

# SMARTATL

A Smart City Overview and Roadmap



## Southeast USA Overview



- Most of US population lives in the eastern third of the country
- South-east region GDP: \$3.6 trillion – Largest economy of all US regions. 25% of US population
- 4th-largest economy (based on GDP) of all countries globally
- **50% of nation's net population migration is to the Southeast**



## Metro Atlanta Overview



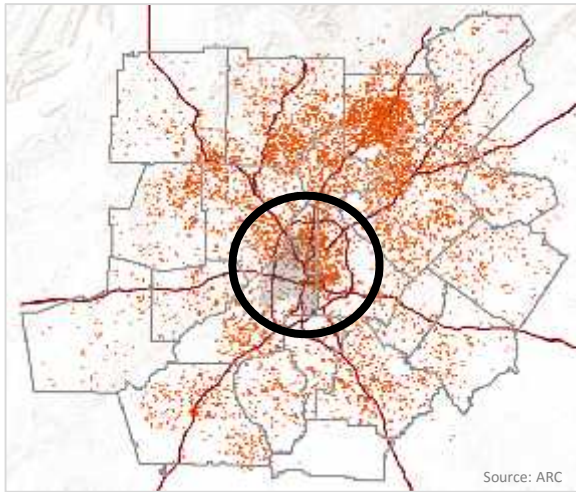
- Georgia's GDP: ~\$460B
- Metro Atlanta's GDP: ~\$300B
  - Largest economy of all metro areas in the SE region USA (based on GDP)
  - Population: ~5.5 million – 2<sup>nd</sup> largest metro area in the Southeast region
  - **8th largest metro area in U.S.**



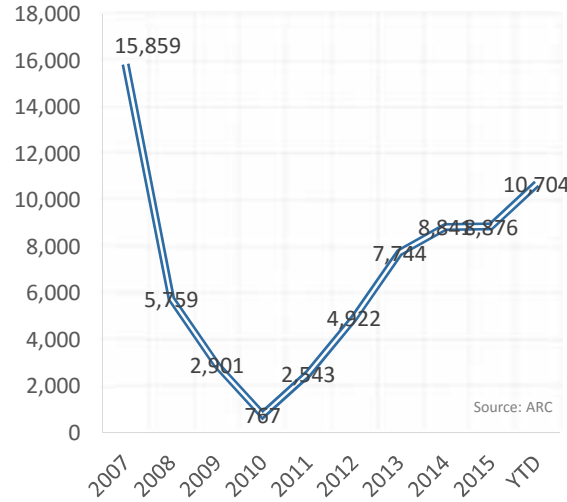
# Permits, New Units under Construction, and Job Growth is on the rise



