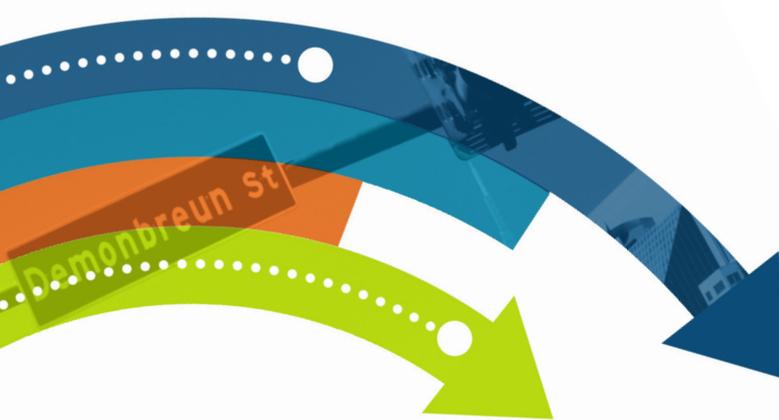




A VISION FOR SMART MOBILITY IN GREATER NASHVILLE

March 2021



A VISION FOR SMART MOBILITY IN GREATER NASHVILLE

● EXECUTIVE SUMMARY





A VISION FOR SMARTER MOBILITY IN GREATER NASHVILLE

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GREATER
NASHVILLE
REGIONAL
COUNCIL

0

WHAT IS SMART MOBILITY?

Emerging transportation technologies are rapidly coming to Middle Tennessee, offering a range of new features for people in their cars, on buses, biking, walking and trying new modes of travel.

Many technologies—such as back-up cameras and side radar—are already on the road offering safety and convenience benefits. Others are in planning stages, such as automated transit and smart signals. Still others are causing unplanned disruptions in our communities— from the rapid growth of ridesharing, to navigation apps that bring cut-through traffic, to e-scooters requiring safe places to travel and park.

Smart Mobility refers to the planned interconnection of people, vehicles, traveler information, and roadside

infrastructure through enhanced technologies using methods that optimize the performance of all modes of travel, create a more efficient and sustainable transportation system, and enhance the user experience. The value added to the transportation system can result in increased convenience, safety, and efficiency of operations. Smart Mobility can help reduce crashes, alleviate congestion, improve transit speed, offer economical shared services, extend the reach of transit, and provide new options to access destinations of all types in almost any setting, helping to reduce over-reliance on single occupant vehicles.

Today, many cities and regions are already exploring how advancements in technology can improve the quality of life and the delivery of government services. Efforts generally center around easier access to information, more efficient use of resources, and better mobility access. Some jurisdictions in greater Nashville have already begun exploring how “Smart City” strategies might improve the lives of their citizens. For mobility, these range from e-scooter deployments to smarter signal corridors along Wilson Pike to real-time transit information for the Nashville Star to roadside communications devices placed along I-24. In our region, a wealth of Smart Mobility infrastructure is already in place. GNRC and its jurisdictional partners see these deployments as an opportunity to provide valuable benefits for the region.



1. Automated crash detection 2. Signal pre-emption 3. Traffic cameras 4. Automated lane following 5. Smart signals 6. Ridematching applications (on a user's mobile device)

Potential Smart Mobility features coming to an intersection near you

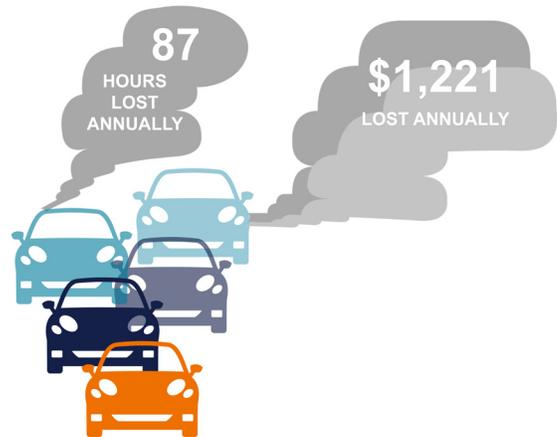
GETTING SMARTER IS BECOMING URGENT

Our rapid growth is making change more urgent:

REGIONAL CONGESTION IS GROWING

2010 48 Minute Commute	8 days/year = 1 year over lifetime commuting
2040 102 Minute Commute	17 days/year = 2 years over lifetime commuting

A commute in Middle Tennessee that took 48 minutes in 2010 will take 102 minutes in 2040. A 48-minute weekday commute, over the course of a year, adds up to over 8 days of a year spent commuting. A 102-minute weekday commute in 2040 will represent 17 days of the year.



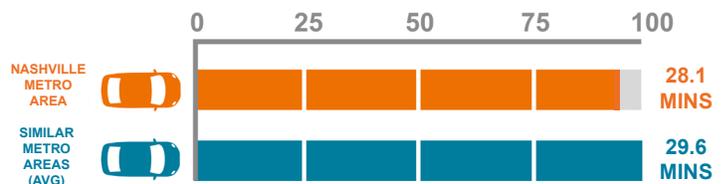
The INRIX 2018 Global Traffic Scorecard estimates that congestion costs EACH Greater Nashville driver over \$1,221 in lost time every year (87 lost hours) (12)

WE CANNOT BUILD OUR WAY OUT

VMT PER CAPITA



AVERAGE COMMUTE TIMES



Even though the Nashville Urbanized Area features 45% more vehicle miles traveled (VMT) per capita than the average of similar urban areas* (13), Nashville commutes are almost 5% shorter than the average of similar Metropolitan Areas (14) *Dallas, Denver, Atlanta

REVOLUTIONARY TECHNOLOGIES ARE ALREADY PROVIDING NEW OPTIONS



In Nashville, 45% of vehicle owners use their cars less because of ridesharing services like Lyft and Uber (15)



Scooters emerged as an attractive alternative travel mode (16), especially for trips less than one-mile distance, which make up 22% of all travel trips (17).

