



**Multimodal Trip Planning Application/
Common Payment System
Concept of Operations**

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TODAY'S AGENDA

01 | PURPOSE OF THIS WEBINAR

- Share concept development activities from Smart Columbus with stakeholders

02 | WEBINAR CONTENT

- Smart City Challenge Overview
- Smart Columbus Program Overview
- Multimodal Trip Planning App/Common Payment System Project Overview
- Smart Columbus MMTPA/CPS Concept of Operations
- Stakeholder Q&A
- How to Stay Connected

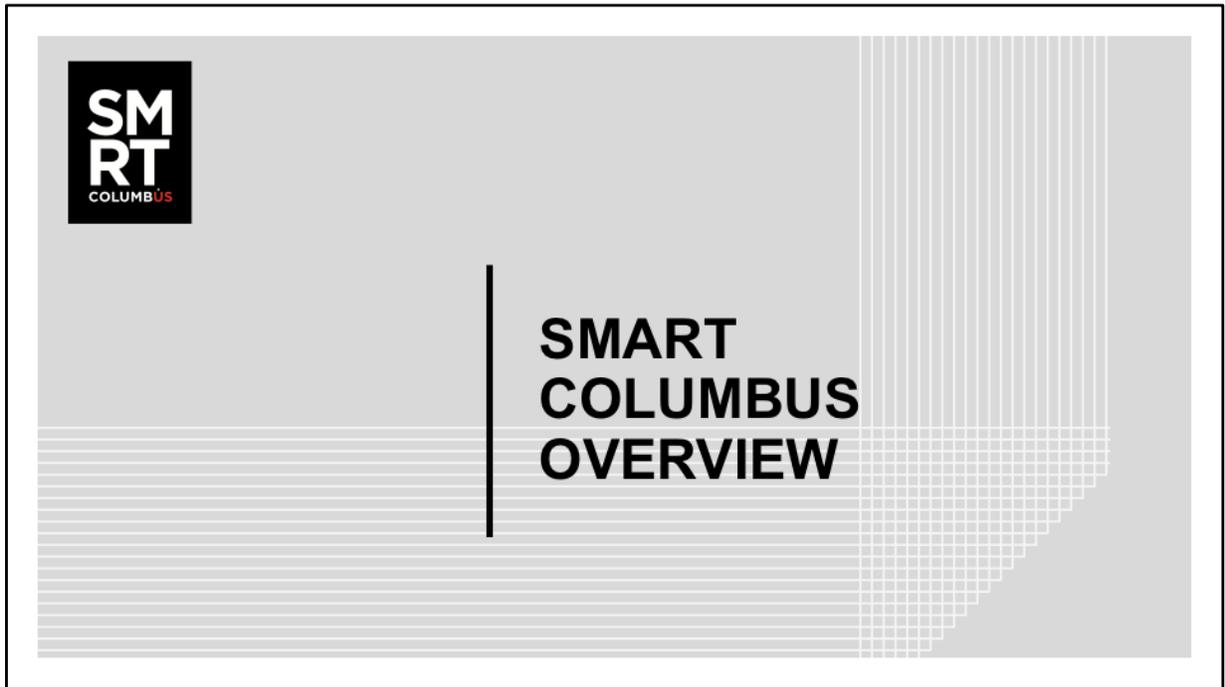
03 | WEBINAR PROTOCOL

- All participant lines have been muted during the webinar in order to reduce background noise
- Questions are welcome via chatbox during the Q&A Section
- The webinar recording and presentation materials will be posted on the Smart Columbus website



There are a lot of disruptions happening in technology, transportation and data. The USDOT saw this and knew it was an opportunity for cities to think differently about how they manage those disruptions when they issued the Smart City Challenge in 2015. Specifically, they made a call out to midsize cities across the country; encouraging them to put forward their best and most creative ideas for innovatively addressing the challenges they are facing utilizing a holistic, integrated approach to improving surface transportation while integrating this approach with other smart city domains such as public safety, public services, and energy.

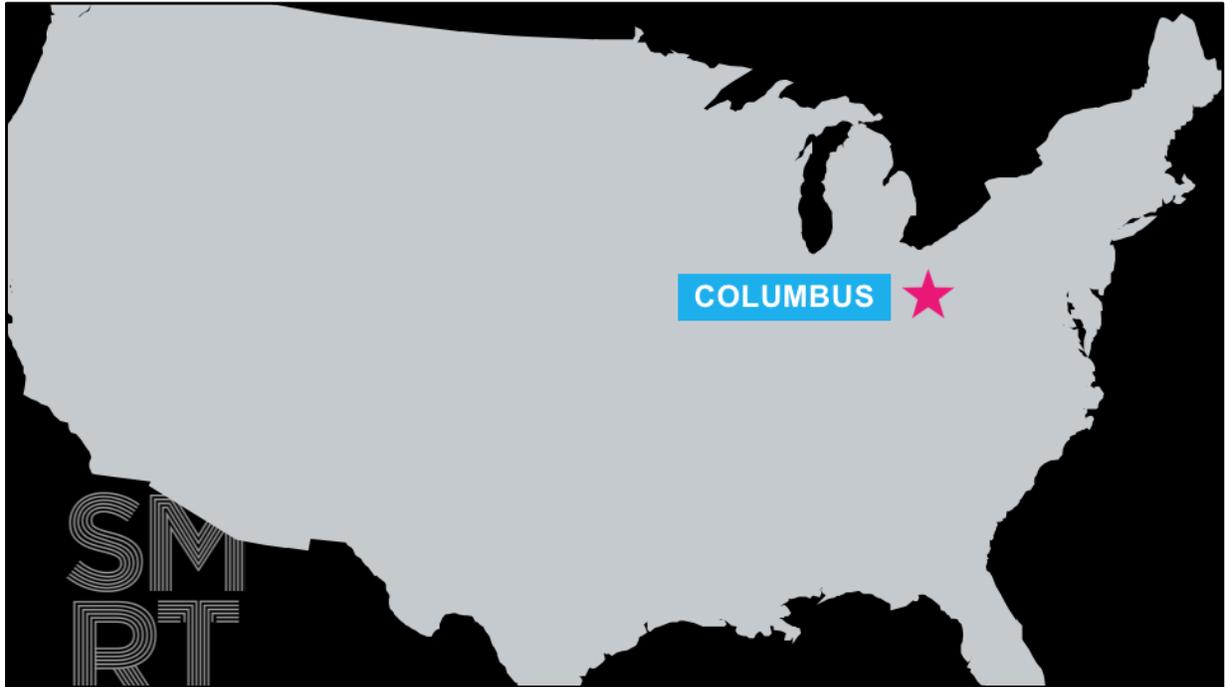
Columbus was one of 78 cities that applied for the challenge. In August 2016 – we became the fortunate winner of the \$40M USDOT grant. This grant, in combination with another grant and a private sector acceleration fund has served as seed money to spring board an innovation initiative within Columbus. This initiative has been branded as Smart Columbus.



Smart Columbus is both an initiative and a grant program. When the city applied for the Smart City Challenge, it created an informal public-private partnership with The Columbus Partnership, an organization made up of over 65 CEOs.