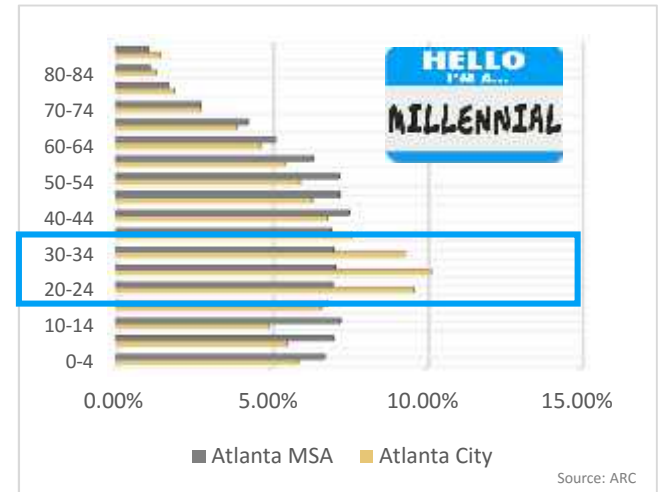
### New Permit Requests - 2015



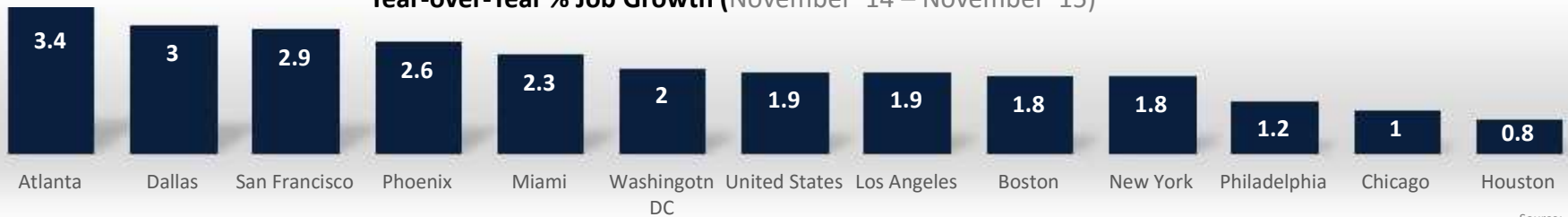
### New Units Under Construction



### Age Demographics Moving into City

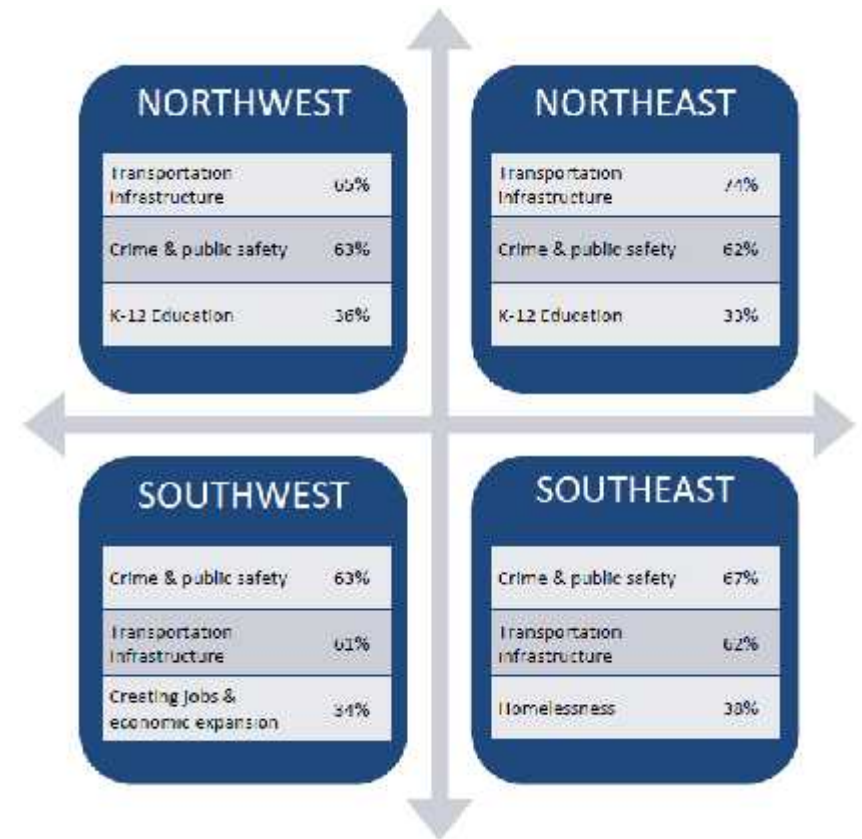


### Year-over-Year % Job Growth (November '14 – November '15)





- Overall:
  - 66% of residents identify transportation infrastructure as one of their top three areas to be addressed.
  - 64% of residents identify crime and public safety as one of their top three areas to be addressed.
  
- By quadrant:
  - Transportation infrastructure is top priority in northern quadrants
  - Crime and public safety is top priority in southern quadrants





# SmartATL: Primary Smart Cities Objectives



## Mobility

- Reduce traffic/congestion
- Reduce trip time
- Improve public safety
- Reduce pollution from transportation

## Smart Government

- Number of E-Government Services
- Decline in the number of 311 Calls
- Increase in digital signage
- Smart City Dashboard

## Economic Growth

- Increased number of financial transactions
- Increase in permit requests
- Increase in new construction
- Increase in number of new jobs created
- Number of new startups

## Public Safety

- Reduce response times
- Increase clearance rates
- Lowering overall crime rates with more resolution and more prevention
- Reduction in vehicle and pedestrian accidents

## Citizen Engagement

- Number of Residential Surveys
- Number of Citizen Meetings
- Increase participation in Neighborhood Planning Units (NPU's)
- Increase website traffic

## Environmental & Water

- Reduce pollution
- Improve water quality and conservation
- Improve waste prevention, recycling, reuse
- Encourage clean/renewal energy power generation

We (the city) collectively leverage a **strategic and data-centric approach** to improve mobility, public safety, and sustainability, ultimately enhancing citizen well-being and fostering the economic growth of our city.



