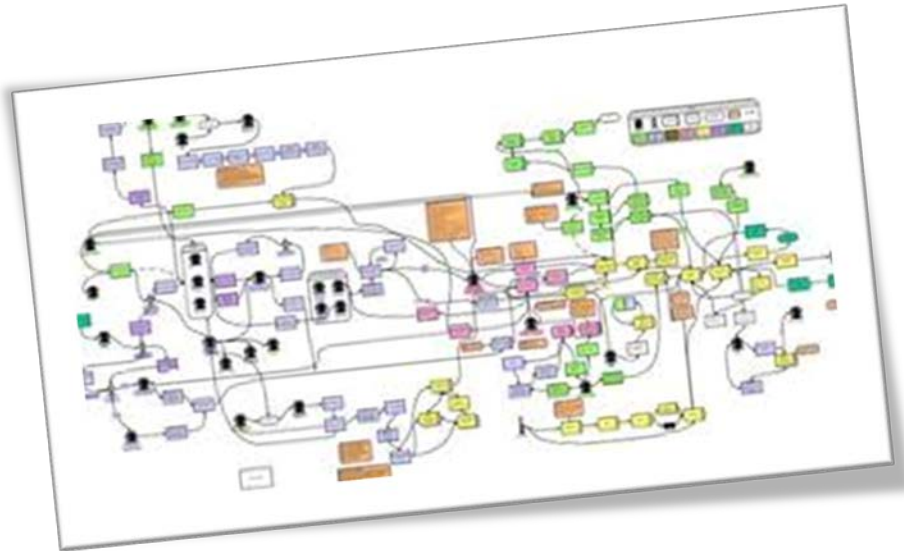# Cost Allocation and Public Entity Budgeting

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Pima Community College District

Enterprise Risk Management

Why Allocate Costs?

› An equitable distribution

› Foster loss prevention

› Transparency

› Protect the General Fund!

Cost allocation is the process of identifying, aggregating, and assigning cost to cost objects, such as:

Funds

Departments

Activities

Facilities

Cost Allocation Strategies Should:

› Fulfill a purpose

› Be a policy decision

› Create transparency
(enable understanding)

› Encourage loss control
(be loss sensitive)

› Control sensitivity
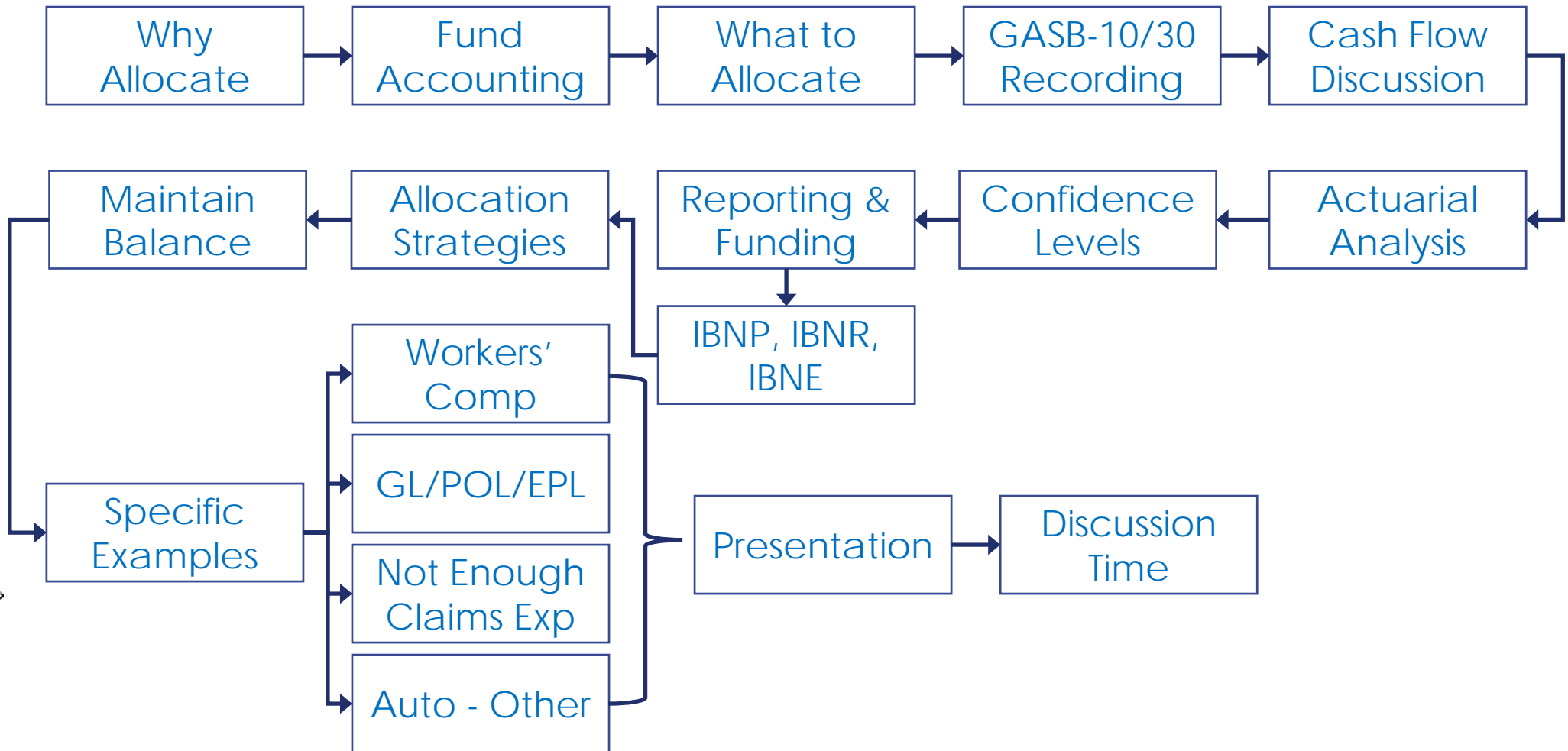*(limit spikes and swings)*