Cooperation and collaboration is the Columbus way. This is demonstrated consistently throughout our program and not just in cash funding. We have over 150 volunteers representing over 40 organizations that give their time on boards, advisory committees and technical working groups to help advance the Smart Columbus initiative. Together, we are shaping what innovation means for our city, what initiatives we pursue to help support & advance our community and how we ensure sustainability.

This coming together of public and private sector and our approach in Columbus is unique. In fact, there has been a case study written about The Columbus Way in a Harvard Business School publication by Jan W. Rivkin.



Columbus is one of the country's growth leaders and is No. 1 among the Midwest's 10 largest metros for population growth& job growth. We are the 14th largest city in the nation. A few other fun facts:

- The worlds largest gavel is in downtown Columbus (it's true – look it up!)
- We are home to many large organizations like; The Ohio State University, Nationwide, Wendy's, White Castle, Honda, & L Brands.
- And, Columbus is known as America's test market – a living laboratory for restaurant concepts, consumer goods and political ideas. Another reason Columbus is naturally a good fit for the Smart Cities challenge!



To empower our residents to live their best lives through responsive, innovative and safe mobility solutions.

With such a diverse population, we have a lot of interests and demographics to serve...our vision is to bring our guiding principle to life...to empower our residents to live their best lives through responsive and innovative mobility solutions.



MISSION

To demonstrate how an intelligent transportation system and equitable access to transportation can have positive impacts on every day challenges faced by cities.

We want to demonstrate how equitable access to transportation and intelligent transportation systems can help solve for challenges that both our city and our residents are facing.

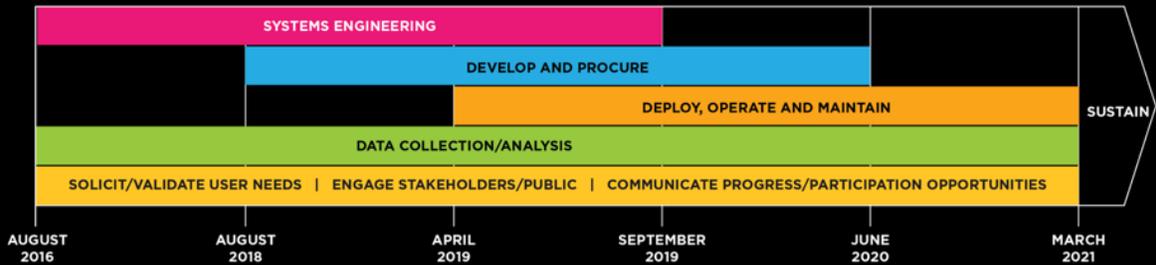


These outcomes are outcomes that any municipality should be driving towards. We are seeking long term outcomes that will make our city a great place to live, work and visit.



PROJECT PHASES AND TIMELINE

WHERE WE ARE GOING

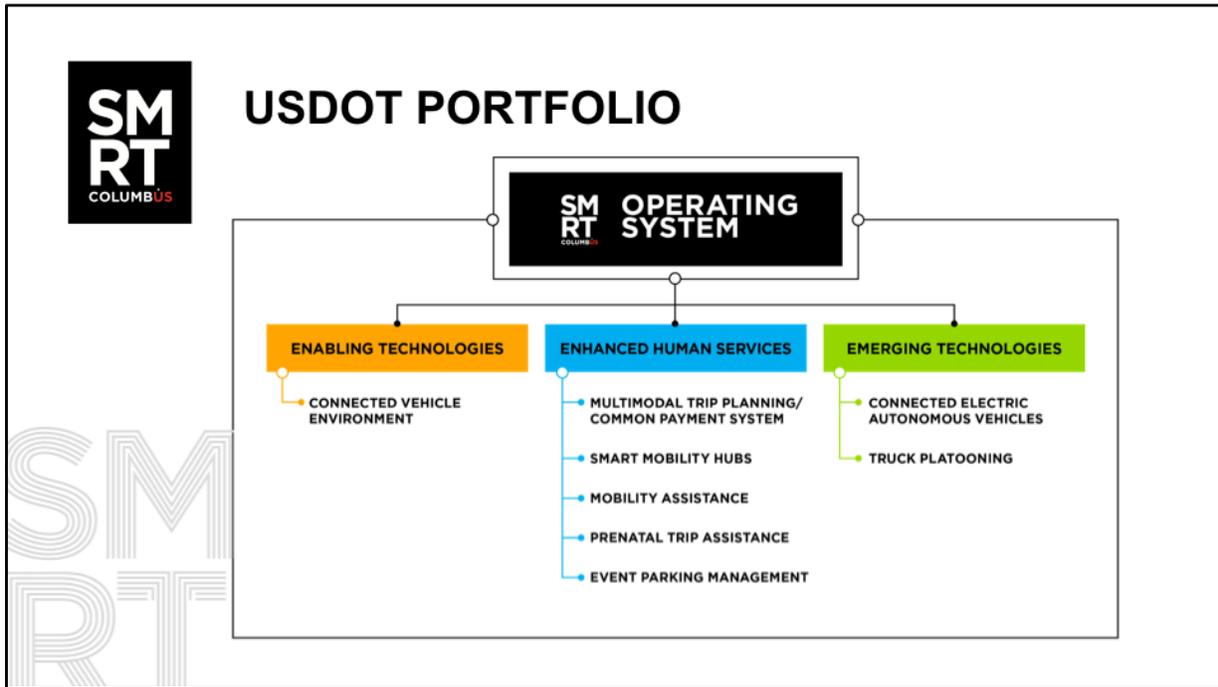


We launched our effort 2 years ago and started with a larger portfolio that included 15 projects. We took a step back late summer last year working with key stakeholders to ensure our portfolio aligns with the USDOT expected outcomes but also with the strategic priorities for the city. The result of those discussions led to a more refined portfolio of 9 projects. We have spent the past year building a stronger foundation & understanding the problems we are looking to solve through discovery sessions with stakeholders and users. Following the Systems Engineering process, we have captured our vision for our projects within the Concept of Operations (also known as ConOps). As we move through the year, we continue to solidify our vision and user needs and are starting to define the requirements to establish our vision which is known as the System Requirements.

Some projects are progressing faster than others due to different accelerators – such as trade studies and pivoting to an agile methodology. This has led to the start of the procurement stage for some of our projects.

The Operating System has been following an Agile methodology since January, 2017. This enables incremental delivery with continuous iterations for added features & functions. The Operating System minimum viable product went live in April 2018; which was the open data portal launch.

We are moving to an agile methodology for some of the projects to achieve early value and start impacting our community sooner.

