NOTICE OF A MEETING
SMART REGION TASK FORCE
MID-OHIO REGIONAL PLANNING COMMISSION
111 LIBERTY STREET, SUITE 100, COLUMBUS, OHIO 43215
SCIOTO CONFERENCE ROOM

July 9, 2019, 2:00 pm – 3:30 pm

AGENDA

1. Welcome – Joe Stefanov, SRTF Vice Chair

2. Smart Region Updates – Aaron Schill, MORPC

3. SmartColumbus Operating System –
   Mackenzie King, Accenture; Mandy Bishop, City of Columbus

4. Work on Deliverables
   a. Smart Streets Policy Status Update – Discuss Local Adoption –
      Joe Stefanov, SRTF Vice Chair
   b. Smart Region Playbook – Aaron Schill, MORPC

5. Other Business – Joe Stefanov, SRTF Vice Chair

6. Adjourn – Joe Stefanov, SRTF Vice Chair

Please notify Lynn Kaufman at 614-233-4189 or LKaufman@morpc.org to confirm your attendance for this meeting or if you require special assistance.

The next Smart Region Task Force meeting is
September 10, 2019, 2:00 p.m. – 3:30 p.m.
111 Liberty Street, Suite 100, Columbus, Ohio 43215

PARKING AND TRANSIT: When parking in MORPC’s parking lot, please be sure to park in a MORPC visitor space or in a space marked with a yellow “M”. Handicapped parking is available at the side of MORPC’s building.
MORPC is accessible by CBUS. The closest bus stop to MORPC is S. Front Street & W. Blenkner St. Buses that accommodate this stop are the Number 61 - Grove City, the Number 5 - West 5th Ave. /Refugee, and the Number 8 - Karl/S. High/Parsons. One electric vehicle charging station is available for MORPC guests.
Smart Columbus Operating System

Mission & Vision
Timeline, Roadmap
Intro to Data Platform 2.0
Beyond the Tech
Going Open Source
ACCELERATION PARTNER PROGRAM

IF YOU WANT TO GO FAR, GO TOGETHER
<table>
<thead>
<tr>
<th>1</th>
<th>SENIOR POINT OF CONTACT</th>
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<tbody>
<tr>
<td>2</td>
<td>ELECTRIFY YOUR FLEET</td>
</tr>
<tr>
<td>3</td>
<td>EXPAND CHARGING INFRASTRUCTURE</td>
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<tr>
<td>4</td>
<td>SMART MOBILITY EDUCATION</td>
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<tr>
<td>5</td>
<td>INCENTIVIZE BEHAVIOR CHANGE</td>
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<tr>
<td>6</td>
<td>ENHANCE ACCESS TO OPPORTUNITY</td>
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<tr>
<td>7</td>
<td>COMMIT TO SUSTAINABLE ENERGY</td>
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<tr>
<td>8</td>
<td>SHARE DATA W/ SMART COLUMBUS OPERATING SYSTEM</td>
</tr>
<tr>
<td>9</td>
<td>ALIGN SMART CITIES INVESTMENTS TO ACCELERATION FUND</td>
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<tr>
<td>10</td>
<td>CREATE NEW OPPORTUNITIES</td>
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</tbody>
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- MEET WITH SMART COLUMBUS
- SET MEASURABLE GOALS
- UPDATE & SET POLICY
- SHARE LEARNINGS VIA PLAYBOOK
MISSION & VISION
THE OS IN REFERENCE TO THE USDOT SMART CITY CHALLENGE
MISSION

To demonstrate how an intelligent transportation system and equitable access to transportation can have positive impacts on everyday challenges faced by cities.
OPERATING SYSTEM BIG PICTURE

Data Inputs
- Workers
- Citizens
- Public & Private Systems
- Devices & Things

Data Capture & Analysis
- Data Scientist & Researchers

THE OPERATING SYSTEM

Application hosting and connectors to other systems

Data Consumption
- Public
- Entrepreneur
- Universities
- Commercial Partners
- City
- USDOT
- Independent Evaluators
SMART COLUMBUS OPERATING SYSTEM

**Non-Profit**
Data sharing allows organizations to connect and lift up the community.

**Private Sector**
Access to public data allows businesses to identify opportunities and solutions.

**Civic Engagement**
Residents benefit from safer, faster mobility, whether in their car or on transit.

**Public Sector**
Insights increase agency efficiency, spur innovation-friendly policies.

**Academic**
Researchers are able to consume data with ease, producing rich visualizations and insights.

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**Centralized Account Management (IDAM)**

**Online Scientist Notebook** (Visualization & Analytics)

**Event Parking Management**

**Operational System Launch**

**Operating System Updates**

**U.S.D.O.T. Portfolio Projects**

**Smart Columbus Operating System Timeline**

**Connect**

**Connected Vehicle Environment**

**Connected Electric Autonomous Vehicle** (Drive Ohio)

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**Smart Columbus Operating System**

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**Smart Columbus**

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**OCITA // May 31, 2019**
TIMELINE & ROADMAP
BIG PICTURE OF PROGRAM, VS. DAY-TO-DAY AGILE DEVELOPMENT
PROGRAM PHASES & TIMELINE

