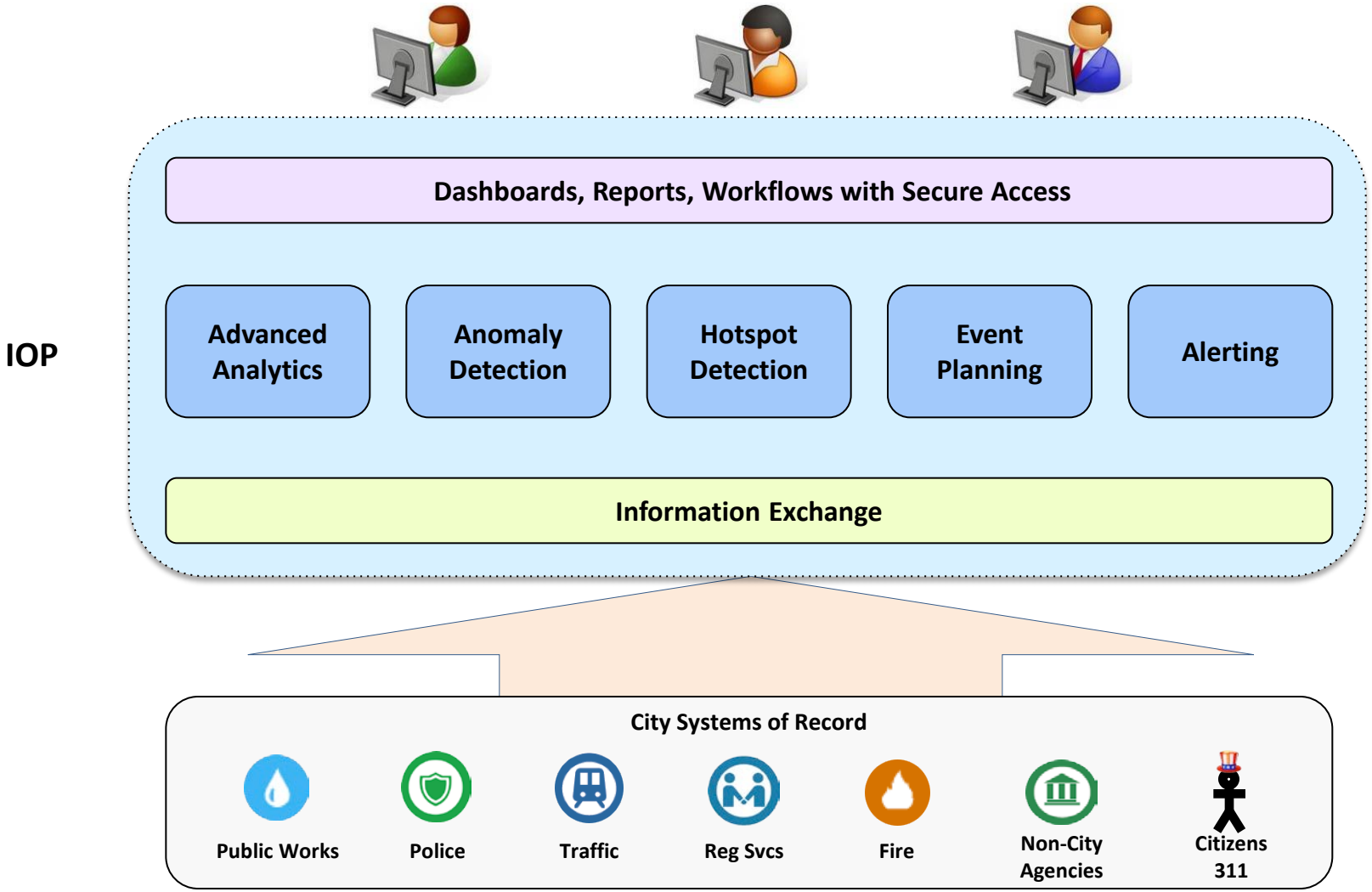
Intelligent Operations Platform (IOP) Business Value Assessment

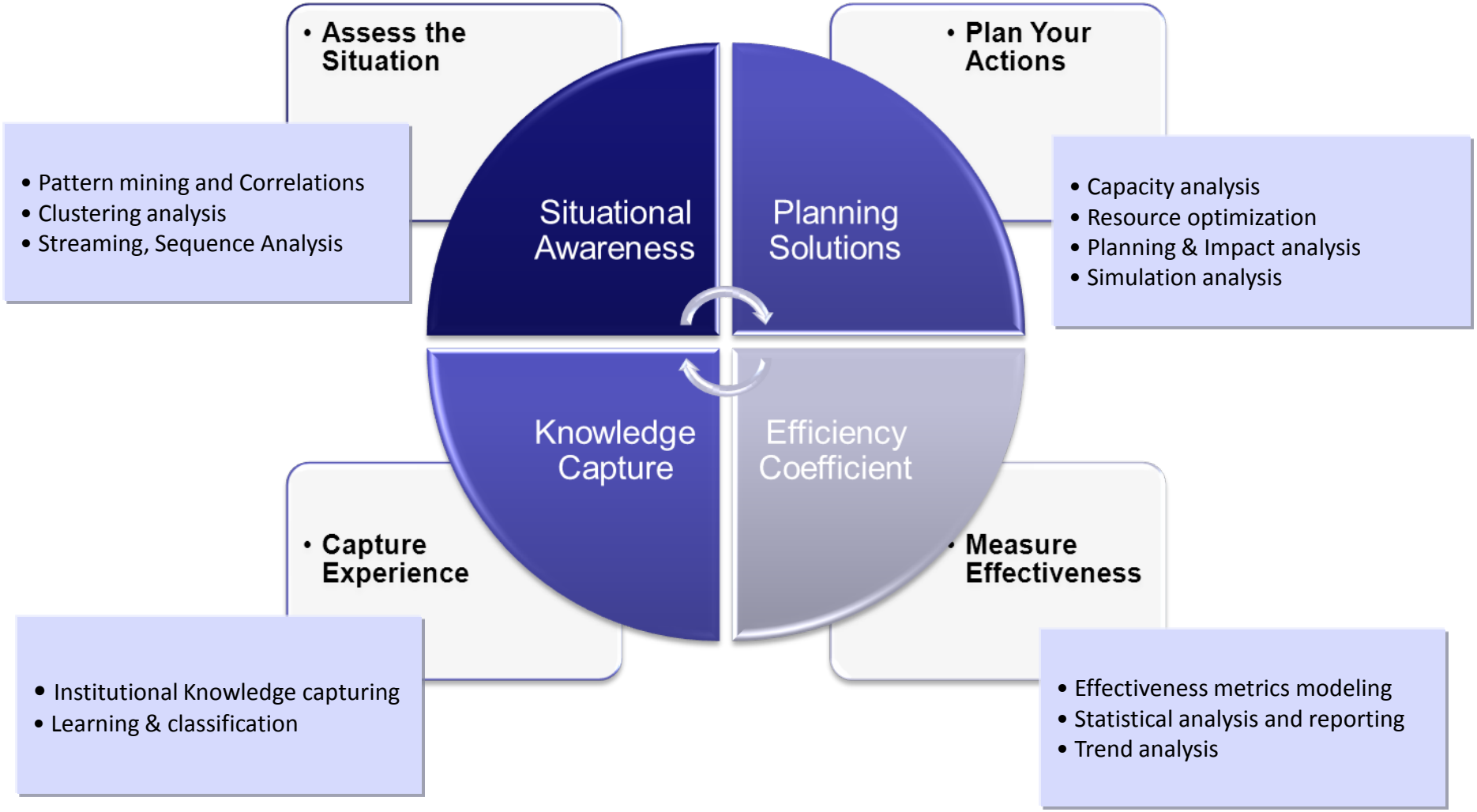
Ways & Means Meeting

December 2012

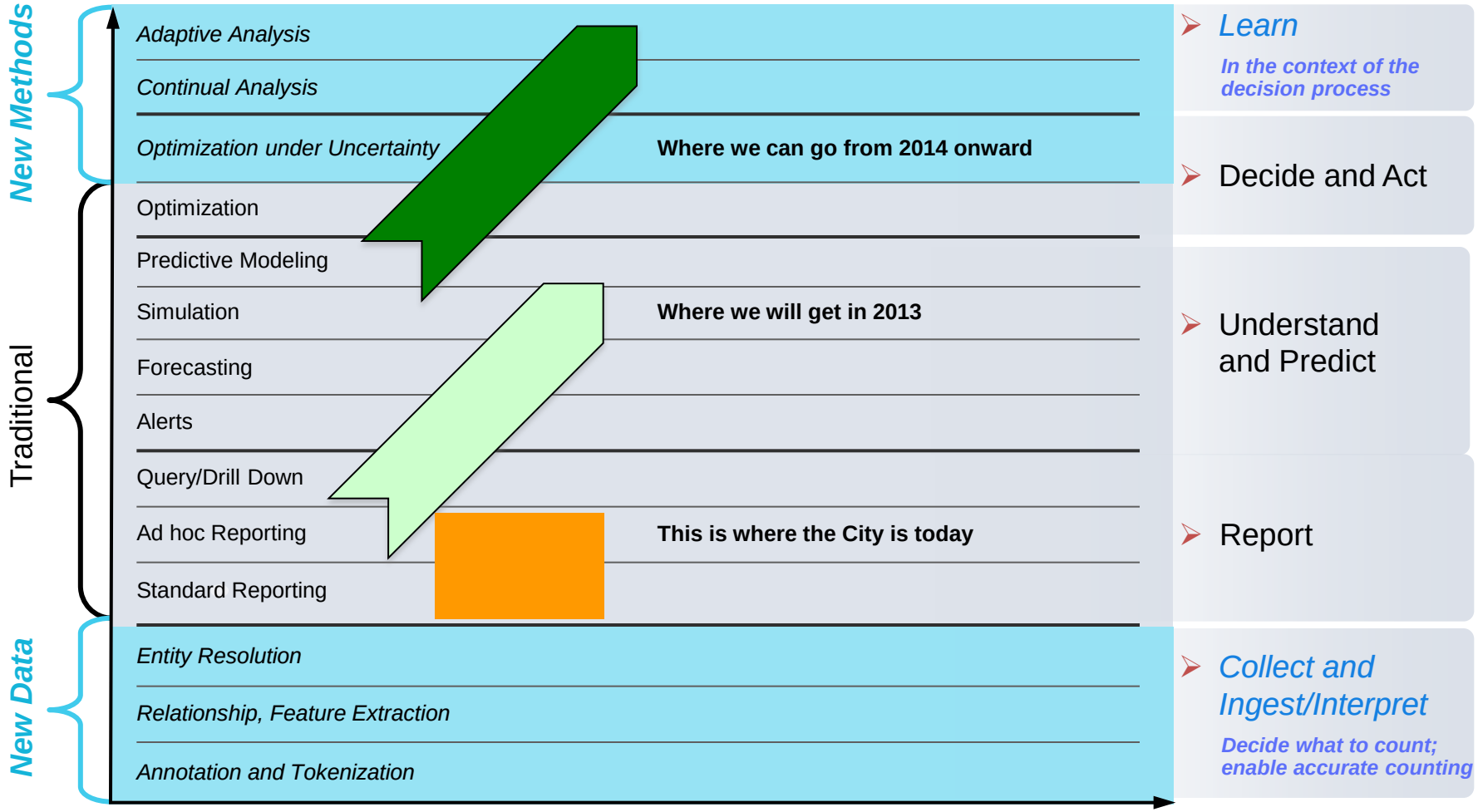
Intelligent Operations Platform – Improving City Operations



Analytics plays a key role in all aspects of a city employees job



The IOP enables the City to be an "Analytics Driven Enterprise"

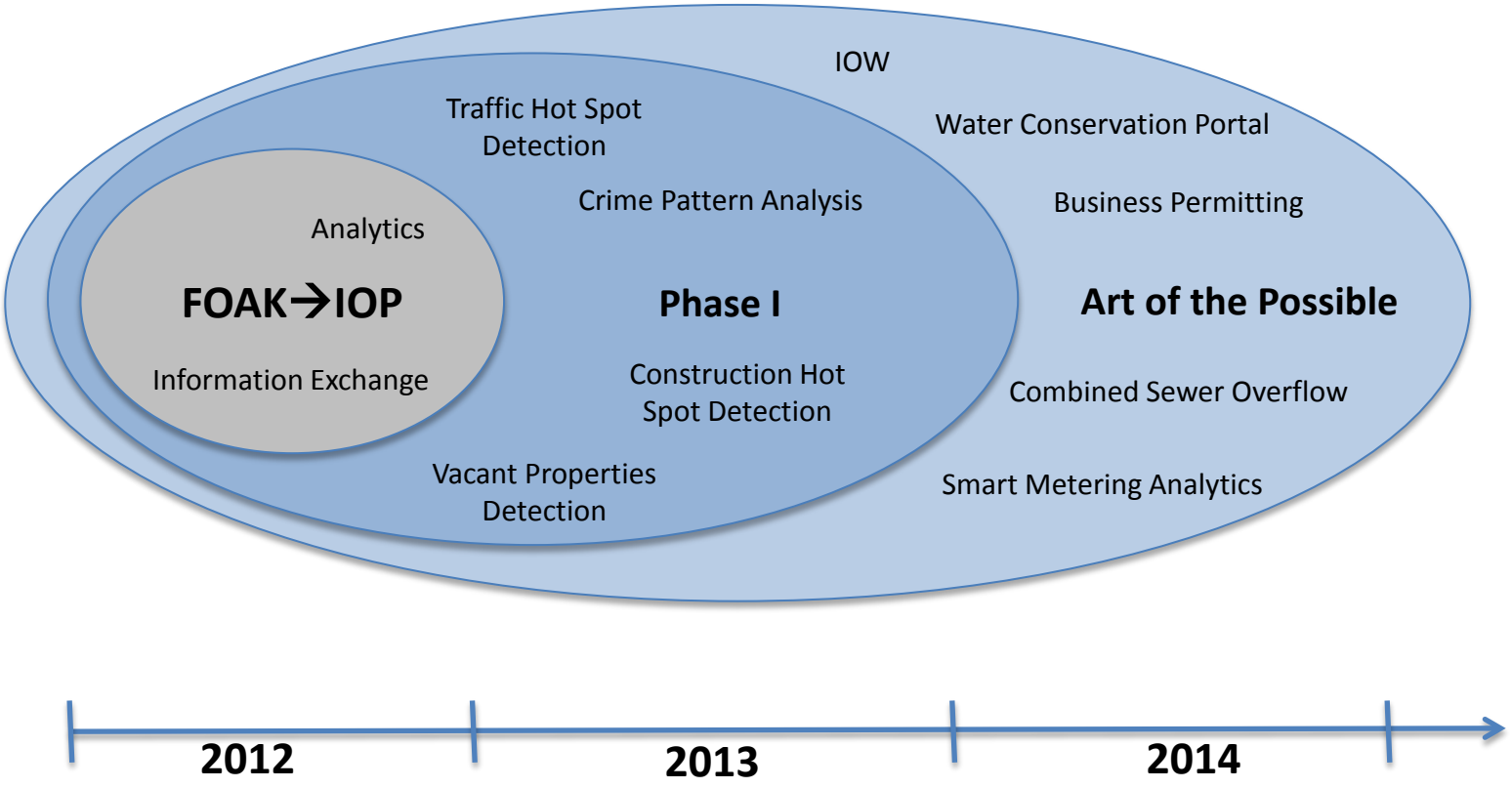


Today CoM analyzes data thru reporting from isolated systems

The IOP enables the use of cross domain statistical analysis and predictive modeling

Advanced IOP solutions like the "Police Operations Planning" begin to leverage advanced optimization

Solution roadmap framework



We used a structured BVA method…

Completion	Step	Task Description
		Gather data
√	Step 1	Workshop
√	Step 2	Gather City of Minneapolis documents including 2012 Adopted Budget
√	Step 3	Gather data on comparable cities
√	Step 4	Gather IBM IOC data, e.g., case studies, reference architecture, capabilities, etc.
		Parse data
√	Step 5	Parse, cleanse, and re-format documents into usable data
√	Step 6	Determine applicability to business case framework
		Identify low-hanging fruit
√	Step 7	By department, assess materiality of each account based on size and growth
√	Step 8	Understand cost drivers, e.g., population growth, work order volume, number of events, etc.
		Conduct IOC value alignment
√	Step 9	Determine if IOC capabilities will impact selected accounts
√	Step 10	Align solution capabilities with benefits
√	Step 11	Review solution case studies to determine proven ranges for improvements
√	Step 12	Apply ranges to business case assumptions

KEY BVA OUTPUTS

- ✓ City of Minneapolis subject matter expert opinions
- ✓ Over 50 IOC capabilities identified and evaluated
- ✓ Approximately 20 value drivers identified

DEPARTMENTS INTERVIEWED

- ✓ Regulatory Services
- ✓ Police
- ✓ 311 / 911
- ✓ Public Works

DEPARTMENT DATA REVIEWED

- ❑ Mayor's office
- ❑ Administration & Finance
- ❑ Economic Development
- ❑ Fire
- ❑ Parks & Recreation
- ❑ Public Works Engineering
- ❑ Public Works Central Services
- ❑ Public Works Street
- ❑ Public Works Water

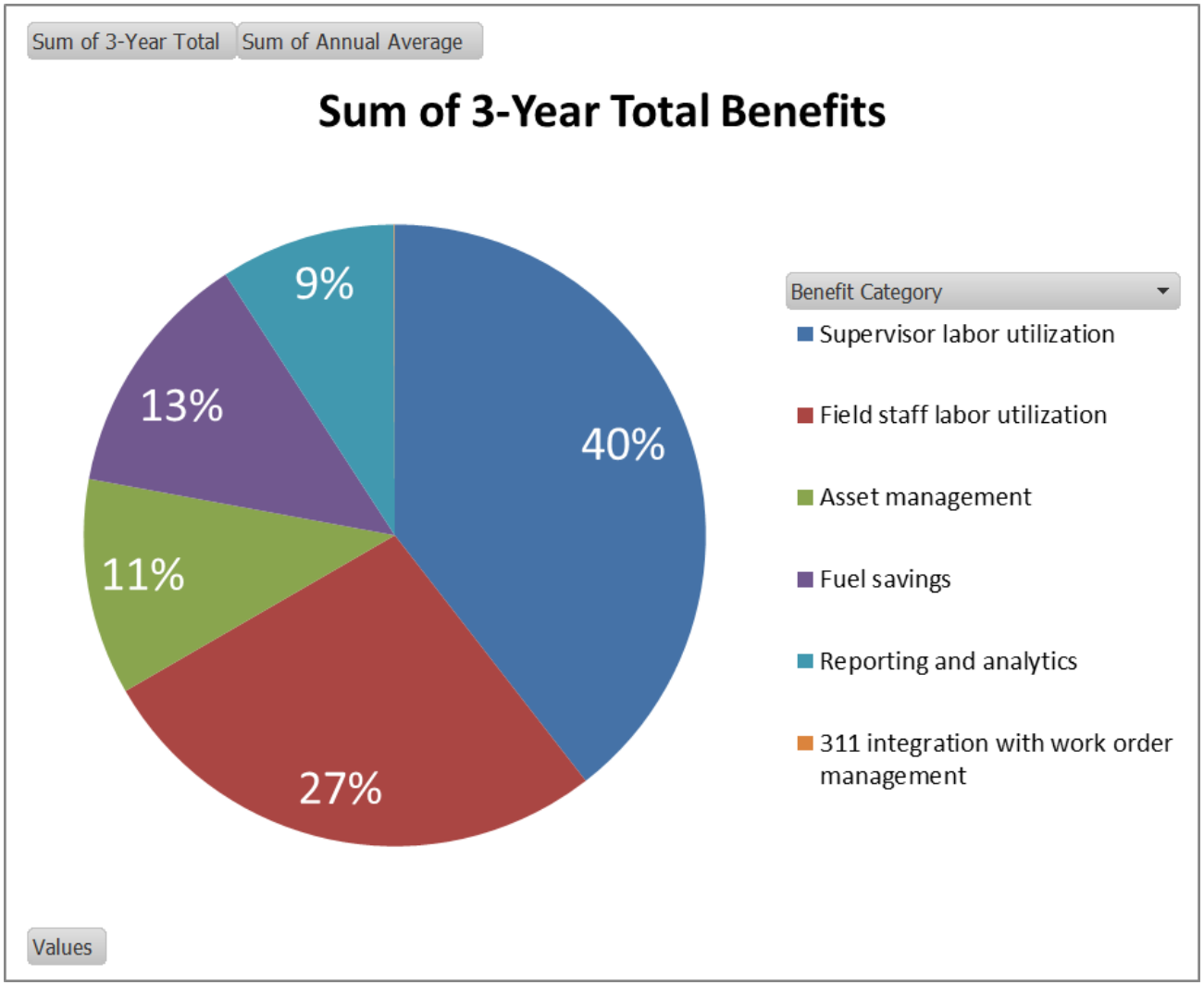
What we looked at…

300+ **Business Processes Examined**	Compared to Other Studies	**92** **Police Tactics**
20+ **Value Drivers Identified**		**31** **Departmental Collaborations**
~200 **Soft Benefits Impacted**	As much data about Departments as possible	**170+** **311 Call types**

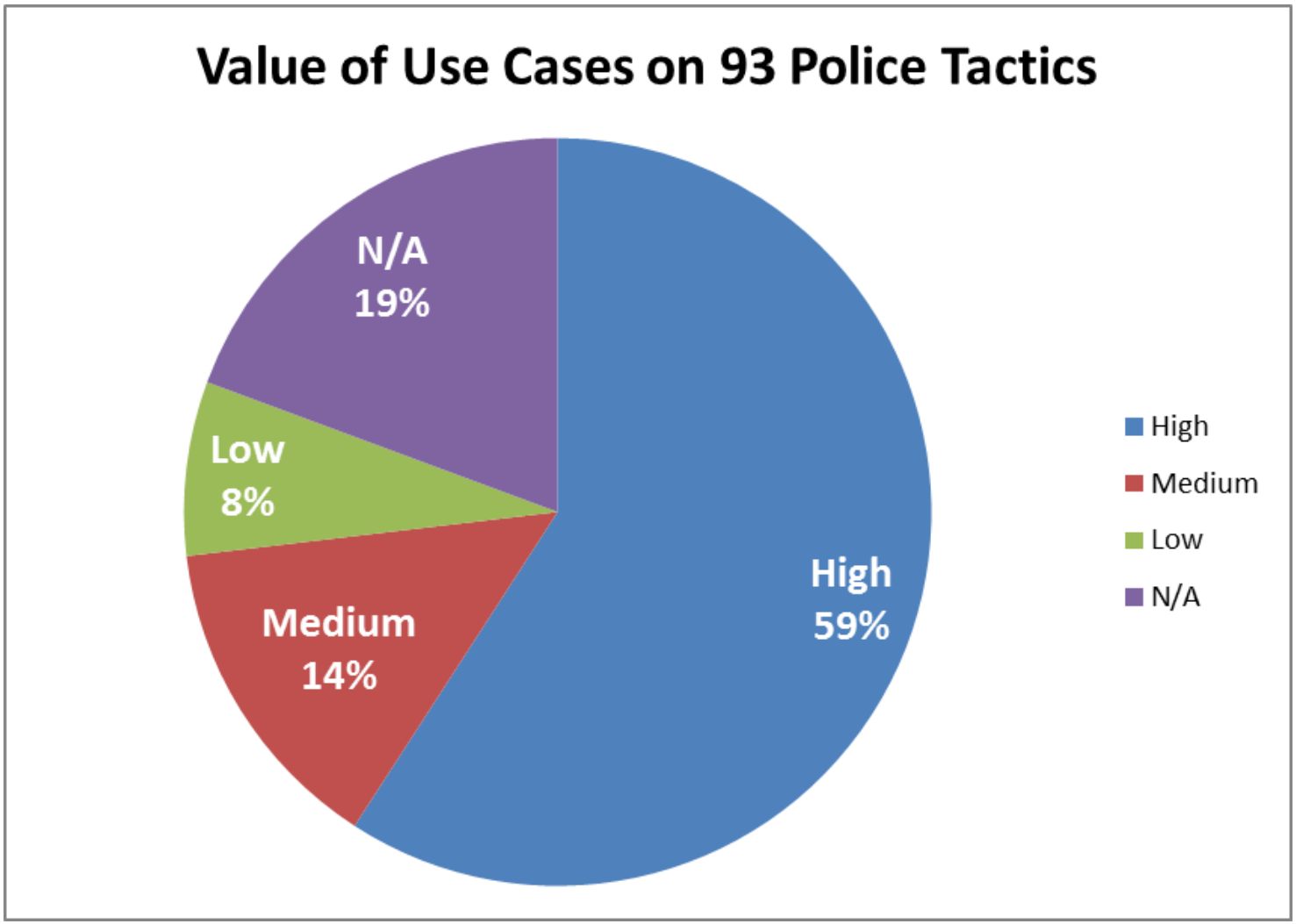
Departments reported they lacked sufficient analytical capabilities

Challenge	Avail Today?	Why?
License holder has history of violations, not just property itself.	**N**	No data on the license holder
Policies: Can't have x number of rental properties in a block phase.	**N**	We think it needs rigorous analysis
Ownership info. We have list of 22K license holders, but no way to use this.	**N**	Today it's manual.
911 data. We have this, but would like it to be easier. We look at CAPRS report. And draw geo boundaries to see police calls in given area. Need to know when we've "crossed a threshold" that triggers actions. Suspected vacant properties report would be helpful for prevention.	**Partial**	But not flexible.
Rental properties with behavioral issues due to tenants. Info on the tenants. Dog bites, parties, etc.	**N**	
Show number of incidents in recent period. Real-time crime hot spot. Noise complaints, prostitution, et al.	**N**	
Ability to change the weighting of certain factors for allocating staffing resoiurces. Dynamically report based on weights. Pulling 3 different sources/systems to perform assessment, e.g., Kiva, Cognos, et al.	**N**	Relying on someone else to do this. Single power user.
Transfer of ownership to bank for foreclosures.	**N**	No tie to bank data.
Lis Pendens. The step between delinquency and foreclosure. Early indicators from banks. Today, we need to go to GIS mapping but limited access by team. Map is limited in Pews.	**N**	Need to know as soon as possible if a property is in trouble.

67% of benefits come from improved utilization of human resources, i.e., shifting to higher-value activities



Crime pattern analysis drives hard benefits for over 75% of Minneapolis' police tactics



Minneapolis' use cases drive collaboration across departments

				Degree of Alignment with Benefits								
Phase	ID	UC Name	% of Departments Benefited	Fuel savings	Field staff labor savings	Management and work planner labor savings	Improved use of call center and dispatch	Reduce time required to gather, analyze, and deliver ad hoc reports	Improved utilization of long-term linear and non-linear assets	Improved utilization of short-term assets	Revenue Uplift
1	1	Display dashboard of key performance indicators (KPI)	100%		L	M	L	H			
1	2	View crimes geospatially and temporally	48%	M	H	M	M	M			
1	3	View events, projects, and work orders geospatially and temporally across all departments	87%	M	H	M	M	M			
1	4	Analyze and report public safety info	52%					H			
1	5	View traffic incidents geospatially and temporally	71%		L			M	H		
1	6	Identify suspected vacant properties geospatially	84%	M	M	H		M	M	M	
1	6	View regulatory data of interest geospatially	23%			M		M			
2	7	View patrol routes geospatially	45%	M	M		L				
2	8	View fire inspection status geospatially	26%	M	M		L				
2	9	Analyze relationships between inputs and KPI's	48%	L	L	M		M	M	M	
2	10	View properties geospatially	19%					M			
2	11	View restricted areas for a given offender	16%					M			
2	12	View water data geospatially	26%	L	H	H		L	H	H	
2	13	View linear asset information geospatially	48%	L	M	H		L	H	H	
2	14	Manage work orders and schedules	29%	M	H	H		L	H	H	
2	15	Analyze revenue sources	19%								M

Voice of the customer

"It's not just about the **time savings**. It's about access to better quality data. My guys will be better **informed** when they execute those tactics."

-- MPD

"We want to be able to **microtarget** the impact of vacant properties on a block. What does it do to values? What's the ROI for rehab vs. demolition?

-- Regulatory Services

"**70% of our volume** are data requests. We try our best to answer all questions. While on the call we may even go to Google Maps to find traffic or route data, or use Street View to do **research on the spot**."

-- 311

"We need access to **calendar events across the city** such as street closings. Today, we figure this out manually."

-- 911

"Improvement opportunities include near **real-time** view of vacant building registrations, **aggregate view** of all inspections per building, data about **owners**, identification of unlicensed rentals."

-- Regulatory Services

In summary….

- ✓ **Common operational view** of current city operations
- ✓ **Shortens time** to getting results
- ✓ **More effective planning** through better visualization of data
- ✓ **Better use of resources**—more output from existing staff
- ✓ **More effective monitoring and measurement**
- ✓ **Allows more passes at data** (i.e. more ‘what if’s’) than is possible today
- ✓ **Allows staff at “point-of-the-work” to use data** (removes analyst ‘funnel affect’)
- ✓ **Broadens information exchange** (can easily analyze with more disparate data sources) over today’s systems of record—today’s challenges need many jurisdiction’s information
- ✓ **Simplifies analysis** into “canned procedures”, to be consumed by others
- ✓ **Ability to expand to include useful data**, while weeding out less useful data
- ✓ **Can take advantage of other city’s solutions**
- ✓ **Whole city moves forward together**

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THANK YOU