Managers of Risk or Victims of Risk

Rocked by the Shocks

Summary

In 2008 and 2009 the world experienced an economic shock called the Great Recession. Impacts to local governments included layoffs and furloughs of workers, deferred maintenance and postponed development of critical infrastructure. Another consequence was an explosion of long term debt due to ballooning unfunded pension liabilities. Despite benefiting from the longest period of economic expansion in our country's history, local governments are just one economic shock away from significant financial distress. The emergence of the Coronavirus pandemic will likely trigger a new economic shock leading to the loss of key services, and continued deterioration of critical infrastructure.

This report examines the current level of financial risk for Santa Cruz County (SCC) Cities, the causes and likely impacts of that risk, and the risk management practices of our Cities. We find that the cities of SCC do not practice formal, integrated risk management for the range of risks and impacts that they regularly confront. We recommend that the cities study ways to implement more comprehensive practices with regard to risk identification, evaluation, mitigation, and communication.

The Grand Jury does recognize that the cities have limited resources and that the implementation of new practices have a cost. However, there are ways to tailor risk management processes for the city's specific size and need. **Our world has been rocked by two once-in-a-lifetime shocks in the last 12 years; perhaps investment in risk management is a wise consideration.**

Background

In the lead up to the Great Recession of 2008 there were significant economic risks lurking over all levels of government. Most stakeholders were either unaware of these risks and their potential impacts, or did not effectively plan mitigation strategies for their constituents. The effects from that economic shock still reverberate in the form of continued financial risk for local governments due to rising employer pension costs. Several sources from the media, government accountability advocacy groups, and grand jury investigations have sounded the alarm for the pension time bomb. This is best reflected in the following observation made in a commentary in the New York Post (2019);

> *The second-longest bull market in American history hasn't stopped the deterioration of state and local pension funds, whose unfunded debt has almost quadrupled, by their own accounting, from about $360 billion in 2007 to $1.4 trillion today. Having relied on overly optimistic financial assumptions for decades, public-pension administrators are now forced to acknowledge that the systems owe much more than previously thought. Even as local governments struggle to pay for this debt, it keeps growing.*[1]

This raises important questions: Are local governments prepared for another economic shock? What is the state of their risk and readiness to mitigate the impacts of its arrival? Do the city leaders who make decisions on spending, borrowing, taxing, or cutting services understand the risk impact of their decisions? Finally, do the citizens understand the implications to their services and quality of life? Local government can be a "risky business" if citizens, elected officials, and agency employees are not practicing due diligence with regard to risk management.

> *If you don't invest in risk management, it doesn't matter what business you're in, it's a risky business.*[2]

Risk to local government operations are inflated by broad social, economic, and political issues, including: increasing volatility in financial markets; an economic expansion that has ended suddenly; socio-economic inequality; climate change impacts that are increasing in frequency; persistent levels of homelessness; and less availability of affordable housing. The level of risk to local government operations is arguably at a historic high.

The Grand Jury conducted an initial review of risk-related documentation from SCC Cities to assess their level of capabilities and practices in place. Specific concerns included:

- Financial risk, especially that driven from pension costs, was recognized and discussed in budget documents but there appeared to be no formal projections and mitigation planning in the event that CalPERS could not meet its investment targets going forward.

- We could not find a slate of formally defined risk indicators, that were tracked, managed, and communicated regularly.
- Risk management activities appeared to be in multiple places in the organization and without a formally defined process to create an integrated understanding of risk and how to manage it.
- Except perhaps in the context of contractor executed projects, there appeared to be no risk management tools employed.
- It seemed the only categories of risk managed in formal ways were those associated with hazard/liability losses.

Based on this initial assessment, we decided to take a deeper look into risk management concepts and requirements, and how well they are utilized by SCC Cities.

The four cities analyzed are home to about 51% of the residents in SCC. As of 2019, the total population of the county is 273,213. The population of each city is given below:[3]

- Santa Cruz - 64,608
- Capitola - 10,010
- Scotts Valley - 11,757
- Watsonville - 53,856

Scope and Methodology

The Grand Jury investigated the level of risk for cities in SCC, their broader risk management practices, and the level of transparency in their reporting on these issues to their citizens. Although we did not analyze the County jurisdiction, special districts, and school districts, we believe similar challenges exist for them.

During the investigation we performed extensive reviews of the following:

- defined-benefit pension systems
- CalPERS actuarial reports
- city budgets and audit documents
- policy documents
- websites
- previous grand jury reports, media articles, and webinars on pension liabilities
- academic research of risk management processes, local government behavior in periods of fiscal distress, and transparency in government.

Some research material came from documents provided by local agencies, but most came from extensive literature searches.

Interviews were conducted with key city staff and experts with knowledge concerning the investigation topic and relevant practices within the agencies.

One element of our methodology deserves special mention. In our search to find a common way to assess financial risk for the cities, we found a published study and database done by the California's State Auditor's Office (Auditor's Office) that addressed this need.[4] Using 2017 audited and unaudited data, the study calculated, scored, and categorized the risk of fiscal distress using several financial indicators. This was done for 471 cities in the state of California, including SCC Cities. We duplicated their methodology extending the risk assessment through 2018 and 2019, creating 3-year trends.

Investigation

I. Risk, Risk Management, and Transparent Government - Key Concepts and Requirements

Risk Management is a long established, but evolving discipline. To assess the current practices in place at local government agencies, a common set of concepts and requirements must be described and used as a baseline of comparison for each agency's practices. The following subsections summarize our best understanding of sound risk identification, risk management, and transparent reporting of the risk environment. Mainstream government and research sources were used to inform our descriptions.

A. Identifying Risk and Their Interactions - Key Concepts and Requirements

All organizations, especially local governments, are subject to risks that may affect the accomplishment of their objectives. In order to understand and manage these risks, we first must select a way to define them. In the research literature, risk has many definitions; we choose to adopt a blend from many of these sources and define *risk* as:

> an uncertain event or sequence of events that if realized may inhibit or **enhance** the accomplishment of an organization's objectives.

Local government organizations face many risks and categories of risk due to the type and scope of their activities. Just as there are several definitions of risk, there are multiple ways to categorize risk. We choose to use categories defined in association with a risk management framework called *Enterprise Risk Management* (ERM). The following list, derived from the source, summarizes the categories of risk faced by organizations, including local government:[5]

- Hazard Risk: property loss, personal injury, theft, and disease/disability events; and their associated causes and impacts.
- Financial Risk: revenue, cost, debt, and reserve events; and their associated causes and impacts.
- Operational Risk: human/process/system failure or degradation events; and their associated causes and impacts.
- Strategic Risk: business environment and/or governance environment change events; and their associated causes and impacts.

In addition to being able to name risks, there must be a means to characterize the potential magnitude of their impacts. A standard way to do this is to assign numbers to two variables: *likelihood* and *consequence* of occurrence. Using these numbers, officials can decide which risks require continued attention in the form of monitoring, assessment, and mitigation management, and which can be ignored.

Figure 1 depicts an example of a risk register that defines a possible portfolio of risks confronting local city government. It shows assessments of likelihood and consequence for each risk, and provides an assessment of potential magnitude of the risk for the city government. In this fictional scenario, a risk manager may decide that all risks with a "low" risk assessment can be tolerated without additional management attention.

Category	Risk	Likelihood	Consequence	Mitigation	Risk Magnitude Score	Risk Assessment
Strategic	Global Economic Downturn	3	2	Monitor Key Economic Indicators	6	Medium
Strategic	Global Economic Shock	1	9	Increase Reserve Levels	9	Extreme
Strategic	Expected Intergovernmental Funds Slashed	2	3	Increase Local Revenue	6	Medium
Strategic	CalPERS Return Collapse	1	9	Pursue Pension Reform	9	Extreme
Strategic	CalPERS Return Lower than Expected	2	2	Establish Section 115 Trust	4	Medium
Financial	Unexpected Local Revenue Downturn	1	2	Initiaite Cost Reduction Plan	2	Low
Financial	Unexpected Employer Pension Debt	2	2	Pension Obligation Bond	4	Medium
Financial	Inadequate Reserves to Cover Critical Costs	2	2	Initiate Cost Reduction Plan	4	Medium
Operational	Increase in Deferred Maintenance	2	2	Identify Low Risk Capital Assets	4	Medium
Operational	Critical CIP Unfunded	3	3	Initiate Infrastructure Capacity Reduction Plans	9	Extreme
Operational	Loss or Significant Degradation of Service Levels	1	3	Initiate Service Level Impact Reduction Plans	3	Low
Hazard	Infrastructure Failure - Storm Drain	1	3	Deploy Rainy Day Funds	3	Low
Hazard	Personal Injury Liability	1	2	Risk Transfer via Insurance	2	Low
Hazard	Wildfire Property Losses	3	3	Risk Transfer via Insurance	9	Extreme
		Probability: Low = 1 Medium = 2 High=3	Impact: Low=1 Medium=2 High=3 Extreme=9			

Figure 1 **An Example of a Risk Register**[6]

Recognizing individual risks are important. However, to really understand the risk faced by an organization, a risk manager must understand how risks may be interrelated. In reality, one occurring risk event may cause the occurrence of a sequence of others. Risk managers have several tools to help them understand these relationships. One such tool is the *Bowtie Analysis* method.[7] [8] [9] [10]

Figure 2, shown below, depicts the results of applying the method and illustrates the reason for the name. A Bowtie diagram is built by performing the following steps:

- Identify a main risk event, one probably selected from the risk register (as depicted in Figure 1). This event goes at the center of the diagram and becomes the knot in the bowtie.
- Construct the left side by asking “why could this main risk event occur?” This will identify a set of preceding causal events to the main event. By asking the same question for each of these preceding events, earlier causal events are identified. Eventually, the process produces a set of root cause events. These are external events that are outside the control of your organization.
- Construct the right side of the bow tie by asking “what could happen after the main risk event?” This will identify possible succeeding events. By asking the same question for each succeeding event, later risk events are identified. This process is complete when specific impacts to organizational objectives are identified.

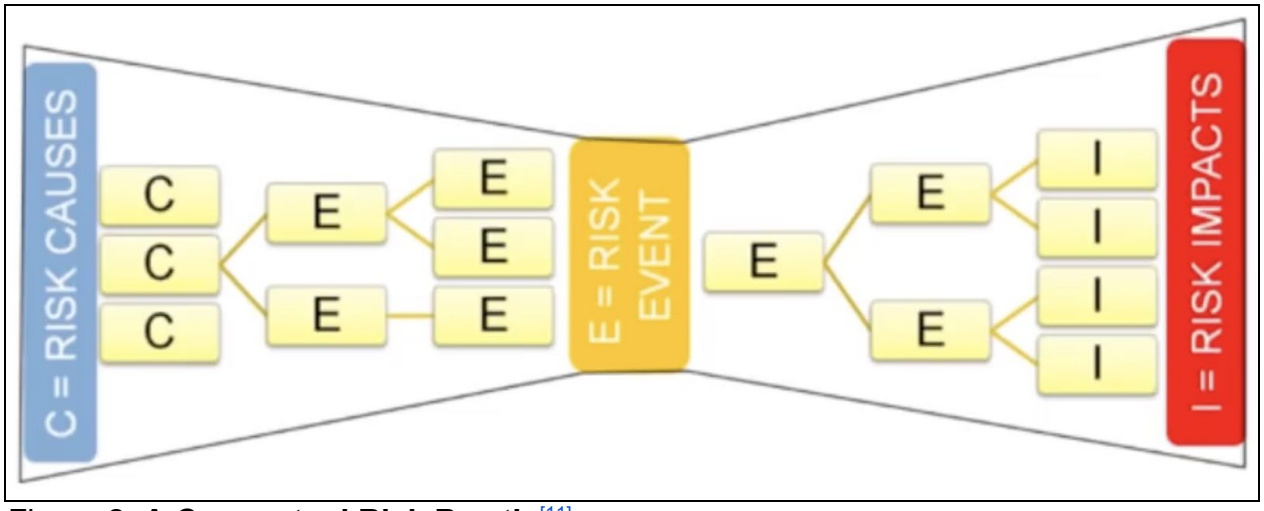

Figure 2. **A Conceptual Risk Bowtie**[11]

Once root causes, risk events, and ultimate impacts are identified, paths from root causes, through intervening risk events, and finally to organizational impacts can be constructed that tell a story of how risk may unfold in an organization.

To make things a little more concrete, we developed a Bowtie diagram based upon one of the risks from the risk register above. Although this is a fictional risk story for a fictional agency, it could be a realistic scenario for any local government.

Figure 3 (below) depicts the fictional risk story unfolding around the financial risk called Significant Budget Deficit (current & projected).

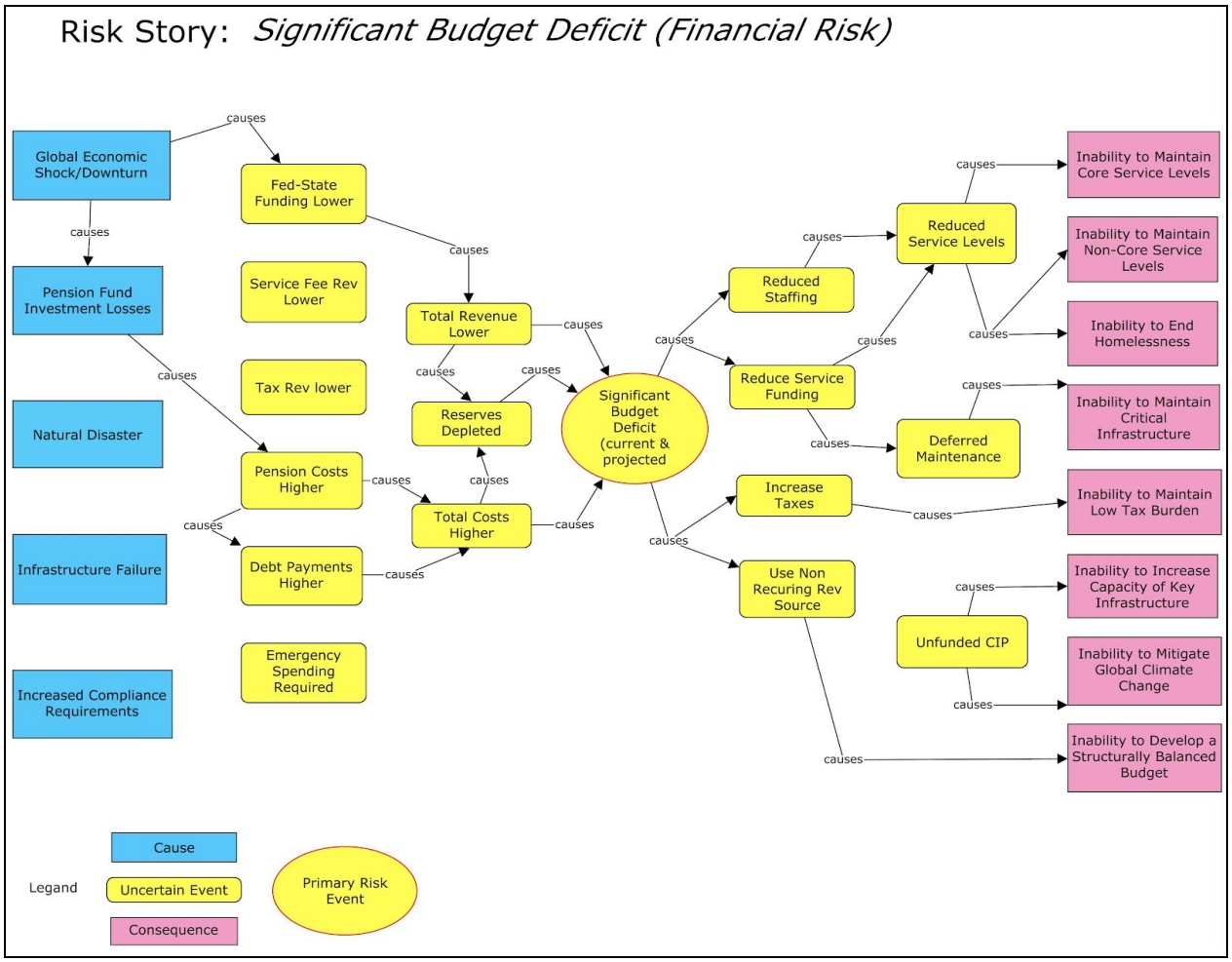

Figure 3 **An Agency Risk Story - Bowtie Analysis**[12]

This specific risk story captures the possible ways a global economic shock or downturn could create a significant budget deficit (current and projected). It then maps the various paths such an event could trigger to impact the objectives of the agency (represented by the pink boxes on the far right). The path followed would depend on decisions made by agency management before and after the event occurs. As an example:

- One path (lowest right) would be to use a non-recurring funding source to balance the budget for the current year; thereby not meeting the goal of producing a structurally-balanced budget.
- Another path (lower right) would be to increase taxes, or still another (upper left) to reduce funding for services.

Each of these paths would produce different results. Creating a plan to guide these decisions would be part of a risk management plan.

RISK IDENTIFICATION REQUIREMENT: To adequately understand and manage the risks confronting their communities, local government decision-makers need a comprehensive approach to defining all types of risk and their interactions.

B. Controlling, Monitoring, and Communicating Risk - Key Concepts and Requirements

Without a clearly defined and comprehensive practice of integrated risk management, an organization may be unpleasantly surprised by an emerging risk. If so, this restricts its response to reactive management actions to mitigate consequences. Such mismanagement of risk can result in financial instability, ineffective planning and execution, degradation or loss of services, deterioration of infrastructure, and ultimately public safety. Fortunately, there are best practices, frameworks, and tools available to support effective risk management. Additionally, a risk management process can be lean and right sized for an organization. It is not a defined position but is built into the business rhythms and culture of the organization

Risk Management is defined as: *coordinated activities to direct and control an organization with regard to risk.* The coordinated activities are usually designed within the context of a standard process that includes the following tasks:[13]

- task 01 - establishing the risk context
- task 02 - identifying, analyzing, and evaluating risk
- task 03 - establishing controls or treatments for mitigating risk
- task 04 - monitoring risk indicators
- task 05 - communicating risk

In the previous section we defined a framework for tasks 01 and 02. We now apply the Bowtie Analysis methodology to support the execution of tasks 03, 04, and 05. A risk manager will not have a complete picture of risk until the various paths through the risk story are evaluated for the application of risk management controls.

Controls of different types are designed and attached to the parts of the risk story where they have one of two intended purposes. First, controls prior to the occurrence of the main risk event are designed to *reduce likelihood* of the realization of the event. Second, controls in place after the occurrence of the main risk event are designed to reduce the impact or consequence of the event.

Figure 4 depicts the placement and type of controls available to the risk manager. A description is provided below the figure.

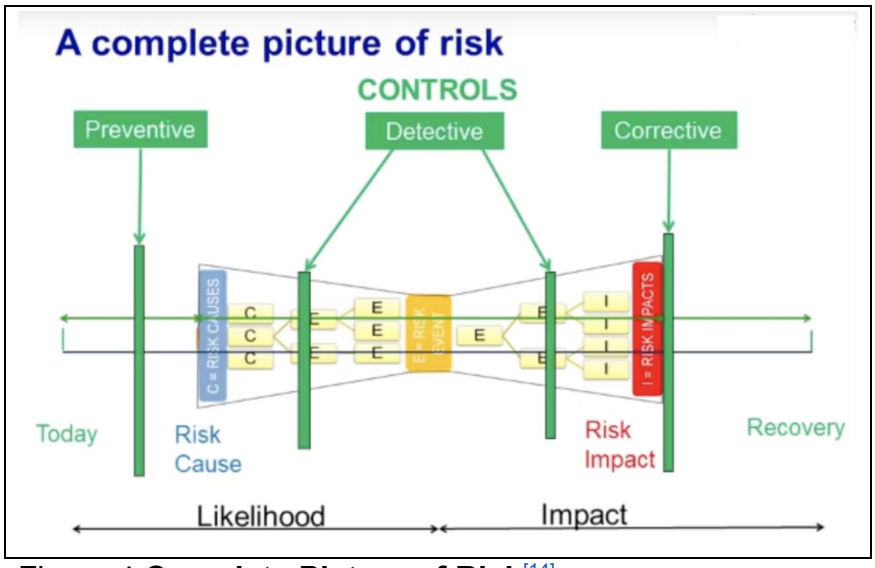

Figure 4 **Complete Picture of Risk**[14]

- Preventative Controls (left): designed to prevent root causes or the immediate follow-on events from occurring, thus reducing the likelihood of the main risk event.
- Detective Controls (center): designed to sense when leading risk events are unfolding and then apply remedies for reducing likelihood of ultimate realization of the main risk event. They are also designed to sense when risk events that follow the main event engage and then to apply management actions to reduce ultimate impact.
- Corrective Controls (right): developed to kick-in once an ultimate impact has been realized. Hopefully, previous controls will have reduced the severity of the impact and thus the needed corrective measures will be minimized.

Control measures on the left side of the diagram are less expensive to implement than those on the right side. In other words, proactive measures provide the most cost-effective way to manage risk. Without the Bowtie Diagram, or something equivalent, it would be impossible to develop the optimal risk management plan for the agency.

Thus far, we have discussed requirements for defining and identifying risk, and evaluating the overall risk environment for the local government agency. These requirements have been derived under the basic assumption that traditional risk management techniques are not as effective as a more integrated approach to risk management. For the remainder of this section we will discuss the rationale for this assumption, the concept of Enterprise Risk Management (ERM), and how it differs from traditional risk management.

Rationale: Changes to the Risk Environment

As the world entered the 21st century there were many changes to the risk environment for all types of organizations. According to the Casualty Actuarial Society (CAS), this is best characterized as "*treating the vast variety of risks in a holistic manner, and elevating risk management to a senior management responsibility.*" The forces behind this shift include:[15]

> More Risks and Complexity of Risk - *The advance of technology, the accelerating pace of business, globalization, increasing financial sophistication and the uncertainty of irrational terrorist activity all contribute to the growing number and complexity of risks. It is reasonable to expect that this trend will continue…. Even seemingly insignificant risks on their own have the potential, as they interact with other events and conditions, to cause great damage.*
>
> A Portfolio Point of View - *Another characteristic force is the increasing tendency toward an integrated or holistic view of risks… A number of principles follow from this thinking, including:*
>
> - *Portfolio risk is not the simple sum of the individual risk elements.*
> - *To understand portfolio risk, one must understand the risks of the individual elements plus their interactions.*
> - *The portfolio risk, or risk to the entire organization, is relevant to the key risk decisions facing that organization.*
>
> More Quantification - *...the growing tendency to quantify risks. Advances in technology and expertise have made quantification easier, even for the infrequent, unpredictable risks that historically have been difficult to quantify… The attempt at quantification allows the organization to analyze "what if" scenarios. They are able to estimate the magnitude of risk or degree of dependency with other risks sufficiently to make informed decisions.*
>
> Risk Seen as Opportunity - ...*pertains to the outlook organizations have toward risk. In the past, organizations tended to take a defensive posture towards risks, viewing them as situations to be minimized or avoided. Increasingly, organizations have come to recognize the opportunistic side, the value-creating potential of risk.*

Rationale: Government is Inherently Risky

Some may assert that sophisticated risk management is not needed in the typically "risk averse" environment of government organizations. There are multiple authoritative sources on risk management that challenge this assertion. The Government Finance Officers Association (GFOA) observes:[16]

- *Risk permeates just about every aspect of government, and as a result is an unavoidable part of governance. Managing these risks not only may prevent them from happening in the first place, but will also prepare the organization financially for those events outside anyone's reasonable control.*
- *Governments face unique risks not found in the private sector. This is true for a number of reasons:*
    - *Some public sector services are inherently high risk (i.e. police and firefighters). Additionally, most governments cannot discontinue a service such as road maintenance because it is high risk.*
    - *The scope of government is enormous. Even small municipalities provide a wide array of services, such as law enforcement, waste disposal, and regulatory oversight. This is also true geographically. The "footprint" of a government is massive and includes parks and government property, often making it the largest landowner in a jurisdiction.*
    - *A government typically lacks total control over its physical environment. During normal business hours, governments do not restrict citizen access to many government buildings. City halls, state capitol buildings, and motor vehicle offices must be accessible to the public. Some public spaces like parks and roadways for example are open 24/7.*

Another source has recently described the risk environment for the Federal Government. In a cover letter for a Government Accountability Office (GAO) report,[17] The Honorable Jason Chaffetz, Chairman and the Honorable Elijah E. Cummings, Ranking Member of the Committee on Oversight and Government Reform, House of Representatives stated:

> *Federal government leaders manage complex and inherently risky missions across their organizations, such as protecting Americans from health threats, preparing for and responding to natural disasters, building and managing safe transportation systems, advancing scientific discovery and space exploration, maintaining a safe workplace, and addressing security threats. Managing these and other complex challenges, requires effective leadership and management tools and commitment to delivering successful outcomes in highly uncertain environments.*

The referenced report identifies authoritative guidance documents that require agencies in the Federal Government to implement ERM processes.

Concept: Enterprise Risk Management (ERM)

The GAO report referenced above also defined the essential elements of the ERM process. Their text and graphical guidance is provided here:

> *We identified six essential elements to assist federal agencies as they move forward with ERM implementation. Figure 5 below shows how ERM's essential elements fit together to form a continuing process for managing enterprise risks.* ***The absence of any one of the elements below would likely result in an agency incompletely identifying and managing enterprise risk.*** *For example, if an agency did not monitor risks, then it would have no way to ensure that it had responded to risks successfully. There is no "one right" ERM framework that all organizations should adopt. However, agencies should include certain essential elements in their ERM program.*[emphasis added]

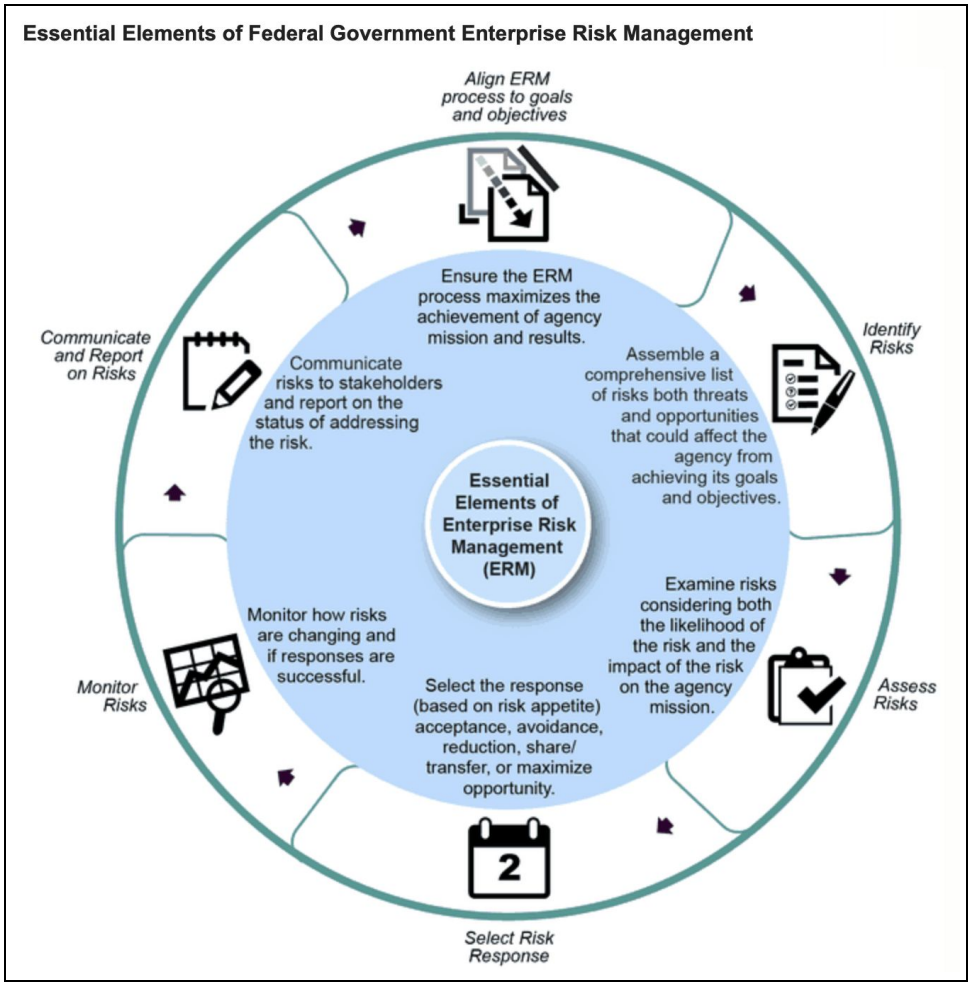

Figure 5. **GAO Guidance on Federal Government Implementation of ERM**[18]

Surprisingly, despite a broad understanding of the complexity of the risk environment for government agencies at all levels, only at the federal level is an integrated risk management framework required. Recent studies show that the United States lags far behind other countries in the implementation of ERM at the local government level.[19] Except for funding scientific discovery and exploration, the scope of local government activities is the same as the federal government, including: protecting citizens from health threats, preparing for and responding to natural disasters, building and managing safe transportation systems, maintaining a safe workplace, and addressing security threats. These activities are subject to a similar complex risk environment, perhaps even more so due to the lack of control of external factors (e.g. intergovernmental funding).

RISK MANAGEMENT REQUIREMENT: Local government risk management requires the same rigor for managing (i.e. controlling, monitoring, and communicating) risk as the Federal Government. However, the process can be tailored to the size and scope of activities of the local agency.

C. Being Transparent About Risk - Key Concepts and Requirements

There is significant evidence in the research literature that indicates the importance of trust between government entities and the citizens they serve.[20] [21] [22] Government requires the support of citizens in the creation of policies, subsequent compliance with those policies, and funding of programs and services. Without trust, this support is minimal and the job of governance becomes less effective. A critical element in the creation and maintenance of public trust is ***transparency***. We adopt a definition for transparency provided by American Legislative Exchange Council (ALEC).[23]

> *Government's obligation to share information with citizens that is needed to make informed decisions and hold officials accountable for the conduct of the people's business.*

This definition provides the intended result of any government effort to achieve transparency. In order to achieve this result, specific requirements must be met. The Institute for Local Government (ILG) states that

> *...there are two dimensions to public agency transparency; information transparency, and process transparency. With respect to both kinds of transparency, a website is an opportunity to provide raw information (budget numbers and meeting dates) and also to provide the public with background information on what the numbers mean for the services they receive and how they can participate in the decision-making process if they choose.*[24]

With regard to financial transparency, the author Mark Mack of GFOA states:

> *Many governments look to online financial transparency as a way to educate the public about what government does and how it arrives at the decisions it makes. Other motivations include the desire to improve public*

service and accountability, and to maintain or improve professional ethics. Governments that concentrate on financial transparency report improved legitimacy and support, and general improvements in their organization's reputation.[25]

In a more general statement of requirements for financial transparency, the author offers the matrix in Figure 6 that shows what is required to inform and educate stakeholders with regard to the financial status of local government.

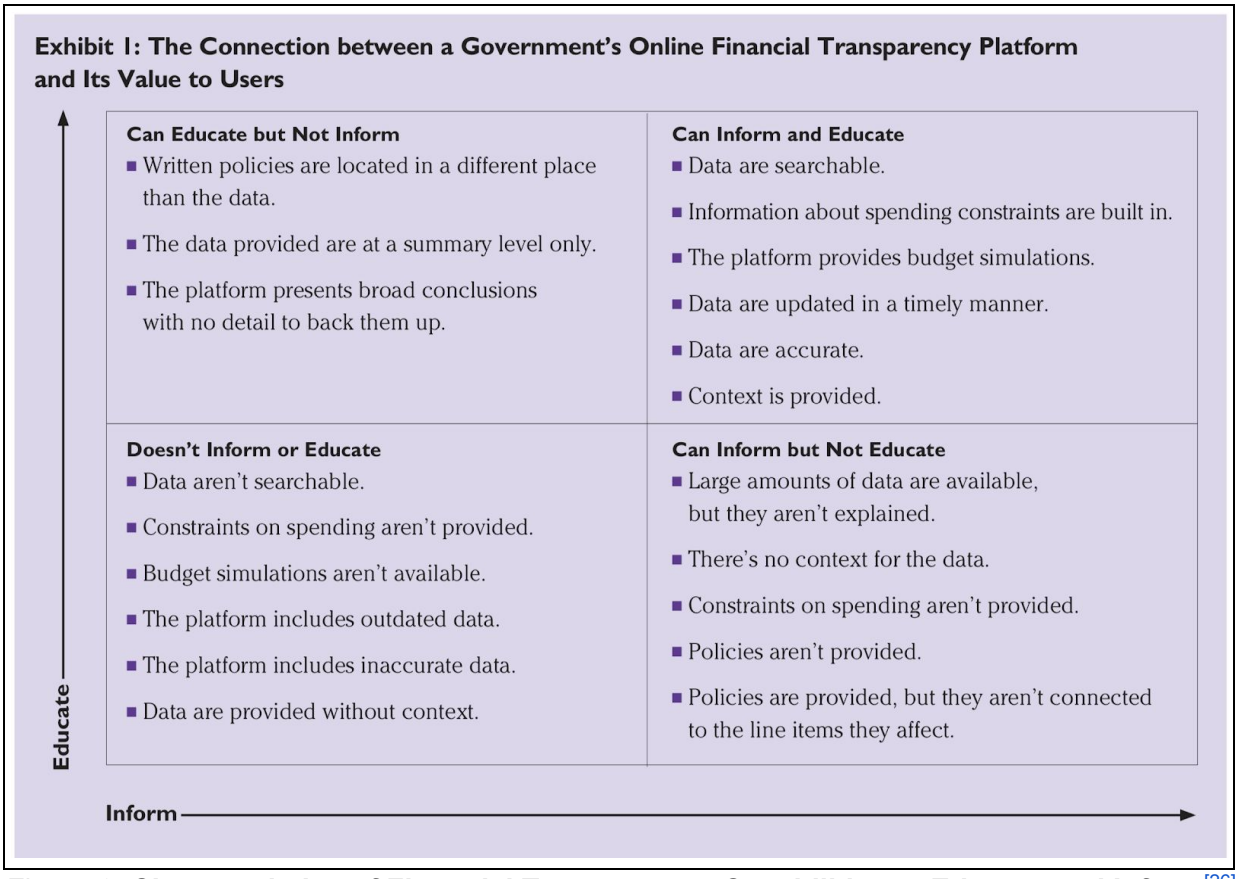

Figure 6. **Characteristics of Financial Transparency Capabilities to Educate and Inform**[26]

In the discussion on ERM in the previous section, one of the essential elements of ERM was to Communicate and Report on Risks. The cited GAO report states:

Communicating and reporting risk information informs agency stakeholders about the status of identified risks and their associated treatments, and assures them that agency leaders are managing risk effectively.... Communicating risk information through a dedicated risk management report or integrating risk information into existing organizational performance management reports, such as the annual performance and accountability report, may be useful ways of sharing progress on the management of risk.[27]

TRANSPARENT GOVERNMENT REQUIREMENT: Transparency is required for local governments to build and maintain trust with its citizens. To succeed, the methods used must both inform and educate the public about public business areas including finance, human resources, planning, permits, strategic initiatives, etc. In addition, any effective risk management practice requires transparent communications about inherent risk and the plans to control its consequences.

II. Santa Cruz County Cities - Risk Profiles

In this section, we develop a *risk profile* for the cities of SCC. Because of the centrality of financial risk to the overall risk profile, we start with a detailed assessment of a financial risk called *fiscal distress* done for the years 2017, 2018, and 2019 for Capitola, Santa Cruz, Scotts Valley, and Watsonville. We then analyze the general strategic and hazard risk environment that could trigger the realization of financial risk events and follow-on operational risk events. Finally, we discuss the ultimate impacts to city objectives that could follow the occurrence of a sequence of risk events.

A. Financial Risks for SCC Cities

In 2018, the California State Auditor's Office (Auditor's Office) released a report that analyzed financial information for 471 California cities for the year 2017. Their goal was to identify cities that may be at risk for *fiscal distress* in the short or long term. Fiscal distress can be defined as:

> *From a short-term perspective, fiscal [dis]stress can be defined as the [in]ability to make payments in a timely manner. In the long-term, fiscal [dis]stress is expressed as a gap between a local government's tax base or revenues relative to its expenditures and commitments.*[28]

The Auditor's Office developed a methodology to calculate, score, and categorize the risk of fiscal distress around the following financial indicators: liquidity, debt burden, general fund reserves, revenue trends, pension obligations, pension funding, pension costs, future pension costs, Other Pension Employee Benefits (OPEB) obligations, and OPEB funding. The results provide an assessment of a high, medium, or low probability that fiscal distress will occur based upon the state of the financial indicator. Finally, a combined overall financial indicator was created by weighting all of the other indicators. This was used to establish an overall probability for the risk of fiscal distress for each city. The methodology and results can be found at the Auditor's Office website.[29] Figure 7a, based on the Auditor's Office's report, provides a summary of the risk for financial distress for each of our cities for the year 2017.

State Auditor Financial Risk Assessment Dashboard Data — Basis: 2016-2017 reporting

Category	Santa Cruz	Scotts Valley	Capitola	Watsonville	Maximum
Overall Risk Designation	MODERATE HIGH	MODERATE	MODERATE LOW	MODERATE HIGH	
Overall Rank *	82	157	216	84	471
Fiscal Year CAFR	2016-17	2016-17	2016-17	2016-17	
Overall Points	53.86	61.6	67.64	54.43	100
Liquidity Points	10	10	10	5.45	10
Debt Burden Points	11.75	13.66	15	15	15
General Fund Reserves Points	6.75	14.21	17.43	5.92	30
Revenue Trends Points	3.25	3.75	2.75	3.13	5
Pension Obligations Points	4.8	2.72	3.84	6.56	10
Pension Funding Points	3.7	3.65	3.6	3.65	5
Pension Costs Points	2.78	3.06	3.61	3.33	5
Future Pension Costs Points	0.83	1.11	0.56	1.39	5
OPEB Obligations Points	10	9.44	10	10	10
OPEB Funding Points	0	0	0.85	0	5

* lower scores represent higher degrees of fiscal risk

LOW	MODERATE LOW	MODERATE	MODERATE HIGH	HIGH

Figure 7a. **2017 Overall Risk for Fiscal Distress for SCC Cities**[30]

Of particular note in these results are the following:

- All of our cities carried a MODERATE amount of overall risk for fiscal distress, even after the longest period of economic expansion in our country's history (2009-2019).
- All of our cities have registered *revenue trends* as a HIGH-risk indicator; this will be exacerbated as we move towards a likely recession.
- All of our cities have registered *future pension costs* as a HIGH-risk indicator; this will be worsened by an almost assured shortfall in CalPERS Pension Fund investments in 2020 and beyond.

In discussions with city officials on the validity of the Auditor's Office approach, there were some concerns with parts of the methodology. For example, one official indicated that the type of revenue sources should have been more clearly accounted for in the scoring. However, in this particular case, that scoring would have only served to increase the level of risk for the city. Overall, we feel that this assessment methodology, or one like it, provides a valuable risk management tool that should be considered in city planning and execution decisions. It would also support government transparency goals in communicating risk to city residents.

The Grand Jury was able to reverse engineer the calculation and scoring system used by the Auditor's Office and produce the same risk assessments for 2018 and 2019 for the risk indicators. Appendix A: "City Fiscal Distress Risk Assessment Trends - by Financial Indicator" shows how all the cities risk indicators trended between 2017 and 2019. Figure 7b provides a graphical depiction of the Overall Risk Indicator trend in the same time period.

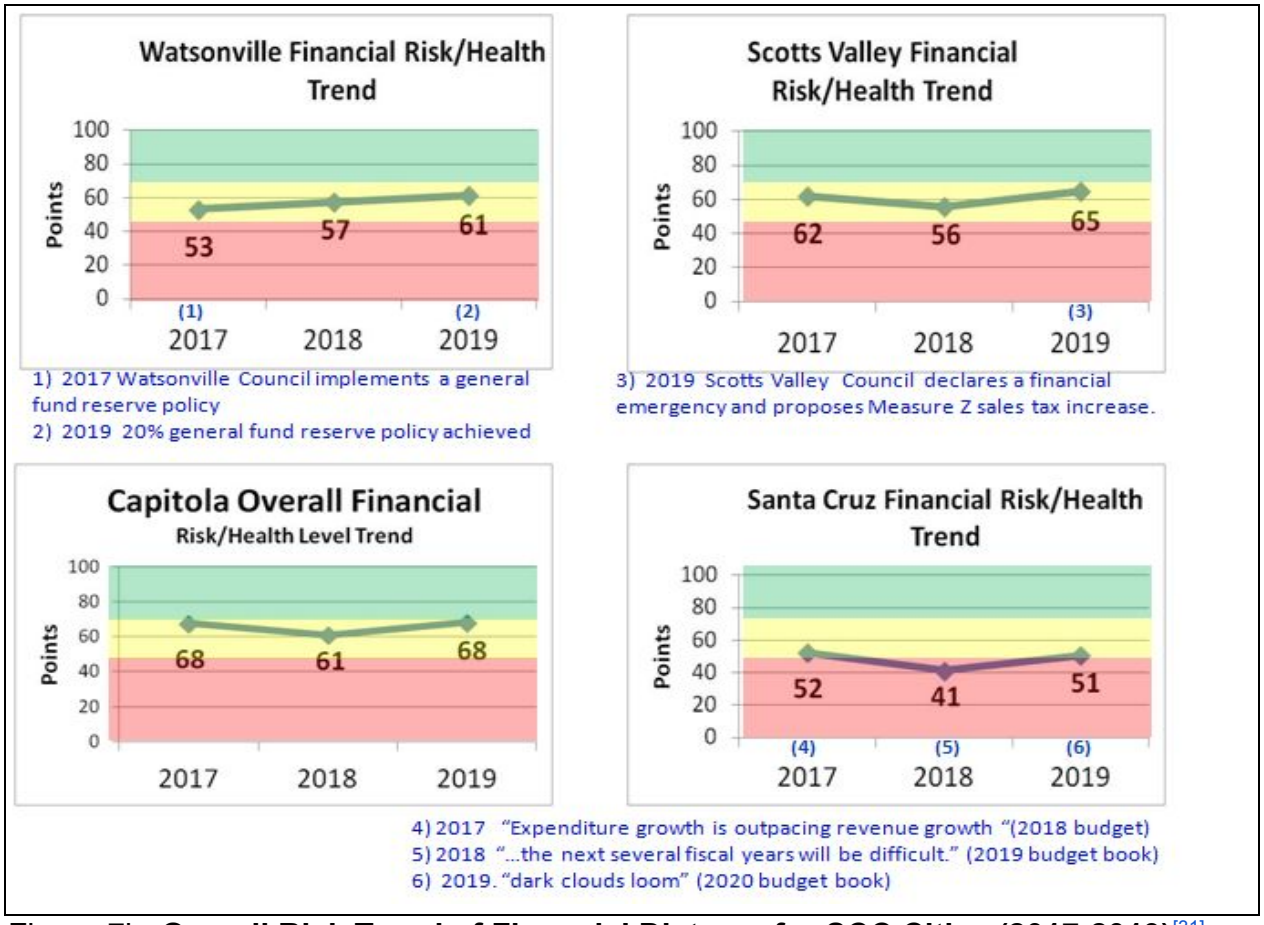

Figure 7b. **Overall Risk Trend of Financial Distress for SCC Cities (2017-2019)**[31]

The following summary is provided for the figure above:

- Watsonville reduced its risk for fiscal distress, largely due to increasing the size of its general fund reserve.
- Scotts Valley improved its risk posture slightly. In addition, in March 2020, Measure Z was approved to provide increased revenue.
- Capitola maintains a MODERATE risk for fiscal distress based upon the overall indicator.
- Santa Cruz remains on the edge of a HIGH risk for fiscal distress.

Two of the contributing factors to this overall financial risk deserve special mention; *future pension costs*; and *general fund reserves*. In the following paragraphs we do a deep analysis of future pension cost risk. However, it is important to note the importance of adequate reserves. Another GFOA study states:[32]

> *Reserves are the cornerstone of financial flexibility. Reserves provide a government with options to respond to unexpected issues and afford a buffer against shocks and other forms of risk. Managing reserves, though, can be a challenge. Foremost is the question of how much money to maintain in reserve. How much is enough and when does a reserve become too much? This can be a sensitive question because money held in reserve is money taken from constituents and the argument could be made that excessive reserves should be returned to citizens in the form of lower taxes.*

The level of reserves is not only a sensitive question, but one whose answer can vary across individual local governments. According to the study referenced above, to set an appropriate and defendable policy, a risk analysis should be done against the following risk factors: revenue volatility, infrastructure risk, and extreme events. Performing an assessment of this for SCC Cities is beyond the scope of this report. However, due to the importance of right-sizing reserve funds, this should become a standard practice in risk management.

The Auditor's Office methodology consistently shows that pension related indicators indicate higher risk for fiscal distress, especially the *future pension costs* indicator. These costs are driven by the contributions that are required of cities to pay for the accrued benefits of their current and past employees. According to CalPERS, "the factor that is likely to have the largest impact on future contribution requirements is the investment return of the Public Employees' Retirement Fund (PERF)". To fully understand what could happen with these returns and what impact they would present to city pension costs we reviewed a 2019 risk assessment of PERF.[33] In the CalPERS report, the potential impacts of higher or lower returns in the short-term and long-term are examined with regard to *funded ratio* and future *employer contribution rates*. We will focus on the predicted impacts on employer contribution rates.

Figure 8a below shows a risk scenario of a range of extreme single year returns for the year ending June 30, 2020. In addition, it assumes that there will be no correction in the opposite direction. As demonstrated in the chart, if there were a single year return of -15.8 percent, after a five year phase-in of the resulting uncovered pension liability, the total employer contribution rates would increase to 36 percent for a sample Miscellaneous Pension Plan and 66 percent for a sample Safety Pension Plan.

In our interviews, multiple witnesses indicated that this would result in unsustainable distress in city budgets, resulting in significant loss of staff and services. As of the publication date of the CalPERS report, the chances of such an extreme negative return was considered to be under 5 percent. As of the writing of this Grand Jury report, the probability of such an event occurring in 2020 or 2021 has increased significantly due to the Coronavirus health crisis and its associated economic impacts.

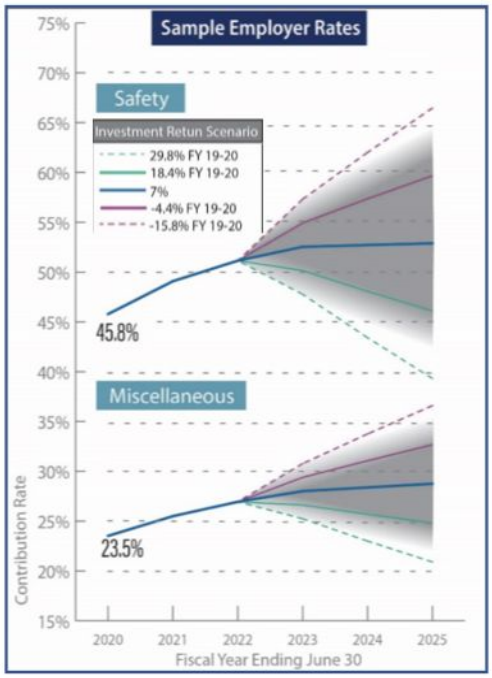

Figure 8a. **Single Year Exceptional Return**

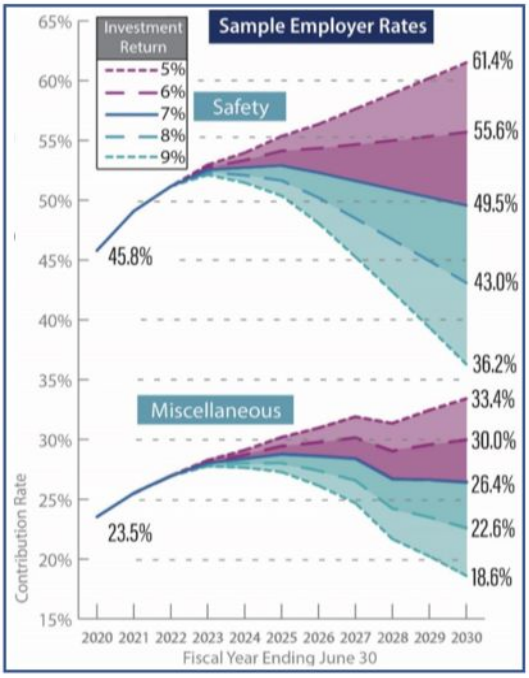

Figure 8b. **Sustained Average Return**[34]

Figure 8b above provides the impact on employer contribution rates for sustained return rates between five percent and nine percent. The *assumed rate of return* used by CalPERS for PERF is 7 percent. If the actual return is less, say 5 percent, then by the year 2030 the total employer contribution rates would increase to 33.4 percent and 61.4 percent for the sample Miscellaneous and Safety Pension Plans. This scenario would also have devastating impacts on city budgets, services, and infrastructure.

So, what are the chances that CalPERS will hit the average investment target of 7 percent over the next decade? According to most investment managers this will probably not happen. In one actuarial survey done in 2019,[35] the probability of hitting the 7 percent return mark ranged between 19.2% and 51.9% (see Figure 9).

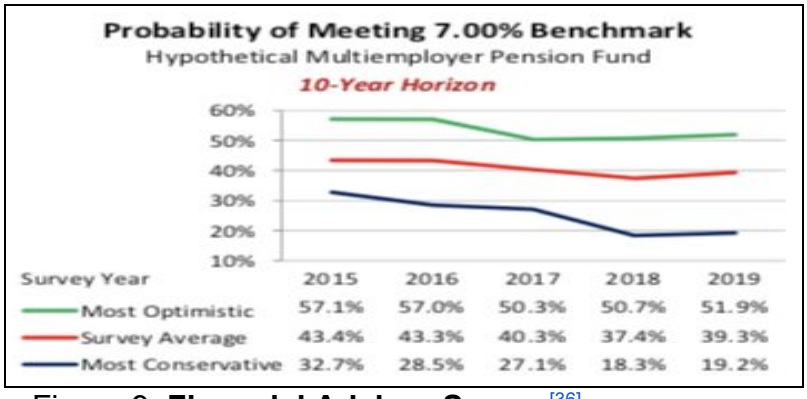

Figure 9. **Financial Advisor Survey**[36]

A more recent expert assessment in January 2020,[37] predicted the rate of nominal return for stocks and bonds for the next 7-10 years. Nominal returns for stocks ranged from -2 percent to 6 percent and bonds ranged from 0.5 percent to 3.5 percent. If we use the numbers at the high end of the range, and assume a balanced portfolio of 50 percent stocks and 50 percent bonds, the nominal return rate would be 4.75 percent. Although the *assets* comprising the PERF allocation are far more diversified (e.g. *Equity*, *Private Equity*, *Fixed Income*, *Real Assets*, *Cash*) it is fair to say that without taking on too much risk in the fund, the 5 percent return result looks very realistic.

At this point it seems likely that a combination of the above will occur: a single year shock in returns (i.e. large negative returns) as well as a sustained period of low returns that will not match PERF assumed rate of returns (i.e. 5% versus 7% respectively). We wanted to assess what this could mean for our cities' pension plans. Without the ability to run our own economic/investment models, we searched for and found a recent study that modeled similar scenarios. The study evaluated the expected impacts of the following scenarios on the pension plans of ten states.

> *Shortfalls in investment performance, relative to expected returns, explain approximately 50 percent of the increase in unfunded pension liabilities reported by states in 2016. As a result, examination of downside investment risk is at the heart of stress test analysis of public pensions. The analytic framework applied in our model includes two downside investment return scenarios: a fixed 5 percent return scenario and a scenario that accounts for an asset shock — a steep decline in asset values [-20%], as typically occurs during the onset of a recession — followed by low returns [5%].*[38]

It is this second scenario that best matches our probable economic future and can provide potential impacts on our fiscal future. The assumed return profile is shown in Figure 10.

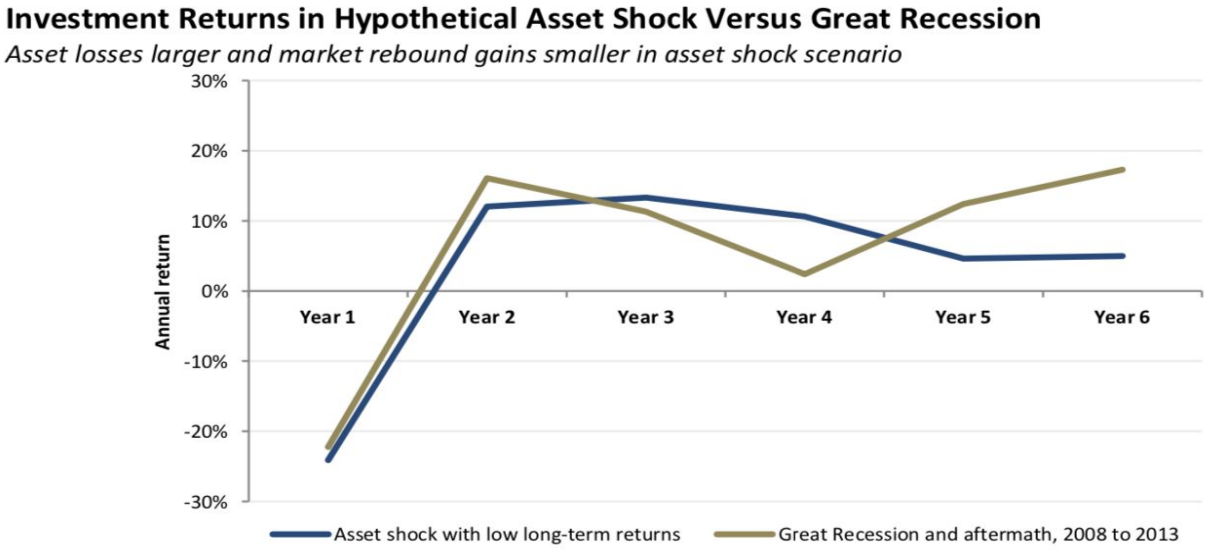

Figure 10. **Asset Shock Scenario - Assumed Returns for a Typical Portfolio**[39]

California was not one of the states modeled in the study. Therefore, we could not obtain a detailed model output of PERF under the Asset Shock Scenario. However, the study is informative about impacts across a range of states. This provides two comparative opportunities: 1) How does a similar state (in terms of funded ratio of the pension plan and funding policies) perform in the face of the shock scenario? and; 2) What general conclusions are drawn based upon the overall analysis?

With regard to the first question, Virginia was the most comparable of the 10 states in the study to California. Under the Asset Shock Scenario, the models showed that Virginia would not be able to significantly reduce unfunded liability debt over the next 25 years and would significantly increase its required employer contribution rate over that same time. Figure 11 (below) shows the model outputs for the scenario. This is in alignment with the CalPERS PERF risk profile discussed above. Pension costs for California public agencies will significantly increase beyond the currently expected peak in 2025.

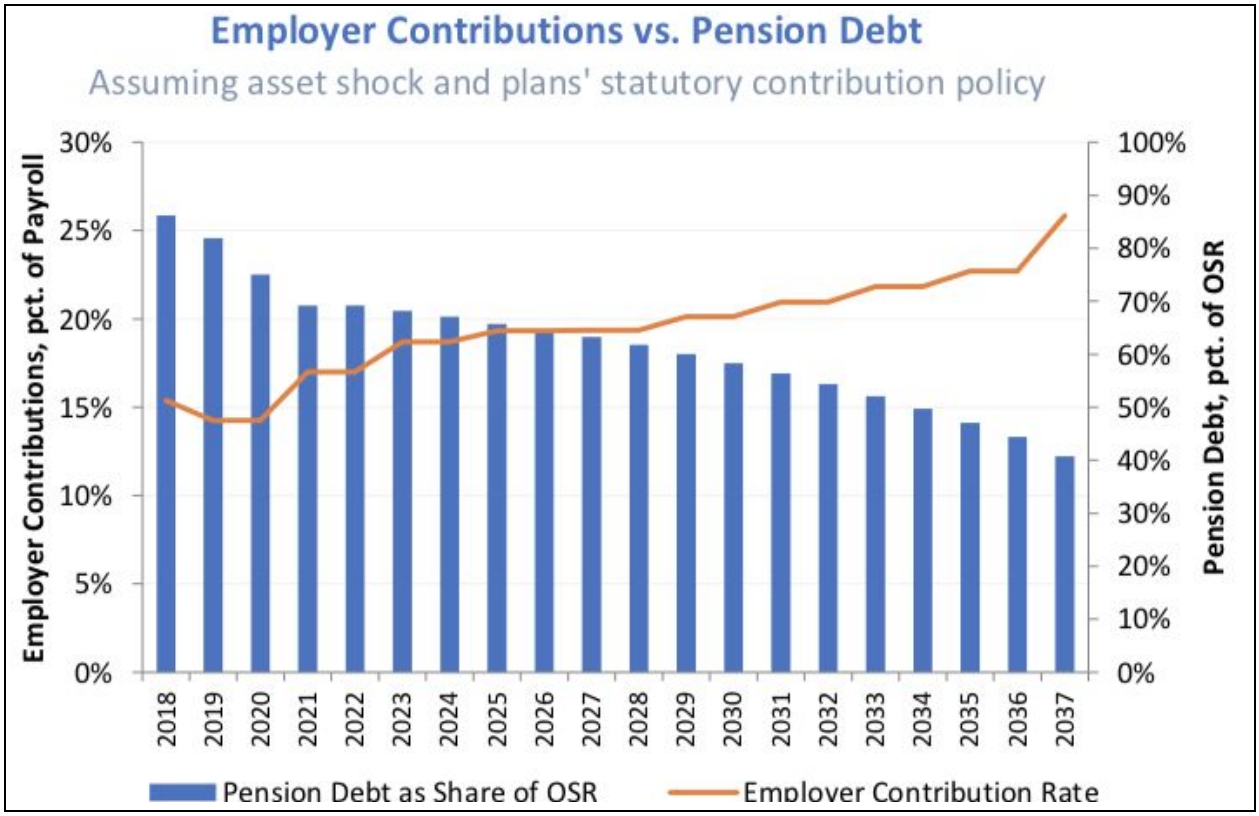

Figure 11. **Virginia Model Output - Asset Shock Scenario**[40]

On the second question, these are the relevant conclusions to be considered with regard to financial risk due to pension costs:[41]

> *In aggregate, state and local pension systems have never been more exposed to market volatility, based on fiscal measures and economic outlook*
>
> - *State and local governments report a larger total pension debt in both absolute terms and as a share of U.S. GDP than any time before the Great Recession.*

- *Pension costs have nearly doubled as a percentage of available state revenue since 2001, when the pension deficit reported by state and local governments in aggregate was approximately zero.*
- *Since the early 1990s, measures of investment risk for pension portfolios have more than tripled, as has the use of higher cost alternative investments, including real estate, private equity, and hedge funds.*
- *As the population ages, and larger shares of public pension plan participants move into retirement, benefit payments will take up a growing share of plan assets and state funds will be less able to absorb unexpected costs and investment shortfalls.*

The current fiscal position and outlook for state pension systems warrant careful attention. Our analysis demonstrates how vulnerable many state pension systems are to an economic downturn or extended period of low investment returns.

In contrast with current reporting practices, stress testing allows states to better assess the likelihood of fiscal distress, the potential for permanent high costs, and the effects of market volatility and contribution policies. We find stress test results that are evaluated in relation to state revenues or payroll provide an intuitive benchmark with which to assess costs. ***Stress testing should be a standard reporting practice for all public retirement systems****.*[42]

In summary, despite a decade-long period of economic expansion after the economic shock of 2008, there was still significant risk that SCC Cities would encounter fiscal distress in the short and/or long term. A significant contributor to this risk was pension costs. Through our interviews we determined that SCC Cities had not planned for the risk of continued shortfalls in CalPERS investment goals. Although they had planned for the constraints of already accrued pension debt through 2025-2026, there were no risk stories developed or management controls established for the pension risk described above.

Now, with the advent of another economic shock, fiscal distress is real. What are the likely impacts on city residents in SCC? Are there management controls or strategies in place that help prepare decision makers to soften these impacts as much as possible? Could more have been done between the economic shocks to prepare for a softer landing? Formal analysis of the possible risks and their interdependencies provide visual cues as to where management controls make sense. Preventative controls at the city level could not have stopped the onset of this new economic shock, but perhaps mitigation and corrective controls, if already designed and in place, could have softened the coming impacts for city residents.

B. Mapping Strategic, Hazard, Financial and Operational Risks for SCC Cities

A complete risk profile requires the identification of strategic, hazard, financial, and operational risk events that have a high likelihood of occurrence and/or a high impact on

city objectives. The Grand Jury performed interviews and document reviews of budgets, Local Hazard Mitigation Plans (LHMP), Emergency Operations Plans (EOP), job descriptions, and policies of the cities in SCC in an attempt to find systematic identification and evaluation of risk within a formal risk management framework. We had limited success in our searches. The most prevalent risks discussed include:

- Earthquake/Liquefaction (Hazard)
- Flood (Hazard)
- Fire (Hazard)
- Landslide/Erosion (Hazard)
- Sea Level Rise (Hazard)
- Tsunami (Hazard)
- Extreme Weather (Hazard)
- Drinking Water (Hazard)
- Liability (Hazard)
- Infrastructure Deterioration/Failure (Hazard and/or Operational)
- Continuity of Operations (Operational)
- Financial Sustainability (Financial)

You will note that except for the last three risks, these are all Hazard Risks. The Grand Jury did find references to *Global Economic Downturns* and *Pension Fund Investment Shortfalls*. However, there are no significant discussions on Strategic Risks like *Increased Compliance Requirements* or *Federal-State Funding Reduction*. There are also additional key financial and operational risks that should be formally documented in a risk management framework by SCC Cities. In summary, the Grand Jury was not able to find evidence of a complete risk profile for the cities of SCC. Except for the area of hazard (i.e. loss) risk management, there is no formal method to define, track, and manage risks at the enterprise level of city government.

Table 1 provides a summary of what the evidence shows with regard to risk identification and analysis in the cities of SCC. Without recognizing all the types of risk and how they interact, a complete risk profile cannot be created. Without a risk profile, comprehensive risk management cannot be accomplished.

Table 1 **SCC City Capabilities for Risk Identification and Analysis**

City	Hazard Risk	Financial Risk	Operational Risk	Strategic Risk	Risk Interaction Analysis
Capitola	Yes	Yes	No	Partial	No
Santa Cruz	Yes	Yes	No	Partial	No
Scotts Valley	Yes	Yes	No	Partial	No
Watsonville	Yes	Yes	Partial (Policing Policy)	Partial	No

Source: Santa Cruz County Grand Jury[43]

In order to demonstrate the potential value of comprehensive risk profiling, the Grand Jury created a generalized profile for the cities of SCC. The profile is based upon our

interviews, document requests, and risk management research literature. The profile presented may not match what a specific SCC city would create on their own analysis, but we feel it is a useful example that is consistent with the concerns of each SCC city.

We started with a Bowtie Analysis that was introduced in the concepts and requirements section above. As a reminder the goals of the analysis are:[44]

- *Provide a structure to systematically analyse a hazard.*
- *Help make a decision whether the current level of control is sufficient.*
- *Help identify where and how investing resources would have the greatest impact.*
- *Increase risk communication and awareness.*

The first 3 steps of the Bowtie Analysis method are: 1) identify the central risk event, 2) trace to root causes, and 3) trace to consequences. By following these steps, we were able to produce a map of strategic, hazard, financial, and operational risk events typically at play in SCC Cities. To complete step 3, we reviewed strategic goals and objectives for all of the cities and selected common key elements as the ultimate consequences in our Bowtie diagram. The diagram, shown in Figure 12, depicts the results of our analysis. It provides a canvas for us to trace risk scenarios for the cities from root cause to consequence. Each scenario, called a Risk Story, can then be used to think about preventive as well as corrective controls to respond to risks.

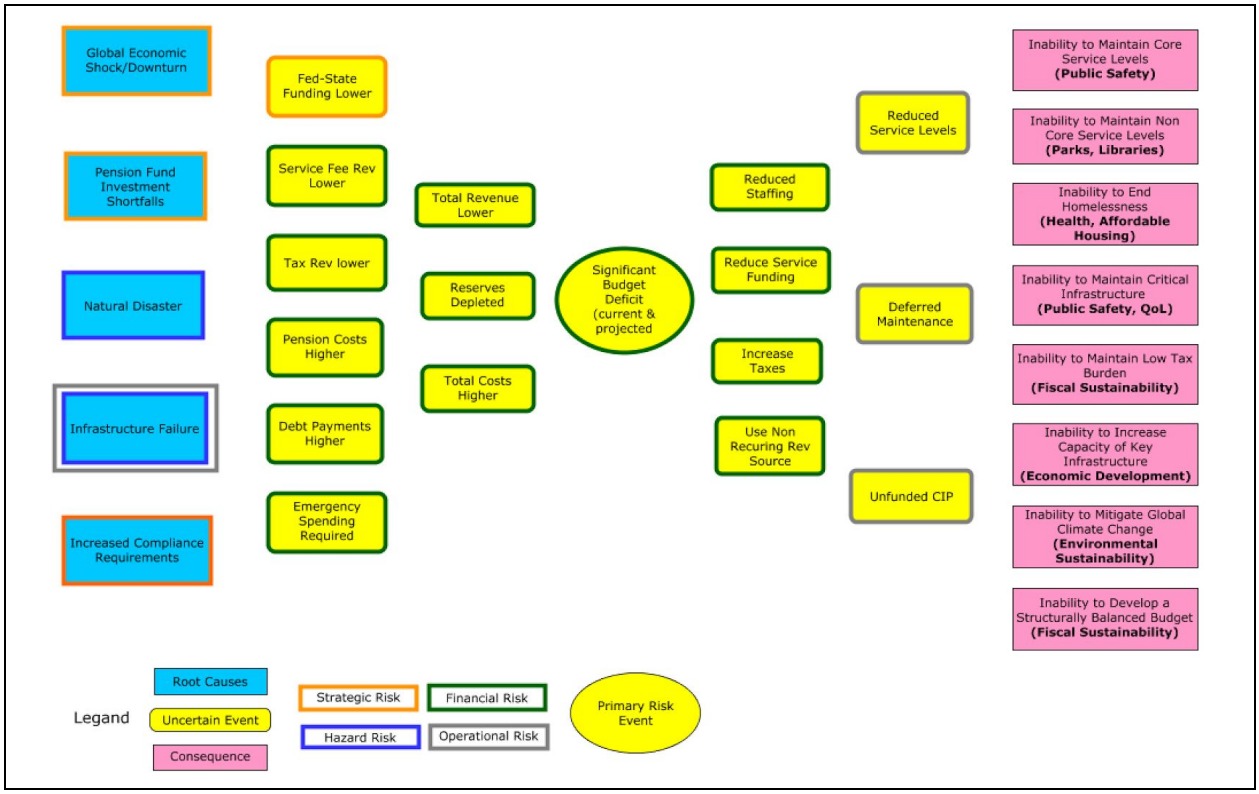

Figure 12. **Bowtie Diagram of SCC City Risks**[45]

There are many potential paths through this canvas of risks. A set of related paths tell a risk story that must be managed by risk managers. To demonstrate this concept, we will

tell a story that is emerging as this report is being written. We name this risk story "*Pandemic Causes Budget Shock*". To construct this story, we started with the occurrence of a root cause event, a Natural Disaster Pandemic, and developed all the possible paths of cause and effect through the risk map. Figure 13 illustrates the results of this process. As might be expected, every major objective for SCC Cities can possibly be impacted by this event.

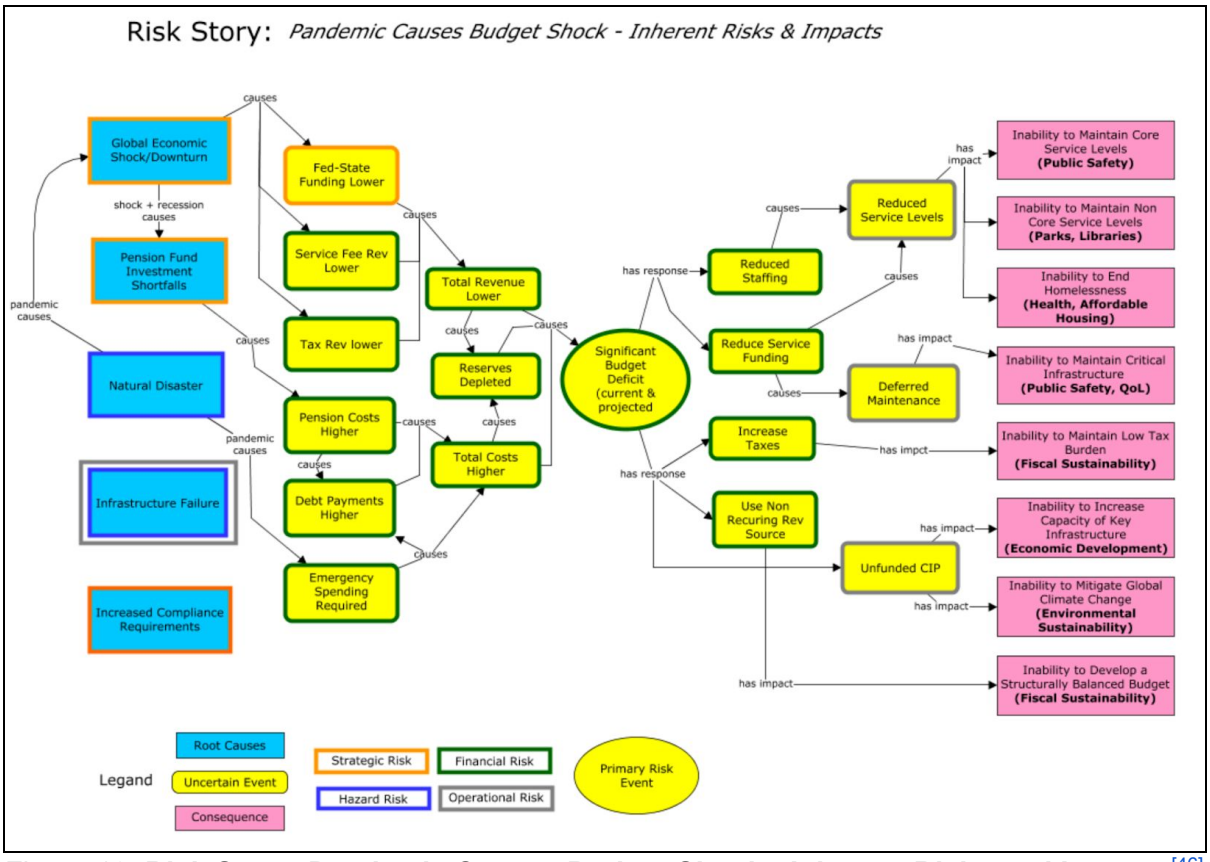

Figure 13. **Risk Story: Pandemic Causes Budget Shock - Inherent Risks and Impacts**[46]

C. Impacts to Key City Objectives

One possible approach to using this full risk story is to pass this diagram into a risk management process to design management controls. Each control would either prevent the emergence of the *Significant Budget Deficit* event or minimize the impact on organizational objectives after it has occurred. Another approach is to create a sequence of risk stories that may emerge over time after the original pandemic outbreak. Our discussion now explores this approach with a more specific risk story that emerges in the first year of a pandemic crisis.

In Figure 14 (below), the initial pandemic outbreak emerges with immediate implications to SCC Cities. Only the paths relevant to this story are shown in this figure. It is through the analysis of these pathways that potential risk management controls become apparent. A description of the paths and hypothetical risk controls are identified below Figure 14.

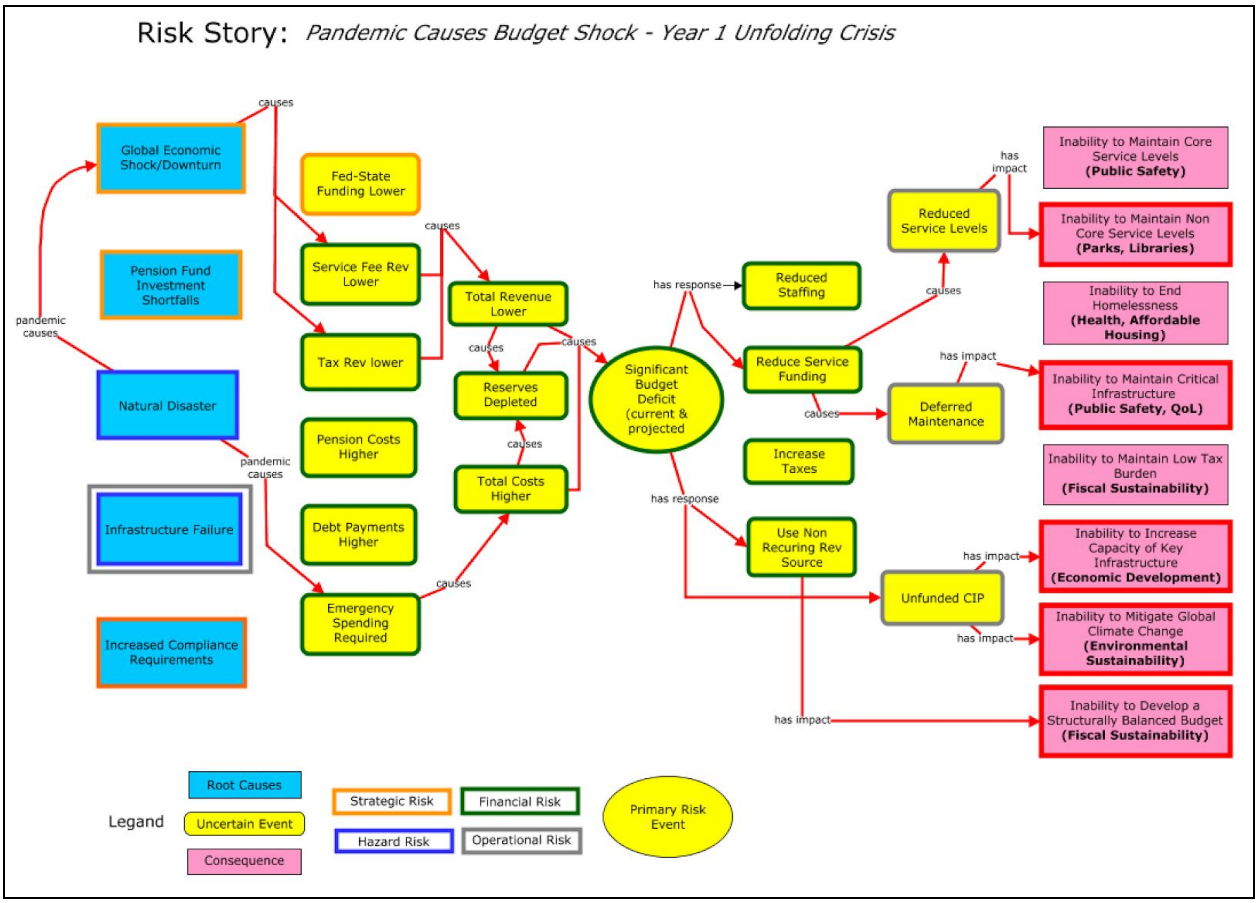

Figure 14. **Risk Story - Pandemic Causes Budget Crisis - Year 1 Unfolding Crisis**[47]

Starting on the bottom-left side of this map:

- The pandemic causes the city to begin *Emergency Spending* in coordination with the County health officials to cope with the local impacts. Neither of these external risk conditions can be prevented by city controls. The results of the economic shock is the realization of *Lower Service Fee Revenue* and *Lower Tax Revenue*. Again, the city has no power to stop the occurrence of these events.
    - **Possible Risk Control: None**
- *Emergency Spending* could cause *Total Higher Costs* to the regular budget.
    - **Possible Risk Control - RC 1: Substantive Rainy Day Fund**
- *Total Higher Costs* could cause a *Reserve Fund Depletion* that together could cause the central risk event, *Significant Budget Deficit*.
    - **Possible Risk Control - RC 2: Shock Adequate Reserve Funds**

Starting on the top-left side of the map:

- The pandemic causes another strategic risk to become realized, Global Economic Shock. This in turn makes the likelihood of *Service Fee Revenue Lower* and *Tax Revenue Lower* events emerge due to loss of park usage and tourist sales taxes.
    - **Possible Risk Control: None**
- These two lower revenue events will likely cause the *Total Revenue Lower* event to become realized. It could possibly be softened with a mitigation control.
    - **Possible Risk Control - RC3: Emergency Hike in Core Service Fees**
- *Total Revenue Lower* could cause a *Reserve Fund Depletion* that together could cause the central risk event, *Significant Budget Deficit*.
    - **Possible Risk Control - RC2: Shock Adequate Reserve Funds**

If the primary risk event is realized (i.e. Significant Budget Deficit) then the risk manager will want to identify risk controls that correct or reduce the impacts on city objectives. In general, this is done based upon the relative priorities of the objectives. In other words, which paths, from the primary risk event to consequence, does the city want to inhibit or enhance. These are the paths where the strongest risk controls are placed.

Starting at the primary risk event and following the lower-right paths:

- To inhibit the *Use of a Non-Recurring Revenue Source* to address a *Significant Budget Deficit* a city could make it illegal to use such sources above certain limits. This would deflect the paths to *Reduced Service Funding* or *Unfunded CIP*.
    - **Possible Risk Control - RC4: Illegal Limits on Use of Non-Recurring Revenue Sources**
- To enhance the *Use of a Non-Recurring Revenue Source* to address a *Significant Budget Deficit* a city could maintain an emergency donor fund to cover specific types of expenses in the emerging crisis. This would actually deflect the path away from *Reduced Service Funding* or *Unfunded CIP*.
    - **Possible Risk Control - RC5: Emergency Donor Network**

Starting at the primary risk event and following the upper-right paths:

- If *Reduced Service Funding* is realized, either *Reduced Service Levels* will have to occur or *Deferred Maintenance* will be required. Generally, deferred maintenance is chosen in these sorts of scenarios. However, there could be times where this entails too much risk due to critical infrastructure deterioration. In these cases, this path should be inhibited by risk control.
    - **Possible Risk Control - RC6: Critical Infrastructure Deterioration Test**

Finally, Figure 15 labels the places in the risk map where the controls discussed above would be executed. By producing these risk stories as part of a city's risk profile it is possible to meet the goals identified at the top of this section.

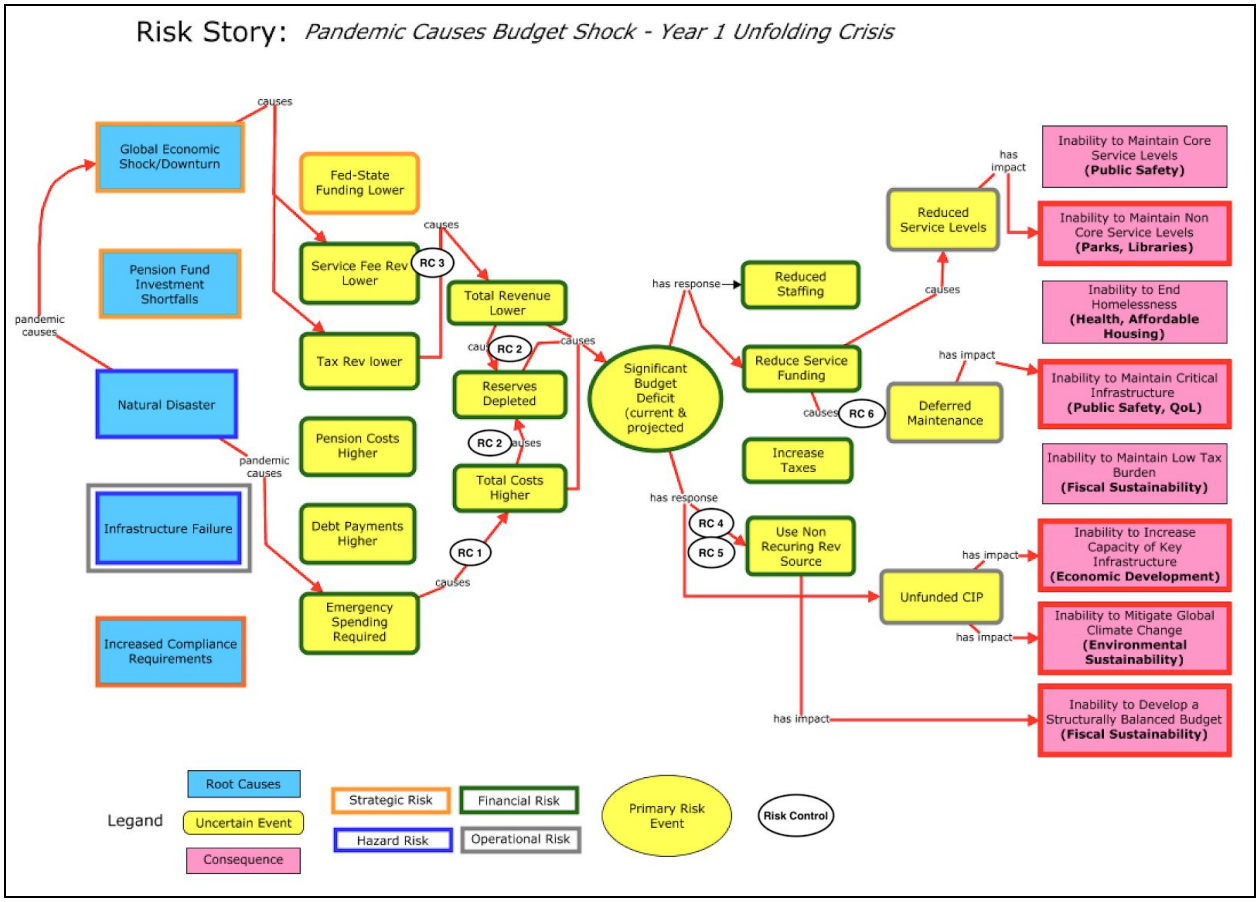

Figure 15. **Risk Controls for Pandemic Year 1**[48]

Here, we do not develop a follow-on risk story called "*Pandemic Causes Sustained Fiscal Distress: Years 2-10".* In this story the global recession following the initial economic shock takes hold and causes sustained *Pension Fund Investment Shortfalls*. Our discussion in the financial risks section above indicates there is a range of possible severe risks that should be assessed. Perhaps a robust risk profile and risk management process would help the cities not be "rocked by the shocks".

III. City Risk Management Practices

A. Description of Current Practices

Much of what the Grand Jury learned about risk management practices is reflected in the previous discussion. Through our interviews and review of documentation we were also able to determine the following:

- SCC Cities identify and manage risks either within formal silos (e.g. Local Hazard Management Planning) or through a series of cross-departmental conversations without the benefit of a formal process or suite of risk tools/practices.

- SCC Cities focus on Hazard and Financial Risks without full consideration of Strategic and Operational Risks. It is possible that Operational Risks are considered within the context of individual departmental projects, but they are not elevated to an integrated risk management process at the enterprise level.
- SCC Cities do not maintain an accessible, enterprise-wide risk register that tracks the likelihood of risk occurrence, magnitude of risk impacts, and status of mitigation controls.
- The most formal integrated approach used for risk management and control by SCC Cities is risk transfer of pure risk (i.e. loss) via self-insurance or risk pooling. Risk pooling for public agencies are "*... collaborating partners that help public entities create, foster, and manage safe environments in order to minimize personal, physical, and property damages and losses.*"[49]

Review of the research literature shows the concepts of risk and risk management have a long history. However, as a formal discipline it is relatively young (30-40 years) and is still undergoing significant changes.[50] Aside from the standard process of discipline maturation, there are many external factors that are driving the creation and extension of new risk frameworks, processes, and tools. To name three key factors:

- Increasingly complex risk environment due to globalization, societal changes, economic turbulence, global climate change, greater exposure to surprising and extreme events (i.e. Black Swan), etc.
- Developments in applied science and technology, including: the mathematics of uncertainty, probabilistic modeling capabilities, predictive data analytics, explosion of the availability of monitoring data, automated process tools, etc.
- Developments in behavioral economics that document the human weaknesses in decision making when significant uncertainties are present. These include: Availability Bias, Confirmation Bias, Overconfidence Bias.[51]

One of the relevant questions raised by this report is which of the new risk management approaches and tools should be considered for implementation by SCC cities. In our earlier discussion of concepts and requirements we made the case for consideration of the Enterprise Risk Management (ERM) framework. Minimally, the cities could look for ways to tailor ERM to enhance current practices with the following goals:

- Goal: Understand how risks across department silos may be connected through direct or indirect influence.
- Goal: Expand the types of risks identified, assessed, monitored, and managed to include strategic and operational risks.
- Goal: Establish a formal risk register that quantifies and communicates risks and progress in their management.
- Goal: Adopt the use of tools and practices (e.g. Bowtie Analysis) that support the analysis and broad communication of risk stories in the organization.

B. Comparison of Traditional Risk Management to ERM

Finally, the current risk management practices of SCC Cities are more aligned to Traditional Risk Management than to an ERM framework. Here, we provide a summary comparison of the characteristics of Traditional Risk Management to Enterprise Risk Management. Figure 16 highlights 8 key facets of risk management and should illuminate potential advantages to the adoption of ERM.

Figure 16. **Eight Facets of Risk Management - Comparison of TRM to ERM**[52]

The following is a summary description of this diagram, derived from the source blog for Figure 16.[53]

- Insurable vs. Non-insurable (mostly)

  In a traditional risk management framework, an organization only looks at things that are insurable...

  ERM, on the other hand, goes beyond insurable hazards to include areas of risk that cannot be transferred through insurance.

- One-dimensional assessment (severity) vs. Multidimensional assessment

  Besides only looking at an issue from a loss prevention perspective, traditional risk management also only considers the impact or severity of a given issue at a certain point in time…

  ERM also considers impact and probability, and it peels the onion layers back to understand more about potential events (i.e. risks) and how they relate to the strategic plan, organizational mission, or a specific operation.

- Manages risks one-by-one vs. Analyzes material risks and how they relate

  In a traditional silo environment, the management of risks occurs as needed on an individual basis. Departments will only look at risks within their areas and not communicate with other parts of the organization. Approaching risk management this way can expose an organization to much bigger risks at worst, and at best, causes the organization to miss out on opportunities to meet or exceed strategic goals...

  ERM combines these activities and uses a variety of tools to examine interdependencies, understand triggers between risks and cumulative effects of risks, and more. These tools help senior management better allocate resources and prioritize risks.

- Occurs within one business unit (“siloed”) vs. Spans the entire organization (“holistic”)

  Traditional risk management occurs within one department, or put another way, occurs in its own “silo” or “stove pipe.” Most organizations are going to be well experienced with this basic level of risk management. Another shortcoming of the stove-pipe approach is that it often leads to wasted resources. A particular risk may have a big impact to a department but minimal impact to the organization as a whole. What also occurs when risks fall between silos is no one department wants to take ownership...

  ERM ties these disparate silos together to give executives and departments a holistic view of risk and opportunities. It is a top-level process that overrides any autonomy a particular department may have by bringing together a multi-functional group of people to discuss risk at the organizational level.

- Reactive and sporadic (Rear-view) vs. Proactive and Continuous (Forward-view)

  A rear-view will also not consider risks to objectives. While there may be a list of risks…. they often have nothing to do with the organization's top value creation objectives... Traditional risk management activities are often borne out of a particular event that management responds to. Executives, managers and support staff will go into a scramble mode when something comes up. A reactive approach can also result in organizational failure altogether...

  ERM helps the organization get out in front of risk or seize opportunities to achieve strategic objectives. Proactive can take two approaches: preparing for current day risks and identifying emerging risks that could affect the organization down the road.

- Disjointed vs. Embedded in culture and mindset

  Although every organization manages risks to one extent or another, these activities tend to be "disjointed" or ad-hoc with no rhyme or reason, no connection to strategic objectives, or other business areas. The risk activities are more of a "CYA" documentation exercise… Besides not providing any value to the enterprise as a whole, a disjointed approach also causes risks to be missed, new risks to be created, or a duplication of effort.

  A mature ERM process that is a valuable decision-making tool is systematic and ingrained in processes and ways of thinking. This is not to imply that every action or decision requires a formal process for identifying and assessing risks – in many cases, this will be an informal process where a manager or even an employee will stop for a minute and think about how their actions may create reputation, talent, strategic, or some other risk to the enterprise.

- Standardized vs. More nuanced and requires soft skills

  Risk management in its traditional or basic form has been common practice for companies and non-profit organizations for many years. There are also numerous international standards around traditional risk management activities...

  An ERM journey also is reflected in appropriate standards. However, ERM that focuses on enabling success requires a bit more finessing in order to be a valuable tool for decision-making.

- Risk Averse vs. Risk Taking

  Up to this point, you may have noticed how the word "risk" has been used in the negative sense – in other words, seeing risks as threats and something to avoid or mitigate…. But, risk management is really about increasing the likelihood of achieving your objectives.

  ERM recognizes that any organization has to take risks in order to be successful. At the current pace of change in our world, which will only accelerate as time goes on, organizations who simply avoid risks and fail to take calculated, informed risks to improve performance will not remain relevant in the long-term.

IV. City Transparency Practices

In this section we describe our observations on how well SCC Cities comply with the transparency requirement defined in our concepts and requirements section above. We restate the requirement here:

> TRANSPARENT GOVERNMENT REQUIREMENT: Transparency is required for local governments to build and maintain trust with its citizens. To succeed, the methods used must both inform and educate the public about public business areas including finance, human resources, planning, permits, strategic initiatives, etc. In addition, any effective risk management practice requires transparent communications about inherent risk and the plans to control its consequences.

In the context of this report we are most concerned with SCC Cities' communication of risks, all types of risks, and the status of risk management efforts. SCC Cities all currently communicate risk and risk management information in the following documents: Comprehensive Annual Financial Reports (CAFRs), Budgets, Local Hazard Management Plans, Strategic Plans, and Agenda Packets for public meetings. If we evaluate the efficacy of these communication sources with regard to the requirement to "educate and inform", they fall well below the bar of transparency. The following criteria are derived from the GFOA report on financial transparency;[54] to both educate and inform the following criteria are required:

- Data and information are searchable.
- Data and information are current, accurate, and complete.
- Contextual information (metadata) is easily accessible (e.g. glossaries, constraints, assumptions, policies, process descriptions, summaries, appendices and sources).
- Contact information provides access to the content custodian.
- Projections of possible futures are available.
- Data and information are understandable.

The path of our investigation started with a significant effort to understand financial risk associated with the defined-benefit pension plans offered to local government employees. Our Grand Jury was the beneficiary of several previous grand jury reports on the subject of pensions between 2012 and 2019. There have been several, repeated observations or findings with regard to risk and transparency of risk. Table 2 provides a summary of relevant observations/findings.

Table 2. **Summary of Risk and Risk Transparency Observations and Findings from Local Grand Jury Reports**

Year	County	Topic	Observation/Finding
2012	Santa Clara	Risk	...Taxpayers in the public sector bear the risk of [Return on Investment] ROI and actuarial assumptions associated with the pension plan, whereas employees in the private sector bear the risk of market performance.
2012	Santa Clara	Risk	...the clear trend in the private sector is to transition away from defined benefits in favor of defined contributions, thereby transferring the risks associated with market performance from the employer to the employee.
2015	Santa Cruz	Risk	...Continually rising retirement costs and obligations put funding of jurisdictions' services and projects at risk.
2015	Santa Cruz	Risk Transparency	...A clear and complete statement of the total retirement costs and obligations has not been provided in the budget narrative for either the public or elected officials.
2016	Santa Cruz	Risk Transparency	...No single summary document shows all retirement costs and obligations. Prudent fiscal management should include a clear understanding of both shortterm and longterm retirement costs in the budget.
2018	San Mateo	Risk	...To the extent that projected costs of Benefits increase unexpectedly, or Returns on Investment fall short of projections, pension plans will have Unfunded Liabilities. The Agencies rather than CalPERS are responsible for paying down all Unfunded Liabilities through increased contributions and the Agencies bear all the risk of CalPERS' projections being wrong. Agencies have no control over CalPERS' determinations and must pay all contribution increases mandated by CalPERS.

Table 2, continued. **Summary of Risk and Risk Transparency Observations and Findings from Local Grand Jury Reports**

Year	County	Topic	Observation/Finding
2018	San Mateo	Risk	...defined contribution (as opposed to defined benefit) plans such as 401k plans relieve municipalities of the risks and uncertainties of below-projected investment returns and other assumptions about the future (for example, mortality rates).
2018	San Mateo	Risk and Risk Transparency	...The financial documents for each City reviewed by the Grand Jury show that no City has adopted a long-term financial plan with at least a 10-year time horizon to address rising Normal Costs and Amortization Costs.
2018	San Mateo	Risk Transparency	...Despite the fact that rising pension costs and Unfunded Liabilities are a significant problem for each City, no City (except for Redwood City, the City of San Mateo, the City of Burlingame, the City of Belmont and the City of Menlo Park) includes specific, annual projections of future pension contribution costs in their budgets published in the finance section of their websites.
2019	Santa Clara	Risk	...The City of San José's mandatory required contributions to pension plans are putting an ever- increasing burden on the City's General Fund, which impedes the ability of the City to provide essential services to its residents.

Source: Previous grand jury reports on the subject of pensions, 2012 – 2019.[55] [56] [57] [58] [59]

These observations and findings are supported by multiple research and media documents.

- Novy-Marx and Rauh observe; *We note that current rules contain incentives for states to invest their pension funds in risky assets with higher expected rates of return, as higher expected rates of return allow them to discount liabilities at higher rates.* ***In turn, this arrangement could allow the state to present lower liability estimates to the public.*** *States probably face some limits, set by political economy and the risk of public outrage, on the extent to which they can invest pension funds in risky assets and claim the expected value as a justification.*[60] [emphasis added]

- Mauldin observes; *If you make more realistic assumptions on future returns the unfunded liability becomes $6 trillion according to the American Legislative Exchange Council. A more conservative and realistic approach would force the state and local governments to fund those pension plans at a much higher level. They have only two ways to do that: either raise taxes or reduce services.* ***That may be the reason policymakers have turned a blind eye to this****.*[61] [emphasis added]
- Mitchell and Friedberg say to start with transparency, they strongly believe; ...*that governments need to be* ***more open with employees, citizens and investors about how they handle their pension plans. In turn, those stakeholders need to engage.***[62] [emphasis added]

From the summary above, we can see that with regard to pension liabilities, there is **high risk and low transparency.** In our attempts to fully understand the current pension risk posture of SCC Cities we wanted to find the following data items for the previous 5 years, current year, and projections for the next 5 years:

- Total Pension Liability ($)
- Total Fund Assets ($)
- Unfunded Liability - Net Pension Liability ($)
- Funded Rate (%)
- Discount Rate Used to Calculate Total Liability (%)
- General Fund Total Expenditures ($)
- Covered Payroll ($)
- Employer Total Normal Costs ($)
- Employer Total Amortization Costs ($)
- Total Employer Contribution Payments - Normal + Amortization Costs ($)
- Pension Employer Contribution Rate (%)
- Unfunded Liability - @ 1% reduced discount rate ($)

CalPERS has identified two of these items as key variables in modeling risk for the pension plan; Funded Rate and Employer Contribution Rate.[63] As discussed in our section on financial risk, CalPERS evaluated these two variables over a range of investment return scenarios for “typical” pension plans; we wanted to do this for SCC cites. The Grand Jury was able to eventually figure out how to find and calculate these data items, **but it was far from easily accessible and understandable.** It required finding and searching for the items across multiple documents; previous year CAFRs and current year budget documents for each city, and CalPERs Actuarial Reports for each separate pension plan held for each city. Further, Scotts Valley CAFR documents were not even searchable. Given the magnitude of the risks posed by unfunded pension liabilities, and the likely need for political will to effectively mitigate their impacts, we believe that SCC Cities’ CAFR documents and budget documents should have a section devoted to pension risk that contains the data items above as well as an accounting of risk mitigation plans and actions.

