BEFORE WE START

Camera’s optional
Everyone muted
Use the chat box for questions
Slides provided
Session recorded
Topics

Trends in Tech Investment
  Ruthbea Yesner

Understanding Complexity
  Philip Bane

Keys to Success
  Chris Foreman
  Ron Mester
Local Organizations Were Among the Most Disrupted Industries in the Past Two Years

- The pandemic accelerated the need for digital transformation
- “Rigid” industry pushed to be agile and responsive to public needs and policy changes
- This forced more risk taking and innovation; momentum for continued incremental and steady progress

45% of government organizations not sufficiently prepared for COVID 19 disruption

68% of report that Digital Trust programs are a priority over next 2 years

Estimated 127% increase in ransomware attacks in the US in 2021
Many Factors are Coming Together to Create Historic Opportunities

**ACCELERATORS**
- Government Stimulus
- Consumer demand and adoption
- Digital Innovation
- Technical Debt

**HEADWINDS**
- Rigid business processes
- Legacy systems/data complexity
- Politics
- Staffing/skills shortage
- Lack of governance

**DISRUPTORS**
- Coordinated Cyber attacks
- Changing norms for work and school
- Climate Events
- New policies and regulation
**The Infrastructure Investment and Jobs Act (IIJA): $550B New Funds through 2026**

<table>
<thead>
<tr>
<th>Category</th>
<th>Funds</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Roads and Bridges, 20.1%</td>
<td>$110 B</td>
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<tr>
<td>Electric Grid Updates, 13.3%</td>
<td>$73 B</td>
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<td>Passenger Freight and Rail, 12.0%</td>
<td>$66 B</td>
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<tr>
<td>Broadband, 11.9%</td>
<td>$65 B</td>
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<tr>
<td>Climate Change Protection, 9.1%</td>
<td>$50 B</td>
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<tr>
<td>Airport and Ports, 7.7%</td>
<td>$42 B</td>
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<td>Improve Water Quality, 7.1%</td>
<td>$55 B</td>
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<tr>
<td>Public Transit, 7.1%</td>
<td>$39 B</td>
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<tr>
<td>Environmental Cleanup, 3.8%</td>
<td>$21 B</td>
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<tr>
<td>Electric Vehicles, 3.8%</td>
<td>$15 B</td>
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*Sources: [White House](https://www.whitehouse.gov), [press reports](https://www.committeeforaresponsibletreasury.org), [Committee for a Responsible Federal Budget](https://www.committeeforaresponsibletreasury.org)*
Significant Change in Attitudes and Consumer Adoption of Technologies

Widespread changes in attitudes and adoption of technologies from hybrid work in government, to virtual municipal experiences, to comfort levels with new technologies.

- 36% of US consumers increased use of mobile apps in 2020.
- 26% of US consumers used video for the first time in 2020.
- 1/3 of US residents want to replace in-person government visits with virtual visits.
- 74% of government will develop an expanded work-from-home policy.
Continuous Volatility and Disruption Erode Resiliency and Trust

Increased volatility and disruption cause services downtime, outages and/or new services and workflow changes

- Compound environmental crises
- DDOS attacks, ransomware, and lockouts, network control issues – foreign national coordinated attacks
- Lack of technical agility to respond quickly and maintain continuous services

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<tr>
<th>Network Outages increased by 63% in March 2020 compared with the pre-pandemic period, and remained elevated</th>
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<tr>
<td>over 60% of attacks on government are ransomware or data theft attacks</td>
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<td>27% of state and local governments report they are under constant threat and worried about a successful future attack</td>
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<td>Recorded number of natural-disaster events has risen from an average of 80 a year to roughly 400 a year.</td>
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Technology Innovation is Also Driving Transformation

3. Velocity of connectedness: The future is data in motion.
4. Intelligence on demand: Navigating the torrent of data.
Mission: Digital Transformation to deliver an ETHIC and Tackle Big Challenges

**Constituent**
- Good stewardship of taxpayer money
- Transparent, non-intrusive engagement
- Seamless Access
- Equitable and Accessible
- Omni Channel

**Government**
- Productivity
- Security and compliance
- Cross-silo integration
- Personalization and compliance
- Omni-experience and support

**ETHIC**
- Efficient
- Trusted
- Highly-responsive
- Inclusive
- Convenient
Increased responsiveness means cities have to:

- Identify root causes of issues (business intelligence)
- Update, add and/or scale up services quickly (DevOps, low code/no code; data sharing and governance)
- Communicate at scale fast (comms platforms)
- Enable employees to respond quickly (training and upskilling)
- Ensure equity and accessibility (accessibility assessments/policy)
- Reduce technical debt (migrate to cloud services and/or update legacy applications and systems)
The Agenda for the Future Enterprise

New Ecosystems

- Defining the new value and ecosystems in the digital economy

New Customer Requirements

- Creating empathy with consumers
- Engendering trust
- Creating innovative experiences

New Capabilities

- Intelligent organization
  - Intelligent workplace
  - Resilient operations

New Critical Infrastructure

- Resilient digital infrastructure
  - Connectivity that drives pervasive experiences

New Ecosystems

- Defining the new value and ecosystems in the digital economy
Understanding Complexity
Telecom & IoT Aggregation Simplifies

Advantages
• Lower cost
• More accurate data
• Decreased latency
• Enhanced analytics
• Promotes interoperability
• Wireless networks – reduced energy consumption
City organization – complicates

• Every department makes investments independently:
• No sharing of infrastructure and IT costs
• No sharing of intelligence/information, e.g., video feeds, data from sensors, analytics
• Waste and duplication of investment and effort
• Difficulty in scaling infrastructure management

Ineffective. Inefficient. Uneconomical
Many Buyers Further Complicates

90,000 different local government buyers in US
- 19,519 cities
- 16,360 townships
- 12,880 independent school districts
- 3031 counties
- 1,626 public higher ed (colleges, universities)
- 420 Metropolitan Planning Organizations (required by USDOT)
- 50 states with numerous agencies (46 states budget year starts in July)

2021 – 51% of IT spending ($118.7B) was by states

35,000 are members of Council of Governments (COGS)
Funnels for Funds

The Infrastructure Investment and Jobs Act (IIJA): $550B New Funds through 2026

Federal Government → States → Cities, towns and counties

Resilience – BRIC Funding by FEMA – State – Local Government
Transportation – US DoT – State - Local Government
Stakeholder Concerns

Most common mistake is failure to identify key stakeholders (and their concerns)

• Sidewalk Labs and Quayside, Toronto
• San Diego CCTV surveillance
Stakeholder Engagement
(Most projects fail because of a lack of stakeholder engagement)

• Regional Planning Councils
• Metropolitan Planning Organizations
• Nonprofits
• Utilities
• Commercial partners
2022 - Smart Cities Sector US

You can be optimistic!

New Funding
Primary Driver
Data sharing

Buildings and transportation
Awareness and education
Convene and connect
Help with overall planning
Resiliency

Early Market
Early Adopters
Innovators

2014-15
2016
2017-18
2020
Keys to Success

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The Local Govt Market in the US: Full of Surprises

1. Massive collective purchasing power
2. Fragmented beyond your imagination
3. Fiercely independent governments
4. Purchasing behavior NOT like fed or states
5. Strongly interested in technology
Local Govt Marketing: Keys to Success

1. Targeting assumptions
2. Pricing
3. Direct marketing
4. Multiple channels
5. Relevant content