

# **A Risk-Based Analysis of Restricted Surplus Requirements for Parkland County, Alberta**

Government Finance Officers Association

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# Triple-A Approach to Uncertainty

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- **Accept...**we are subject to uncertainty.
- **Assess...**the potential impact of the uncertainty.
- **Augment...**the range of uncertainty we think we face.

# Key Risks

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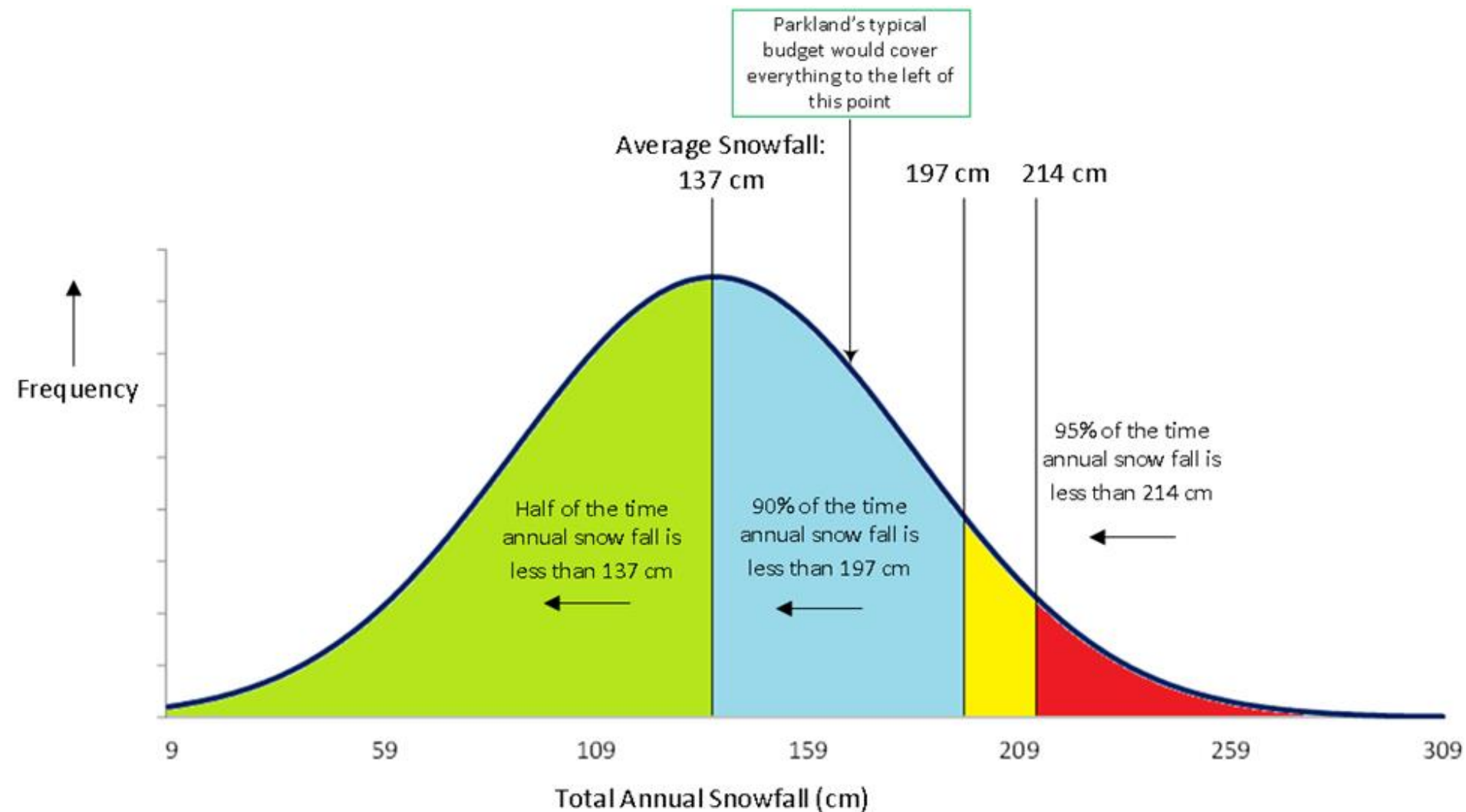
- Extreme events
  - Wildfires, high winds (e.g., tornados), hazardous materials spills, and extreme snow falls
  
- Revenue volatility
  - reliability of property taxes from power plants
  
- Liquidity risk from cash flow concerns

# Extreme Events

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- Low-frequency, potentially high consequence risks
  - Wildfires, hazardous material spills, illegal dumping, and high winds
  