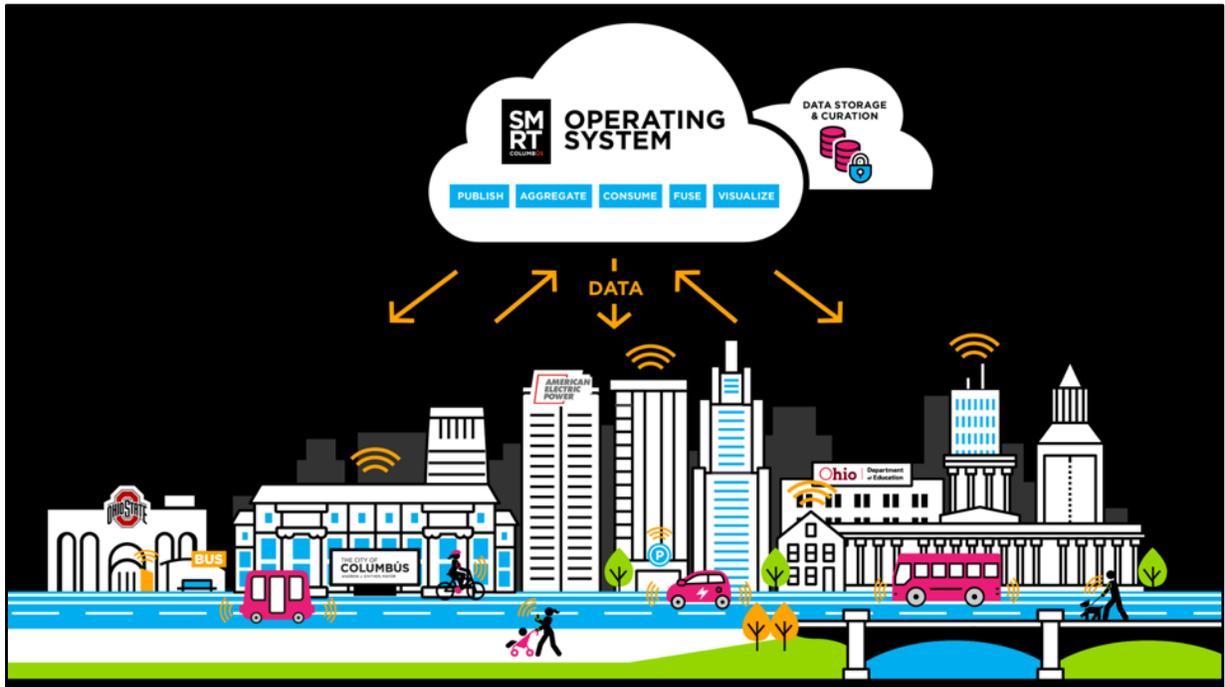


Now that you have an understanding of the program management methodology and timeline - let's review our program portfolio.

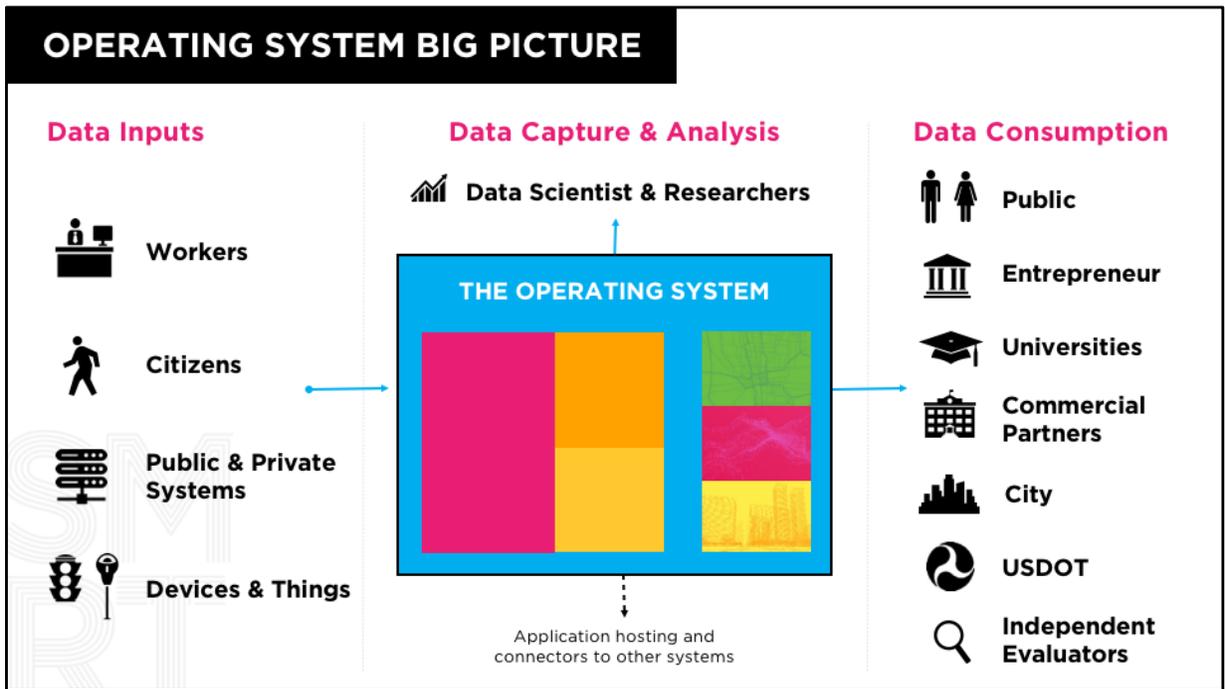
This is an overview of the projects within the USDOT grant program that we are pursuing. You can see we have three distinct themes of projects –

- enabling technologies (which is leveraging existing technologies in new ways)
- enhanced human services (this is connecting people to jobs, opportunities & services through technology)
- And , emerging technologies (this is the cutting edge technologies)

All of these projects are anchored by the Smart Columbus Operating System, which is the backbone of our entire smart columbus program and an integral part of our long term smart city strategy. These projects will produce & consume data and have some level of AI dependencies. The operating system serves these needs. While today we are focused on the MMTPA and CPS, I do think it is important to understand the Operating System, the vision for it and how the MMTPA/CPS will integrate within.

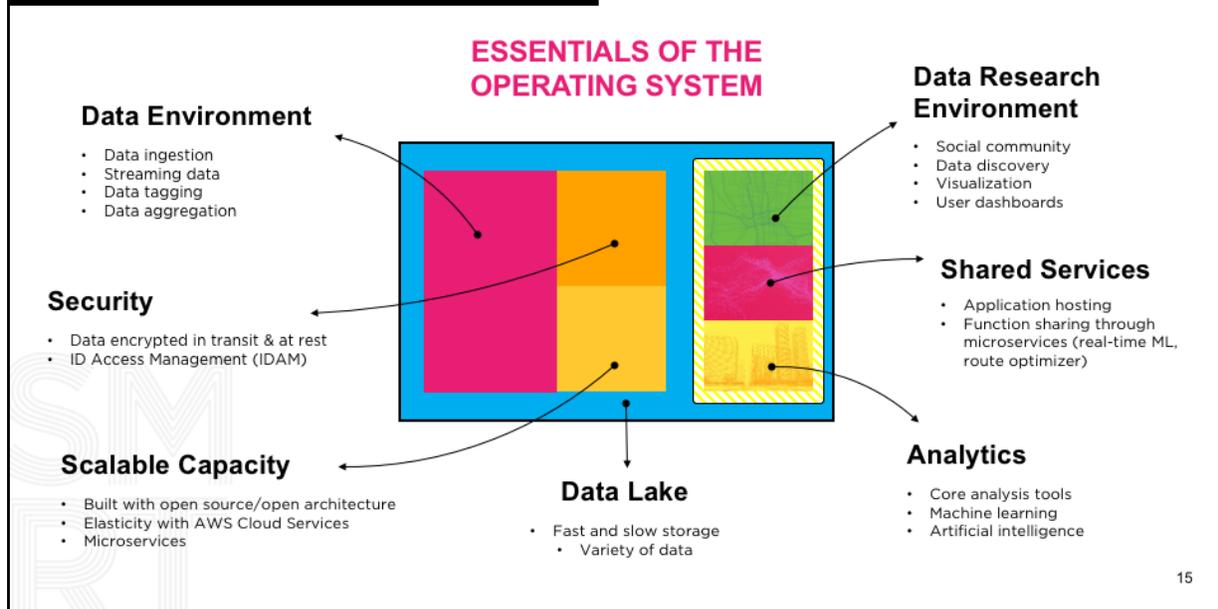


- There are several characteristics that make-up what a smart city is. But fundamentally data is at the core.
- Part of being a smart city includes providing an integrated and holistic approach to collecting, aggregating and publishing data. And to use that data for analytics, machine learning, & artificial intelligence to solve for various community challenges.
- Our portfolio of projects require more than just a traditional data exchange.
- We need a system for complex computations and transactions; a system that can ingest and present multiple types of data for game-time decision making; a system that can use data for machine learning and serve as the resource for artificial intelligence. A place that is home for applications and services that can be shared across multiple platforms to enrich the user's experience by presenting deeper, more regional specific solutions.
- The Operating System is the essence of Smart Columbus – it brings to live innovation.



- I want to share more of the vision for the operating system to give you a sense for the big picture. As I take you through this journey, I will work toward distilling it down so you can see how the operating system and the MMTPA/CPS come together.
- The operating system is being designed and built to collect data from a variety of inputs; including public, nonprofit, education-based and private sector contributors. These inputs may come from other systems, devices and people. All of which are a critical part of building this ecosystem of innovation.
- Users of the operating system will eventually create solutions to problems we can't even recognize today. There will be many different users or consumers of data: from the public to entrepreneurs, researchers at universities, private sector partners, city employees, federal government and evaluators to name a few.
- The Operating System is a platform designed for Big Data, Machine Learning & AI, Analytics, and complex data exchanges.
- It will capture the data and provide a means for multi-tenant access to aggregate, fuse, & consume data.
- Data will be available for analytics & visualization as well as for intelligence required by various smart city applications.

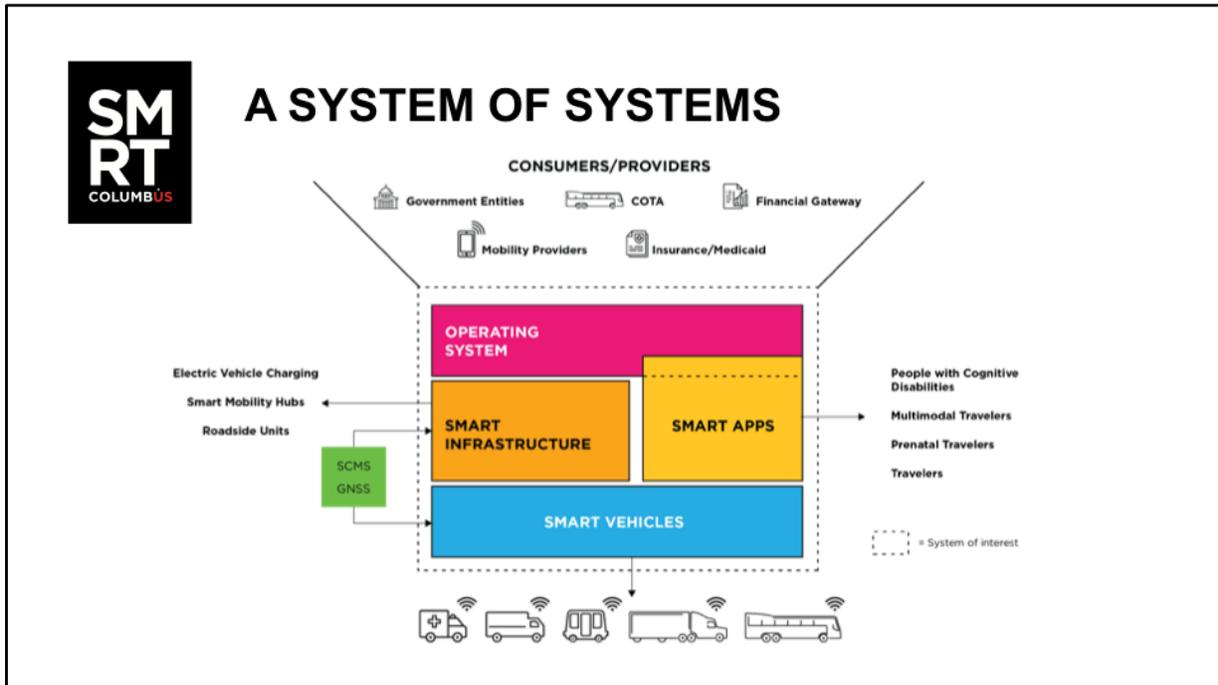
OPERATING SYSTEM DETAILS



- If we peel back the layers of the operating system – you will find several segments that make-up the core system.
- Streaming Data is a critical component for our program. Real time data streaming enables game time decision making.
- In the case of the MMTPA, it is real-time streaming data that will enable the journey planning experience; getting us from point a to point b in the most optimal way, providing various mobility options based on user preferences, and triggering the seamless payment process.
- There is a layer for security including ID and Access Management and encryption of data while in transit and at rest.
- We are deliberate about building in open source and staying vendor agnostic. We are mindful in the architecture and design of the operating system to account for scalability, portability, and replicability.
- Taking an open source approach allows us to contribute the source code to the open source community which positions developers across the globe to contribute new & innovative functionality while also positioning other cities to fork the code and modify it to fit their needs.
- We are designing the operating system with scalability always top of mind. We have automation in play that includes expanding and contracting system resources on-demand based on need.
- At the foundation of it all is a data lake that enables fast and slow storage of structured, unstructured & binary data for analysis, visualization, & machine learning.
- There is a micro services layer that allows for applications and a variety of shared services

to be available - which is key to ensure interoperability, integration, and efficiency.

- In the case of the MMTPA, consider Trip Optimization as a microservice within the operating system and through machine learning the trip optimization engine becomes smarter over time about mobility options, routes to take & real-time traffic info for our region.
- The most important function of the operating system is to be the one source for data and intelligence for our smart columbus portfolio.



Here is a simplistic view of how the Operating System fits into the Smart Columbus Ecosystem.

There are many federated systems associated with Smart City Solutions that require integration within the operating system .

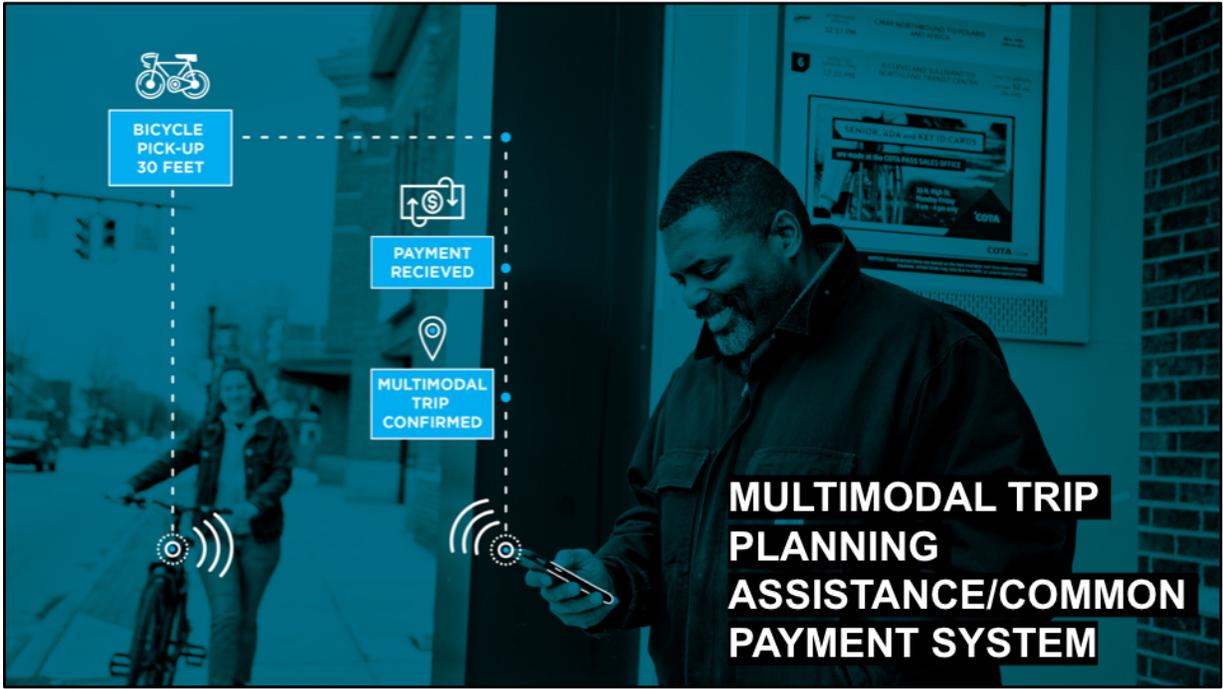
- There is a variety of infrastructure producing signals & data that may be consumed. Consider the Roadside network and DSRCs within a Connected Vehicle environment, or the Electric Vehicle charging stations, or even the mobility hubs. All these devices produce data and may need to ingest data or tap into a shared service within the operating system to deliver the desired outcomes.
- Consider vehicles that are connected and the messages that are generated that can be used for studying driver behavior or conversely reporting certain conditions to drivers that can change their behavior just in time, and the analytics that can be done using this data to adapt our infrastructure.
- There are many apps that may be hosted in other environments but may leverage some shared services within the operating system to ensure the best user experience like trip optimization and ID & Access Management.

The operating system is how all the smart columbus solutions are interoperable and can integrate with each other where needed. All the data inputs and outputs are transacted here. It is the source of intelligence for our Smart City solutions. Because the Operating System is envisioned this way, it is important that as new applications are stood up to solve for various community challenges, we want the applications to follow a service oriented & open

architecture to ensure interoperability.

The Smart Columbus Operating System is live. We continue to iterate. We hit a major milestone last week by achieving automation and establishing our first real-time data stream. We have much more to do and each month new functionality is added. So stay tuned.

Hopefully you have good understanding now of the operating system and why it is the heartbeat of our program. I will hand off at this point to Andy Wolpert who will share more with you about the MMTPA & the CPS in current view.



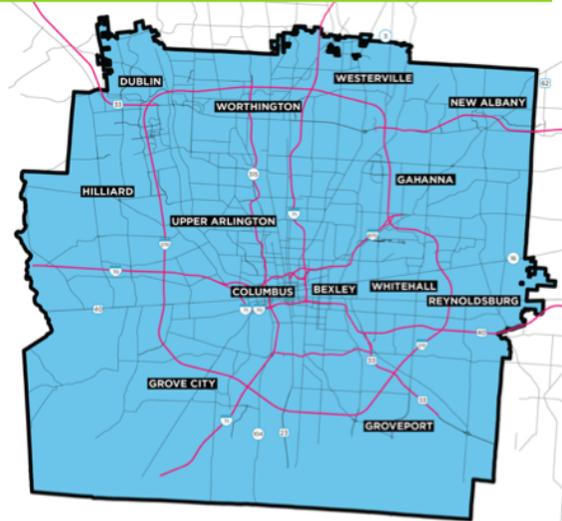


CURRENT SYSTEM

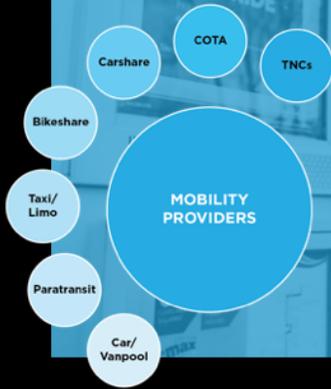


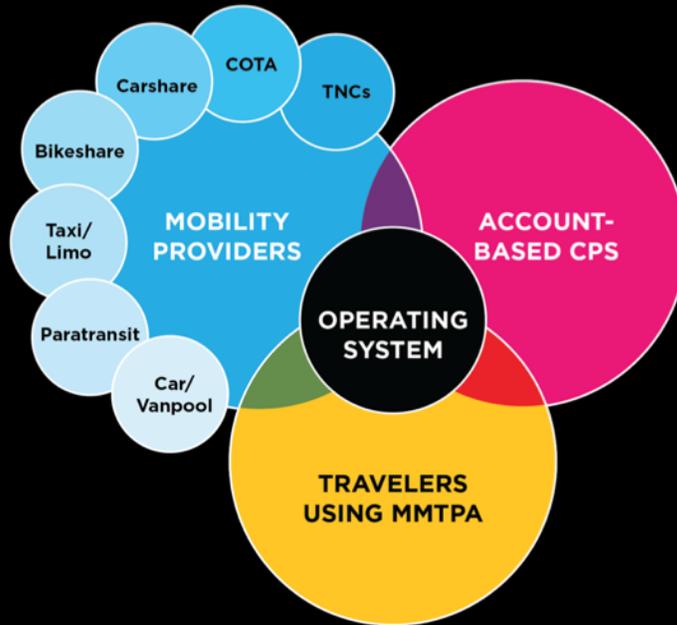
GEOGRAPHIC SCOPE

- Central Ohio Transit Authority (COTA) service area
- Outlying communities serviced by Mobility Providers



The geographic scope of the MMTPA/CPS is citywide and beyond, encompassing all the Central Ohio Transit Agency's (COTA's) service area and extending into outlying communities that are further serviced by Mobility Providers. COTA's service area includes all of Franklin County and parts of Delaware, Fairfield, Licking, and Union Counties. Outlying communities are characterized by lower-density commercial, retail, and housing development. The Columbus region as a whole is growing in both urban and suburban areas – growth which has contributed to increased congestion and need for better transportation alternatives to move people between urban and suburban areas and employment centers. The Mid-Ohio Regional Planning Commission (MORPC) has projected that by 2040 COTA's service area will experience a 13 percent increase in population, 15 percent increase in employment, and 13 percent increase in highway traffic congestion.







CITY OF COLUMBUS OBJECTIVES

Facilitate improved access to multimodal trip planning information

Increase usage of available transportation services

Improve ease of multimodal trip planning

Provide travelers with more convenient access to transportation service options

Increase access to jobs and services

Increase customer satisfaction



COTA OBJECTIVES



Reduce cash-for-fare payment on buses

Reduce onboard fare processing time

Use centralized server/account-based processing

Provide customers a “guaranteed lowest fare” system

Retrieve accurate and timely ridership and revenue data

Support open architecture and new technologies

By employing an account-based system, COTA will have the data to employ innovative fare structures with dynamic pricing, aimed at reducing congestion, protecting the environment and encouraging public transportation – as well as a way to monitor results.

Reduce the use of cash-for-fare payment on board buses to minimize dwell time and reduce operating costs

Reduce onboard fare processing time to improve on-time performance and make the boarding process easier and more convenient for customers

Use centralized server/account-based processing in which fare calculation and payment are completely carried out in the back-office

Provide customers a “guaranteed lowest fare” system that would automatically charge customers the lower amount based on how much they’ve travelled

Allow retrieval of accurate and timely ridership and revenue data which can be used for detailed analysis and reporting to determine transit trends among riders

Support open architecture and be extensible to support new technologies as they mature in the industry



MOBILITY IN COLUMBUS TODAY



- High single occupancy vehicle usage
- Low transit usage
- Lower density
- Car dependency is not a choice
- Lack of trust, familiarity with existing options
- Public perception of excessive trip time and service uncertainty

Should focus on being a typical mid-America city – these challenges are not unique to Columbus

Set up for next slide to show what is being done to improve

For many residents, car dependency is not a choice as there are insufficient travel options (based on location) or there is a preexisting lack of trust or familiarity with existing travel options.

Despite many positive initiatives to improve transit service and reliability, there is a public perception of excessive trip time and service uncertainty, coupled with a lack of familiarity with different options, such as AirConnect, CBUS, and others.



COTA/SMART COLUMBUS PARTNERSHIP

- As the regional public transit provider, COTA is an integral partner in forging successful outcomes
 - Multimodal Trip Planning App/Common Payment System
 - Smart Mobility Hubs
 - Mobility Assistance for People with Cognitive Disabilities
- Committed to using our expertise and resources as an:
 - Advisor
 - Partner
 - Solutions Provider

COTA is a proud Smart Columbus partner.

Just recently, COTA and Smart Columbus worked together to release an RFP for our multi-modal trip planner. Soon, we will do the same for the common payment system. And COTA is coordinating with Smart Columbus and DriveOhio toward installation of mobility hubs at major transit stations.

COTA is committed to using it's talent, its decades of experience, and resources to support communities as they grow by serving in three distinct ways:

- Advisor
- Partner
- Solutions Provider



MOBILITY AS A SERVICE



- The future of transit is multimodal and on-demand
- A shift away from personally-owned vehicles
- A solution that uses both public and private entities
- Integration with the Smart Columbus Operating System

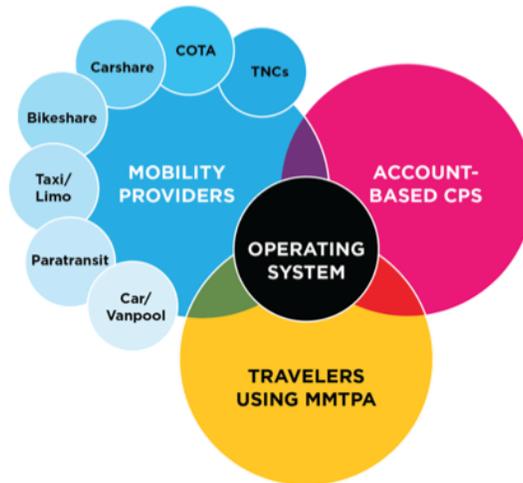
The future of transit is multimodal, and COTA is embracing that. As an organization, we're finding our role evolving toward becoming a service provider. So what does that mean? The concept of Mobility as a Service is the idea that transportation can be tailored to meet specific mobility needs, to use technology and innovation to reduce reliance on a personal vehicle. We are helping to integrate existing mobility systems, while also preparing for what lies ahead.

In the frame of multimodal trip planning and common payment, we aim to provide a platform that integrates end-to-end trip planning, booking, electronic ticketing, and payment services across all modes of transportation, public or private. The effective outcome will be to make communities work more effectively and improve access to transportation for everyone in our community.

- A shift away from personally-owned vehicles
- A solution that uses both public and private services
- Integration with the Smart Columbus Operating System
 - A unified gateway
 - A single platform
 - Account-based common payment system



WHAT 'MAAS' MEANS FOR COLUMBUS



Columbus defines MaaS as a shift away from personally-owned vehicles to a solution that combines both public and private transportation services. Integration with the Smart Columbus Operating System (Operating System) is central to Columbus' vision for facilitating MaaS.

The Operating System will serve as a unified gateway for the region, by combining the transportation services of Mobility Providers into a single platform accessible to Travelers using the MMTPA. The account-based CPS will provide Travelers with the ability to pay for all trips with a single account.



MMTPA/CPS CONCEPT OF OPERATIONS



CHALLENGES

- Disintegrated mobile apps
- Lack of a comprehensive platform to plan, book, and pay
- City agencies do not control the trip data
- Trips are not being optimized for ride-sharing
- Unbanked users must rely on cash for transportation options
- Lack of incentives for Mobility Providers and Travelers

Thanks Andy, I am going to start by introducing some of the challenges in Columbus, and then go into a high-level description of our proposed solution.

Many of the challenges residents face around multimodal trip planning and payment are not unique. In Columbus, as well as in other cities, users have access to a variety of mobile apps and services for single-mode transportation, but none that provide a comprehensive platform to plan, book, and pay for multimodal trips from a single account.

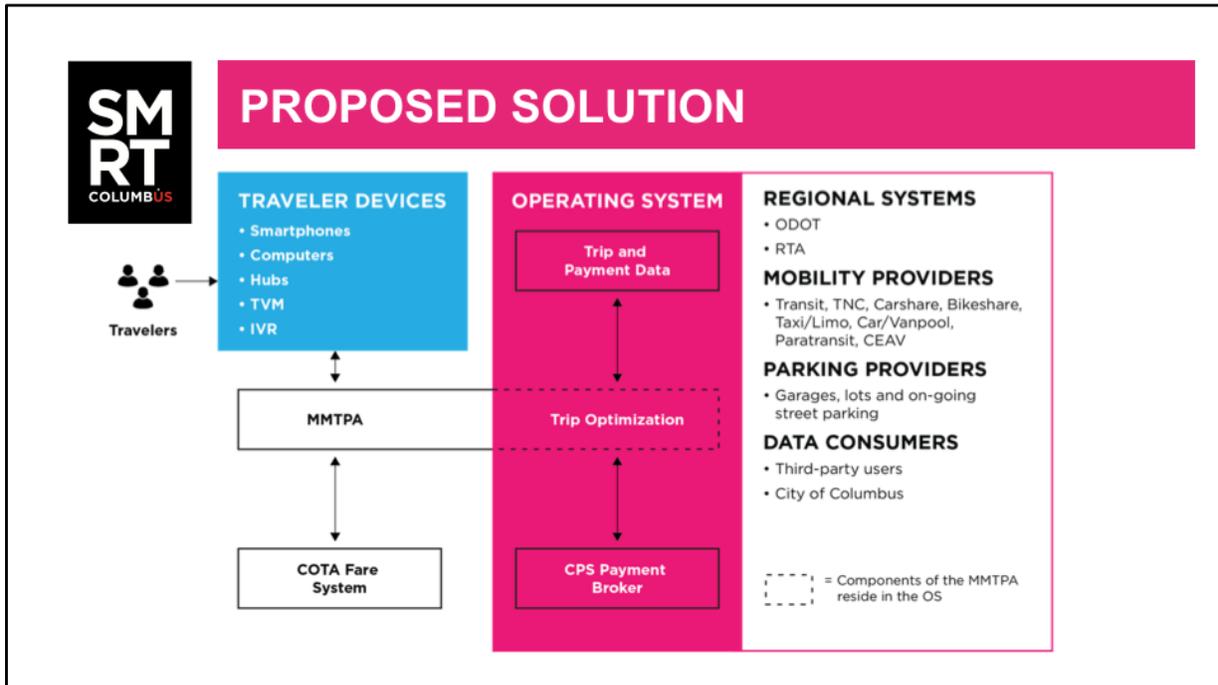
Furthermore, there is no mechanism for the City to capture all of the travel data collectively to be able to forecast travel demand and make improvements to the system.

