in the process, so the benchmarking initiative has helped sharpen the target goals and milestones the city is working towards."

"The Maturity Model asked questions that put things in perspective, so we all can get on the same page and make sure that we are all moving towards the same goal. It is a great foundational tool for the city," Martin continued.

"These questions are not simple to answer or get consensus on, but that isn't a bad thing. It provoked discussions on what we really mean when we talk about something and what we should be doing in certain areas. It took longer than we expected," he admitted. "Some of the questions we just hadn't thought about in that way before."

Read Full Case Study

City of Limerick: Finding a common language for smart city stakeholders

Who:	City of Limerick
What:	Developing a strategy for how Limerick can best use digital technologies to support its economic, social and physical development plans and lay the foundation for Smart Limerick.
How:	Using TM Forum's Smart City Maturity & Benchmark Model as one of its tools
Results:	The Maturity Model has allowed the city to engage stakeholders and to develop a common understanding and language around what Smart Limerick really is.

Dr Mihai Bilauca is Head of Digital Strategy, City of Limerick, Ireland. In co-operation with local stakeholders, his role is to lead the development of a strategy for how Limerick can best use digital technologies to support its economic, social and physical development plans and lay the foundation for Smart Limerick.

He comments, "We aim to build Limerick's reputation locally, nationally and internationally as a digital ecosystem, where innovation and digital technologies empower our communities and create new opportunities for all in the knowledge economy."

To help with this, Bilauca is using **TM Forum's Smart City Maturity & Benchmark Model** as a key strategic planning tool. This model has been designed to capture the key aspects of a city's transformation journey to become smarter.

Dr Bilauca says, "The Maturity Model has allowed us to understand our current position and areas where further development is needed in order for us to reach a new level of 'smartness' and digital maturity. It allows us to understand our strengths and weaknesses and to see how we are doing in terms of use of data and in relation to leadership."

Bilauca says the key advantage has been the opportunity to engage stakeholders and to develop a common understanding and language around what Smart Limerick really is and what the Limerick Digital Strategy sets out to achieve.

"This is critical for the successful collaborative development of Smart Limerick," he says.
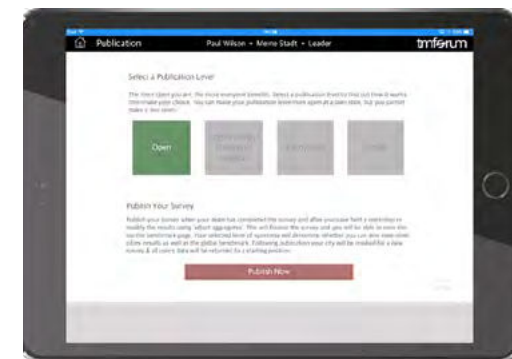
Read Full Case Study

A four-to-five week process

Download the Smart City Benchmark App onto a tablet from either the App Store or Google Play and register your interest on the splash page. TM Forum will set-up a workspace for your city within the App and then you are in control. We provide a user guide and some online training but the App is very intuitive to use, with detailed instructions to guide you. You can run the Benchmark process yourself, or you can invite a consultant to help you.

It takes a few weeks to manage the whole process because you need to add evidence from your city into the Survey, engage local stakeholders, and then hold a workshop for all the participants. We estimate it will take about four to five weeks in total, although circumstances vary.

Download App	Register Your Interest	TM Forum Gets in Touch	TM Forum Sets Up Your Workspace in the App	Your Local Evidencers Customize the Survey to Your City	Your City Stakeholders Take the Benchmark	Hold a Workshop to Explore and Modify Results	Publish Results

ONE WEEK   **THREE WEEKS**   **ONE DAY**

Benefits of using a shared maturity model?

TM Forum has been using maturity models in various aspects of digital transformation and has learned that using a shared maturity model helps you find others at a similar stage to you and develop peer-to-peer discussion. Developing a smart city is a long-term strategy and sharing the maturation process with peers creates supportive relationships as you learn how to adopt digital technology to further develop the cities of the future.

Partnering with others to build momentum

The more cities that use the Benchmarking Model the more useful it becomes. TM Forum is developing partnerships with a growing number of smart city organizations to support the Benchmark, including:

> "The Cities Standards Institute welcomes TM Forum's maturity model. The App is an excellent way for cities to apply a standards based approach that is customizable to their own situation, and the more cities that use it the stronger all participants will be as they take on a common framework and develop a common language.
> **– Cities Standards Institute**

> "Shanghai Academy will use the Smart City Maturity & Benchmark model for the 200 Smart Pilot Cities in China. We expect to work closely with TM Forum to drive the evolution of the model. – Professor Wen Xueguo, Executive Vice President, **Shanghai Academy**

> "We are endorsing the TM Forum Smart City Maturity Model since it is an elegant way of putting the spotlight of what is important for cities to consider on their smart city journeys. It also calls out some of the work we have been doing and how cities can benefit from it. – Professor Francesc Giralt, Director of Society Affairs, **City Protocol Society**

> "As an international organization of cities and local governments for promoting sustainable urban development through ICT, the World e-Governments Organization of Cities and Local Governments (WeGO) is looking forward to working closely with TM Forum in supporting its worldwide network of WeGO member cities to pursue smart city innovation by deploying the first comprehensive Smart City Maturity and Benchmark Model. – Dr. Young-sook Nam, secretary general, **World e-Governments Organization of Cities and Local Governments (WeGO)**

> "Data interoperability is a crucial part of the success of every smart city initiative. It's a capability that sits alongside several other complex capabilities and TM Forum's Smart City Maturity Model does a great job of helping cities see and manage multiple dimensions of managing a smart city project. I recommend the model as a great way to benchmark where you are and where you want to go. – Justin Andersen, CEO, **Hypercat**

> "Cities cannot meet their climate and economic development goals without the help of smart technologies. But to put those technologies to work, they need to know where they are now and where they should end up. TM Forum's Maturity Model is a powerful tool for cities everywhere, especially since it takes advantage of the Forum's global knowledge base and its deep technology expertise. – Jesse Berst, chairman of **Smart Cities Council**

> "The vision of the Open & Agile Smart Cities initiative is to create an open smart cities market, based on the needs of cities and communities. TM Forum's Smart City Maturity & Benchmark Model is valuable input for this standards based approach, and accelerates what all of us are doing in the movement around digital city development. – Professor Martin Brynskov, Chair, **Open & Agile Smart Cities**

Who is TM Forum, why is it doing this, and how is it paid for?

TM Forum is a not-for-profit global member association for digital business. It provides a platform for hundreds of global members across a wide range of industries to collaborate and partner to co-create, prototype, deliver, and monetize innovative digital services for their citizens and customers. Its vision is to drive the next wave of digital growth by providing a common innovation platform to connect digital ecosystems. It does this is in a highly practical and agile way through collaboration programs and communities which lead to rapid prototypes – ranging from digital business models to open APIs – that have real world applications. Complementing its collaboration programs, the Forum provides thought-provoking digital business research and publications, industry best practices and standards along with training programmes to accelerate adoption, and events and workshops which connect top business & IT leaders to learn, network, and develop meaningful partnerships.

TM Forum's members have been working with cities since the beginning of the smart cities movement and the Forum developed its own dedicated programme with cities in 2014. The Smart City Benchmark App has been developed by TM Forum as part of its commitment to connecting digital ecosystems. TM Forum's members are working with cities to trial and test new concepts and requirements.

Get involved and contact us

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Get the Smart City Benchmark App at: