Delivering Practical Solutions on Urban Problems: Evidence-based Management

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About the Center for Urban Innovation

The Center serves as Arizona State University's focal point for research on urban affairs in the School of Public Affairs and the College of Public Programs.

We develop news ways for public officials, private entrepreneurs, nonprofit agencies, and citizens to work together in addressing the challenges that confront metropolitan areas around the nation, from the neighborhood to the regional level. We develop policy alternatives grounded in empirical evidence to aid public decision makers.

We work with organizations to disseminate these results to those groups most likely to derive benefits from the research.

Recent Center Projects

- Hosting ASU's annual conference on local public financing
- Economic analysis of economic development subsidy programs (many sports related or mega events)
- An analysis of the shifts of employment sectors in MSAs with implications for taxes
- Equilibrium model for optimizing the array of nonprofits in a community
- An analysis of pockets of poverty concentrations throughout Arizona
- Integrated MPA city management students in a management inventory for a local jurisdiction
- Benchmarking projects for 11 Valley municipalities
- Directions in citizen engagement utilizing social media platforms
- Integrated students into an analysis of citizen feedback on the future of public transit for the City of Phoenix
- Survey analysis of residents and businesses informing a development project in an economically challenged area of Phoenix
- Improving service delivery though collaborative approaches
- Helping local jurisdictions understand the array of public financing options available to them for capital infrastructure projects

The Collaborative Service Delivery Matrix:
A Decision Tool to Assist Local Governments

A Product of the Enhanced Partnership of the ICMA, the Alliance for Innovation, and the Center for Urban Innovation at Arizona State University

Our Overall Project Goal

Develop a tool to help managers and elected officials determine if and what kind of collaborative service delivery arrangements to pursue

ICMA

The Diagnostics

- Building the tools
- Examining collaborations
- Interviews
- Case studies
- Literature
- Final product

Troy, MI: Public-private partnership for building inspection services

ICMA

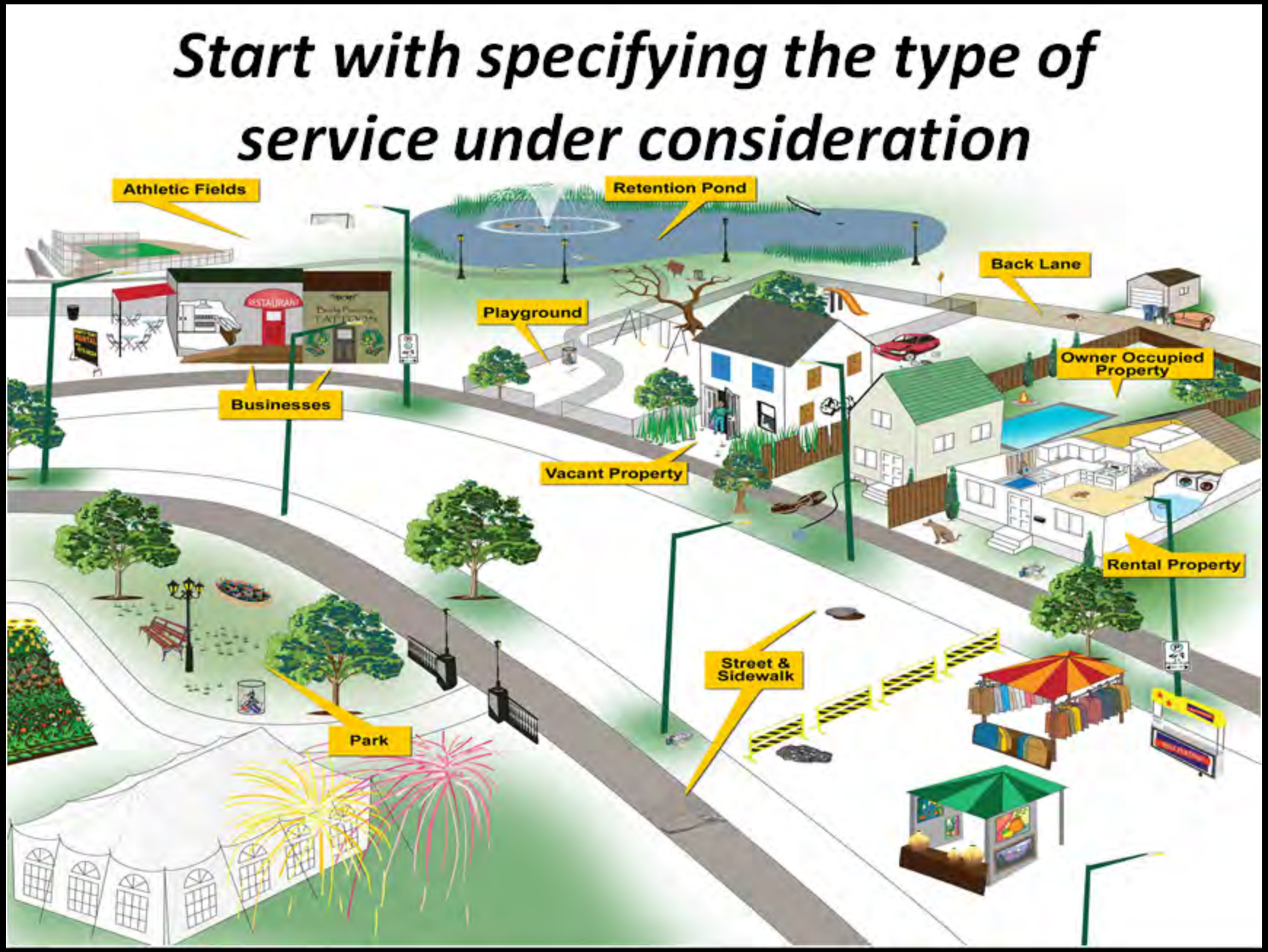
Should you engage in such an arrangement?

Consider two primary characteristics

Sandy Springs, GA: Operated under contract with CH2MHill

ICMA

Start with specifying the type of service under consideration



Type of Service to be Delivered	Score
Asset Specificity—This represents the degree to which the service requires investment in special infrastructure (e.g., water pipes, treatment plants, ditch diggers) or technical expertise (e.g., legal, environmental), which may mean a lack of competitiveness in supplier markets and the level of the community's internal expertise or technical capacity. High asset specificity means that the investments cannot be easily adapted to produce another service. (High=1, Medium=2 , Low=3)	
Contract Specification and Monitoring—Services that are relatively harder to specify in a contract or that are harder to monitor, or that require a higher level of performance management expertise on the part of government. (Hard=1, Medium=2, Easy=3)	
Labor Intensity—Some services are more labor intensive than others. Labor intensive services may also be capital intensive (see below). Generally, services that are more labor intensive in their delivery are better candidates for collaborative alternatives arrangements. (Low=1, Medium=2, High=3)	
Capital Intensity—Some services are more capital intensive than others. Capital intensive services may also be labor intensive (see previous). How diffused the benefits are from the capital investment determines the effect on the likelihood of successful collaborations. Generally, services that are more capital intensive with diffuse benefits are more amenable to collaborative approaches to their delivery. (Low=1, Medium=2, High with focused benefits=2, High with diffuse benefits=3)	

Type of Service to be Delivered	Score
Costs—Overall project costs influence the likelihood of successful collaboration in terms of both driving the need for collaboration as well as limiting the pool of potential partner organizations that might be able to participate in the delivery of more expensive services. (High=1, Medium=2, Low =3)	
Management Competencies—Communities must be sensitive to the expertise they have available on staff for managing the various stages of a collaborative arrangement from planning, structuring and executing a competitive bidding process, to negotiating and bargaining with vendors and employees, to measuring vendor performance or partner evaluation. The greater the managerial expertise on staff related to a service, the more likely a collaborative arrangement can achieve success. (Low=1, Medium=2, High=3)	
Stability in Administrative Team—Communities should be aware of the degree of turnover in the administration and the likelihood of additional turnover in the short and long term future, as best as possible. Communities facing turnover in the higher level positions will have more difficulty establishing and maintaining the institutional knowledge and oversight necessary for successful collaborations. (High turnover=1, Medium=2, Low=3)	
Total Type of Service Score (sum of seven characteristic scores)	

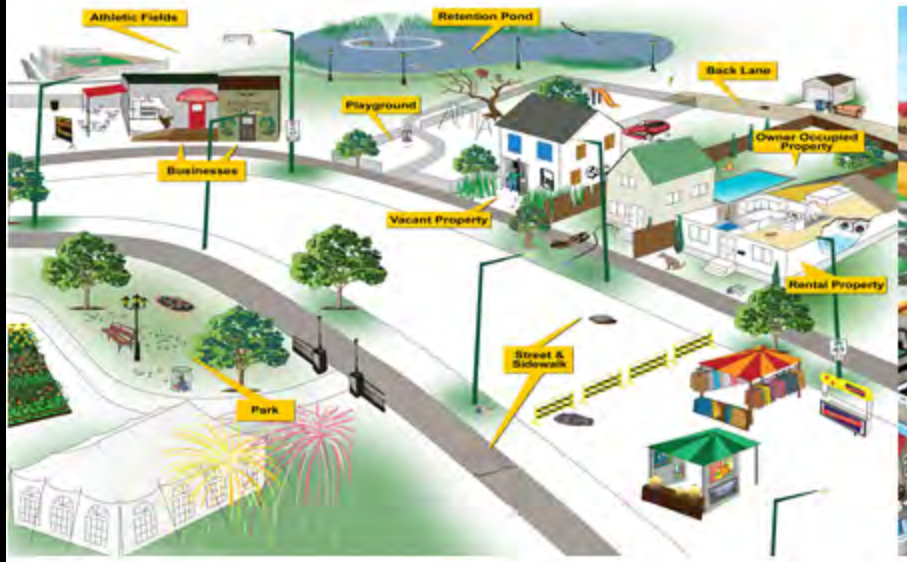
Next, discuss the community context in which we must operate that might influence the likelihood of a successful collaborative arrangement

Community Context	Score
Possible Public Partners—Communities may have other public jurisdictions with whom they can work in terms of nearby municipalities, townships, special districts, or county government. (Few=1, Some=2, Several=3)	
Possible Private Partners—The opportunity for partnering for delivery with private sector firms is limited to the extent that the community or region is home to enough such competent firms to support a competitive marketplace. (Few=1, Some=2, Several=3)	
Possible Nonprofit Partners—As with private partners, the size of the local supply of nonprofits will also be driven by the type of service under consideration as well as the competence of such organizations to serve as potential collaborators in service delivery. (Few=1, Some=2, Several=3).	
Council Orientation/Political Environment—Different kinds of services may meet different levels of support among local politicians which can raise the costs of pursuing and/or executing a collaborative arrangement. (Highly sensitive=1, Moderately sensitive=2, Non-sensitive=3)	

Community Context	Score
Fiscal/Economic Health—The community's fiscal condition may be a motivating factor in wanting to pursue alternative service delivery arrangements as a means to curbing costs. Those in better health are more likely to be successful in collaborative arrangements. But those that are in a weak fiscal position may find it more difficult to locate partners with whom to collaborate. (Poor=1, Moderate=2, Good=3)	
Unions—In many communities, there may be resistance to any collaborative alternatives that could affect public sector employment levels. (Strong=1, Moderate=2, Weak=3)	
Public Interest—Some services are more likely to attract the attention of citizens than others. Changes to those services that receive closer scrutiny by citizens are more likely to meet resistance to changes in how the community delivers the services. (High visibility=1, Moderate=2, Low=3)	
Total Community Context Score (sum of seven characteristic scores)	