WHY PURSUE SMART MOBILITY SOLUTIONS?

Emerging technologies bring many potential opportunities to Greater Nashville:

BETTER TRAVELER INFORMATION & DECISION-MAKING

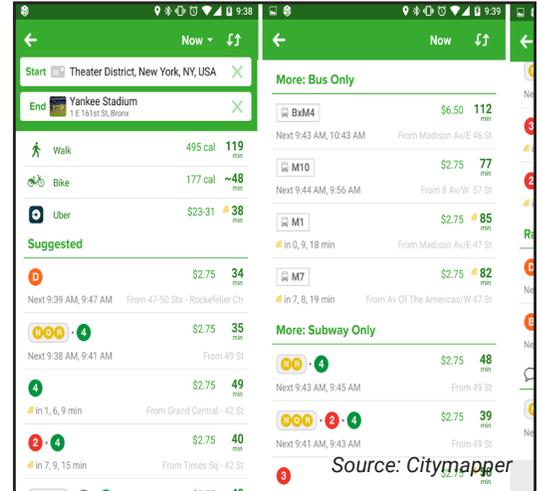
Emerging technologies are helping drivers avoid congestion, save time, and to consider exploring driving alternatives. This is demonstrated by the proliferation of route navigation apps and GPS receivers in cars and smart phones. The near future sees the rapid expansion of real-time traveler tools including predictive congestion avoidance, bus arrival information, bike share availability, and integrated payment systems that together can save citizens an estimated 59.5 hours per year (1). These solutions are being deployed regionally through smart phones, in-dash displays, electronic signs, and onboard transit vehicles. If deployed broadly and equitably across all modes of travel, they can greatly improve the travel experience.

IMPROVED VEHICLE OPERATIONS

From automated braking lane guidance to electric hybrid powerplants and plug-in charging, Smart Mobility solutions have already become standard on new cars and buses. More features come every year that improve safety, range, and user comfort. Automated conveniences can avoid crashes, protect pedestrians, and contact emergency responders automatically. The proliferation of battery power is making electrification a day-to-day reality for millions, helping reduce fuel costs and vehicle maintenance expenses. On average, an electric car will save its owner \$632 a year over a gas-powered car (2) and also reduce local pollution with 50% or fewer emissions (3). Technologies like parking assist and in-dash navigation also simplify/shorten trips and reduce driver stress.

SMARTER FACILITIES

Technological improvements have entirely changed how roads are managed. Automated systems enable quick and efficient dispatch of emergency services, paratransit vehicles, and real-time monitoring and communications tools, all making public services more responsive and efficient. Traffic cameras and video detection help signals respond to changing congestion in real-time, saving commuters an estimated 20 hours per year (4). When providing maintenance and repair services, laser imaging technologies are allowing governments to program repairs more quickly while penetrating radar helps plan resurfacing before conditions deteriorate. For these and many other reasons, Greater Nashville is framing a vision for Smart Mobility that can meet long-standing needs, open new options for travelers, and support a more equitable transportation system.



Multimodal trip planning tool



Electric car-charging stations



In-dash navigation system

WHAT CAN SMART MOBILITY PROVIDE FOR GREATER NASHVILLE?

Smart mobility solutions can rise to these challenges and help to address needs within the region:

SMARTER COMMUTES

- Interconnected traffic cameras, roadside communications devices, and electronic message signs can monitor, manage and redirect traffic, reducing congestion and directing flows to alternate routes or modes
- Automation could allow “platoons” of cars, buses, and trucks to drive in unison more efficiently with less stop and go, adding capacity to our roadway system and saving up to 20% on fuel costs (5). Transit buses can jump ahead of cars at signals and communicate with other buses and bus shelters to ensure riders have less delay and don’t miss transfers. Queue jumping alone can save 10-30 seconds per bus, per intersection, saving several minutes along an average route while improving reliability.

SAFER ROADWAYS AND INTERSECTIONS

- 94% of serious accidents are due to human error (6). Automated warnings and vehicle controls can stop and steer cars to avoid collisions
- Automated speed warning signs near our schools can reduce speeds by approximately 5 mph (7), making our children safer
- Smart sensors and lighting can adapt and detect pedestrians/bicyclists in varying weather conditions to maximize visibility and safety. Safety monitoring cameras can automatically detect crashes and dispatch emergency responders

MORE EQUITABLE ACCESS

- Smart mobility systems can dispatch shared and/or automated rides to “last-mile” places beyond the reach of transit
- Electric bikes, scooters, and more can provide new economical transportation options in neighborhoods without transit, saving money for people who would otherwise have to drive

- Automated transit services may one day double existing coverage on the same regional budget by halving labor costs, helping transit coverage or frequency grow dramatically

ECONOMIC OPPORTUNITIES

- Smart mobility is helping to provide new access to jobs that were once too far away by putting them in reach of more households with just one or no cars
- Less reliance on the private car is reducing personal costs and increasing consumer spending. Nashville-area commuters could save \$200 million annually through expanded ridesharing alone (8)
- New smart mobility technology businesses and jobs are forming in Greater Nashville
- Smart mobility includes carpool-matching apps such as Hytch, which provide economic incentives for commuters to share rides, as well as choose less congested routes

RESILIENT COMMUNITIES

- Electric vehicles are helping curb local pollution and reduce greenhouse gases by around 50% compared to conventional vehicles (9), improving the local and national environment
- The prospect of more efficient use of our existing roadways means more opportunity to provide right-of-way for other travel modes or to preserve open spaces and focus resources on cultural amenities
- Remote working, or working from home, is a tool that has been used recently to promote public health that also reduces emissions and congestion

A VISION FOR SMARTER MOBILITY IN GREATER NASHVILLE

Working collaboratively to implement smart technologies:

Greater Nashville’s vision for addressing congestion, managing travel demand, promoting economic opportunities, making resilient communities, and improving the travel experience is to utilize emerging connected transportation technology and policy solutions to improve the access, reliability, efficiency, and safety of the regional mobility network.