Other challenges include unbanked users who must rely on cash for transportation and who are limited in the number of choices that are available to them.

In general, there is believed to be a lack of incentive for Travelers to engage in multimodal services, as it is not convenient to have to rely on different apps to get from A to B .

There is also a lack of incentives for Mobility Providers to become part of a MaaS solution, although this is changing and improving as MaaS is gathering more support.

In the next few slides we will talk about our proposed solution, starting first with a high-level overview of the system.



Looking at the diagram on the screen and starting in the upper-left, Travelers interact with the MMTPA and CPS using a variety of devices, but primary the smartphone. Other devices include personal computers (for example, connecting to the MMTPA via a web portal), or at kiosks at Smart Mobility Hubs, or using Ticket Vending Machines to reload value onto their CPS accounts.

The MMTPA is enabled by Trip Optimization services that are part of the Operating System. These services connect with Mobility Providers, such as Transit, TNCs, car-sharing companies, bike-sharing, taxi, etc., to create customized trip itineraries for the Traveler.

The CPS is integrated with the COTA Fare System so that Travelers may fund a single account to pay for services, enabling them to simply “click to pay once” for multimodal trips.

Other means of access include an Interactive Voice Response system (IVR) to allow Travelers without smartphones or computer access to plan and purchase trips.

One of the key benefits of collecting anonymized trip and payment data is that it provides the City with meaningful information to understand travel behavior. Third-parties, such as researchers, evaluators, and entrepreneurs, will also have access to anonymized travel data to apply toward new research or creative developments.

Integration with the Operating System is central to our vision for facilitating MaaS.

The System may ultimately serve as a unified gateway for the region, by combining

transportation services into a single platform, and providing support for other regional systems such as the Ohio DOT (ODOT) and the Dayton RTA.



SOLUTION: MMTPA AND TRIP OPTIMIZATION

A single place to plan/book/pay for multimodal trips without requiring multiple apps

Trip optimization that considers all available travel information including City/COTA business rules and traveler preferences to calculate the best route options



In the current system, as mentioned, we have various mobile apps each offering a different service, and each requiring the Traveler to manage separate payment accounts. In effect, the Traveler needs to download and register with numerous apps to get from Point A to Point B.

To make travel choice more intuitive and more convenient, the MMTPA will combine services under a single umbrella to facilitate access and thereby increase usage. Promoting Transit, in association with other modes to get from A to B, is a key aspect of trip optimization. This is often referred to as "first and last-mile" connection, which describes the beginning or end of an individual trip being made by public transportation.

The ability to store user preferences is another key aspect of the MMTPA and Trip Optimization.

Examples of this include: preferred mode, maximum costs, preferred duration, price, walking distance, accessibility, as well as environmental factors, such as the "greenest" route. Trip Optimization will consider these factors when interacting with Mobility Providers determine the best routes. It will also consider real-time information, such as traffic delays or congestion , and offer alternatives, when necessary, to get from A to B.



SOLUTION: COMMON PAYMENT SYSTEM

Account-based system to pay for all transportation services through a single account

Register multiple forms of payment

Allow unbanked travelers to fund CPS accounts using reloadable prepaid debit cards not tied to checking accounts, or by loading cash into their CPS accounts at COTA TVMs



The benefit of a centralized, account-based system, is that fare calculation and payment are completely carried out by the back-office. Users only need to fund and manage a single account to pay for all services.

Users can fund their CPS accounts using a variety of methods, such as credit card, debit card, electronic payment systems, etc. Also, the account can be tied to subsidization programs, such as employee benefits and pre-tax dollars, or can be tied to loyalty programs or incentives with local merchants for qualifying multimodal trips.

The CPS will be integrated with COTA's back-office via a shared account to prevent users from having to sign up and register in both systems. It will be capable of handling one-to-one and one-to-many payments across different modes of transportation.

For example, a Traveler using the CPS to pay for a multimodal trip will pay once for the total trip (that is, all trip segments) and have the funds split from their CPS account for each Mobility Provider for each segment of the total trip.

In the case of unbanked users or users who, for one reason or another, prefer to pay with cash, they will be able to fund their CPS accounts using reloadable prepaid debit cards not tied to checking accounts, or by loading cash into their CPS accounts at COTA ticket vending machines.



SOLUTION: DATA WAREHOUSE, APIS, AND PERFORMANCE MEASURES

Trip and payment data in a “big data” environment

Trip and payment data captured in real time and periodically archived

Access to detailed travel data through integration with the Operating System

Forecast economic changes and travel behavior



Trip data generated by the MMTPA will be housed in a “big data” environment within the Operating System. This environment holds a massive amount of raw data in a secure way and makes it available to all other supported operations in the System.

Trip and payment data will be collected in real time as generated by the MMTPA and periodically archived to a historical database.

In general, the benefits of “big data” or data warehouses are that by centralizing all of this data it can be converted into actionable information which can be used to effectively understand, manage, and improve the overall system.

Within the Operating System, this data can also be inputs for Machine Learning to support better Trip Optimization and to make better predictive models for how people may effectively get around.

A Service Layer within the Operating System will make data available through Application Programming Interfaces (APIs). City and COTA users will have access to anonymized trip data related to system performance, such as trip origin and destination by mode, which can be used to analyze changes in mode choice and travel behavior, which may lead to better decision making and policy.

Anonymized trip data will also be available to third-party users, such researchers, evaluators, and entrepreneurs, who may use this data for research, evaluation and development purposes,

which supports our goals for creating an open data platform and transparency.



SOLUTION: INCENTIVE MAAS

Convenience – “pay once”

Reward travelers for making multimodal trips; tie incentives and rewards to user experience

For Mobility Providers, expand market size by linking with Public Transit; customer-centric approach

For City/COTA, better data



The MMTPA and CPS will provide Travelers with access to incentives and rewards for participating in multimodal trips. This may include discounted transportation, or travel points toward an individual service, or discounts with local vendors and merchants.

Gamification may also be used to incentivize multimodal trips. Gamification is the use of game theory and game mechanics in a mobile app to encourage user adoption and promote a certain type of behavior, such as transitioning away from single-occupancy vehicles to carpooling services. It seeks to leverage aspects of social media and online competition to reward travel behavior.