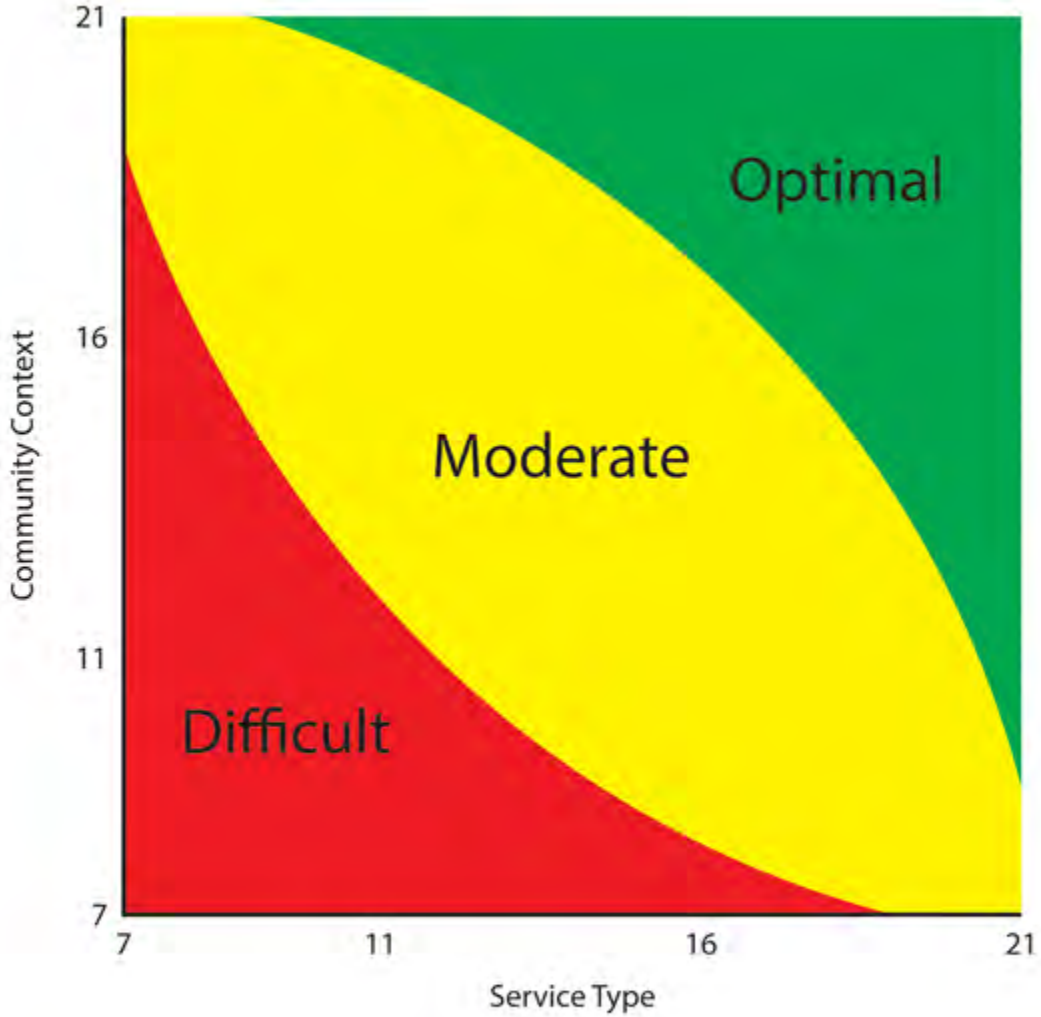
Two Scores

Service Type



Community Context

ICMA


21
16
11
7
Community Context
Optimal
Moderate
Difficult
7
11
16
21
Service Type

The Next Step

If your community does want to collaborate on the delivery of a particular service, the next question becomes which form of collaboration maximizes the likelihood of success?

There are several general options:

- Horizontal public-public partnerships
- Vertical public-public partnerships
- Consolidation/regionalization of services
- Public-private partnerships
- Public-nonprofit partnerships

Form of Collaboration Worksheet

Directions: Transfer the final scores assigned by the group to each service from the Collaboration Decision Worksheet by circling the score from there in the Score column below. Also circle the associated form of collaboration that number points to.

Service Characteristic	Score	Preferred Structure
	(circle your score)	(circle the corresponding structure)
Asset Specificity	1 →	Consolidation/Regionalism
	2 →	Public-Public (Horizontal)
	3 →	Public-Private Partnership
Contract Specification and Monitoring	1 →	None
	2 →	Public-Public (Horizontal)
	3 →	Consolidation/Regionalism
Labor Intensity	1 →	Public-Public (Horizontal)
	2 →	Public-Private Partnership
	3 →	Public-Nonprofit Partnership
Capital Intensity	1 →	Consolidation/Regionalism
	2 →	Public-Public (Vertical)
	3 →	Public-Private Partnership
Costs	1 →	Consolidation/Regionalism
	2 →	Public-Public (Vertical)
	3 →	Public-Nonprofit Partnership
Management Competencies	1 →	None
	2 →	Public-Public (Horizontal)
	3 →	Public-Private Partnership
Stability in Administrative Team	1 →	None
	2 →	Public-Private (Vertical)
	3 →	Public-Private Partnership

Community Characteristics	Score	Preferred Structure
	(circle your score)	(circle the corresponding structure)
Possible Public Partners	1 →	Consolidation/Regionalism
	2 →	Public-Public (Vertical)
	3 →	Public-Public (Horizontal)
Possible Private Partners	1 →	Public-Public (Vertical)
	2 →	Public-Public (Horizontal)
	3 →	Public-Private Partnership
Possible Nonprofit Partners	1 →	Public-Public (Vertical)
	2 →	Public-Private Partnership
	3 →	Public-Nonprofit Partnership
Council Orientation/ Political Environment	1 →	None
	2 →	Public-Public (Vertical)
	3 →	Public-Private Partnership
Fiscal/Economic Health	1 →	None
	2 →	Public-Public (Horizontal)
	3 →	Public-Nonprofit Partnership
Unions	1 →	Public-Public (Vertical)
	2 →	Public-Public (Horizontal)
	3 →	Public-Private Partnership
Public Interest	1 →	Public-Private Partnership
	2 →	Public-Nonprofit Partnership
	3 →	Public-Public (Vertical)

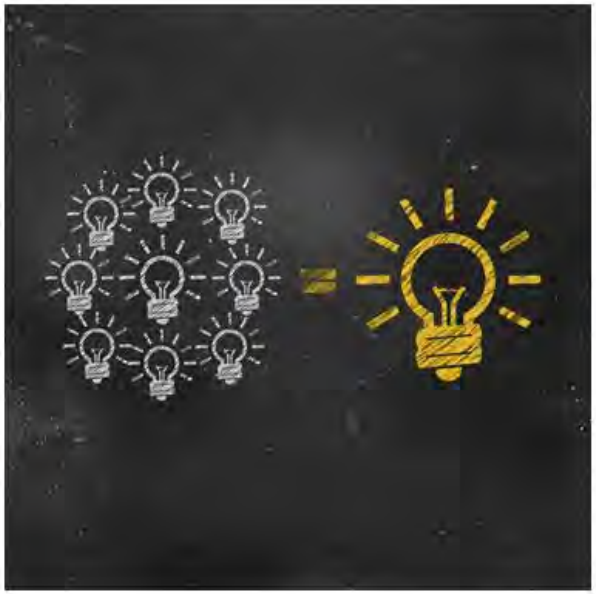
Transfer the results above to the table below by counting up the number of each collaboration form recommended. Once completed, check the box to the right to determine the form of collaboration associated with the highest probability of success.

Delivery Options	Count	Preferred Structure
	(how many circled)	(check highest score)
Public-Public (Horizontal)		❑
Public-Public (Vertical)		❑
Consolidation/Regionalism		❑
Public-Nonprofit Partnership		❑
Public-Private Partnership		❑
None		❑

ICMA
Leaders at the Core of Better Communities

Collaborative Services

OVERVIEW



COLLABORATIVE SERVICE DELIVERY

The following information was compiled through the Enhanced Research Partnership of ICMA, the Alliance for Innovation, and Arizona State University and represent best practices in the practice of collaborative/alternative service delivery. These documents are designed to assist local governments in addressing today's challenges through new and innovative approaches to service delivery through public-private partnerships, public-public partnerships and other forms of collaboration.

Recommended Resources from ICMA, Alliance for Innovation and Arizona State University Enhanced Research Partnership

- The Collaborative Service Delivery Matrix - ICMA, AFI, ASU
- Collaborative Service Delivery Arrangements for Local Governments - ICMA, AFI, ASU
- Bibliographic Resources on Collaborative Service Delivery Arrangements - ICMA, AFI, ASU
- Contemplating Collaboration - Hilvert & Swindell, PM Magazine August 2014
- Collaborative Service Delivery: What Every Local Government Manager Should Know - Hilvert & Swindell, State & Local Government Review

Organizational Assessment Tool

- The Collaborative Service Delivery Matrix --ICMA, AFI, ASU

Case Studies & Reports

- Promising Practices - A Paradigm Shift for Public-Private Partnerships - Paul J. Campbell, University of Pennsylvania
- The Innovation Equation: How Rock Hill, SC Leverages the Talents of Children to Solve Community Problems - City of Rock Hill, SC
- Alternative Service Delivery Report, Alliance for Innovation, October 2013
- City of Virginia Beach and Tidewater Community College Join Use Library
- Creative Partnerships to Implement TOD in the Atlanta Region
- Neighborhood Enhancement Program: Transforming Communities/Building Partnerships
- Collaboration Promotes Sustainable Growth for a Small Town in the Rural South
- Innovation in the Building Department: An Ongoing Commitment between SAFEbuilt and Client Partner

Other Tools for Local Decision Makers

IN 5 MINUTES News and events – visually

7 BILLION

World population is expected to hit 7 billion on or about Oct. 31.