Local and state transportation officials recognize that the old way of doing things—building more, wider roads—does not efficiently manage congestion and is not economically or environmentally sustainable. With tight budgets and growing residential and commercial development, local and state governments are looking for alternatives that can improve access to jobs, housing and recreation. Effectively managing demand across more modes of the mobility network requires a detailed baseline understanding of our region’s mobility needs and usage, a coordinated set of strategies that promote better mobility and a set of smart tools to help implement needed improvements.

Productivity, predictability, and convenience are attributes that people expect of an effective mobility network. As commuters spend more time in traffic, these are experienced less, leading to interest in and openness towards alternative modes and routing options increases.

For alternatives to be viable, they must be competitive within each of these attributes.

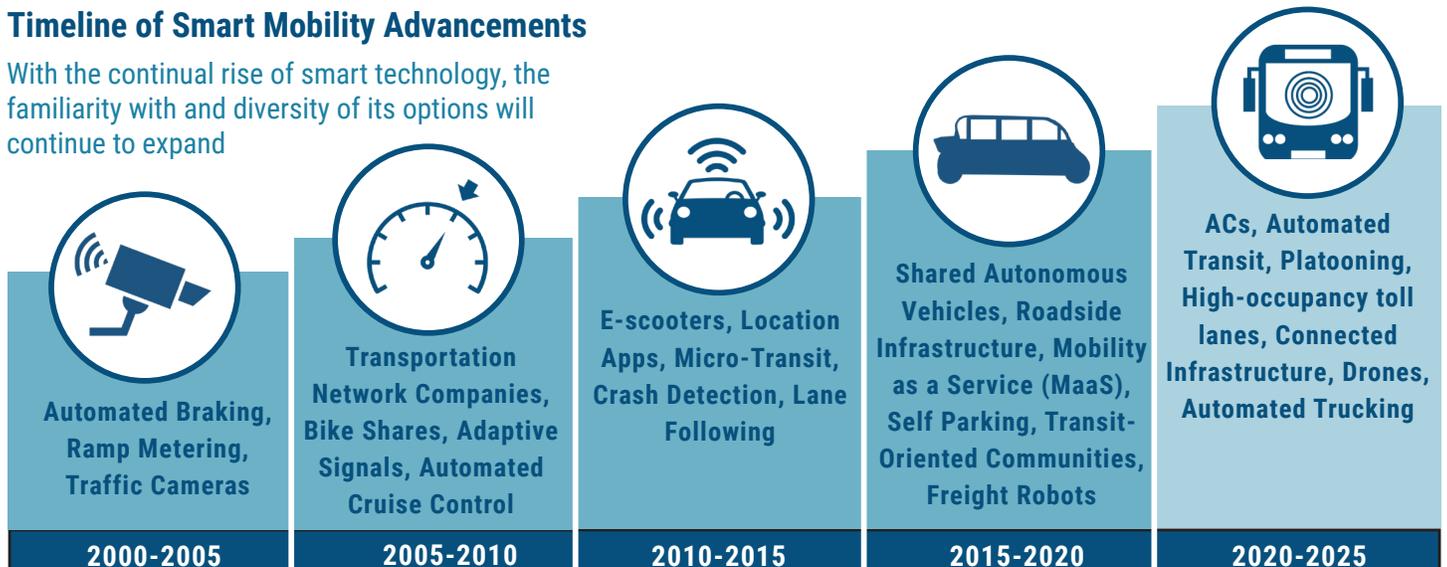
Transportation planners can now use advancements in technology to help commuters understand what their travel options are and how they can be linked. Trips can be designed and adjusted in real time based on changing conditions as connections between vehicles, roads, and individual travelers are strengthened. Comprehensive data sets around travel patterns are being produced daily, and the ability to utilize this information to guide the practices, policies, and investments of our mobility network is increasing significantly.

We realize the need to do more. The GNRC is committed to working with its partners to advance smart mobility solutions that help Greater Nashville become even more prosperous, livable, and resilient.

As technology integrates into more aspects of governance and public life, designing and maintaining a safe, effective network of connectivity is critical (Fig.1). Metro Nashville has undertaken an extensive examination of how technology can broadly support community efforts and improve quality of life through its smart cities strategy, Connected Nashville (Fig.2).

Timeline of Smart Mobility Advancements

With the continual rise of smart technology, the familiarity with and diversity of its options will continue to expand