In addition to providing Travelers with better incentives, we are seeking to incentivize Mobility Providers to become a part of the MaaS solution. By linking with COTA as the regional transit system, Mobility Providers have an opportunity to grow their businesses by capturing some of the ridership demand around transit, as a complementary service, not a competitive service.

By taking a customer-centric approach through partnership with the City and with COTA, Mobility Providers stand to gain in exposure and adoption by users.



SOLUTION: OPTIMIZE RIDE-SHARING AND ON-DEMAND SERVICES

Optimize trips for ride-sharing and provide on-demand services for paratransit

Create a foundation for subsidies

Meet National Transit Database (NTD) requirements

Improve access to transportation choices and FMLM trips

Reduce paratransit costs



Many agencies have begun to use on-demand transportation services for paratransit trips for their ambulatory customers instead of relying on contracted trips which are of much higher cost and typically less convenient for the Traveler (in that they need to be scheduled well in advance).

However, on-demand options are still too expensive for most travelers to use on a regular basis. By qualifying for Federal subsidies, we can subsidize these trips to make them more affordable and more cost-effective over traditional paratransit service.

Our solution is to use the Operating System to optimize trips for ride-sharing and provide on-demand services for paratransit. To do so, we must meet National Transit Database (NTD) requirements to allow for federal subsidies. We are aiming to build a platform that will qualify for Federal subsidies to make this possible.

Doing so will reduce current paratransit costs, help improve ridership, and allow for multimodal door-to-door service.

At this point, I would like to turn the presentation back over to Andy to discuss stakeholder engagement.



STAKEHOLDER ENGAGEMENT SUMMARY



WHO WE TALKED TO

Residents and end-users

- Expecting moms
- Older adults
- Linden residents
- People who work in Linden
- Easton workers and visitors
- Columbus State Community College
- Bicyclists
- Pedestrians





WHO WE TALKED TO

Mobility Providers and Vendors

- COTA
- Carshare
- Bikeshare
- Taxis
- TNCs
- Microtransit





HOW WE ENGAGED



- Linden Community Plan Meetings – August 2017 to March, 2018
- Cluster Sampling Field Surveys – March 5-23, 2018
- Linden Moms2B Focus Group – June 21, 2017
- Linden Older Adults Focus Group – June 21, 2017
- Online Survey – April 2017
- Smart Columbus Connects Linden – February 10-11, 2017



WHAT WE LEARNED

- Over 90 percent of respondents said they have a cell phone
- Of those, over 90 percent said their cell phone is a smartphone
- Many people with smartphones – 87 percent – also have a data plan
- Many community members do not pay for apps
- There are security concerns with putting bank/credit card information into an app



WHAT WE LEARNED

- Residents struggle with lengthy commutes, multiple bus transfers and long waits
- First and last mile services are lacking; bus stops are too far from homes, jobs and other key destinations
- Out of nine possible app features listed in our surveys, three were clear-cut favorites:
 - Planning/selecting multiple types of travel
 - Finding the quickest way to get somewhere
 - Finding the least costly way to get somewhere



OVERALL LESSONS LEARNED

- Integrating Operating System adds value
- Creating a system where mobility partners and travelers benefit from being a part of it
- Gaining agreements with transportation providers is challenging



WHERE WE GO FROM HERE

 MMTPA proposals due
September 10, 2018

 CPS System Requirements
August 2018 – December 2018

 MMTPA First Release
January 2019

 CPS RFP released
December 2018

 MMTPA Go Live
July 2019

 CPS First Release
June 2019

 MMTPA and CPS Go Live
January 2019

Dates listed are for final version of document (not 508-compliant or refresh)



HOW TO STAY CONNECTED

USDOT CONNECTED VEHICLE ENVIRONMENT PROGRAM INQUIRES:
Kate Hartman, Program Manager
Kate.Hartman@dot.gov

SMART COLUMBUS INQUIRES:
Alyssa Chenault, Communications Project Manager
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Upcoming Smart Columbus Webinars:

- Essentials of the operating system (SCOS)
- Multimodal Trip Planning Assistance/Common Payment System
- Overview of Mobility Assistance for People with Cognitive Disabilities
- Event Parking Management
- Smart Mobility Hubs
- Prenatal Trip Assistance
- Overview of Emerging Technologies: Connected Electric Autonomous Vehicles and Truck Platooning

Webinar recording and materials will be available at itsa.org and smart.columbus.gov



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Contact:

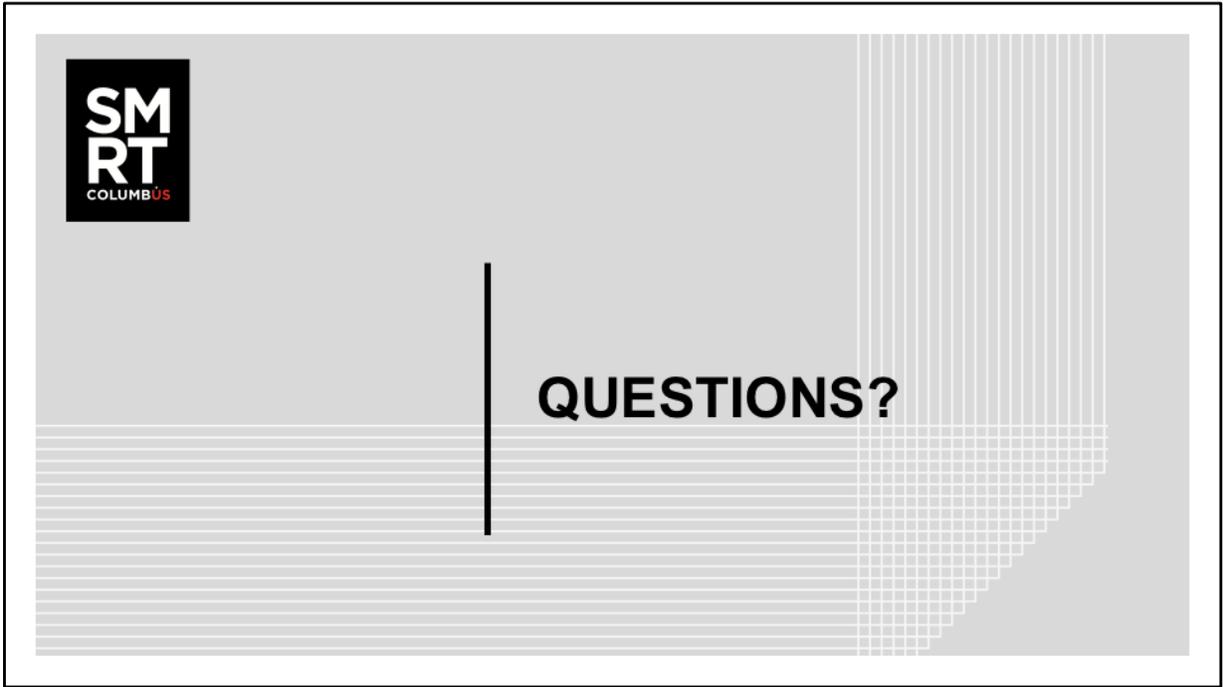
SmartColumbus@columbus.gov

LEARN MORE



Columbus.gov/smartcolumbus

   @SmartCbus



We now ready to welcome your questions via chabox.

<at the end:> The webinar recording and presentation materials will be available ??????