Top 75 most populated countries

- 126,000,000 to 1,336,000,000
- 126,000,000 to 1,336,000,000
- 126,000,000 to 1,336,000,000
- 126,000,000 to 1,336,000,000

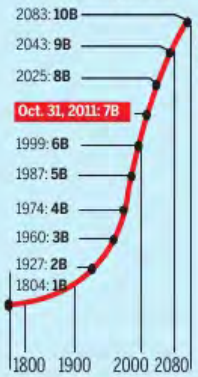
China 1,336,718,015 #1
India 1,189,172,906 #2
USA 313,232,044 #3
Indonesia 245,613,043 #4
Brazil 203,429,773 #5
Pakistan 187,342,721 #6
Bangladesh 158,570,535 #7
Nigeria 155,215,573 #8
Russia 138,739,892 #9
Japan 126,475,664 #10
Canada 34,030,589 #37

Netherlands 16,847,007
Ukraine 45,134,707
Poland 38,441,588
UK 62,698,362
Germany 81,471,834
Romania 21,904,551
Turkey 78,785,548
Kazakhstan 15,522,373
Uzbekistan 28,128,600
Iran 77,891,220
Afghanistan 29,835,392
Iraq 30,399,572
Syria 22,517,750
N.Korea 24,457,492
S. Korea 48,754,657
Portugal 10,760,305
France 65,312,249
Italy 61,016,804
Spain 46,754,784
Morocco 31,968,361
Algeria 34,994,937
Nepal 29,391,883
Taiwan 23,071,779
Mexico 113,724,226
Cuba 11,087,330
Guatemala 13,824,463
Venezuela 27,635,743
Colombia 44,725,543
Ecuador 15,007,343
Peru 29,248,943
Chile 21,766,711
Argentina 41,769,726
Mali 14,159,904
Niger 16,468,886
Senegal 12,643,799
Cote d'Ivoire 21,504,162
Burkina Faso 16,751,459
Ghana 24,791,073
Egypt 82,079,636
Saudi Arabia 26,131,703
Sudan 45,047,502
Yemen 24,133,492
Ethiopia 90,873,739
Cameroon 19,711,291
Uganda 34,612,250
Kenya 41,070,934
Congo 71,712,867
Rwanda 11,370,425
Tanzania 42,746,620
Angola 13,338,541
Zambia 13,881,336
Malawi 15,879,252
Zimbabwe 12,084,304
Mozambique 22,948,858
S. Africa 49,004,031
Madagascar 21,926,221
Sri Lanka 21,283,913
Burma 53,999,804
66,720,153
Cambodia 14,701,717
Vietnam 90,549,390
Philippines 101,833,938
Malaysia 28,728,607
Australia 21,766,711

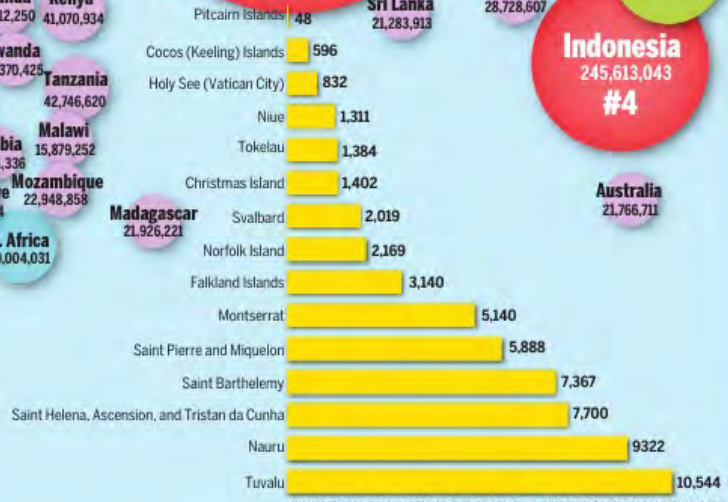
Population distribution, %

	1950	2150
Asia	55.6	57.1
Africa	8.8	23.7
Latin America	6.6	9.4
Europe	21.7	5.3
North America	6.8	4.1
Oceania	0.5	0.5

World population through the years



10 least-populated countries



Sources: CIA World Factbook; Graphic News

SUSAN BATSFORD, GRAPHICS EDITOR, TWITTER @SBATSI; INFOGRAPHIC BY TARA COBRAN/QMIAGENCY

Urban growth poses challenges to public service delivery and infrastructure support.

This is keenly felt in the fastest growing urban areas of developing countries.

Meeting these challenges will require clean water, sustainable power, and a resilient food distribution infrastructure.

Even in developed countries, crumbling infrastructure poses its own set of policy challenges.

These all require long-term capital investments to support economic development through the provision of sustainable and resilient infrastructure.

We just need to find smart ways to finance those investments.

SMART CITIES FINANCING GUIDE

Expert analysis of 28 municipal finance tools for city leaders investing in the future

Developed by the Center for Urban Innovation
at Arizona State University

SmartCitiesCouncil
LIVABILITY | WORKABILITY | SUSTAINABILITY

Table 1: 28 Municipal Finance Tools at a Glance

Government-based Finance Options	Development Exactions	Public and Private Options	Private Sector Leveraging
General Obligation Bonds	Dedication Requirements	Public-Private Partnerships	Loan Loss Reserve Funds
Revenue Bonds	Tap Fees	Pay for Performance	Debt Service Reserves
Industrial Revenue Bonds	Linkage Fees	Securitization and Structured Finance	Loan Guarantees
Green Bonds	Impact Fees	Catastrophe Bonds	On-Bill Financing
Qualified Energy Conservation Bonds			Pooled Bond Financing
Social Impact Bonds			Pooled Lease-Purchasing Finance
Public Benefit Funds			Value Capture
Linked Deposit Programs			Tax Increment Financing
Energy Efficiency Loans			
Property-Assessed Clean Energy Programs			
Greenhouse Emissions Allowance Auctions			
User Fees			

28 Financing Tools Categorized by 10 Characteristics

- Sources of capital
- Number of parties
- Ease of securing financing
- Duration of financing
- Risk to investors
- Risk to borrowers
- Tax implications
- Source of repayment
- Advantages
- Disadvantages

Meeting Goals of Sustainability

Table 19: Summary Characteristics for Securitization and Structured Finance

Characteristic	Score
Source of capital	Private investors
Number of parties	Multiple: Groups of jurisdictions working with developers and at least one investment bank to pool the similarly classed investment opportunities
Ease of financing	5 - very difficult: Primarily this is a reflection of the risks, but also there is no known market for this approach at this time
Duration of financing	Varies: Likely good for short- and medium-term arrangements
Risk to investors	4 - moderately risky: This is somewhat high risk due to the still-new technologies being financed with this tool since some will likely fail; but by packaging multiple similar projects the risk of complete failure is mitigated
Risk to borrowers	4 - moderately risky: Risk for public and private borrowers derives from the newness of the technologies being funded; if a specific project fails then the securitization for that project could be lost and taxpayers would be exposed
Tax implications	Varies based on the specifics of the structured arrangement
Source of repayment	Varies based on the specifics of the structured arrangement
Advantages	This tool represents an opportunity to tap deep pools of capital for investment while spreading the risk associated with each individual project
Disadvantages	These will be complex instruments and given the problems they exhibited in the home mortgage crisis will require significant oversight

Meeting Goals of Resiliency

Table 20: Summary Characteristics for Catastrophe Bonds

Characteristic	Score
Source of capital	Private investors
Number of parties	2 or more: Currently these are tools used primarily by insurers working with an investment bank to issue the bonds
Ease of Financing	4 - moderately difficult: The bonds have a high cost and are risky, though if no catastrophe strikes during the coverage period then the payout is high to the investors
Duration of financing	Short- and medium-term
Risk to investors	5 - high risk: If a catastrophe strikes during the coverage period then the insurance company that sold the bonds will take the proceeds to pay claims not covered by the premiums of those insured and investors could get nothing
Risk to borrowers	2 - relatively low risk: The point of catastrophe bonds is to spread the risk of an event overwhelming the assets and premiums of the company though they must be able to pay off the bonds at maturity if no event occurs
Tax implications	The bonds are issued by the insurer which is typically created as a nonprofit entity and therefore the bonds are often tax-exempt
Source of repayment	If there is no catastrophe requiring the payout of the insurance, then the insurer that issued the bond repays at the fixed rate with funds collected from the investment of the bond money
Advantages	Spreads risk for borrowers
Disadvantages	High risk for investors

Next Steps

- Make the guide interactive
- Developing broad categories of project types along a set of specific dimensions
- Developing a set of available financing tools as they vary over different jurisdictions
- The new tool will generate recommended financing tools matched to project type and jurisdictional constraints

The ASU Decision Theater

Urbanization: The Fs

- Fragile
- Failing
- Frugal
- …

Our Fragile Emerging Megacities: A Focus on Resilience

Wednesday, February 12, 2014 - 5:00am PST by KEVIN C. DESOUZA

Social / Demographics, Technology, World

The number of megacities is expected to double over the next decade, and many of these growing cities are far from resilient. The solution: frugal engineering and local knowledge.

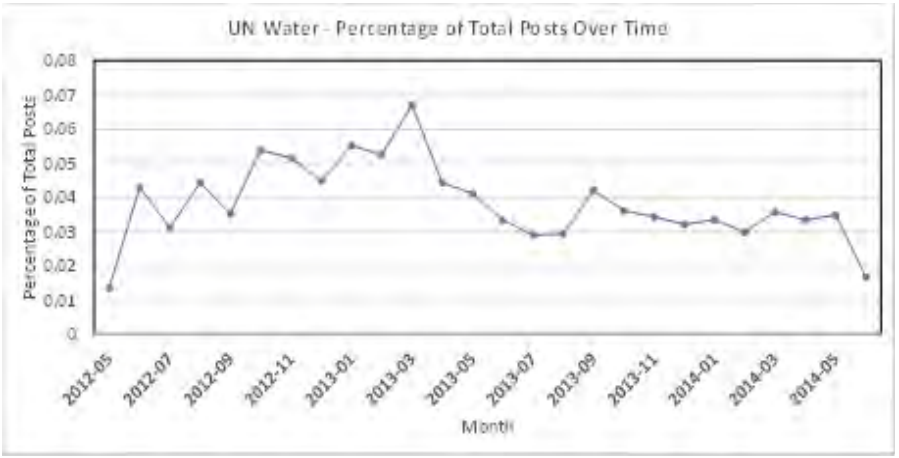
Framework

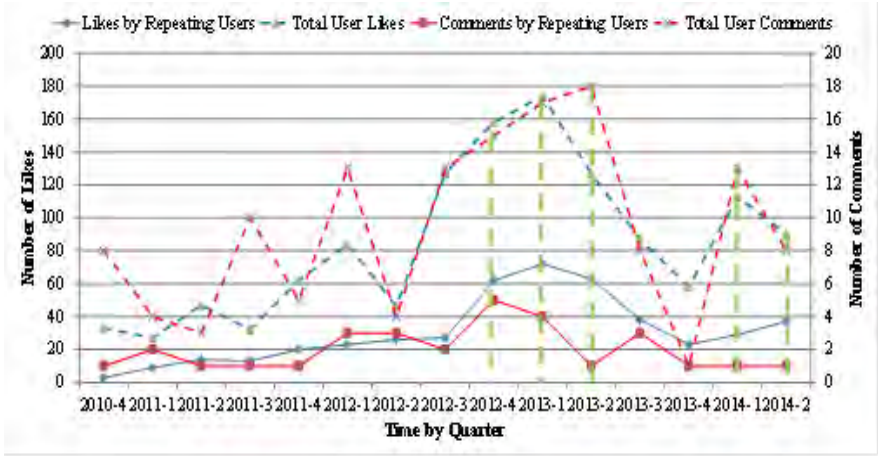
- Identify significant public policy challenges
  - Scope of potential impact
  - Data and information challenges
- Identify and *collaborate* with key stakeholders who have influence over the problem, the environment, and solutions
  - Jointly design the initial problem definition, key milestones and goals, and process
- Rapid prototyping towards design of initial *working* solution
  - Open source, distributed development, and agile processes
  - Work with the data ‘we have’ not the data ‘we wish we had’
  - One month turnaround