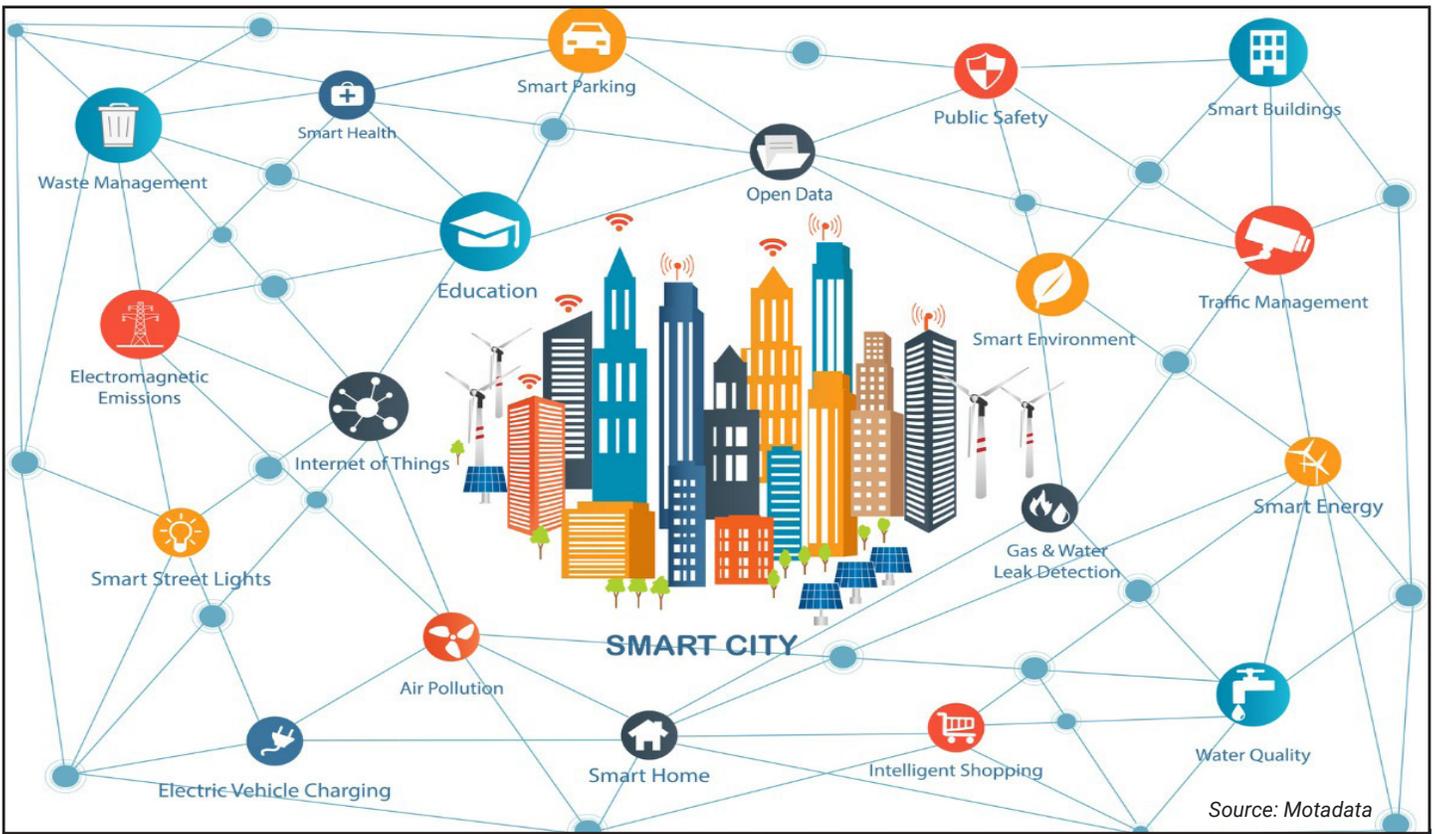
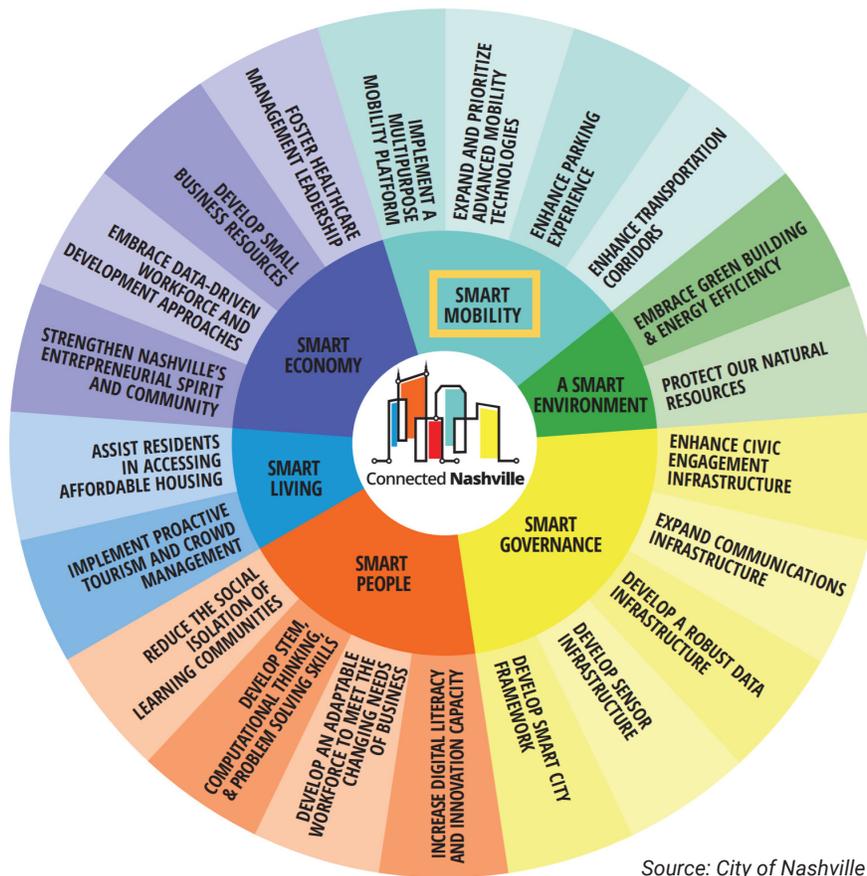


Figure 1: Smart City Network



Source: City of Nashville

Figure 2: Smart Mobility is an integral component of Connected Nashville

ACTION PLAN FOR SMART MOBILITY

Utilizing technology to improve safety, address congestion, improve resiliency, promote equity, encourage economic development, manage travel demand, and provide real-time traveler information will require a number of collaborative steps. This Action Plan provides guidance for evaluating smart mobility initiatives and investments based on how they fill the five gaps between the current state of practice and the vision laid out in this document. Gaps identified include infrastructure, data, funding, policy, and support. Each of the five gaps identified includes a specific example of how that gap can be bridged. This is not intended to be comprehensive in describing each gap or the potential strategies that may be employed; other options may be available. However, it is illustrative of the process a community may undergo in pursuit of smarter mobility.



