SMART DOMAINS | SMART INITIATIVES

The Smart Domains enable better planning, managing, and governing of city services in a sustainable way by maximizing economic opportunities and minimizing environmental damage. Five foundational elements of the Smart Domain:

LEGEND: Center Sectors: 5 Smart Domains | Outer Level Sectors: Smart City Initiatives

http://dallascityhall.com/departments/ciservices/Pages/home.aspx

POTENTIAL FOCUS AREAS FOR SMART GOVERNMENT

- Demonstrate Strong Leadership and Drive Innovation
- Forge New Partnerships and Opportunities (PPP)
- Facilitate Collaboration (Internal and External)
- Big Data, IoT and the Importance of Smart Analytics (M2M, M2H and M2S)
- Multi-Channel / Citizen Centric Service Delivery
- Smart Customer Service, Operations and Payments Security

City of Dallas

Innovation and Information Management

Communications and Information Services

SMART CITY INITIATIVES

SMART INFRASTRUCTURE

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Intelligent LED Lighting	• Street lights converted to LED, and these lights will be managed by intelligent nodes, which allow for remote lighting management, outage alerts, and operational efficiencies.		✓
Building Energy Management	• This includes replacement of outdated fixtures with energy- and utility-efficient fixtures. • The next phase will include larger system upgrades such as solar lighting and integrated technology systems to serve the users.	✓	✓
Public Wi-Fi	• Free public Wi-Fi is available in 80+ City facilities throughout Dallas, such as libraries, recreations centers, outdoor parks, and public office buildings. • Public Wi-Fi will be available in most City facilities.	✓	✓
Interconnectivity	Provide physical smart connectors (fiber optics) throughout City streets. This includes changing our internal and external practice to require additional conduit and fiber optic lines under City streets and alleys. This will be for public works projects, as well as private development projects.		✓

SMART MOBILITY

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Intelligent Traffic Management System	• Technology for addressing the challenges of assuring safety and reducing congestion, while accommodating the growth of transit. • This system improves transportation safety and mobility, and enhances productivity using advanced communications, sensors, and information processing technologies. • When integrated into the transportation system's infrastructure, and into vehicles themselves, these technologies relieve congestion, improve safety, and enhance productivity.		✓

End-to-End Mobility App	• Allows citizens/visitors a single point solution
	• Incorporates all modes of transit, including: mass transit, car, Rideshare, bike sharing, walking, and smart parking solutions.
	• Benefits include:
	  ○ ability to weigh mixed modes of transit
	  ○ choose journey based on user priority including length of trip, cost of trip or taking the greenest possible option.
			✓

Smart Parking	• Technology that allows for monitoring and visibility into available parking options, with the potential to locate and reserve parking ahead of time.
	• Benefits include:
	  ○ Improved citizen experience
	  ○ Increased parking utilization rates
	  ○ Decreased traffic congestion/CO2 emissions
			✓

SMART ENVIRONMENT

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Water Quality Monitoring	• Technology sensors provide real-time, 24/7 information about the city's water supply, alerting DWU to possible water quality issues before water reaches a tap in Dallas. • DWU also collects and analyzes 40,000-50,000 times every month from water stations spread throughout the City. • DWU's water quality monitoring sensors are also set up to automatically notify in the event of a contamination, allowing the utility to swiftly coordinate a response. • This ensures that citizens can enjoy clean and safe water.	✓	
Solid Waste Management	• Zero Waste is a philosophy and design framework that promotes not only reuse, recycling, and conservation programs, but also, and more importantly, emphasizes sustainability by considering the entire life-cycle of products, processes, and systems. • Waste reduction goals of: ○ 40 percent diversion by 2020; ○ 60 percent diversion by 2030; and, ○ Zero Waste by 2040.	✓	
Connected Digital Network	• This could transform/evolve into citywide Connected Digital Network with some 88,000 streetlights throughout the City of Dallas. This system of streetlights could evolve into a citywide smart node network that could host support smart city applications such as traffic management, surveillance cameras, environmental sensors, smart meters and leak detection sensors, lighting, etc. and serve as rental space for LTE/5G wireless coverage. (Staff is currently working on this.)		✓
Smart Water Metering	• This solution allows Dallas Water Utility to effectively manage conservation initiatives, improve metering accuracy and operate more efficiently. • Approximately 7% of the water system is being served with intelligent meters.	✓	✓

SMART ENVIRONMENT

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Smart Irrigation	Intelligent irrigation monitoring will be that measures and manages water usage, watering schedule and determines the amount of water necessary to care for the specific vegetation present at the site.		✓
Air Quality Monitoring	• Environmental sensors collect and measure different types of pollutants, temperature, air quality (including ozone and CO2) and particulates (allergen levels). • This data/information will be incorporated into public health initiatives, school absenteeism, EMS, and alert levels.		✓

SMART PUBLIC SAFETY

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Camera Surveillance	• Helps law enforcement monitor public areas / high crime areas, analyze patterns, and track incidents and suspects. • By combining information from video surveillance cameras, social media, and citizen reports, the solution provides a more comprehensive view of urban safety.	✓	

Next Generation 911	• Upgrade the City of Dallas' 911 Call Center technology to a digital system with a fully redundant back system.
	• Key benefits are:
	  ○ Increased reliability of 911 network
	  ○ Improved information for first responders and public access to 911 (text, data, photos and videos)
	  ○ Transfer of 911 activity/calls between geographically dispersed 911 call centers.
			✓

SMART GOVERNMENT

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Open Data Portal	• Data Transparency -- society benefits from information that is more transparent and accessible • Open Data enhances collaboration, participation and social innovation • Includes information about the Bond Program, including up-to-date information about project functions, timelines and expenditures	✓	✓
Data Eco System	• Empower the use of data and transform the way the City of Dallas works through the use of data. • Use data to continuously improve City services and operations. • City staff has the support, skills and capacity to collect, manage, and use data effectively and efficiently. • City data is understood, documented and of high quality. • City data infrastructure provides data that is usable, timely, and accessible. • Published data supports broad and unanticipated uses of City data and supports trust, transparency and accountability.		✓

CRM/311	• Natural language-powered virtual assistant enable customers to speak their own words and using natural dialogue that mimics a live agent interaction, eliminates navigation complexity and results in a faster, more direct path to resolution.
	• Mobile 311 -- on-the-go mobile app to City services. Information and photos provided allow City departments to efficiently assess, prioritize and respond to requests.
	• Replace current legacy 311 system with a modern Customer Relationship Management (CRM) solution:
	  ○ Visibility for customers through the life cycle of service request
	  ○ Improved visualization of service request activity (dashboards, maps)
	  ○ Easier service request creation and management
	  ○ Digital communication about service requests via customer's preferred channel (text, email, online, app)
		✓	✓

SMART GOVERNMENT *(continued)*

PROJECT NAME	DESCRIPTION	DOING NOW	IN PROCESS (1-3 YEARS)
Digital Services	ePlan: support a seamless process for document submission, permit application, plan review and approval, and permit issuance - speeding the process significantly. • Enable a fully digital permit application and plan review process. • Reduce the time to permit through replacing the old paper-based sequential plan review process with an electronic-based simultaneous plan review system.		✓
Enterprise Asset Management	• Eliminate duplicate and legacy systems, and standardize onto a single modern system for critical assets across the enterprise. • Increase reliability and availability of assets and the services through the entire asset lifecycle. • Standardize and enforce business processes, while improving efficiency and consistency of work activities. • Measure and manage asset availability and risk across all strategic assets. • Improve visibility, control and automation across operational infrastructure.		✓