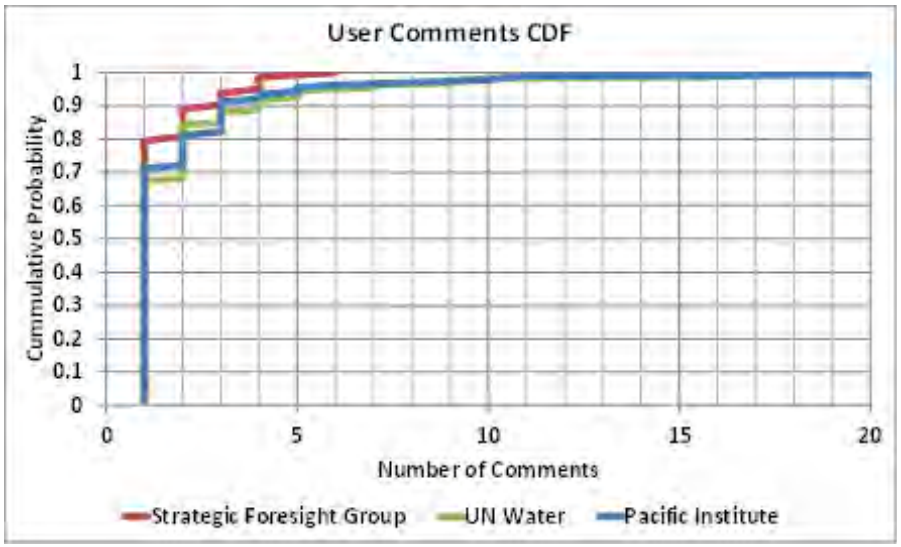
Framework

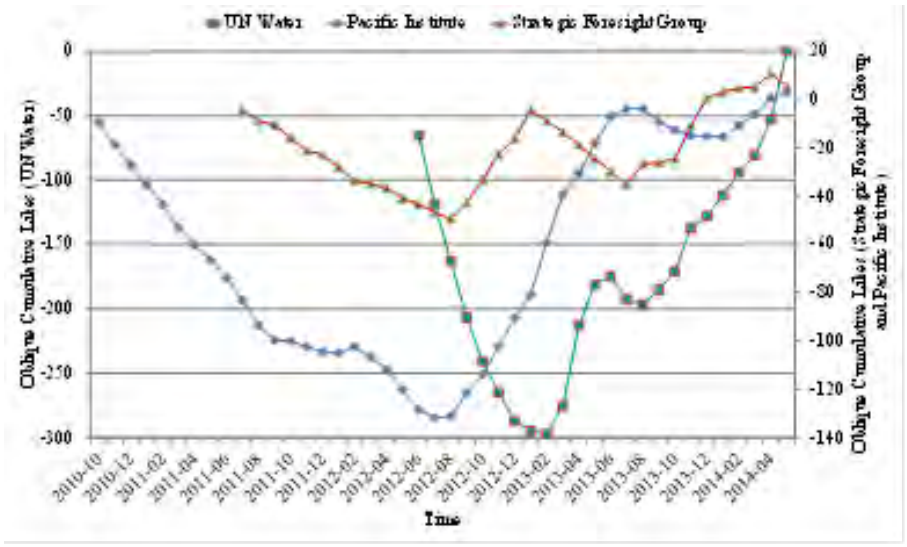
- Convene stakeholders to *play* with the solution
  - Stakeholders bring creative energy, novel perspectives, and experiment with the solution
  - Detailed feedback is collected, real-time modifications to solutions (if possible)
- Iterate towards *next* version of the solution
  - Send working prototypes to stakeholders and seek feedback
  - Repeat as necessary until the *solution is good enough to be in the field*
- Identify beta-site for live testing with stakeholders
  - Conduct rigorous testing, data analytics, and process feedback
  - Future developments and innovations are identified

Online Mobilization and Public Goods



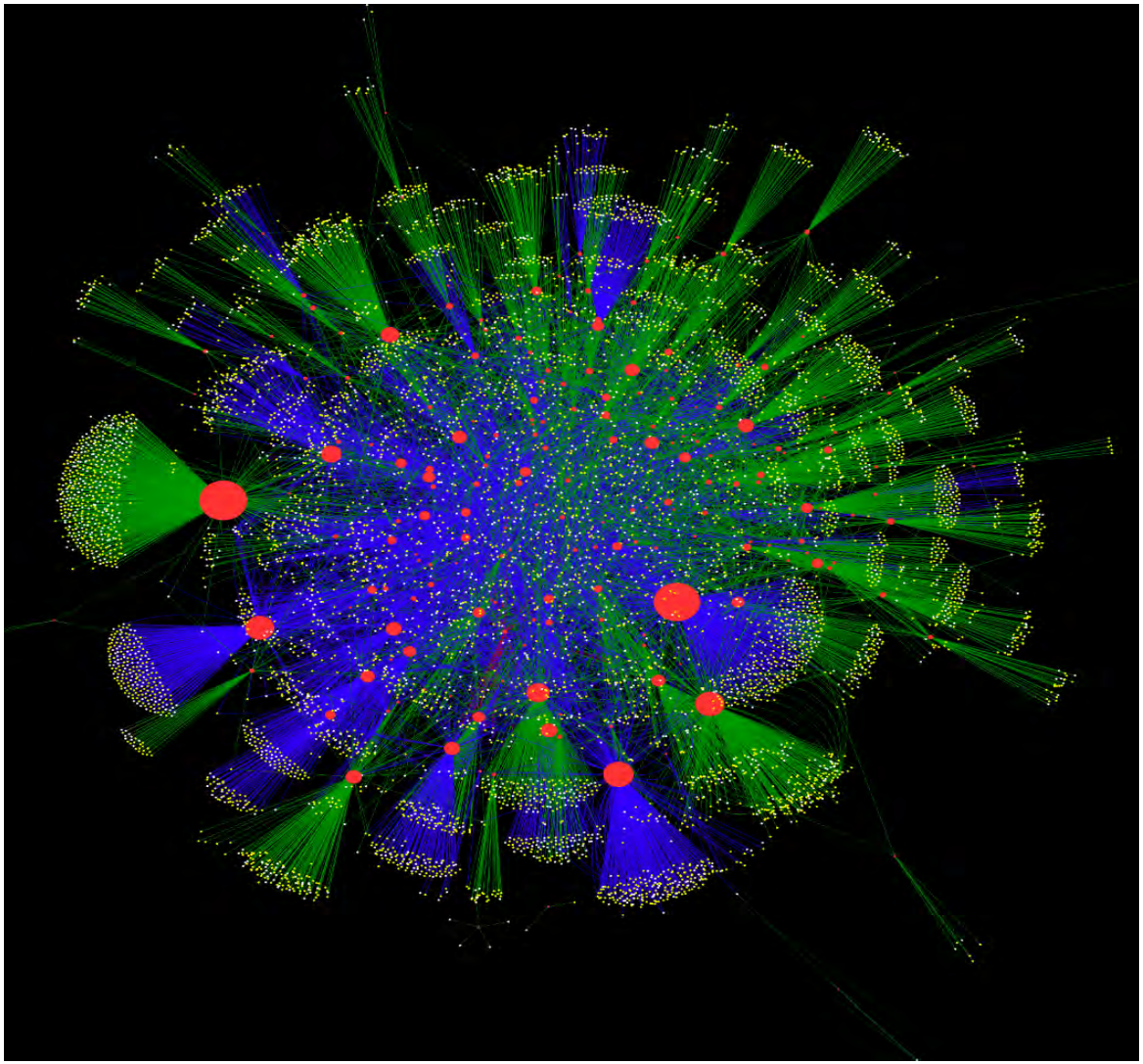




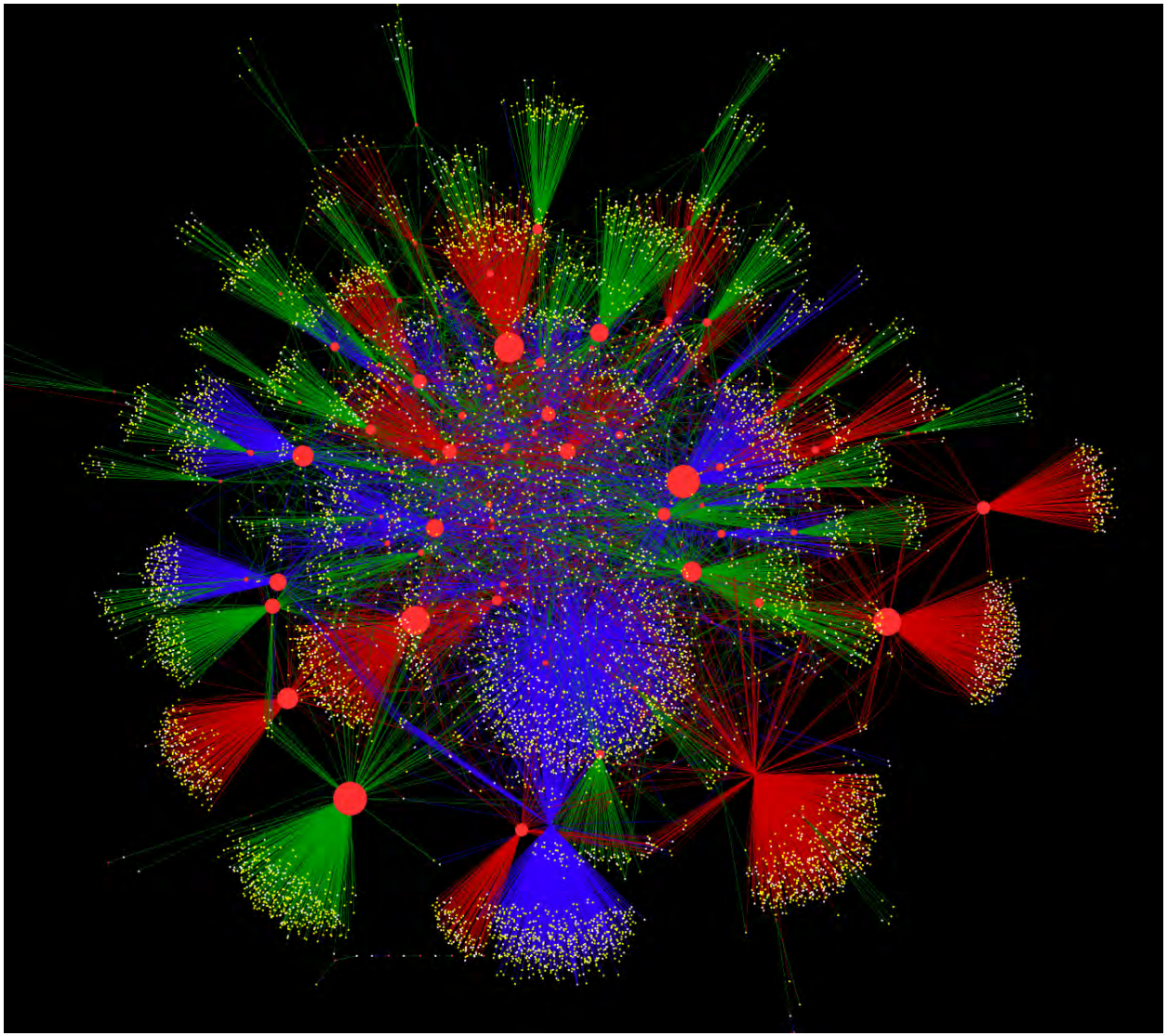


ASU Decision Theater Network
ARIZONA STATE UNIVERSITY

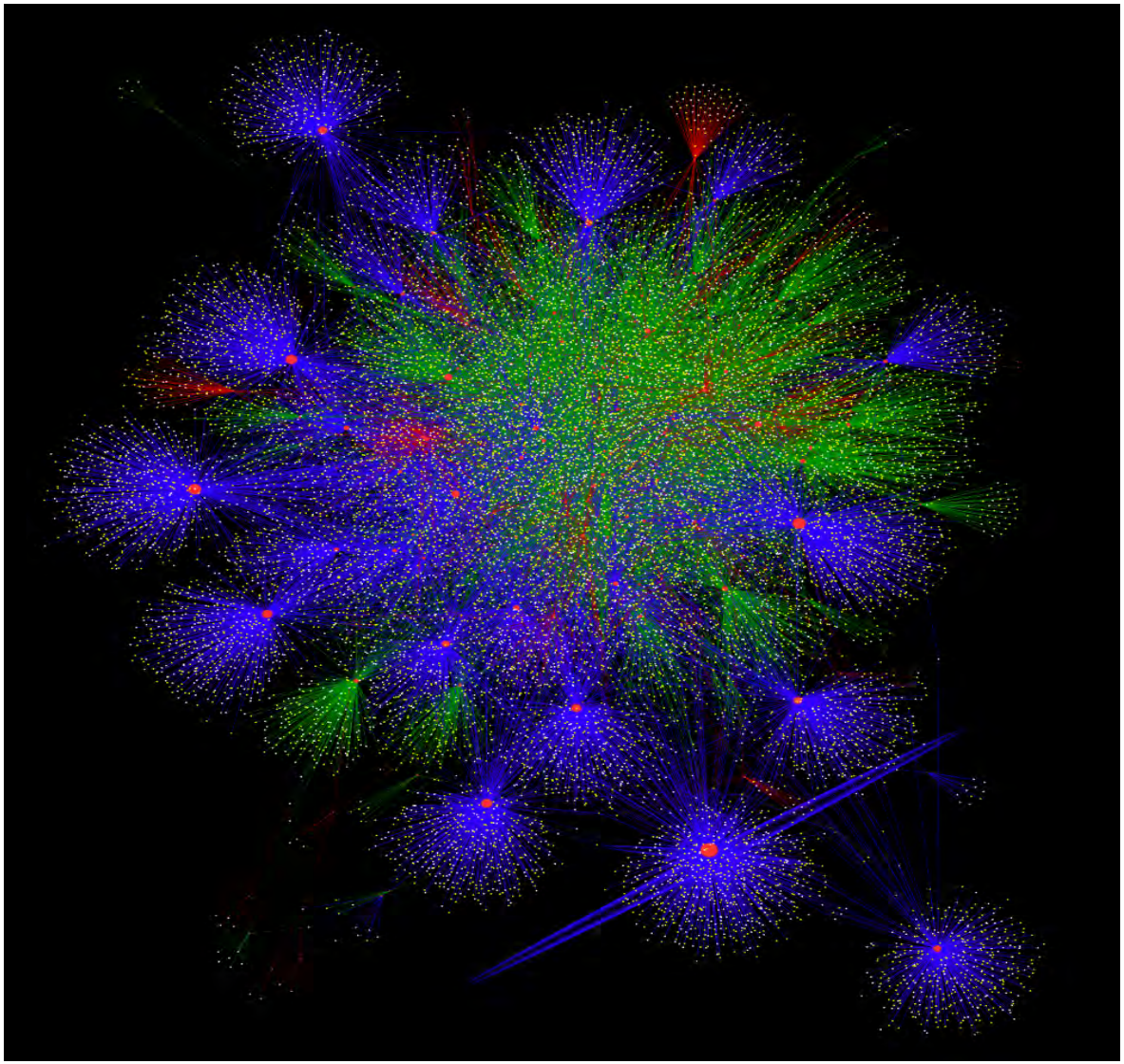
Tech. Platforms and Social Discourse



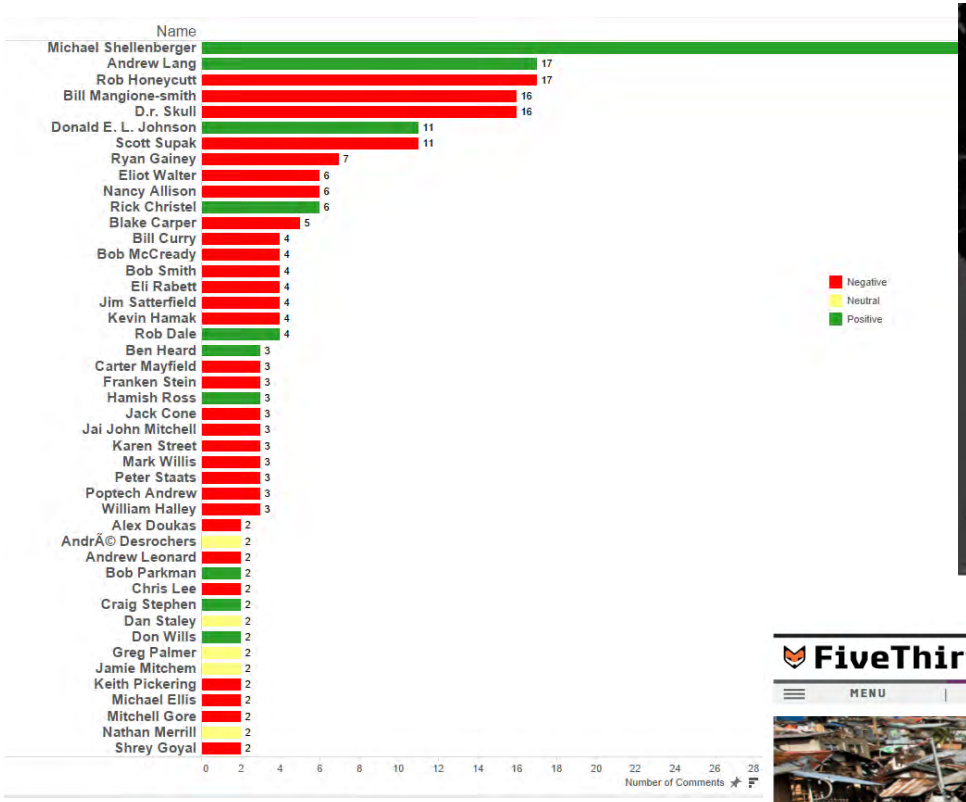
Tech. Platforms and Social Discourse



Tech. Platforms and Social Discourse



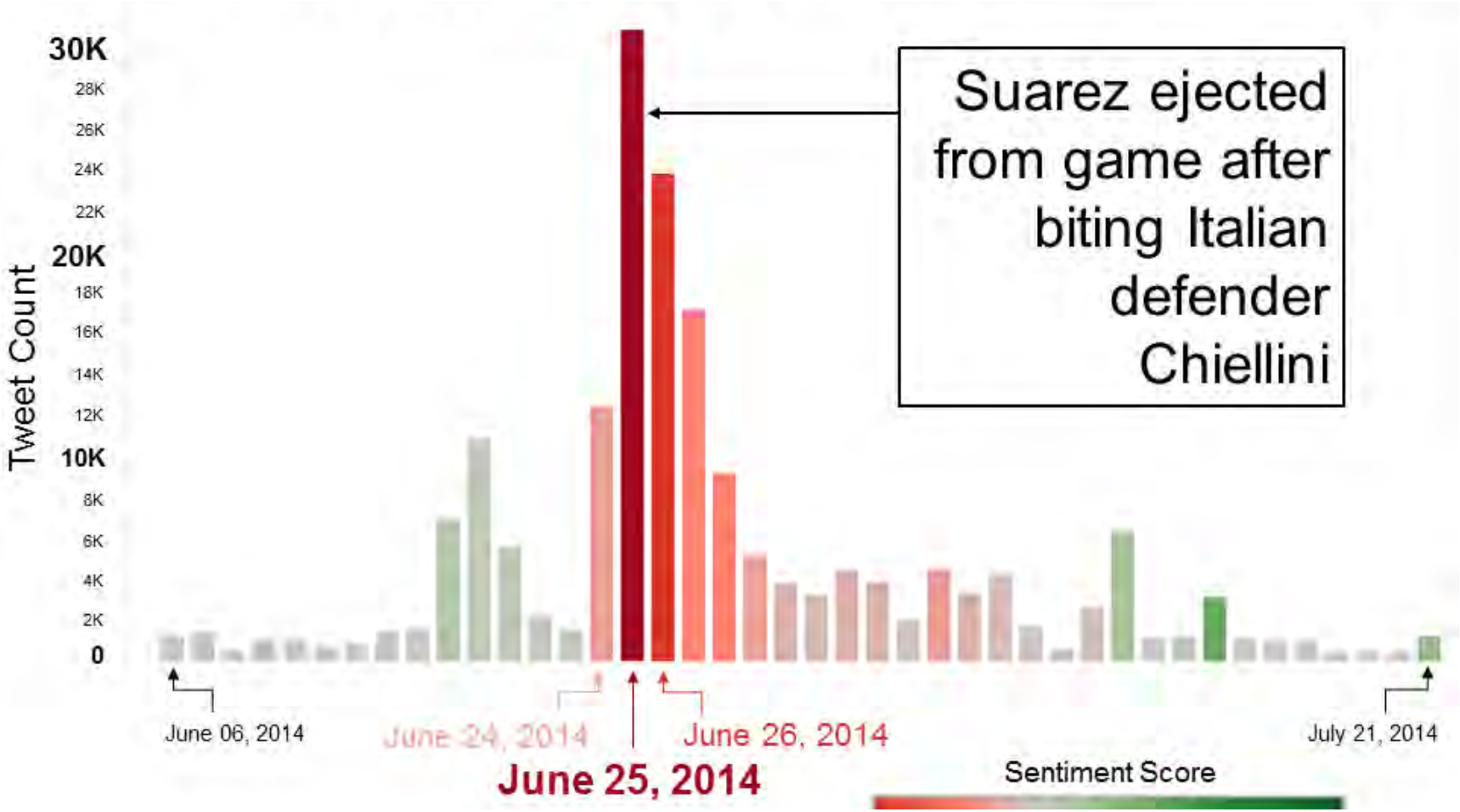
Online Scientific Discourse



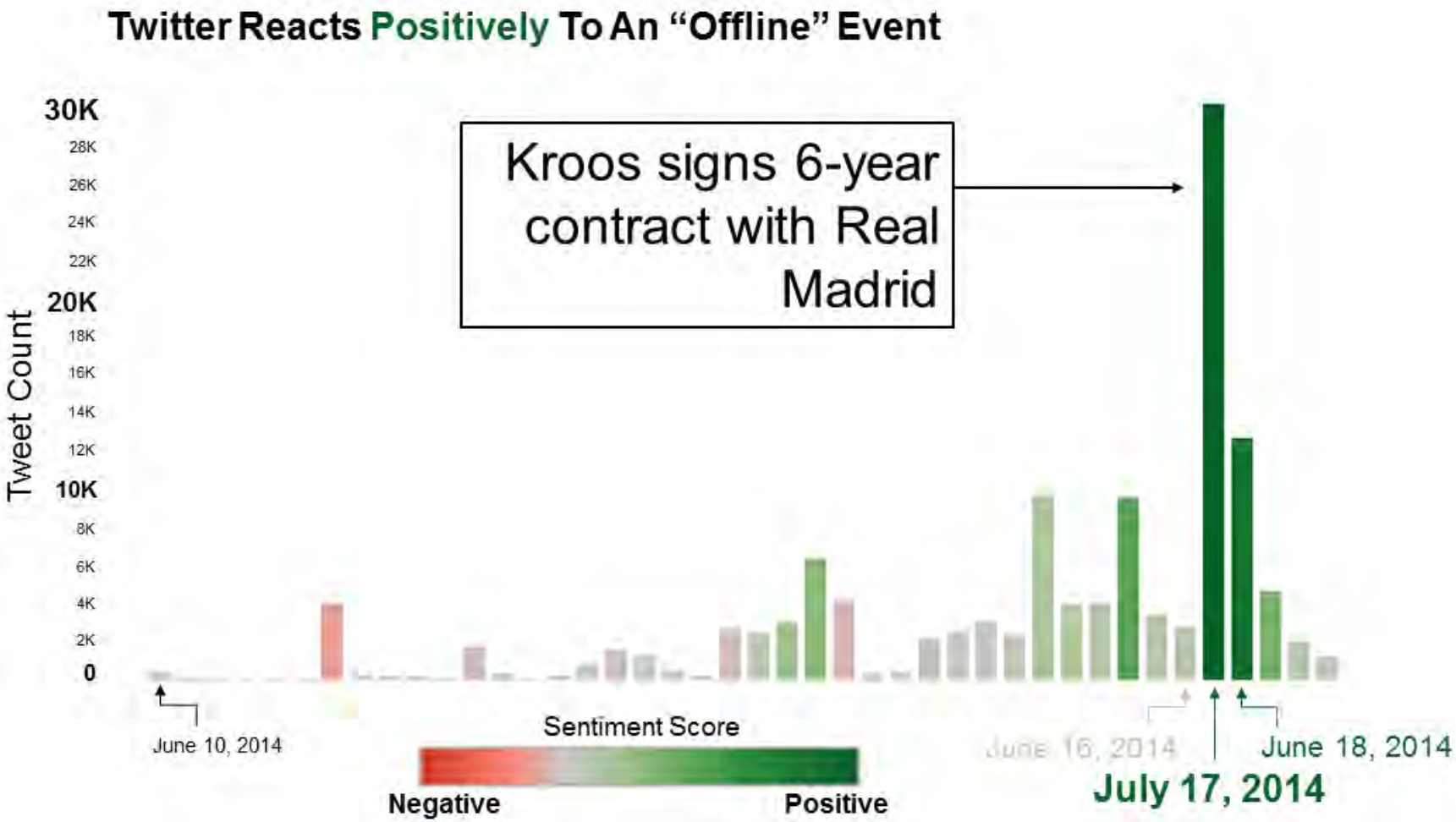
Large-Scale Events and Sentiments

- How do we understand social movements by bridging online data and offline activities?