For purposes of organizing the various challenges to pursuing smart mobility, this action plan separates strategies into five different areas. While this separation helps detail potential steps to address a specific gap, any action plan in one area should progress alongside the action plans of all to ensure each aspect of a smart mobility effort is coordinated. The gaps include:



THE INFRASTRUCTURE GAP

Multiple smart mobility technologies exist in the region, but significant gaps exist.



THE DATA GAP

Data production, security and sharing is severely lacking, limiting the utility of efficient smart mobility infrastructure.



THE FUNDING GAP

Funding continues to be dedicated mostly to traditional roadway maintenance and construction with little focused on more efficient and smart solutions.



THE POLICY GAP

Policies across all jurisdictions do not support evolving technology well nor promote the region's safety and equity goals.



THE SUPPORT GAP

Partnerships with many more public and private entities are essential to benefit from smart mobility.

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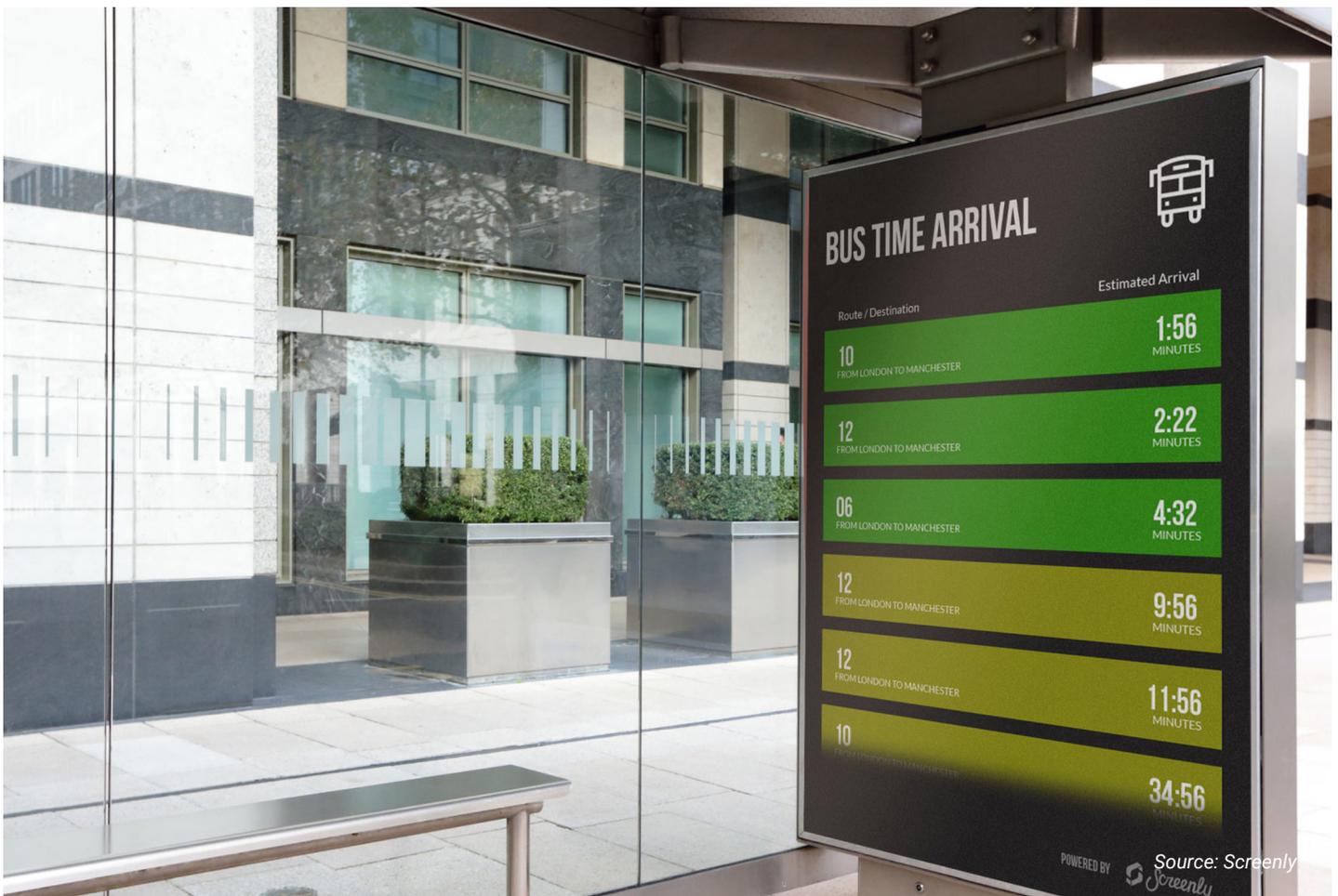


1. THE INFRASTRUCTURE GAP

When cities think about how to become a smarter city, one of the first things that come to mind are the types of devices that are needed. Any connection between vehicles or infrastructure requires hardware and software to share the data being generated. Infrastructure can include devices such as sensors or traffic signals but can also include the communication lines that transmit data. Fiber refers to the transmission of data in the form of light that pulses through fiber optic cables made of tiny silica fibers capable of carrying far more information than earlier generation coaxial copper cables. This higher bandwidth, lighter weight, and higher transmission security have made it a frequent path of expansion for smart mobility applications. Where fiber is present along corridors, communication and coordination between central operations and traffic signals, CCTV cameras, dynamic message signs, and other field devices is more reliable, faster, and more capable of responding to real-time situations to improve safety or congestion.

EXAMPLES OF LIMITED INFRASTRUCTURE

- Limited reach of fiber in the region; most arterials have none
- Uncoordinated signals along corridors and across jurisdictions



Bus shelters like this one in London are making real-time travel information highly visible and legible to transit riders.