- There is a least some snow every year and half the time is above-average

# Snowfall

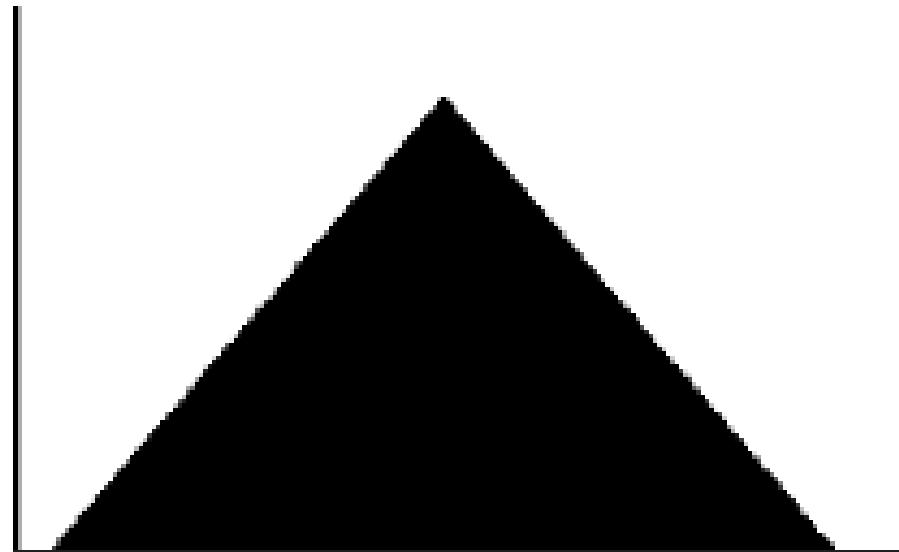


# Triangular Distribution

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**Normal**



**Triangular**

# Wild Fire

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Restricted surplus	Likelihood of covering a given wildfire
\$2.5 million	90%
\$2.8 million	95%
\$3.2 million	99%

# Hazardous Materials

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Restricted surplus	Likelihood of covering a given hazmat spill
\$3.1 million	90%
\$3.5 million	95%
\$4.1 million	99%

