The APA Sustainable Communities Division supports planners who are committed to planning for sustainable communities by integrating all aspects of sustainability into our work through the combined economic, social, and ecological factors that shape our communities.
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Division Contact Information

- **Website**: planning.org/divisions/sustainable
- **Blog** (sign up for e-bulletin): www.sustainableplanning.net
- **LinkedIn**: APA Sustainable Communities Division
- **Facebook/Twitter**: APASCD
- **Scott Turner, Division Chair**: APASCD@gmail.com
Today

Smart Cities and Decision-Making: The Art of Building a Better Haystack with Data

• Rob Kerns, AICP - Development Division Chief, City of Alexandria (and former Chair of SCD)

• Nick Bowden - Chief Engagement Officer, mySidewalk by MindMixer

• Fred Merrill, FAICP - Principal, Sasaki

• Ken Goulding - Principal, Sasaki
Smart Cities & Sustainability

America Planning Association – Task Force
Mission:

Focus on sustainability by addressing recent advances in technology and innovation to cultivate cities which are smarter, more resilient, and sustainable.

Smart Cities and Sustainability Task Force
Goals

- Anticipate and prepare planners for trends and emerging issues.
- Generate the big ideas to advance in our communities.
- Educate through documentation of best practices and increase the use of smart city innovations by planners, citizens and elected officials.
Task Force Work Plan

OUTREACH
- Survey
- Roundtables
- Expert Webinars

SYNTHESIZE
- Best Practices
- Sub-committees drafts

OUTCOMES
- Compile Whitepaper
- APA Conference Panel
- Ongoing Dialogue
DEFINITION
Digital technology and intelligent design = smart, sustainable cities with high-quality living and high-quality jobs.

APPLICATIONS
- Smart devices and sensors embedded in its roadways, power grids, buildings and other assets provide data
- Smart communications systems with wired and wireless technologies
- Smart software to create valuable information and digitally enhanced services.
DEFINITION
Smart cities as places where information technology is combined with infrastructure, architecture, everyday objects and even our bodies to address social, economic and environmental problems.

APPLICATIONS
- Open-source software – Participatory governance
- Free Wi-Fi, community networks
- Web and mobile apps for city services. Big Data.
- Real time transportation data
- Smart Grid
- Crowdsourcing thru mobile apps
- Smart water meters
- Big data analysis of environmental data
- Remote monitoring of water/sewer systems

Smart City Applications
1. Supporting Infrastructure

2. Technology Applications / Big Data

3. Sustainability / Resiliency / Energy

4. Equity / Digital Divide

5. Roles / Governance / Planners

Smart City Components
Thank You

For more info:

Robert Kerns
215-279-1653
robertkernsjr@gmail.com

https://www.planning.org/sustainingplaces/smartcities/

https://www.planning.org/resources/ontheradar/smartcities/
<table>
<thead>
<tr>
<th>Ranges</th>
<th>Tiny Data</th>
<th>Visual Data</th>
<th>Queryable Data</th>
<th>Big Data</th>
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<td>As much as you can keep in your head at one time.</td>
<td>As much as can be visualized in dense display without losing granularity.</td>
<td>More than can be seen on screen.</td>
<td>More than can be queried using standard database tools.</td>
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<td>Not more than a few dozen</td>
<td>Typically 5-10K points, but can reach 100K or more.</td>
<td>100s of thousands to millions of points.</td>
<td>Scalable to billions of points.</td>
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<td>Real-time queries possible at smaller scales</td>
<td>Queries take time.</td>
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Duquesne Classrooms

- Libermann Room 317
  - Capacity: 30

- Fisher Hall Room 719
  - Capacity: 95

- Over 100
Duquesne Classrooms

2,832 points
Duquesne Classrooms

35 Enrolled
SOBA
Tue @ 11AM
Rockwell Hall
Room 504
Capacity 70

12 Enrolled
ENLA
Wed @ 11AM
Fisher Hall
Room 609
Capacity 48

2,832 points
WinDirStat TreeMap
http://windirstat.info/

1.7 M points (not all visible)
WinDirStat TreeMap
http://windirstat.info/

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1.7 M points (not all visible)
Rutgers Swarm Visualization

11,600 points

Mon 16:23:00

School

Inter-campus trips: 11662

College Ave.
- to Livingston: 1059
- to Douglass-Cook: 1290
- to Busch: 1037

Livingston
- to College Ave.: 1070
- to Douglass-Cook: 875
- to Busch: 1126

Douglass-Cook
- to College Ave.: 1102
- to Livingston: 618
- Douglass-Cook (Internal): 1065
- to Busch: 575

Busch
- to College Ave.: 1081
- to Livingston: 1136
- to Douglass-Cook: 713
Dartmouth Galaxy Visualization

4,182 points
Rutgers Galaxy Viewer

Press numbers 1-5 to select courses within a circle or keys Q-T to select students within a circle. Color by: Campus (C); School (S)
Boston Assessor Data

CONTINUITY Visualization of Boston Assessor Data for BERDO Buildings

Parcel ID: 0401134009
Property Type: Commercial
LU: C
Num Floors: 62
Area: 2,082,049
Value: $6,480,000,000
$/sf: $311,233
Built: 1976
Age: 39
Remodelled: 2012
Years Since: 2012
Remodel: 3

1,260 points
<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rob Kearns</td>
<td><a href="mailto:robertkernsjr@gmail.com">robertkernsjr@gmail.com</a></td>
</tr>
<tr>
<td>Nick Bowden</td>
<td><a href="mailto:nick@mysidewalk.com">nick@mysidewalk.com</a></td>
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<tr>
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</tr>
<tr>
<td>APA Sustainable</td>
<td><a href="mailto:APASCD@gmail.com">APASCD@gmail.com</a></td>
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<tr>
<td>Communities Division</td>
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Smart Cities and Decision-Making: The Art of Building a Better Haystack

October 23, 2015
We all want to make better decisions
HOW BIG IS THE HAYSTACK?

• Every public agency, big and small, has thousands of “active” data sets

• Data.gov has 141,192 open data sets
WHAT KIND OF DATA DO YOU HAVE?

• Boundary Data (districts, neighborhoods)
• Line Data (streets, transit lines, infrastructure)
• Point Data (public building, public assets)
• Financial Data
• Crime Data
• Traffic Data
• Service Delivery Data (311)
• Sentiment Data (citizen satisfaction survey, online engagement)
• Property Management Data
• Census Data
• Vendor Management
• Seemingly unending list..
• Government agencies are vertical (functional) in their structure

• Budgets fund functional projects (transportation master plan)

• Functional projects generally do not enable experimentation
“CREATIVE” PROBLEM SOLVING

• “Creativity is the power to connect the seemingly unrelated.”

• Requires lateral thinking

• The freedom to explore and experiment
OPEN DATA PORTALS

• Allow government to be functional and the public to be creative

• “Just because you buy a new Iphone, doesn’t mean more people call you.”

• Means to an end…