TOP 3 STRATEGIES TO ADDRESS THE INFRASTRUCTURE GAP

- **UPDATE EQUIPMENT:**
Ensure infrastructure upgrades opt for **connectivity and interoperability** capacity and local equipment standards meet Regional ITS Architecture, State Architecture, and other relevant guidance.
- **UPDATE LOCAL/REGIONAL/STATE STANDARDS:**
A Regional ITS Architecture is an implementation plan by which cities, regions, and states apply technology and communications infrastructure to the transportation network in a manner that promote interoperability and **resource sharing among various stakeholders**. Through a regional architecture, critical partners at state and local agencies can identify and encourage standards for performance and interoperability for components managed by individual cities within a region. Architectures are generally updated every five years, so the opportunity to **improve consistency** and interoperability of communication and technology of a transportation system are available frequently.
- **INTEGRATE TECHNOLOGY UPGRADES INTO PROJECT PLANNING:**
Encourage cities and counties around the region to integrate technology upgrades into **utility projects and capital project planning processes**. As road, bridge, sidewalk, and utility projects are programmed, policies should be in place that identify opportunities to install conduit or other technology-enabling features at key locations. Funding for technology can be included in the creation of project budgets.

PROJECT POTENTIAL

Based on the Hamilton, OH, example (see below), a \$20M investment could likely upgrade up to 400 signals (of the approximate 3,360 signalized intersections) throughout the Middle Tennessee region. Placement of these signals would be determined by corridor priorities and gaps in service. Additional funds for operational costs would likely be required.

HOW THIS HELPS

BETTER MANAGED TRAFFIC FLOW



Installing detection devices that communicate real-time traffic conditions will help optimize the transportation network for all users and modes.

FASTER, ON-TIME BUS SERVICE



When buses and traffic signals communicate, buses will remain on schedule, making transit trips predictable.

CASE STUDY

HAMILTON, OH

\$5.25 M was allocated, through regional grants and local match, to upgrade 97 traffic signals along major corridors, which will feature video detection, fiber, and ADA upgrades.





2. THE DATA GAP

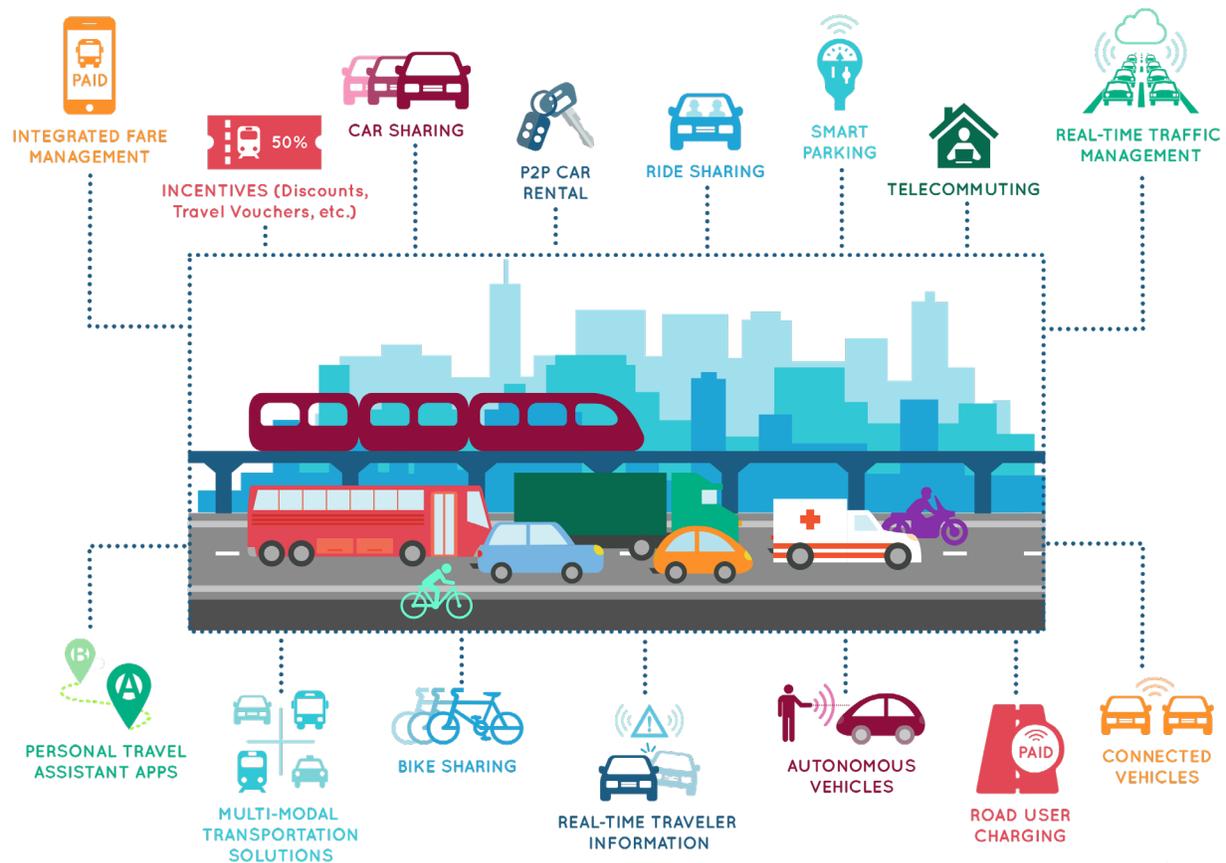
Collecting and understand how data can be used to improve quality of life is one of the central themes of smart cities and smart mobility. Data informs transportation managers how mobility assets are being used, including car counts, turning movements, travel speeds, incident responses, and multimodal usage. Building an ecosystem of data management that helps travelers and mobility managers make informed decisions regarding route choices, mode choices, or timing choices improves the overall functioning of the transportation network.