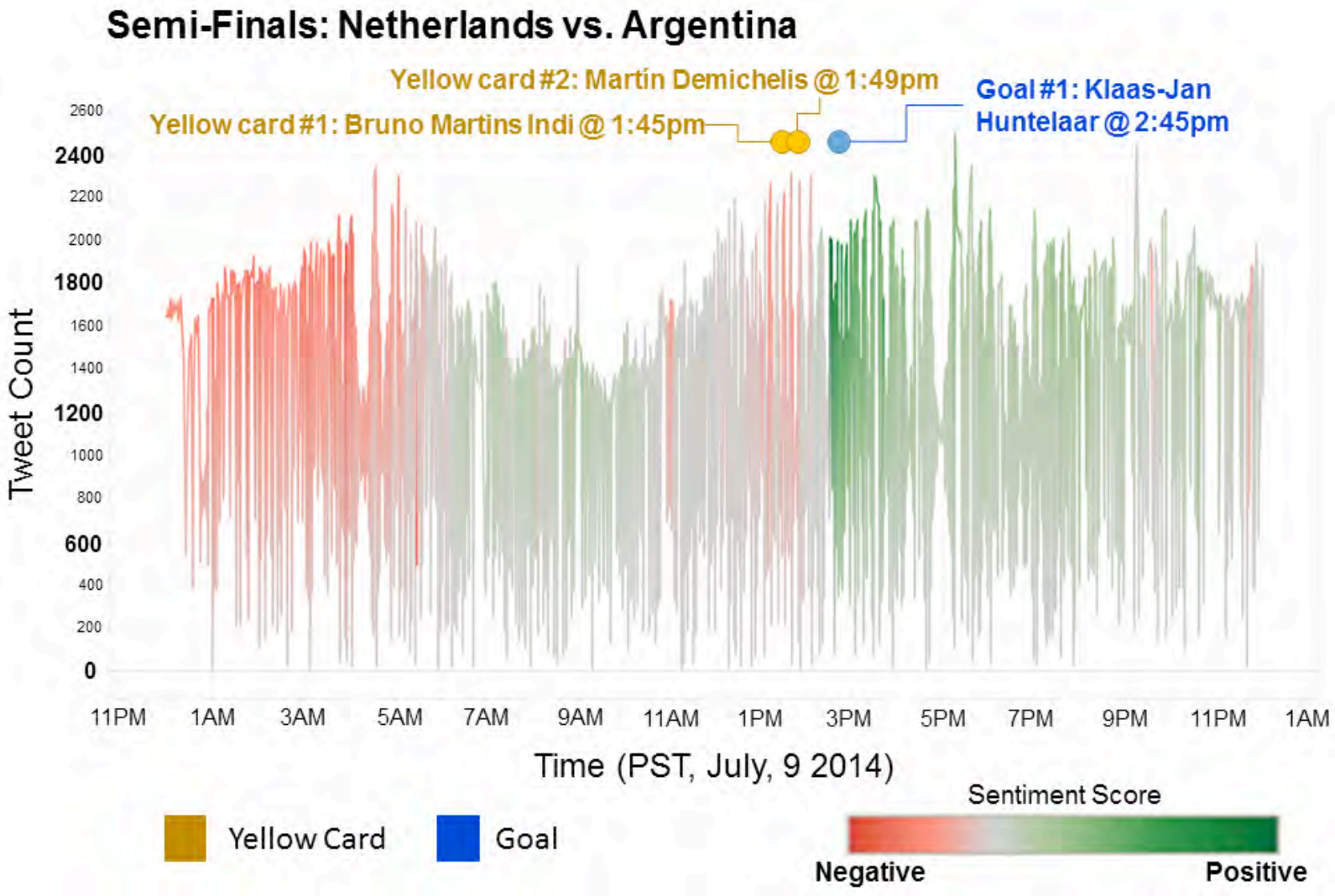
Large-Scale Events and Sentiments



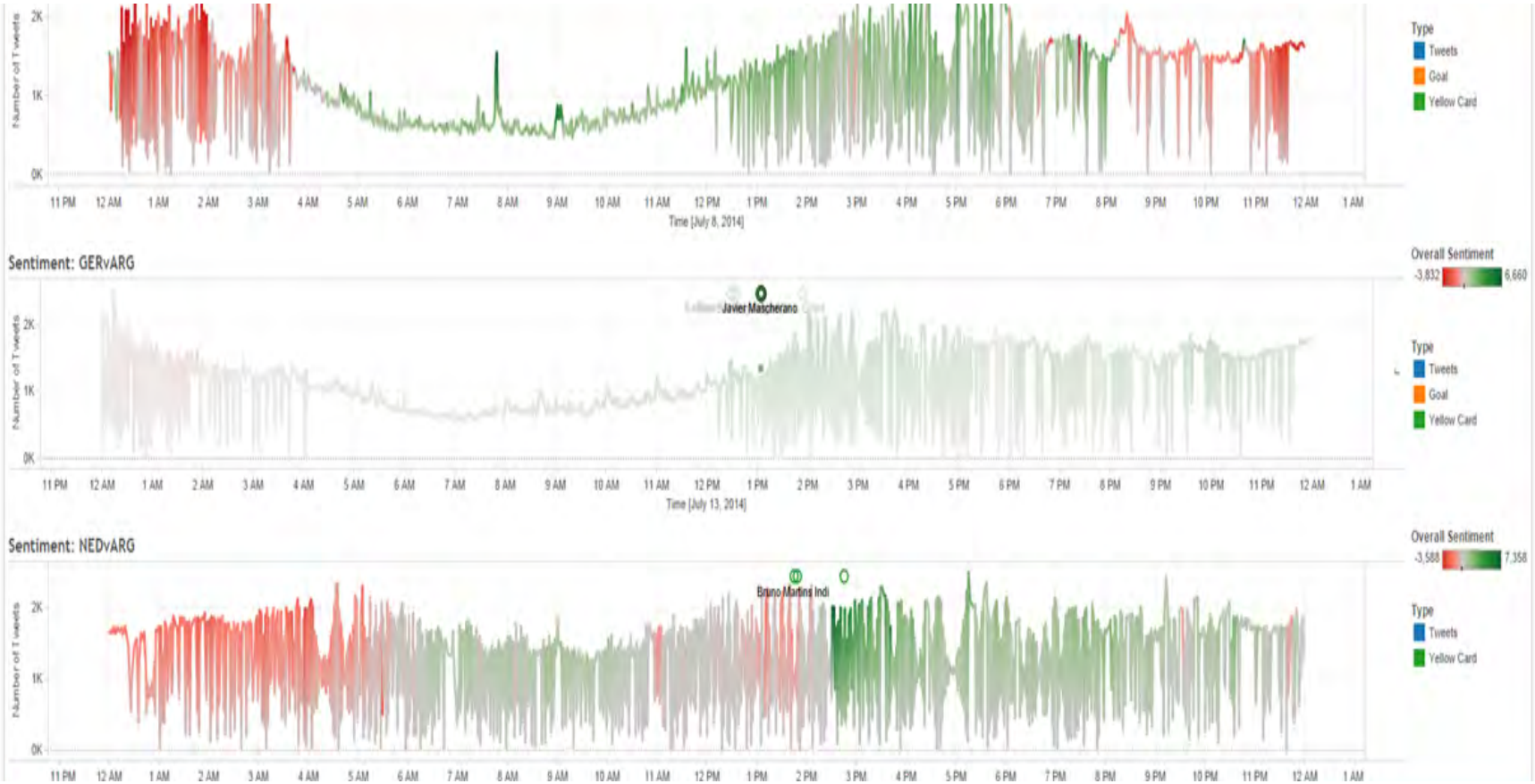
Large-Scale Events and Sentiments



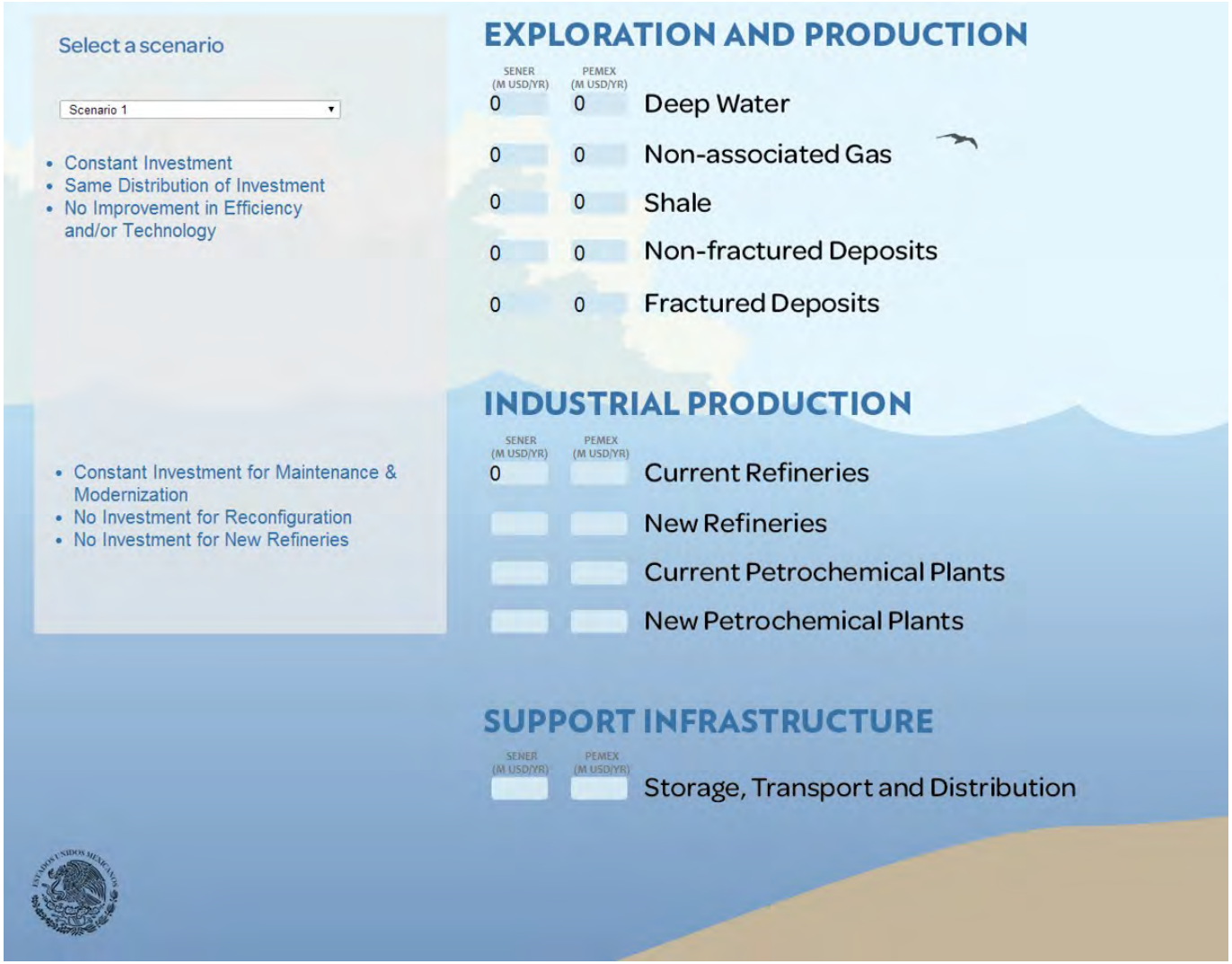
Large-Scale Events and Sentiments



Large-Scale Events and Sentiments

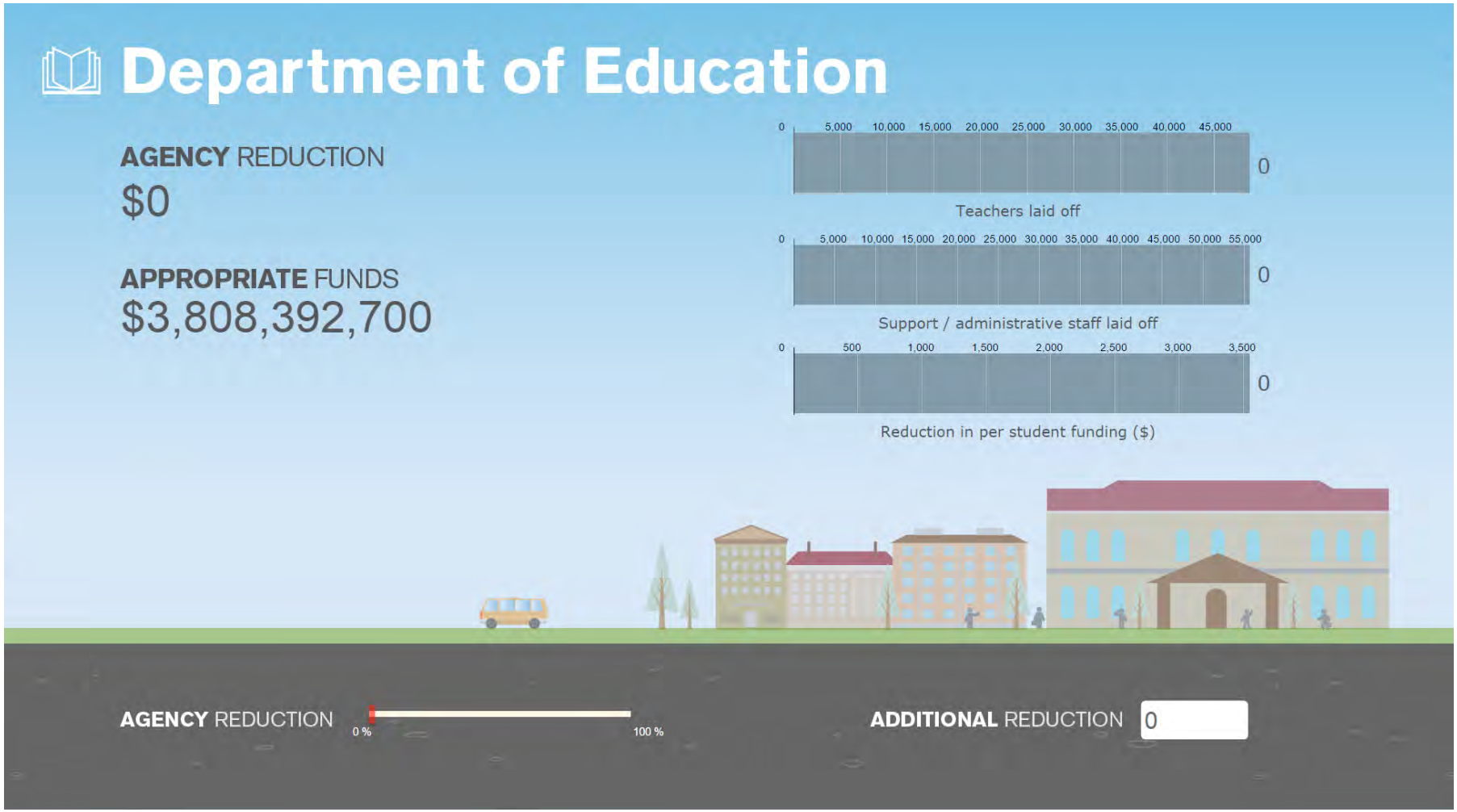


Simulating Policy Alternatives

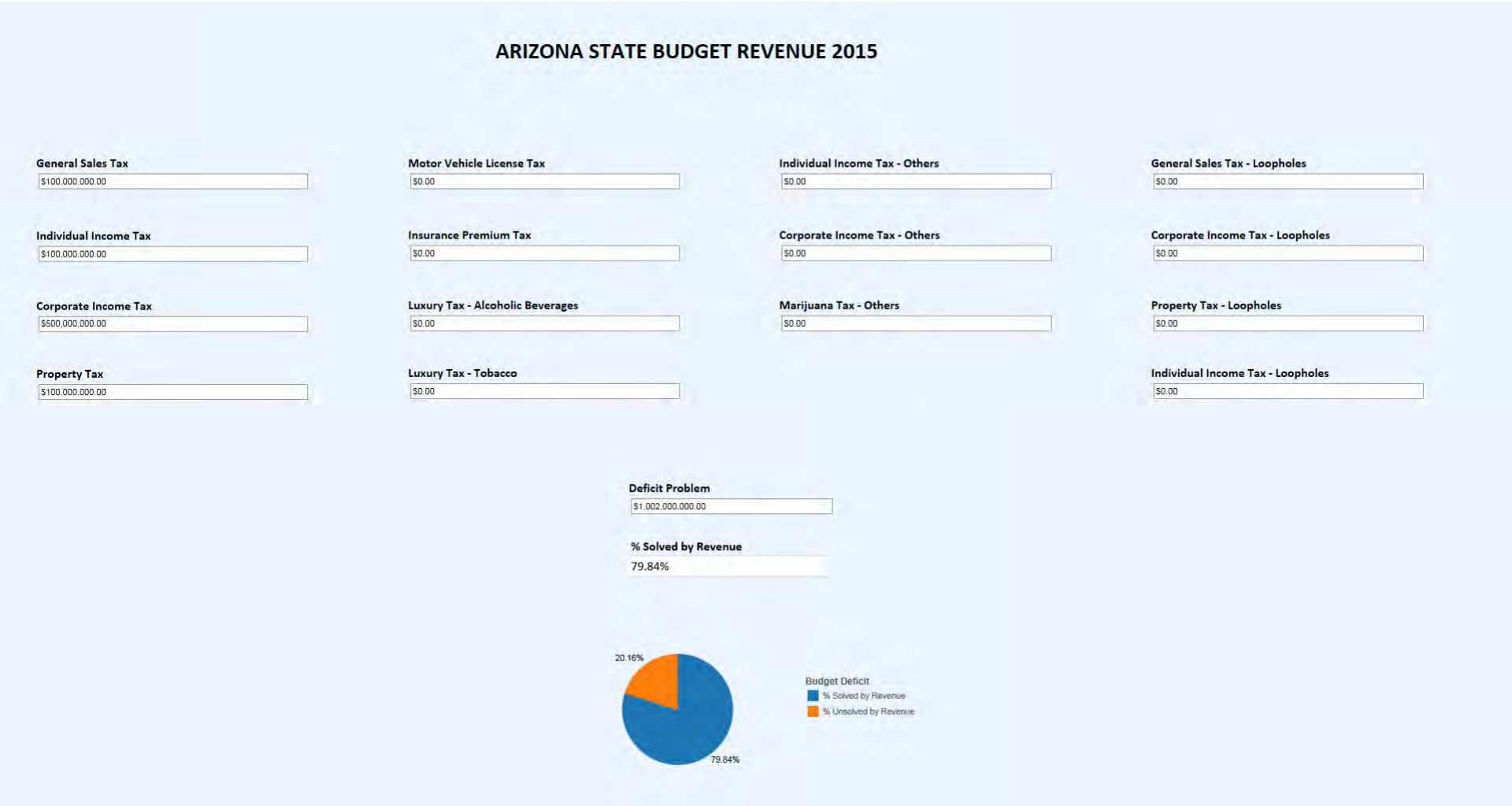


Simulating Policy Alternatives

Simulating Policy Alternatives



Simulating Policy Alternatives