› Be easy to maintain

Tip #1
Cost allocation should be part of a larger risk funding policy

Start With the End in Mind

› To which funds & departments should we allocate?

› Which costs should be allocated?

› How to best balance loss sensitivity and stability?

› Cash flow considerations?

› Reserve funding strategies?

› Data availability?

Our Path Today

Why Allocate → Fund Accounting → What to Allocate → GASB-10/30 Recording → Cash Flow Discussion

Maintain Balance ← Allocation Strategies ← Reporting & Funding ← Confidence Levels ← Actuarial Analysis

Reporting & Funding → IBNP, IBNR, IBNE

Specific Examples → Workers' Comp, GL/POL/EPL, Not Enough Claims Exp, Auto - Other → Presentation → Discussion Time

Public Entity Funding

Revenue Examples	Expenditure Considerations
Recurring	Limited Resources
One Time	Unlimited Needs
Restricted	Statutory/Contractual Restrictions
Grant Funds	Competing Policy & Priorities
Interfund	Public Accountability

Public Entity Funding

Tax Examples

Recurring
One Time
Restricted
Grant Funds

Fee Examples

User Fees
Development Services
Impact Fees

Special Revenue Examples

Medicaid
Community Development Block Grants
Homeland Security Grants

Public Entity Funding

GAAP
Generally Accepted Accounting Principles

defined by

GASB — GOVERNMENTAL ACCOUNTING STANDARDS BOARD

Governmental Funds
(Mostly Tax Supported)

General Fund
Special Revenue Funds
Capital Project Funds
Debt Service Funds
Permanent Funds

Proprietary Funds
(Business-Like: Mostly Fee Supported)

Enterprise Funds
(External Customers)

Internal Service Funds
(Internal Customers)

Sample Municipal/County Budget

Business Type Activities,
Fees for Service:
Pay most/all operational costs

Water, Wastewater,
Solid Waste,
Development Services,
Parking Garages

General Tax Revenues:
Great flexibility in use

Police, Fire,
Community Services,
Parks, the Arts

Bond Funds & COPs, and
Contributions from Other Funds:

Used for Capital Improvements

Restricted Revenues
& Grants:
Designated purposes only

Libraries, Streets/Highways,
Flood Control, Stadiums,
Economic Development,
Inmate Welfare Funds

Repay Bond Funds, COPs:

Primarily General Fund &
Charges to Other Funds

Enterprise
27%

General Fund
36%

Capital Projects
8%

Debt Service
8%

Special Revenue
21%

Internal Service Funds

The money comes from <u>inside</u> the organization

Photo credit: tkmagazine.com

Revolving Funds

Unspent funds remain

May need annual appropriation

May be swept unless in a Trust

Examples

Fleet Services

Graphics

Risk Management

Telecommunications

Is Cost Allocation Cooking or Baking?

› Determine costs to include

› Allocation methodology
  – Exposure and loss sensitive
  – Variability limitations
  – Equitable treatment of funds
  – Encourages loss control
  – Easy to understand

› Compatible with systems

› Meets cash flow needs

› Ease of maintenance

Photo credit: myfrugalhome.com

Allocate Some Costs or All?

› Primary/excess insurance

› Deductibles/retentions*

› Occupational medical?

› Broker, actuary, auditor

› Staff and TPA (ULAE)

› In-house counsel

› Loss prevention

› Overhead

› *Unfunded liabilities*

Photo credit: webstockreview.net

Cash Flow Considerations

› Policy period timing
  – Coordination with fiscal year
  – Coordination with revenue cycle

› Renewing/marketing early

› Payment/Transfer Options
  – Funded Internal Service Fund/Trust?
  – All at once?
  – Monthly?
  – By pay period?

Photo credit: Bing Creative Commons

Recognizing (Reporting) Liabilities

Report if:

› Probable that an asset has been impaired or a liability incurred

› One or more future events will confirm the loss

› The amount of loss can be reasonably estimated

› The time period can be reasonably estimated

GASB-10 (1990), as amended by GASB-30 (1996)

Tip #2

GASB-10 discusses how to recognize liabilities.

Funding strategies are left to the governing body

Actuarial Judgment

› How credibly does your past predict the future?
  – Do you have enough claims?
  – Do you have stable claims?

› Should the actuary use your data or industry experience?

› Usually a blend of your and industry experience

› Use a combination of methods?

credibility

Photo credit: Bing Creative Commons

Developing Losses to Ultimate

Sample Development

Year	12	24	36	48	60	72	84	96	108	120	132
1/1/2009	797,523	2,053,729	2,651,902	2,908,194	3,058,598	3,147,642	3,209,697	3,250,188	3,270,853	3,284,041	3,300,454
1/1/2010	857,454	1,719,010	2,048,294	2,245,580	2,334,116	2,375,095	2,395,061	2,412,871	2,420,201	2,430,938	
1/1/2011	824,965	1,851,006	2,316,108	2,556,406	2,670,389	2,756,571	2,886,561	2,923,721	2,934,828		
1/1/2012	1,125,436	2,458,299	2,976,939	3,142,839	3,240,712	3,315,744	3,407,688	3,444,673			
1/1/2013	795,125	1,729,760	2,095,082	3,978,589	4,089,123	4,145,731	4,187,559				
1/1/2014	1,324,897	2,661,032	3,093,650	3,491,685	3,577,687	3,614,061					
1/1/2015	968,745	1,893,674	2,222,028	2,360,867	2,421,265						
1/1/2016	1,011,255	2,173,180	2,695,267	2,822,887							
1/1/2017	1,401,590	2,898,815	3,454,296								
1/1/2018	1,311,785	2,702,018									
1/1/2019	1,148,935										

Age-to-Age

	12-24	24-36	36-48	48-60	60-72	72-84	84-96	98-108	108-120	120-132	132-Ult
1/1/2009											
1/1/2010	2.575	1.291	1.097	1.052	1.029	1.020	1.013	1.006	1.004	1.005	
1/1/2011	2.005	1.192	1.096	1.039	1.018	1.008	1.007	1.003	1.004		
1/1/2012	2.244	1.251	1.104	1.045	1.032	1.047	1.013	1.004			
1/1/2013	2.184	1.211	1.056	1.031	1.023	1.028	1.011				
1/1/2014	2.175	1.211	1.899	1.028	1.014	1.010					
1/1/2015	2.008	1.163	1.129	1.025	1.010						
1/1/2016	1.955	1.173	1.062	1.026							
1/1/2017	2.149	1.240	1.047								
1/1/2018	2.068	1.192									
1/1/2019	2.060										
Avg Age to Age	2.142	1.214	1.186	1.035	1.021	1.023	1.011	1.004	1.004	1.005	
Age to Ult	3.501	1.634	1.347	1.135	1.097	1.074	1.050	1.039	1.034	1.030	1.025
% of Ult	28.6%	61.2%	74.3%	88.1%	91.2%	93.1%	95.2%	96.2%	96.7%	97.1%	97.6%

Develops answers to two questions:
- Amount (Cost)
- Timing

Selecting Appropriate Confidence Level

› For financial reporting

› For annual funding

› For funding outstanding reserves

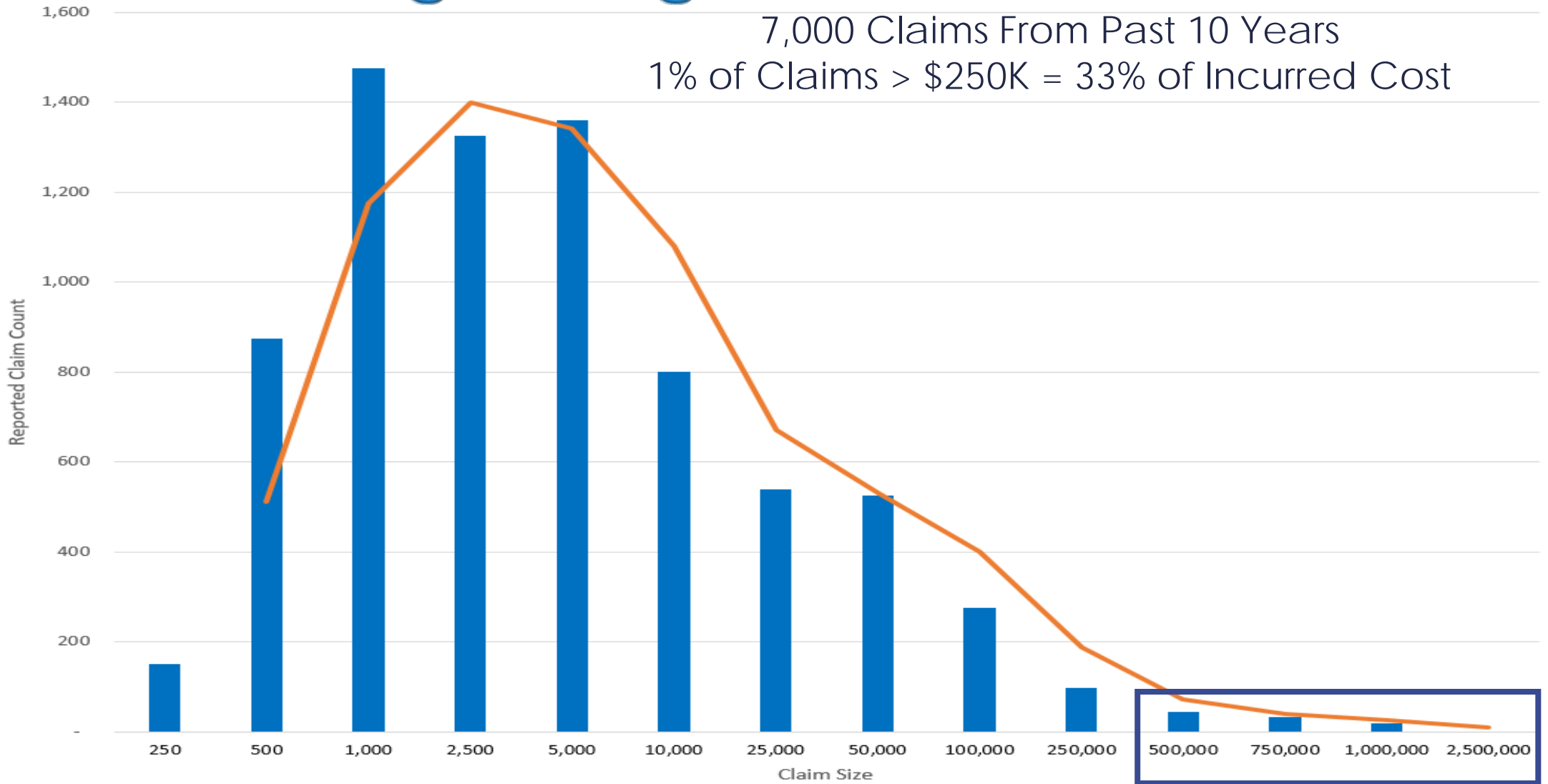*May chose different confidence levels for different purposes*

Does a 50% Confidence Level mean?

Sufficient funds:

a) Annual 50% chance?

b) 5 years out of 10?

c) 50 years out of 100?

What would be the impact of 5 back to back bad years?

Curve Fitting Histogram

7,000 Claims From Past 10 Years
1% of Claims > $250K = 33% of Incurred Cost
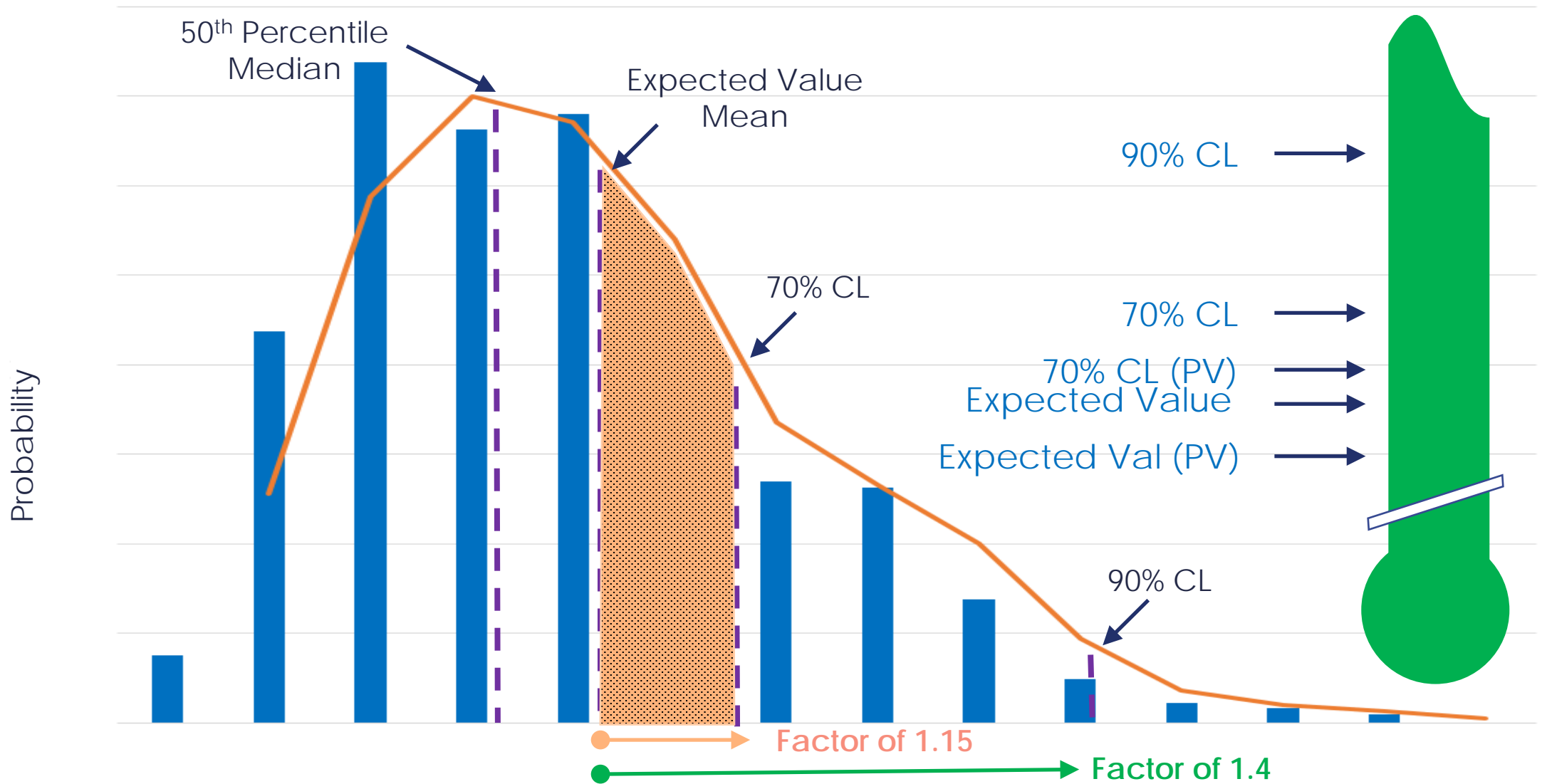
Recognizing and Funding Liabilities

Incurred . . .

IBNE

IBNR

IBNP

But Not Paid

But Not Reported

But Not Enough
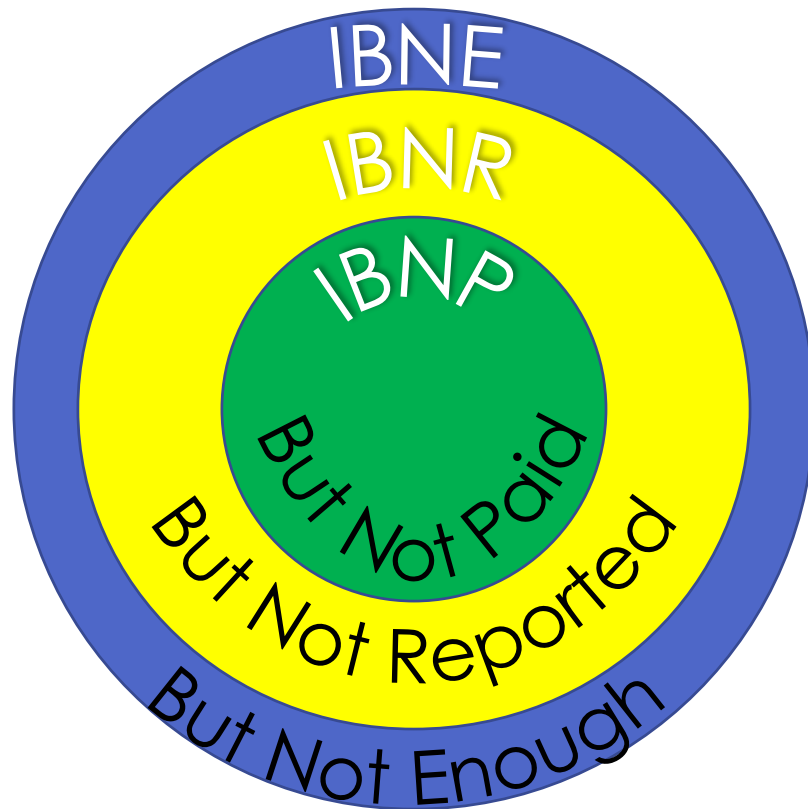
At Expected Value — IBNP + IBNR

'Financial Statement' Liabilities + IBNE

'Full Funding' Goal

IBNP=Claim Reserves

IBNR=Unreported Liabilities

IBNE=Risk Margin/Contingency*

*Higher Confidence Level Funding

Allocation Considerations

Design a process that works for your entity

› Our purpose is to add value

› Cash flow considerations

› Department budgets may need transition plan

› Budget and Finance must be on board

› Some system integration may be necessary

Remember . . . we are cooking, not baking

Allocation Methodology Elements and Considerations

Very Sensitive
Large Swings

⟷
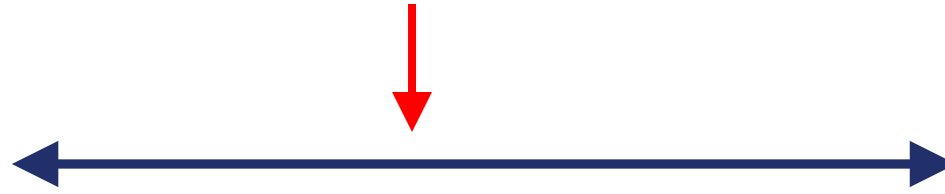
Insensitive
Very Stable

› Exposure basis

› Loss valuation basis
  – Cap losses to reduce swings/spikes ($150K - $250K common)
  – Increase sensitivity: Use shorter periods, ultimate loss basis

› Balance loss history with exposure
  – 70/30 or 60/40 most common
  – Departments/operations without losses still have exposures

Workers' Compensation

› State manual rate balances exposure/losses
  – Beware of composite class codes
› Can develop rates or budget amounts
› Use of actual vs budgeted salary
  – Cash flow options
  – Advantage of an Internal Service Fund/Trust
› Adjusting for department experience/efforts
  – Can adjust for noticeably better/worse loss history
  – Can adjust to recognize loss control efforts

WC Rate Development

WC or Occ Med Rates
Fiscal Year

D = B / 100 * C
E = Needed / Sum(D) * C
F = B / 100 * E

A	B	C	D	E	F
WC Code	Estimated Payroll	State Manual Rate	Manual Rate NCCI Premium	Entity Rate	Entity Premium
5506	2,905,931	4.99	145,006	4.30	124,959
7539	4,872,749	1.29	62,858	1.11	54,168
7590	1,316,850	2.49	32,790	2.15	28,256
7705	12,658,370	3.55	449,372	3.06	387,246
7720	12,593,054	2.12	266,973	1.83	230,064
8810	4,862,307	0.12	5,835	0.10	5,028
9015	6,547,185	3.09	202,308	2.66	174,339
9410	6,871,296	2.71	186,212	2.34	160,468
	52,627,740		1,351,354		1,164,528
				Needed:	1,164,528

Representative sample of class codes shown

WC Rate Development

WC or Occ Med Rates
Fiscal Year

$$E = C * (1 + D)$$
$$F = B / 100 * E$$
$$G = \text{Needed} / \text{Sum}(F) * E$$
$$H = B / 100 * G$$

A	B	C	D	E	F	G	H
WC Code	Estimated Payroll	State Manual Rate	Adjustment (± 10% Max)	Adjusted State Manual Rate	Manual Rate NCCI Premium	Entity Rate	Entity Premium
5506	2,905,931	4.99	0%	4.99	145,006	4.27	124,022
7539	4,872,749	1.29	-5%	1.23	59,716	1.05	51,074
7590	1,316,850	2.49	0%	2.49	32,790	2.13	28,045
7705	12,658,370	3.55	0%	3.55	449,372	3.04	384,343
7720	12,593,054	2.12	5%	2.23	280,321	1.90	239,756
8810	4,862,307	0.12	0%	0.12	5,835	0.10	4,990
9015	6,547,185	3.09	0%	3.09	202,308	2.64	173,032
9410	6,871,296	2.71	0%	2.71	186,212	2.32	159,265
	52,627,740				1,361,559		1,164,528
						Needed:	1,164,528

Developing an Annual Budget Amount by Department or Fund

Process

- List employee salary with department and WC Code
- Total salary by WC Code
- Develop WC rate same way
- VLOOKUP or INDEX/MATCH to calculate WC by Employee
- Total WC by department

Department	Employee	WC Class Code	Job Description	Budgeted Salary	WC Allocation
PW	1	8810	Admin Support	32,015	35.75
Police	2	7720	Sergeant	77,235	1,523.76
P&R	3	9015	Rec Center Manager	45,200	1,299.76
Health	4	8810	Admin Support	33,000	36.85
PW	5	5506	Highway Worker	31,573	1,466.17
Police	6	7720	Corrections Officer	34,555	681.73
P&R	7	9015	Park Manager	48,250	1,387.47
Solid Waste	8	7590	Landfill Supervisor	38,724	897.32
PW	9	9410	Ass't Director	94,250	2,376.93
Police	10	9410	Civilian Commander	79,999	2,017.53
P&R	11	9015	Facilities Maintenance	28,489	819.22
Health	12	9410	Director	134,000	3,379.41
Facilities	13	9015	Facilities Maintenance	27,238	783.25
PW	14	7539	Power Utility	47,468	569.85
				751,996	17,275.00

Row Labels	Sum of Budgeted Salary	Manual Rate	Manual Rate Premium	Entity Rate	Class Code Premium
5506	31,573	4.99	1,575.49	4.64	1,466.17
7539	47,468	1.29	612.34	1.20	569.85
7590	38,724	2.49	964.23	2.32	897.32
7720	111,790	2.12	2,369.95	1.97	2,205.49
8810	65,015	0.12	78.02	0.11	72.60
9015	149,177	3.09	4,609.57	2.88	4,289.70
9410	308,249	2.71	8,353.55	2.52	7,773.88
Grand Total	751,996		18,563.14		17,275.00
				Needed:	17,275.00

Row Labels	Sum of WC Allocation
Facilities	783.25
Health	3,416.26
P&R	3,506.45
Police	4,223.02
PW	4,448.70
Solid Waste	897.32
Grand Total	17,275.00

General Liability

› Select exposure base (operational budget)
 – Isolating covered budget

› Where do your large losses occur?
 – Streets/highways, law enforcement are common
 – Tort caps or immunities? Federal law exposures?

› Identify appropriate cap

› Loss valuation
 – Identify appropriate loss valuation method
 – Identify loss period

› Identify appropriate exposure/loss history balance

GL/POL: Adjusting for Other Coverage

› Identify covered operating budget

› Account for no exposure or covered elsewhere

Total Budget	1,316,220,562
Covered Total	623,556,143
Covered Elsewhere:	
Capital Projects	155,901,786
Debt Service	74,718,403
Medical Services	360,412,551
Superior Court	46,873,403
Juvenile Court	36,728,929
Superior Ct Clerk	12,786,897
School Super	5,242,450
Total:	692,664,419

$$B = A / Sum(A)$$
$$D = C / Sum(C)$$
$$E = (Needed * Loss\ History\ Weighting * B) + (Needed * Exposure\ Weighting * D)$$

Balance Loss History/Exposure

Weighting
Loss History: 70%
Exposure: 30%

CGL/POL/EPL Cost Allocation

Department/Fund	A Previous 5 FY Losses *	B % of Losses	C Next FY Budget	D Next FY % of Budget	E Premium
Communications	-	0.00%	3,392,657	0.54%	11,210
Library	-	0.00%	34,917,185	5.60%	115,368
Risk Management	13	0.00%	17,491,678	2.81%	57,800
Fleet Services	1,398	0.01%	13,784,357	2.21%	46,211
Solid Waste	1,062	0.01%	8,468,395	1.36%	28,487
Development Services	276,968	2.75%	17,217,583	2.76%	188,985
Flood Control	230,625	2.29%	8,743,185	1.40%	138,882
Transportation	3,134,424	31.10%	41,433,934	6.64%	1,631,832
Real Property Services	121,970	1.21%	-	0.00%	58,172
Wastewater Management	1,771,000	17.57%	107,193,673	17.19%	1,198,835
Animal Care	110,729	1.10%	4,710,867	0.76%	68,376
Public Health	30,000	0.30%	20,590,442	3.30%	82,340
Community Hospital	78,975	0.78%	-	0.00%	37,666
Medicaid Health System	138,010	1.37%	-	0.00%	65,822
Slilled Nursing Facility	4,114	0.04%	-	0.00%	1,962
Environmental Quality	-	0.00%	4,601,473	0.74%	15,204
Sheriff's Department	3,055,142	30.31%	114,686,652	18.39%	1,836,050
General Fund	1,124,999	11.16%	226,324,062	36.30%	1,284,344
	10,079,429		623,556,143		6,867,547

Needed: 6,867,547

* Incurred basis, losses capped

Auto Liability

C = (A * Liability $) + (B * PD $)

Department/Fund	Cars	Lt Trucks	Auto Liability Hvy Trucks	Tractors	Trailers	Total	Liability A $ 457	PD<5YrsOld B $ 345	C Allocation
Communications		1				1	1		457
Library						-	-		-
Risk Management	1	1				2	2	1	1,259
Fleet Services	21	15	3	1	17	57	40	20	25,180
Solid Waste	1					1	1		457
Development Services	1	11				12	12	3	6,519
Flood Control	2	2	1			5	5	1	2,630
Transportation	3	15	22	2	18	60	42	4	20,574
Real Property Services		2				2	2	1	1,259
Wastewater Management	2	4	7			13	13	7	8,356
Animal Care		4				4	4		1,828
Public Health	3	1				4	4	6	3,898
Community Hospital	4					4	4	3	2,863
Medicaid Health System						-	-	1	345
Skilled Nursing Facility		3				3	3	1	1,716
Environmental Quality	1	3				4	4	4	3,208
Sheriff's Department	25	3	2			30	30	27	23,025
General Fund	12	5	2	-	-	19	19	17	14,548
Total	76	70	37	3	35	221	186	96	118,122
< 5 Years Old	27	45	12	-	12	96			
PD Fully Retained	49	25	25	3	23	125			

Allocation Method Examples When Information Insufficient

Department/Fund	% of Premium	Allocation
Community Hospital	64.0%	1,090,330
Medicaid Health System	11.0%	187,401
Skilled Nursing Facility	25.0%	425,910
Total	100.0%	1,703,641
Insurance		869,876
SIR/Deductible		798,765
TPA		35,000
Needed:		1,703,641

Aviation Insurance	% of Premium	Allocation
Transportation (Airport)	34.0%	12,149
Sheriff/Police (Aircraft)	66.0%	23,583
Total	100.0%	35,732
Needed:		35,732

Process
- Determine amount to be allocated
- Ask your underwriter for percentages

Presentation Matrix

Department/Fund	GL/POL	WC	Property	Auto	PL	Other	Total	Current FY	Diff $	Diff %
			Next Fiscal Year							
Communications	11,210		2,898				14,108	13,591	516	3.8%
Library	115,368		5,897				121,265	117,619	3,646	3.1%
Risk Management	57,800		111				57,911	56,282	1,628	2.9%
Fleet Services	46,211		8,390	118,122			172,723	175,944	(3,221)	-1.8%
Solid Waste	28,487		1,347				29,833	28,941	893	3.1%
Development Services	188,985		5,437				194,422	188,744	5,678	3.0%
Flood Control	138,882		741				139,624	135,678	3,946	2.9%
Transportation	1,631,832		8,673			12,149	1,652,654	1,606,014	46,640	2.9%
Real Property Services	58,172		79				58,251	56,615	1,636	2.9%
Wastewater Management	1,198,835		88,352				1,287,187	1,247,410	39,776	3.2%
Animal Care	68,376		3,416				71,792	69,636	2,155	3.1%
Public Health	82,340		868				83,208	80,839	2,369	2.9%
Community Hospital	37,666		61,668		1,090,330		1,189,665	1,152,457	37,208	3.2%
Medicaid Health System	65,822		3,619		187,401		256,842	249,270	7,572	3.0%
Skilled Nursing Facility	1,962		35,837		425,910		463,709	448,713	14,996	3.3%
Environmental Quality	15,204		4,946				20,150	19,379	771	4.0%
Sheriff's Department	1,836,050		24,785			23,583	1,884,419	1,830,662	53,757	2.9%
General Fund	1,284,344		59,210				1,343,554	1,303,414	40,140	3.1%
Department Budgets	-	1,164,528	-	-	-	-	1,164,528	1,125,148	39,380	3.5%
Total	6,867,547	1,164,528	316,273	118,122	1,703,641	35,732	10,205,843	9,906,354	299,489	3.0%

	GL/POL	WC	Property	Auto	PL	Other	Total
Current FY	6,675,000	1,125,148	294,207	123,224	1,653,876	34,899	9,906,354
Difference $	192,547	39,380	22,066	(5,102)	49,765	833	299,489
Difference %	2.9%	3.5%	7.5%	-4.1%	3.0%	2.4%	3.0%

Presentation Matrix

Department/Fund	GL/POL	WC	Property	Auto	PL	Other	Total	Current FY	Diff $	Diff %
			Next Fiscal Year							
Communications	11,210		2,898	457			14,565	14,068	497	3.5%
Library	115,368		5,897	-			121,265	117,619	3,646	3.1%
Risk Management	57,800		111	1,259			59,170	57,596	1,574	2.7%
Fleet Services	46,211		8,390	25,180			79,781	78,988	793	1.0%
Solid Waste	28,487	897	1,347	457			31,188	30,284	903	3.0%
Development Services	188,985		5,437	6,519			200,941	195,545	5,396	2.8%
Flood Control	138,882		741	2,630			142,254	138,422	3,832	2.8%
Transportation	1,631,832	4,449	8,673	20,574		12,149	1,677,677	1,631,775	45,902	2.8%
Real Property Services	58,172		79	1,259			59,510	57,928	1,582	2.7%
Wastewater Management	1,198,835		88,352	8,356			1,295,543	1,256,127	39,415	3.1%
Animal Care	68,376		3,416	1,828			73,620	71,543	2,076	2.9%
Public Health	82,340	3,416	868	3,898			90,522	88,206	2,316	2.6%
Community Hospital	37,666		61,668	2,863	1,090,330		1,192,528	1,155,443	37,084	3.2%
Medicaid Health System	65,822		3,619	345	187,401		257,187	249,630	7,557	3.0%
Skilled Nursing Facility	1,962		35,837	1,716	425,910		465,425	450,503	14,922	3.3%
Environmental Quality	15,204		4,946	3,208			23,358	22,725	633	2.8%
Sheriff's Department	1,836,050	4,223	24,785	23,025		23,583	1,911,667	1,858,762	52,905	2.8%
General Fund	1,284,344	4,290	59,210	14,548			1,362,392	1,322,735	39,657	3.0%
Department Budgets	-		-	-	-	-	-	-	-	-
Total	6,867,547	17,275	316,273	118,122	1,703,641	35,732	9,058,590	8,797,897	260,693	3.0%
Current FY	6,675,000	16,691	294,207	123,224	1,653,876	34,899	8,797,897			
Difference $	192,547	584	22,066	(5,102)	49,765	833	260,693			
Difference %	2.9%	3.5%	7.5%	-4.1%	3.0%	2.4%	3.0%			

Key Takeaways

HOW AND WHY OF BUDGETING AND ALLOCATING COST
DEVELOPING STRATEGIES THAT SUPPORT ENTITY AND RISK MANAGEMENT GOALS

Public Entity Funding Structure

Recognizing and Funding Liabilities

Risk Management Fund Options

Allocation Strategies

Encouraging Loss Prevention

Controlling Budgetary Fluctuations (Sensitivity)

Tell Your Story – Convey a Message!

Discussion Time

Photo credit: Source Unknown (Bing)