Real-time arrival and availability data is becoming essential for individual travel decisions, especially as shared mobility proliferates. Strong publicly-shared data enables more shared modes to interact and work efficiently together.

Smart city programs could not function without sharing data. Cities are incorporating open data policies in order to spur informed decision making for policies, traffic operations, and individual trips. Cities such as **Austin** and **Pittsburgh** feature real-time data for apps and other tools as a result of data sharing agreements.

EXAMPLES OF LIMITED DATA

- Limited travel counts available in region
- Signal operations data is not shared
- Limited sharing of real-time data for shared mobility



Source: Cheq Systems

The types of data needing to speak to each other has significantly grown as technologies advance.

TOP 3 STRATEGIES TO ADDRESS THE DATA GAP

- **ALL-MODE MONITORING:**

Deploy sensors/detection to **obtain baseline use of all modes** of travel (car, freight, transit, bike, ped, etc) along a corridor, intersection, or curb. This includes data from Bluetooth devices, cellular phones, video equipment, or other type of sensor or location-based service device. Data needs to be gathered in a format that allows for easy sharing and comparison.

- **CENTRALIZE PUBLIC TRAVEL INFORMATION:**

Develop a **regional public clearinghouse** for all jurisdictions to share traveler information with publicly available feeds displaying real-time information. Cities should partner together to determine whether a data exchange or an open data portal could provide **better information to stakeholders and the general public**. With growing volumes of data being produced around mobility and other aspects of governance, cooperation may better facilitate solutions for the operation and maintenance of such a system.

- **DEVELOP ACTIONABLE GUIDELINES:**

Prepare and endorse guidelines for **consistent data standards** and minimum cyber-security standards across all jurisdictions.

PROJECT POTENTIAL

Based on the Vanderbilt example (see below), a \$20 M investment could potentially add up to 20,000 Array of Things sensors along corridors and intersections throughout the Middle Tennessee Region. Placement of sensors would be determined based on where data on speed, safety, congestion, and multimodal use would bring better long-term investment decisions. Additional funds for operational costs would be required.

HOW THIS HELPS

BETTER ASSET MANAGEMENT



Knowing how roads, sidewalks, bike lanes, and curbs are being used will lead to better informed management of infrastructure.

EASIER TRIP PLANNING



A platform with real-time data on every mode of transportation available can help plan a seamless trip between any combination of driving, parking, bus, train, ride share, bicycle, scooter, or walking.

CASE STUDY

VANDERBILT

Vanderbilt built a project proposal to gather data on Transportation Demand Management by deploying a number of sensor devices near and around campus. The proposal budget for hardware was \$220,000 (estimate) to purchase 18 Array of Things units with cameras (\$10,000 each), 5 BlueToads (\$5,000 each), and 3 Array of Things units (\$5,000 each).



Source: Project proposal



3. THE FUNDING GAP

Governments are often facing multiple initiatives that compete for limited funding. Making the case for smart mobility investments requires an explanation of value versus traditional mobility solutions, a recognition of the enhanced technology contained within privately-owned vehicles and fleets of shared mobility, and a willingness to partner with private sector mobility firms. Already, traditional funding entities such as federal grant programs and foundation initiatives provide opportunities for cities to pursue smart mobility solutions. Communities should improve their competitive advantage for funding opportunities by implementing what they can do on their own while building capacity and preparedness for projects in the future.

EXAMPLES OF LIMITED FUNDING

- Regional projects compete with local projects for funding
- Pilot projects compete with large projects for funding
- Local jurisdictions face challenging budget decisions

Public Private Partnership



Public Private Partnership projects cut across;



Health



Education



Transportation



Water



Telecom



Energy

...and much more.

Source: Public and Private Development Centre

Cross-sector partnerships can leverage existing funding resources and increase eligibility for new opportunities.

TOP 3 STRATEGIES TO ADDRESS THE FUNDING GAP

- **PRIORITIZE EFFICIENCY:**
Invest in **efficiency improvements** over capacity expansions for better return on investment (ROI).
- **MAXIMIZE ON EXISTING AND UPCOMING FUNDING OPPORTUNITIES:**
Promote programs such as GNRC's policy set aside, Transit and Technology program. This program provides additional funding to help accelerate the deployment of emerging smart mobility solutions including those aimed at **improving traffic conditions** and **modernizing local and regional transit options**. Regional stakeholders should also work with federal and state partners to find ways to make existing programs such as CMAQ provide more funding, which would allow broader deployments across the region.
- **IDENTIFY REALISTIC FUNDING SOURCES:**
Pursue additional funding sources for smart mobility, including federal sandbox sources, foundational grants, and **partnerships** with academic institutions and private businesses.

PROJECT POTENTIAL

The Middle Tennessee region is home to many innovative businesses and thinkers, and well poised to find creative ways to leverage additional value out of infrastructure investments. Federal grants and other competitive funding opportunities can be pursued by teams made of regional partners. A recent award is allowing Nashville to work with a technology firm to understand how curbs are being used downtown, and how curb management policies can improve downtown deliveries and promote safety.

HOW THIS HELPS

- MORE PILOT AND FULL PROJECTS** → As pilots prove ready for scaling up towards broad deployment, smart mobility strategies will offer better ROI.
- BETTER MOBILITY OUTCOMES** → Using behavioral economics to create rewards or penalties can help commuters make travel decisions that benefit the entire transportation system.

CASE STUDY

KANSAS CITY, KS

After construction of a streetcar line, Kansas City worked with the private sector to construct 25 digital kiosks along this transit line to provide wifi, travel information, and local history and business information. The capital contribution of \$3.7 M from Kansas City represented a small portion of the \$16 M project budget. Ad revenue from the kiosks are expected to pay off the capital costs within five years.



