Essentials of the Smart Columbus Operating System
$40 MILLION
78 APPLIED • COLUMBUS WON
SMART CITY CHALLENGE
THE CITY OF COLUMBUS
ANDREW J. GINTHER, MAYOR
SMRT COLUMBUS
U.S. Department of Transportation
USDOT PORTFOLIO

ENABLING TECHNOLOGIES
- CONNECTED VEHICLE ENVIRONMENT

ENHANCED HUMAN SERVICES
- MULTIMODAL TRIP PLANNING/COMMON PAYMENT SYSTEM
- SMART MOBILITY HUBS
- MOBILITY ASSISTANCE
- PRENATAL TRIP ASSISTANCE
- EVENT PARKING MANAGEMENT

EMERGING TECHNOLOGIES
- CONNECTED ELECTRIC AUTONOMOUS VEHICLES
- TRUCK PLATOONING
THE PRODUCT VISION

Essentials of the Smart Columbus Operating System
OPERATING SYSTEM BIG PICTURE

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

Data Capture & Analysis
- Data Scientist & Researchers

Application hosting and connectors to other systems

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

ESSENTIALS OF THE OPERATING SYSTEM

Data Environment
- Data ingestion
- Streaming data
- Data tagging
- Data aggregation

Security
- Data encrypted in transit & at rest
- ID Access Management (IDAM)

Scalable Capacity
- Built with open source/open architecture
- Elasticity with AWS Cloud Services
- Microservices

Data Lake
- Fast and slow storage
  - Variety of data

Data Research Environment
- Social community
- Data discovery
- Visualization
- User dashboards

Shared Services
- Application hosting
- Function sharing through microservices (real-time ML, route optimizer)

Analytics
- Core analysis tools
- Machine learning
- Artificial intelligence
### Program Milestones

<table>
<thead>
<tr>
<th>Features</th>
<th>OS Prod Dates</th>
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</thead>
<tbody>
<tr>
<td>Online Data Scientist Notebook</td>
<td></td>
</tr>
<tr>
<td>Data Platform 2.0</td>
<td>9/30</td>
</tr>
<tr>
<td>➢ Ingest</td>
<td>12/4</td>
</tr>
<tr>
<td>➢ Discover/use</td>
<td>12/18</td>
</tr>
<tr>
<td>➢ Migration</td>
<td>3/15</td>
</tr>
<tr>
<td>Streaming in Data Platform 2.0</td>
<td>5/14</td>
</tr>
<tr>
<td>➢ MMTPA Data Integration</td>
<td></td>
</tr>
<tr>
<td>➢ Machine Learning Support</td>
<td></td>
</tr>
<tr>
<td>➢ Centralized Account Management (IDAM)</td>
<td></td>
</tr>
<tr>
<td>➢ Service Security Model</td>
<td></td>
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<tr>
<td>➢ Application Hosting</td>
<td></td>
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<tr>
<td>➢ Data Market Place</td>
<td></td>
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<tr>
<td>➢ App Market Place</td>
<td></td>
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<td>➢ Social</td>
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<tr>
<td>➢ Self-Service</td>
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</tbody>
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**KPI = Key Performance Indicator  CEAV = Connected Electric Autonomous Vehicle  MMTPA = Multi-Modal Trip Planning Application**
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Contact:
SmartColumbus@columbus.gov

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QUESTIONS?

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