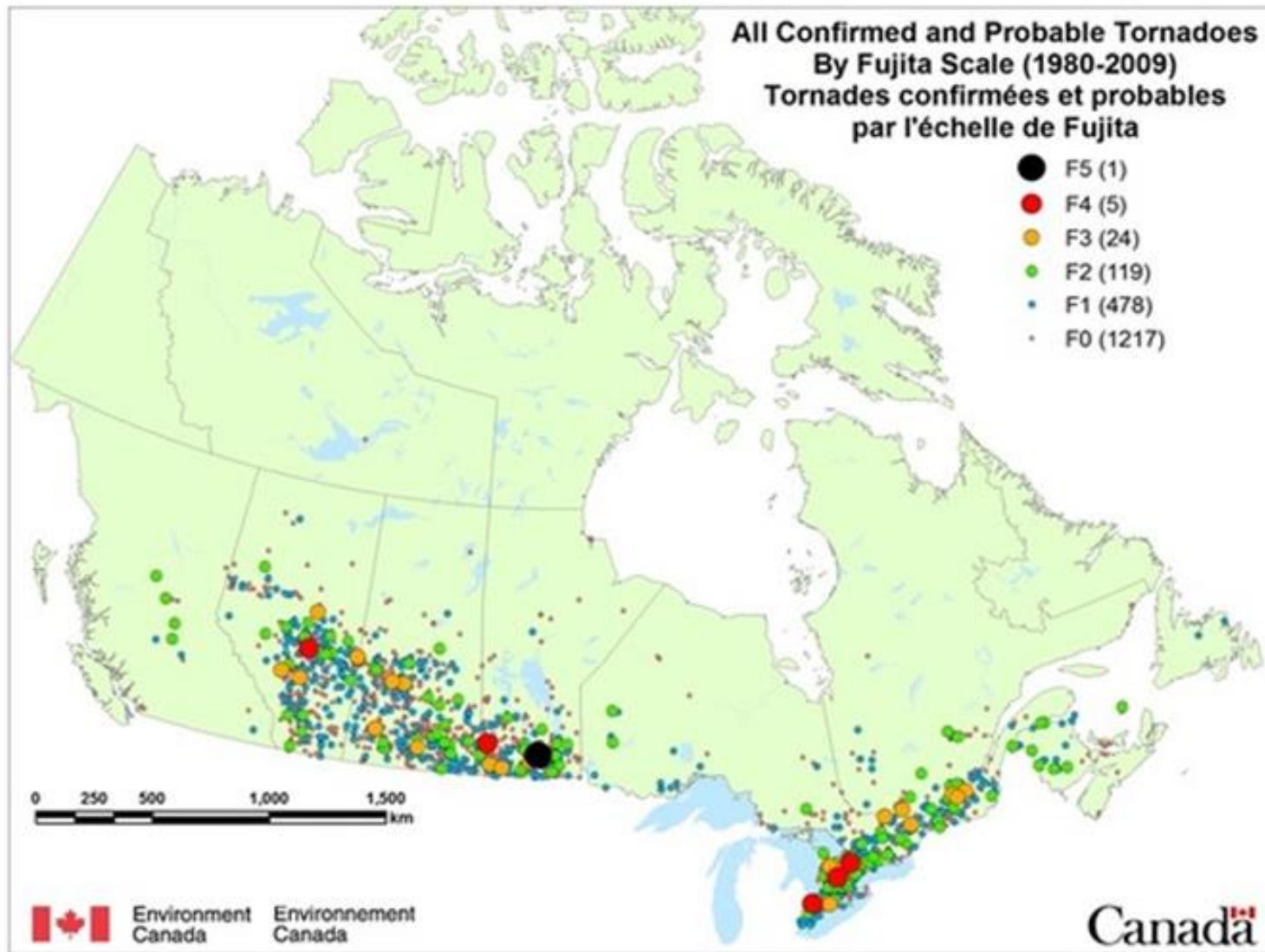


# Illegal Dumping

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<b>Restricted surplus</b>	<b>Likelihood of covering a dumping event</b>
<b>\$0.8 million</b>	<b>90%</b>
<b>\$0.9 million</b>	<b>95%</b>
<b>\$1.1 million</b>	<b>99%</b>

# High Winds



# High Winds

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Restricted surplus	Likelihood of covering a given wind event
\$1.6 million	90%
\$1.8 million	95%
\$2.0 million	99%

# % of Extreme Event Costs Reimbursed

	Portion Covered by 3rd Parties		
	High	Typical	Low
<b>Wildfire</b>	70%	60%	50%
<b>Hazardous Material</b>	100%	90%	70%
<b>Illegal Dumping</b>	90%	75%	50%*
<b>Severe Wind/Rain</b>	70%	60%	50%

**\*In the most extreme circumstances, the level of reimbursement could plausibly be zero**



# Probability of Extreme Events over Various Time Horizons

		Time Horizon				
		1 year	2 Years	3 Years	4 Years	5 Years
Number of Extreme Events that Occur	0	81.9%	67.0%	54.9%	44.9%	36.8%
	1	16.4%	26.8%	32.9%	35.9%	36.8%
	2	1.6%	5.4%	9.9%	14.4%	18.4%
	3	0.1%	0.7%	2.0%	3.8%	6.1%
	4	0.0%	0.1%	0.3%	0.8%	1.5%
	5	0.0%	0.0%	0.0%	0.1%	0.3%

# Combined Risk

Likelihood of covering the extreme event	Hazardous Materials	Wildfires	Total (New Distribution of Total Risk)	Total (Simple Sum of Individual Risks)
90%	\$3.1 million	\$2.5 million	\$4.7 million	\$5.6 million
95%	\$3.5 million	\$2.8 million	\$5.2 million	\$6.3 million
99%	\$4.1 million	\$3.2 million	\$6.1 million	\$7.3 million

- 5-year outlook
  - wildfire, high winds, hazardous materials
  - \$7.1M (99%)
  - \$6.1M (95%)
  - \$5.6M (90%).

# Revenue Instability

Plant	Closing Year	Annual Revenues	Plant	Closing Year	Annual Revenues
Sundance 1	2018	\$374,000	Sundance 6	2029	\$410,000
Sundance 2	2018	\$302,000	Keephills 1	2029	\$495,000
Sundance 3	2026	\$361,000	Keephills 2	2029	\$634,000
Sundance 4	2027	\$556,000	Keephills 3*	2030	\$7,000,000
Sundance 5	2028	\$555,000			