- **SYSTEMS ENGINEERING**
  - August 2016

- **DEVELOP AND PROCURE**
  - August 2018
  - April 2019

- **DEPLOY, OPERATE AND MAINTAIN**
  - September 2019
  - June 2020

- **DATA COLLECTION/ANALYSIS**
  - March 2021

- **SOLICIT/VALIDATE USER NEEDS | ENGAGE STAKEHOLDERS/PUBLIC | COMMUNICATE PROGRESS/PARTICIPATION OPPORTUNITIES**

- **SUSTAIN**
USDOT PROJECT PORTFOLIO

OPERATING SYSTEM

ENABLING TECHNOLOGIES
- CONNECTED VEHICLE ENVIRONMENT

ENHANCED HUMAN SERVICES
- MULTIMODAL TRIP PLANNING/COMMON PAYMENT SYSTEM
- SMART MOBILITY HUBS
- PRENATAL TRIP ASSISTANCE
- EVENT PARKING MANAGEMENT
- MOBILITY ASSISTANCE FOR PEOPLE WITH COGNITIVE DISABILITIES

EMERGING TECHNOLOGIES
- CONNECTED ELECTRIC AUTONOMOUS VEHICLES
USDOT PORTFOLIO

OPERATING SYSTEM

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EMERGING TECHNOLOGIES
- CONNECTED ELECTRIC AUTONOMOUS VEHICLES
DATA PLATFORM
CAPABILITIES & ARCHITECTURE
WHY SHIFT FROM 1.0 PLATFORM TO 2.0?

INSIDE OUR DATA PLATFORM 2.0

DATA PLATFORM 1.0
April 2018–April 2019

- Data Storage +

Built using ‘CKAN’ platform

DATA PLATFORM 2.0
April 2019–Future

- User Interface
- Data Exchange
- Data Storage

Flexible Interfaces for Discover & Use
Pipeline Scalability
Operational Efficiencies

Built loosely-coupled, custom-designed microservices using Elixir programming language
OVERVIEW OF DATASETS

- **Dataset Examples**: Traffic Characteristics, City Infrastructure Inventory, Crash Records, Weather Readings, Emergency Response Times, Food Services, Parking Locations, Health behaviors, Real-time Vehicle Location Feeds. *(Select vehicle location dataset feeds stream in near-realtime)*

- **Formats**: .CSV, .GeoJSON, .JSON *(XML and Shape Files coming soon – currently available as remote datasets)*

- **Supports**: Use cases that solve distinctive challenges experienced in the Central Ohio region

- **Standardization**: Metadata is curated in compliance with Project Open Data standards, to maximize machine readability and utility
UNDERSTANDING USERS’ NEEDS
PERSONAS

- CLAIRE: Data Curator
- ANDY: System Administrator
- PAIGE: Data Provider
- NANCY: Nonprofit Manager
- CARLOS: City Agency Manager
- ALLAN: Academic

- EDDIE: Entrepreneur
- DAVE: Application Developer
- CONNOR: Data Consumer
- EVITA: Project Evaluator
- RACHEL: Bus Rider
- AISHA: App User
WHAT IS THE OS, WHAT GETS TRANSFERRED?
Privacy & Data Management Plans

Data Privacy Plan (DPP)

- Provides high-level guidance, principles and policies to ensure the privacy of Smart Columbus Demonstration data subjects and project participants.

- This document applies to all individuals who use or share data with Smart Columbus, including all Smart Columbus employees, partners and consultants.

Data Management Plan (DMP)

- Documents how the data within the Operating System will be added, made accessible and/or stored within the Operating System platform.

- Details how the data will be created, captured, transmitted, maintained, accessed, shared, secured and archived.
Establish operations and maintenance costs at time of transfer

- Operational support costs
- Legal agreements
- Staff
- DMP / DPP support
- etc.

Articulate financial and institutional model to sustain

- Product lines
- Actual revenue
- Projected revenue with confidence
- Investment (schedule, documentation of commitments, etc.)
CLOUD AGNOSTIC PLATFORM

WHAT IS THE OS: Cloud Agnostic Data Management Platform

You can also use on-premise servers
3.4. OPEN SOURCE

PHASE 1 & 2

PHASE 1
Initial Release, June 18, 2019
Smart Cities Data Platform

PHASE 2
2nd Release, October 20, 2019
Smart Columbus Operating System

- Libraries
- General Platform Microservices
- Columbus Implementation
- Columbus Configuration
The Smart Columbus Operating System is built with open source code and available for license-free use and enhancement by third parties on GitHub at “SmartCitiesData”

- The general platform is **OPEN SOURCE AS OF JUNE 2019** and is publicly available with Apache 2.0 license
  - In October 2019, Smart Columbus grant project specific components will be released to the Open Source community

- **YOU CAN USE THE CODE** to build their own Smart City Data Platform

- **SMART COLUMBUS WILL OFFER WORKSHOPS** to teach people Elixir coding language and train people to contribute to the code.
THANK YOU.

Visit [www.smartcolumbusos.com](http://www.smartcolumbusos.com) to explore currently ingested data.

**Program Manager:** Mandy Bishop, mkbishop@columbus.gov  
**OS Product Owner:** Mackenzie King, mackenzie.a.king@accenture.com