## Dedicated Smart City Team and Governance



Recently established a **centralized** Smart City Office and **dedicated** Director  
Establishing Executive and Operational Governance Bodies





## 3 key applications for the data generated by Smart Cities



### **Descriptive**

#### Situational Intelligence

*What's going on, anywhere and everywhere*



RIO  
30 departments in 1  
unified control center

### **Prescriptive**

#### Real-time Optimization

*Use advanced computing to make things as good as possible, in real-time*



DALLAS  
1-40 Integrated Corridor  
Management

### **Predictive**

#### Preventive Maintenance

*Predict problems and opportunities in time to take action*



Equipment remotely reports its own condition. Send a crew to equipment most likely to fail

**City**

**Urban Operating System**  
Descriptive, Prescriptive,  
Predictive Analytics

**Business  
Monetization**

Advertising  
Analytics  
Access Subscription  
Mobile Offload

**Businesses  
Start-ups  
Entrepreneurs**

**City Service  
Optimization**

Situational Awareness  
Service Optimization  
Predictive Insight

**City  
Service  
Providers**



**Open Government**  
Transparency  
Public Service Improvement

**Citizens**

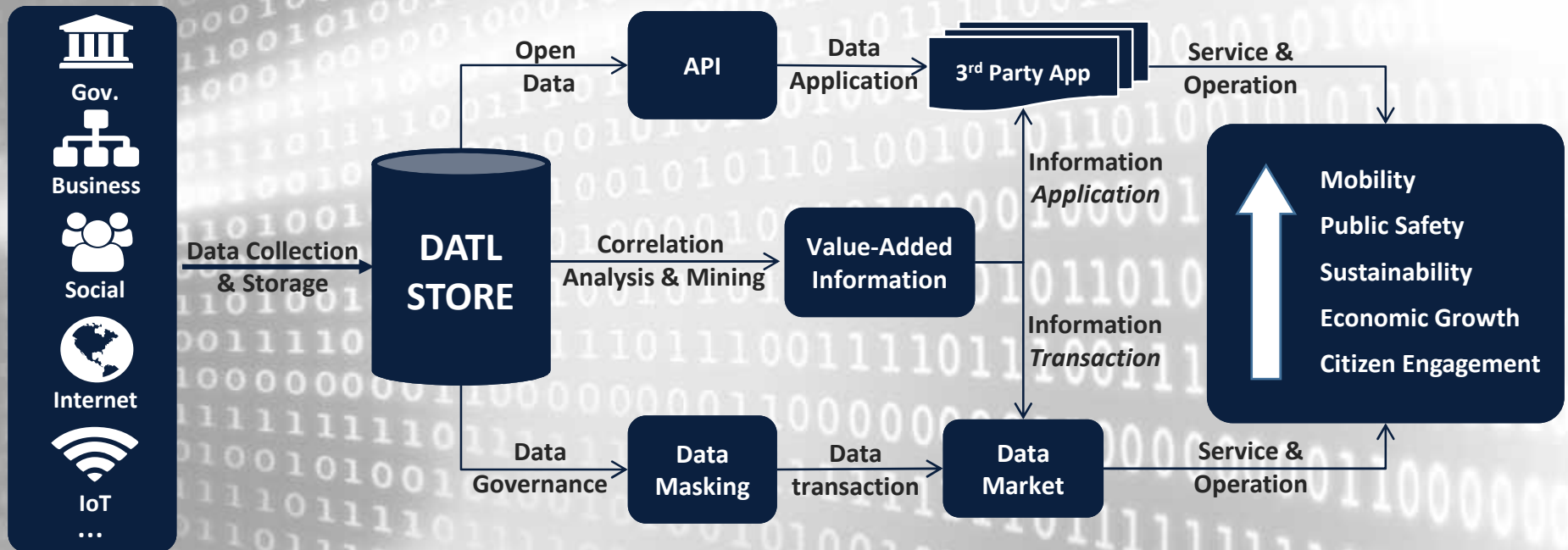
# Enabling a Smart City Data Economy



Collect and store multi-source data, and serve 3<sup>rd</sup> parties to develop data-based applications