**\* While its useful life would be through 2061, provincial regulations will require it to close in 2030.**

**Sources: Parkland County, AB and Alberta Municipal Affairs**

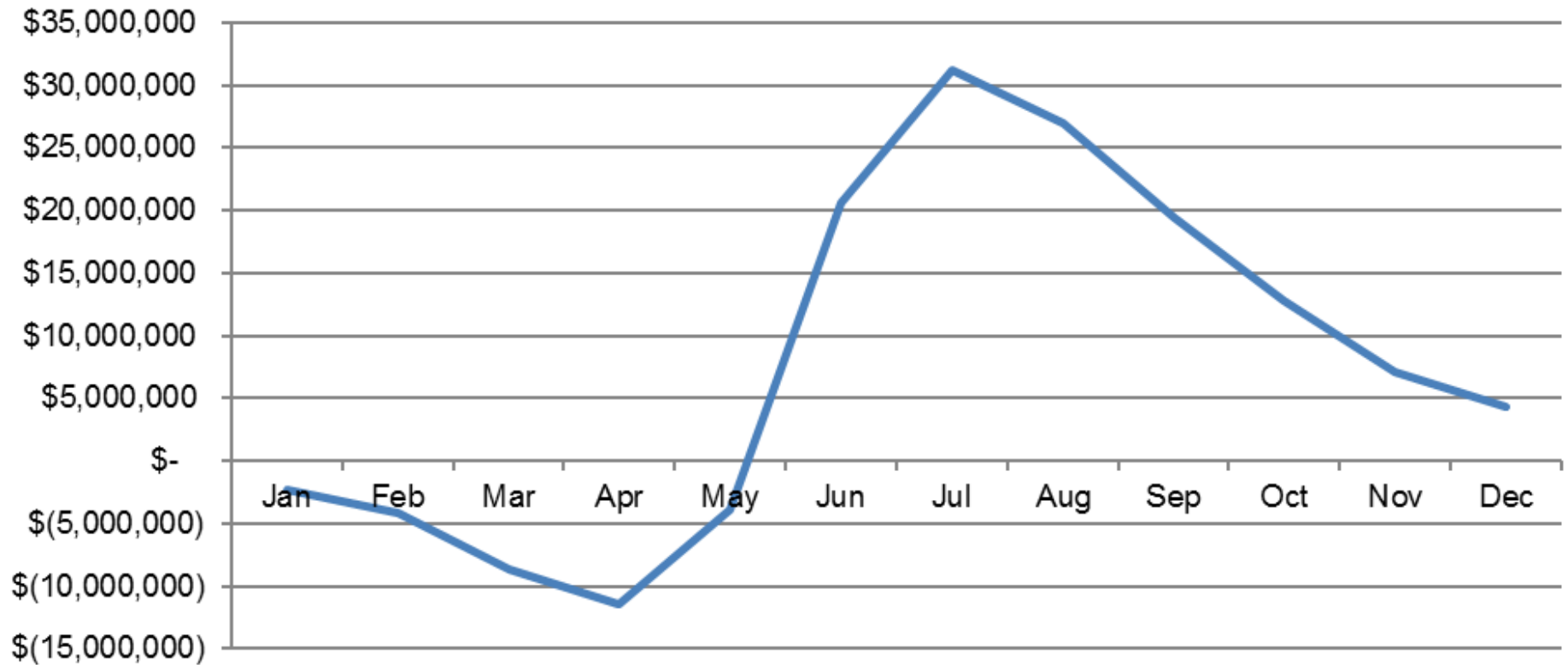
# Revenue Risks

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- Proposed reduction in linear assessment
  - Clear and present danger
  - Potential \$5 million annual revenue reduction
- Early closure due to obsolescence
  - Prepare for 1 year revenue loss per plant
    - Represents worst-case scenario
  - Requires \$10.9M to \$5.9M.
- Schedule D adjustment
  - Frequent, but not huge dollar impact
  - 95% confident - \$480,000



# Liquidity Risk



***Parkland County on average has a cash flow deficit until June when it receives property tax revenue.***

# Estimated Rolling Cash Deficit for April

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Year	Rolling Cash Deficit
2011	(\$10,300,000)
2012	(\$10,500,000)
2013	(\$12,300,000)
2014	(\$12,100,000)
2015	(\$12,200,000)
Average	(\$11,500,000)

# Areas with No Significant Risk

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- Leverage
  - Parkland does not have enough debt to adverse impact its restricted surplus strategy
- Expenditure volatility
  - No important risks found
- Other claims on restricted surplus
  - No significant outside claims

**Restricted Surplus to Support Certain Needs  
for Regular County Services****Balance as of  
Dec 31, '16****GFOA  
Recommendation****Explanation**

Total of surpluses for lifecycle and other planned needs	17,340,054	17,340,054	Assumes operating contingency of 3% of total budget (\$2M)
Future Operating*	5,421,219	2,000,000	

**Restricted Surplus to Support Future Uncertain Needs for Regular County  
Services**

Total of surpluses for uncertain needs for regular services	23,730,011	23,730,011	Assumes just risk for revenue stability
Long Term Sustainability**	7,405,250	11,400,000	

**Working Capital**

Working capital and internal loans***	7,475,470	0	Other surpluses provide working capital / loan funds
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**Emergency**

Summary of All Emergency Surpluses****	7,038,390	\$5,000,000 to \$7,700,000	Recommended extreme event surplus
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**Legislated**

Summary of all Legislated	5,211,098	5,211,098	Unchanged
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**Total****73,621,491****67,381,163**

# Financial Policies to Consider

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- Strengthen restricted surplus policy
- Asset management policy
- Structurally balanced budget policy
- Year-end carry over policy
- Internal loan policy
- User fee policy