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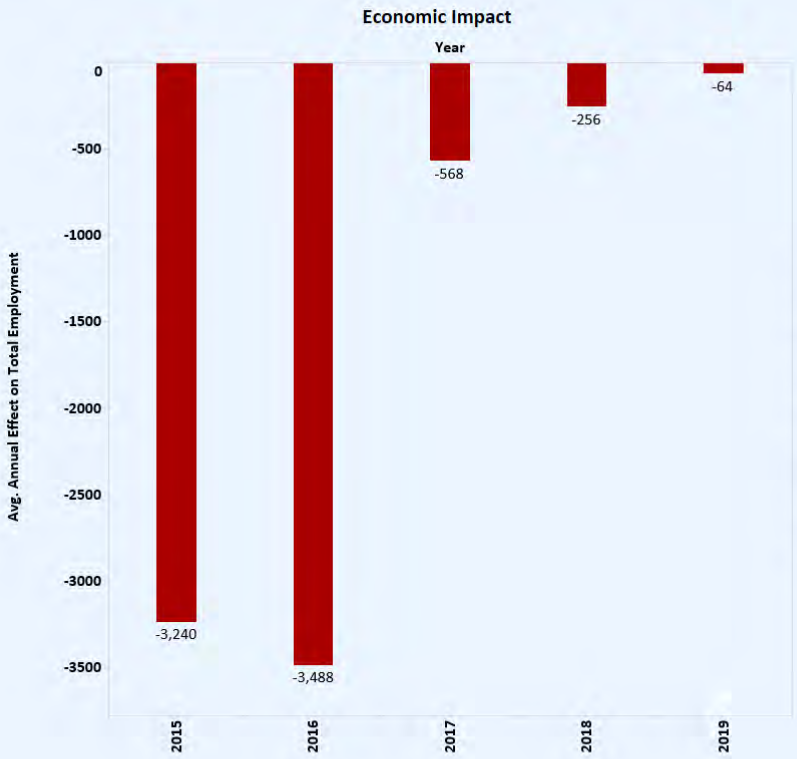
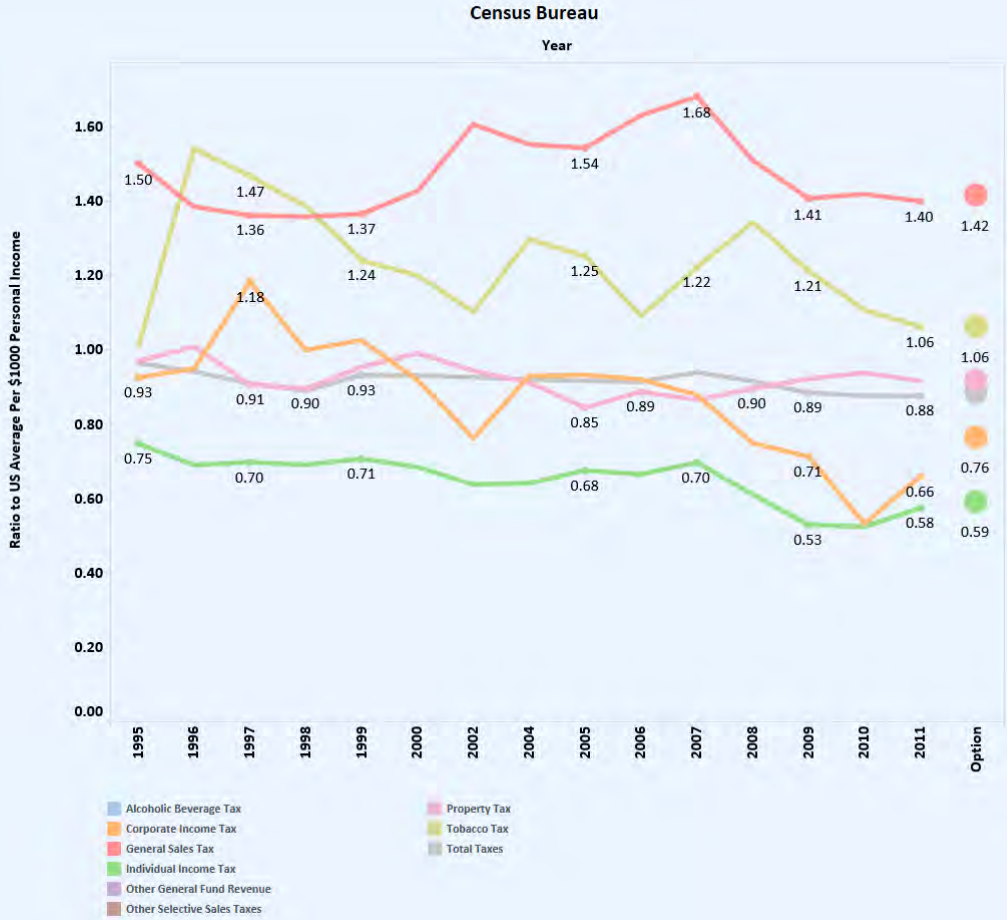
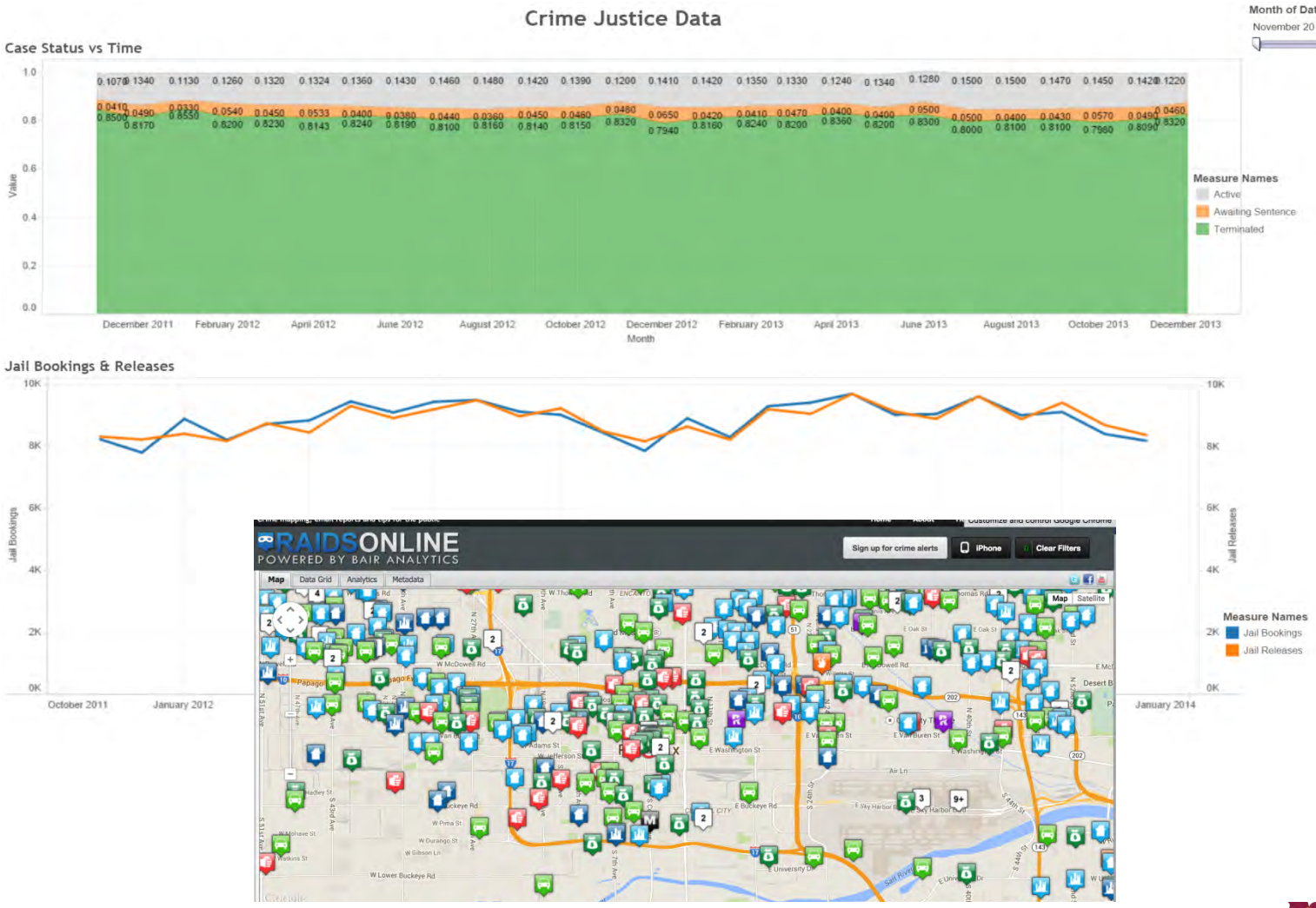
Simulating Policy Alternatives





Visualizing Data for Public Agencies



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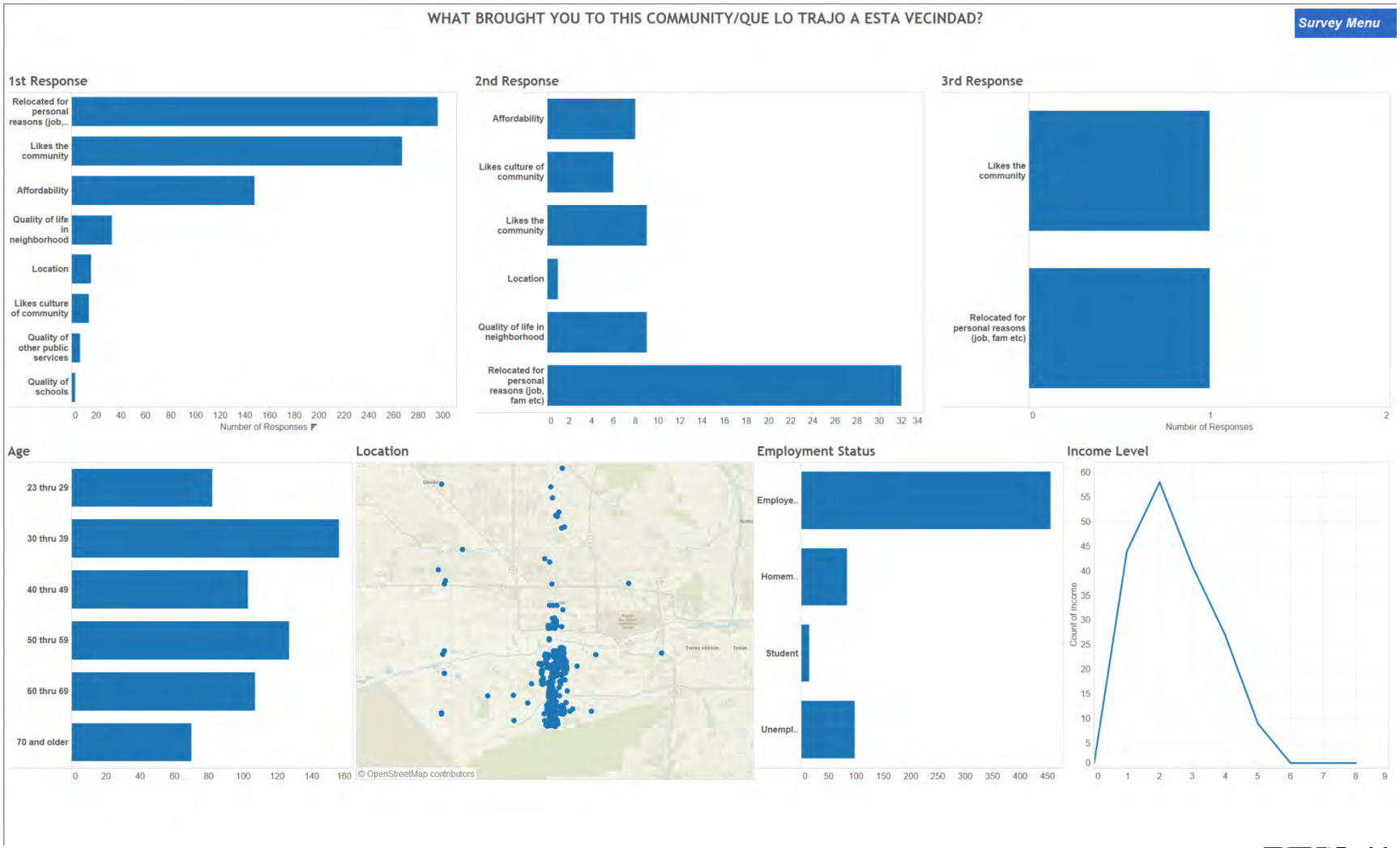
Visualizing Data for Public Agencies



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Closing Thoughts

Thanks for your attention!

More info at:

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