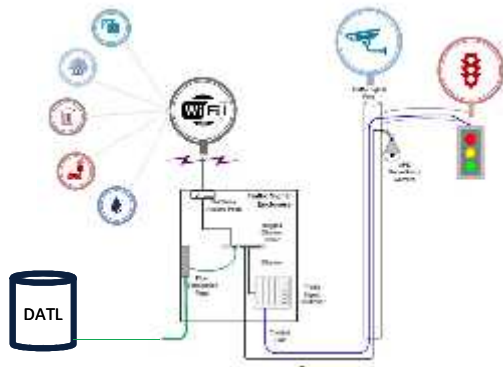
Apply or transact the value-added information generated from correlation analysis and mining

Deploy data masking/governance serve governments, enterprises, citizens through transactions in data market





## CAPTURE & COMMUNICATE



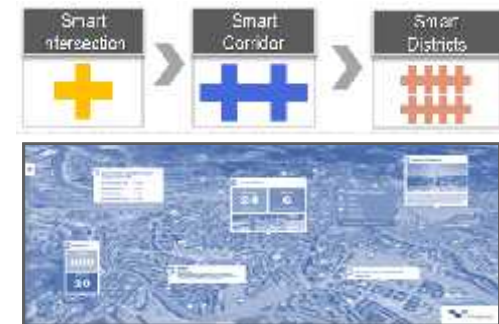
- Run fiber to traffic signal enclosure
- Connect to switch and enable WIFI
- Connect smart devices to WIFI
- Transmit data to DATL data store
- Augment DATL with datasets from city servers and third-party clouds

## COLLABORATE & CRUNCH



- Establish baseline and target values for in-scope smart city goals
- Make DATL data accessible to Metrolab and private sector partners
- Apply big data analytics to inform decisions to achieve target goals

## CONFIGURE & CONTROL



- Test solutions on smart intersection and corridor first!
- Monitor results vs. baseline to determine solution efficacy
- Expand to district-wide deployment if target is achieved and sustained

## 1 Smart Intersections



## 2 Smart Corridors



## 3 Smart City Districts



Improve  
Mobility



Improve  
Public Safety



Improve  
Sustainability



Grow the  
Economy



Enable Smart  
City Data Economy




We picked North Avenue between Northside & Moreland





# We picked North Avenue between Northside & Moreland



Objective Areas	Existing Challenges	Potential Opportunities
	<ul style="list-style-type: none"> <li>No traffic signal communications</li> <li>Peak congestion at multiple intersections, excess capacity at others</li> <li>Underutilized MARTA bus/rail</li> </ul>	<ul style="list-style-type: none"> <li><b>Major East-West Arterial</b></li> <li>Major MARTA rail stop, Multiple bus stops</li> <li>Heavy pedestrian activity</li> <li>No Bike share</li> <li>Direct access to parks and trails</li> </ul>
	<ul style="list-style-type: none"> <li><b>No Situational Awareness</b></li> <li><b>Vehicle Larceny!</b></li> <li>Simple Assault</li> <li>Vandalism</li> <li>Robbery</li> </ul>	<ul style="list-style-type: none"> <li>Engaged citizens in the neighborhood</li> <li>Existing tech can help provide situation awareness, citizen empowerment, and improved response</li> </ul>
	<ul style="list-style-type: none"> <li>Water – Aging water main and distribution infrastructure and frequent water main breaks</li> <li>Waste – Standard receptacles, no recycling</li> </ul>	<ul style="list-style-type: none"> <li>Air – Measure air quality and correlate with congestion and other datasets</li> </ul>



Universities  
Metrolab



Private  
Sector



Municipal  
Partners