Source: Deloitte



4. THE POLICY GAP

To take full advantage of infrastructure investments and data collection efforts of jurisdictions in Middle Tennessee, policies that support smart mobility strategies must be established and expanded based on need and opportunity. Policies that allow multiple jurisdictions to agree on standards for equipment purchased, data sharing, open source solutions, privacy and operations will make each of the individual community investments more valuable and effective.

Standards for many of these policies are emerging and can be borrowed from other areas. For instance, Mobility Data Specification is an application programming interface (API) that connects private mobility companies with local governments and has been adopted by 90 cities around the world. Policies can help ensure goals and concerns around privacy and inclusion are properly addressed.

EXAMPLES OF POLICY GAPS

- Data sharing is ad hoc
- Traffic management systems are often isolated



EMPLOYER COMMUTE PROGRAM TOOLKIT



Commute Program Element	Description	Partners to Consider	Potential Impact
Smart Cycling Classes	Smart cycling classes improve safety and confidence for employees wishing to commute by bicycle. Employees can attend one of the monthly courses or the Sonoma County Bicycle Coalition is available to teach a private course at your office.	Sonoma County Bicycle Coalition bikesonoma.org/our-work/traffic-skills-101/	 Source: SCTA

Toolkits like this one help employers see the wide range of creative solutions for providing travel options to their employees.

TOP 3 STRATEGIES TO ADDRESS THE POLICY GAP

- **USE EXISTING AGREEMENTS AS A FOUNDATION:**
Build off of corridor agreements towards **regional interoperability standards** and data sharing standards.
- **ESTABLISH REGULATORY REVIEW PROCEDURES:**
Conduct periodic regional and state policy and regulatory reviews to **identify incompatibilities**.
- **CREATE NEW POLICIES:**
Advance new policies and regulations, including transportation demand management (TDM) programs to **curb traffic growth**.

PROJECT POTENTIAL

The region continues to see the deployment of devices that collect a high volume of data. Policies that create frameworks for a shared platform of data sets and privacy standards could make the operation of smart devices more affordable. Cities are also adopting customer service strategies of government to web-based systems. Policies that help extend the capacity of online tools such as hubNashville make working with government easier and addresses community needs faster and more efficiently. Open data portals empower the public to explore local metrics and gain insights on public programs, services, and trends.

HOW THIS HELPS

LESS TIME AT INTERSECTIONS



Policies for data exchanges and smart signal systems across jurisdictions would mean traffic signals talk to each other and traffic flows more efficiently, especially along corridors.

INTEGRATED FARE PAYMENT ACROSS MODES, OPERATIONS



Imagine using the same payment platform to pay for the train, bus, rideshare, scooter, and parking, or using the Murfreesboro Rover, Franklin Trolley, Mule Town Trolley, and WeGo on the same platform.

CASE STUDY

COLUMBUS, OH

Columbus, through its many smart mobility efforts initiated by its winning Smart Cities Challenge proposal, worked with various experts to create a Data Privacy and Data Management Plan, which was then shared with stakeholders and the public for feedback. This process contributed to the creation of the Smart Columbus Operating System, which serves as a clearinghouse for data receipt, sharing, and visualizing for public and private officials in Columbus to inform local decisions through unique insights.





5. THE SUPPORT GAP

In order to deploy smart mobility systems in a sustained effort, support must be built and maintained throughout Middle Tennessee. Elected officials, business leaders, transportation professionals, and the general public must support the objectives, funding, and operations of a smart mobility investment. Advocates must be established, knowledge must be shared, and communication must be consistently presented by trusted voices.

People are familiar with phone-based applications for travel information, but media coverage is less consistent on broader components of the transportation system. Local leaders must provide messaging that explains why smart mobility investments make sense and validate the impacts in both general and specific terms. Middle Tennessee is home to many leaders and advocates that can play an important role in building broader community support.

EXAMPLES OF LIMITED SUPPORT

- Local leaders and citizens in some jurisdictions may not yet see the value of smarter commutes
- Urban centers tend to be focused on localized needs with less concern for surrounding jurisdictions



Source: Smart Cities Connect

Events like this Smart Cities Connect Expo are an ideal platform for bring partners into the smart mobility discussion.

TOP 3 STRATEGIES TO ADDRESS THE SUPPORT GAP

- **KEEP STAKEHOLDERS INFORMED:**

Through the Transportation Policy Board, the Transportation Coordinating Committee, and other stakeholder groups and forums, ensure members are being kept updated on **latest smart mobility trends** and aware of opportunities to pursue smart mobility solutions.

- **CENTRALIZE SUPPORT DATA AND RESOURCES:**

Create a **knowledge database for jurisdictional partners** that includes data guidelines, implementation resources, and latest self-assessment results.

- **KEEP THE MOBILITY DISCUSSION AND ITS PROGRESS TRANSPARENT:**

Host quarterly inter-jurisdictional **smart mobility forums open to the public** to share new developments, discuss outreach and partnership opportunities, and address interoperability, cyber security, and data sharing.

PROJECT POTENTIAL

Middle Tennessee features many forums that bring together elected officials, stakeholders, innovators, and the general public to determine how the region can partner and move forward on a variety of issues. GNRC currently participates in many of these forums as both a host or contributor; the opportunity to foster collaboration and cooperation are significant.

HOW THIS HELPS

INCREASED ENGAGEMENT



Establishing direct commuter relationships through mobile platforms creates more informed users and more informed project planning.

CONTINUED VISIONING



By leveraging existing stakeholder forums, collaborating with emerging partnerships, and building off pilot project deployments, the region is poised to build examples showcasing smart mobility benefits.

CASE STUDY

ALEXANDRIA, VA

Alexandria, VA has created a smart mobility program that emphasizes how elements such as a fiber optic network, transit signal priority and emergency vehicle preemption, adaptive traffic signal control, and travel time and speed sensors can benefit the quality of life for citizens.