There is one other area of non-transparency with regard to pension risk. This relates to the *discount rate* used to calculate the *total liability* of pension funds. Promises to pay workers based on defined-benefit formulas are essentially guaranteed, deferred compensation. Many finance experts say that since this is a guaranteed promise, the discount rate used to calculate the current liability of guaranteed cash flow payments should align to the *risk-free rate of return*. Since accounting practices allow funds to use the *assumed rate of return* to make this calculation, total liabilities are significantly underestimated. Mitchell and Friedberg say "*the fundamental flaw is that over the years employees were offered a future benefit that was not properly collateralized.*"[64] This leads to the possibility of the following effects:

- Future taxpayers (in 20 to 30 years) will have to pay for services rendered today through reduction in available funding for their service needs due to unfunded liability debt payments.
- Current local government workers may not receive the benefits they were promised due to failing jurisdictions.
- Loss of public sector competitiveness for employment of skilled workforce, due to unfulfilled pension promises.

The Grand Jury believes that transparency requires the public tracking of this debate in local government communications.

As we expanded our scope of risk assessment for cities beyond pension costs, we were unable to find documentation, prepared by the SCC Cities, for a broader systemic treatment of financial risk. As documented in our section on financial risk, the assessment published by the Auditor's Office provided a transparent framework to evaluate and communicate financial risk.[65] Data, maps, methodologies, and sources were provided for user interaction. We believe this approach to financial risk transparency should be emulated by SCC Cities.

Finally, as we looked for even broader assessments of varying types of risk (strategic, hazard, financial, operational), we found nothing except for liability risk funding and financial risk narratives in budget documents and local hazard mitigation plans. There were no risk profiles or risk registers to communicate the full measure of risk facing SCC Cities or the status of risk mitigation actions.

The message from this section is that effective transparency may provide the understanding and political will to actually take effective action. This is especially critical with regard to the residents of each SCC city. Perhaps if they could view understandable data and information showing what they and their children will have to give up for overly generous pension benefits, then political action would be possible.

Effective transparency creates an opportunity for action at times when there is no crisis. From the summary above, we can see that there were plentiful signals of financial distress from Grand Jury reports, media stories, research papers. However, little action was taken to reduce the actual level of risk for financial distress. Now, in the emerging financial crisis we have to ask what we can do, now and in the future, to avoid being rocked by the shocks.

Conclusion

In this report, the Grand Jury has articulated authoritative and consensus requirements for robust risk identification, assessment, management, and communication. These requirements and standards were then used to evaluate the risk profile for each of the cities in SCC and the state of risk management practices currently in place. Our findings indicate that all of our cities are just one economic shock away from serious financial distress and that their current approach to risk management is not adequate to effectively manage and mitigate the range of risks that are typically confronted by local governments. With the emergence of the COVID-19 pandemic and the resulting economic consequences, the financial risk and associated operational risks we discussed will likely be realized. We will soon see how the cities move forward to minimize the impacts of the current crisis. It is also the time to ask if there are ways that we can better prepare for the future shocks that will come our way. The Grand Jury hopes that our findings and recommendations contribute positively to this discussion.

Findings

F1. RISK ASSESSMENT: As the Auditor's Office is an authoritative source of studies and assessments for the State Legislature, we find that the risk assessment methodology used by the Auditor's Office is a valid and valuable approach to assessing financial risk for all SCC city jurisdictions and communicating that risk to stakeholders.

F2. RISK ASSESSMENT: All SCC Cities did not fully consider the calculated high risk indicators from the Auditor's Office and their potential impacts on city operations, services, and capital assets/infrastructure.

F3. RISK ASSESSMENT: The state of risk determined for all SCC Cities by the Auditor's Office in 2017 remained largely unchanged through 2019.

F4. RISK ASSESSMENT: Pension costs contribute a higher level of financial risk to all SCC Cities than is accounted for by city documents.

F5. RISK ASSESSMENT: Financial Risk Indicators alone are not adequate to effectively understand the risks facing all SCC Cities.

F6. RISK ASSESSMENT: All SCC Cities do not fully identify, assess, track, and report key risk indicators that reflect the state of strategic, financial, operational, or hazard risk.

F7. RISK ASSESSMENT: All SCC Cities do not adequately evaluate the possible interactions between risks that may inhibit or enhance the objectives of each city.

F8. RISK ASSESSMENT: All SCC Cities either do not maintain or do not publish a report card on the state of key infrastructure that can be used to set funding priorities and manage operational and hazard risk.

F9. RISK MANAGEMENT: Although all of the cities of SCC are preparing for increased pension costs due to current amortization schedules, they are not adequately preparing for risk associated with significant or sustained investment shortfalls in CALPERS due to economic shocks (e.g. caused by Coronavirus) or a recession.

F10. RISK MANAGEMENT: Except for the area of hazard (i.e. loss) risk management, in all SCC Cities, there is no formal method to define, track, manage, and communicate risks at the enterprise level of SCC city government.

F11. GOVERNANCE: All SCC Cities do not have a publicly articulated pension Unfunded Actuarial Accrued Liability (UAAL) funding policy that recognizes potential pension cost risks and community expenditure/revenue priorities.

F12. TRANSPARENCY: All SCC Cities do not adequately meet key requirements for transparency as defined by the GFOA.

F13. TRANSPARENCY: All SCC Cities do not provide standard and understandable reporting with regard to: Pension Costs and Associated Impacts (past, current, and projected); Service Level Performance Metrics; State of Key Infrastructure; Risk Assessments and Mitigation Plans for Finance, Operational, and Hazard Risks.

Recommendations

R1. By June 30, 2021: all SCC Cities should become familiar with and adopt the Auditor's Office risk assessment framework or a similar framework to assess financial risk. (F1)

R2. By June 30, 2021: all SCC Cities should evaluate and communicate the implications of the financial risk trends indicated in the analyses calculated from the Auditor's Office methodology. (F2, F3)

R3. By June 30, 2021: all SCC Cities should publish a standard report annually that is an understandable summary of pension risk, including a narrative on the implications of market valuation versus actuarial valuation of accrued total liabilities. (F4, F12, F13)

R4. By June 30, 2021: all SCC Cities should identify a suite of risk indicators that support an integrated assessment of all risk types that can inhibit the ability of the city to meet its objectives. Enterprise Risk Management (ERM) provides an example of the risk types that should be considered. (F5, F6)

R5. By June 30, 2021: all SCC Cities should adopt the practice of Bowtie Analysis, or an equivalent method, to support the understanding of risk interactions, the establishment of risk controls, and the communication of a city risk profile. (F7, F10, F12, F13)

R6. By June 30, 2021: all SCC Cities should publish their own infrastructure risk report cards and any data they make available to county and state level risk assessments. (F8)

R7. By June 30, 2021: all SCC Cities should evaluate the costs and benefits of implementing an Enterprise Risk Management Framework to better integrate risk management across all types of risks (Strategic, Financial, Operational, Hazard). This could take many forms, one being a shared capability through a risk sharing Joint Powers Authority (JPA). The key will be designating clear authority and responsibility for integrated risk management. (F10)

R8. By June 30, 2021: all SCC Cities should develop financial models that project the possibilities of realistic financial scenarios; and use these projections in their risk management practices. (F13)

R9. By January 1, 2021: all SCC Cities should develop or adopt contingency plans for realistic negative financial performance scenarios associated with CALPERS investment shortfalls (for shock and sustained downturns). (F9)

R10. By June 30, 2021: all SCC Cities should develop and publish a policy regarding control of retirement costs (pension and Other Pension Employee Benefits) and funding remedies for unexpected bills presented by CalPERS. (F11)

R11. By June 30, 2021: all SCC Cities should develop a plan to align with the Government Financial Officers Association (GFOA) Financial Transparency Initiative. This should be extended to risk management transparency. (F6, F8, F10, F12, F13)

Required Responses

Respondent	***Findings***	***Recommendations***	***Respond Within/ Respond By***
City Council of Capitola	F1–F13	R1–R11	90 Days September 17, 2020
City Council of Santa Cruz	F1–F13	R1–R11	90 Days September 17, 2020
City Council of Scotts Valley	F1–F13	R1–R11	90 Days September 17, 2020
City Council of Watsonville	F1–F13	R1–R11	90 Days September 17, 2020

Requested Responses

Respondent	*Findings*	*Recommendations*	*Respond Within/ Respond By*
City Manager of Capitola	F1–F13	R1–R11	90 Days September 17, 2020
City Manager of Santa Cruz	F1–F13	R1–R11	90 Days September 17, 2020
City Manager of Scotts Valley	F1–F13	R1–R11	90 Days September 17, 2020
City Manager of Watsonville	F1–F13	R1–R11	90 Days September 17, 2020
City Finance Director/Risk Manager of Capitola	F1–F13	R1–R11	90 Days September 17, 2020
City Finance Director/Risk Manager of Santa Cruz	F1–F13	R1–R11	90 Days September 17, 2020
City Finance Director/Risk Manager of Scotts Valley	F1–F13	R1–R11	90 Days September 17, 2020
City Finance Director/Risk Manager of Watsonville	F1–F13	R1–R11	90 Days September 17, 2020

Defined Terms

- **Actuary**: A professional who assesses and manages the risks of financial investments, insurance policies and other potentially risky ventures.[66]
- **Actuarial Accrued Liability (AAL)**: The present value of projected benefits for retirees plus a portion of expected OPEB for active members that have been earned but are not going to be paid in the current year.[67]
- **Actuarially Determined Employer Contribution (ADEC):** The amount actuarially calculated each year that is required to be contributed by an employer to a pension plan's pool of assets in order to ensure there will be enough funds to pay promised pension benefits. The contribution rate can be reported either in dollars or a percent of salary. Actuaries annually determine how much should be paid by employers in a given year in order to properly fund a pension plan. This amount is a combination of the employer's share of normal cost plus the unfunded liability amortization payment.

- **Actuarial Required Contribution (ARC)**: Using pension plans' own economic and demographic assumptions, the calculation includes the expected cost of benefits earned for the current year and an amount to reduce some of the unfunded liability. Under prior rules, the ARC calculation included in governmental financial statements had to conform to the Governmental Accounting Standards Board's (GASB) regulations, but it is no longer a required disclosure.[68]
- **Asset Shock Scenario:** An initial adverse shock followed by low returns over the long term. The scenario is based on the Federal Reserve's scenarios for stress testing under the Dodd-Frank Act.[69]
- **Assumed Rate of Return**: The investment return target and the result that a pension plan estimates its investment allocation mix will deliver.[70]
- **Assets**: Tangible or intangible items obtained for producing additional income or held for speculation in anticipation of a future increase in value. Examples of classes of assets include: equity (public stocks), fixed income (bonds), private equity (private stocks), real assets (real estate), complex financial instruments (hedge funds), cash or cash equivalents (money market funds).
- **Asset Allocation**: Asset allocation is an investment strategy that aims to balance risk and reward by apportioning a portfolio's assets according to an individual's goals, risk tolerance, and investment horizon. The three main asset classes - equities, fixed-income, and cash and equivalents - have different levels of risk and return, so each will behave differently over time.[71]
- **Availability Bias**: Details that are more easily recalled (because they occurred recently or were attached to a particularly vivid experience) are overweighted when assessing risk. For example, when preparing for future potential extreme events, a city government might over-prepare for an event that has happened in the recent past or that happened somewhere else and received a lot of media coverage. As a result, the city might then under-prepare for a different kind of extreme event that is actually more likely to occur in the future.[72]
- **Black Swan**: An unpredictable event that is beyond what is normally expected of a situation and has potentially severe consequences. Black swan events are characterized by their extreme rarity, their severe impact, and the widespread insistence they were obvious in hindsight.[73]
- **Bonds**: An instrument of indebtedness of the bond issuer to the holders. It is a debt security, under which the issuer owes the holders a debt and, depending on the terms of the bond, is obliged to pay them interest (the coupon) and/or to repay the principal at a later date, termed the maturity date.[74]
- **Bowtie Analysis**: A risk evaluation method that can be used to analyse and demonstrate causal relationships in high risk scenarios. The method takes its name from the shape of the diagram that you create, which looks like a men's bow tie.[75]

- **CalPERS**: California Public Employees' Retirement System. The mission of the organization is “Deliver retirement and health care benefits to members and their beneficiaries” A significant portion of their task is the management of investments and risk to assure future benefits can be paid.
- **Confirmation Bias**: Random patterns will be taken as solid evidence if they match a preconceived expectation. For example, if school administrators implement a new program and student test scores go up by even a small amount, it might be interpreted as evidence of the program’s success rather than just the product of random variation in student test scores that naturally occurs from year to year.[76]
- **Consequence**: Outcome of an event affecting objectives that can be expressed qualitatively or quantitatively.[77]
- **Defined Benefit (DB) Plan**: The employer promises a specific amount of monthly retirement income based on a formula that typically considers the employee’s salary, years of service, and age.[78]
- **Defined Contribution (DC) Plan**: Provides employees with an individual retirement account that grows through investment of accumulated employer and employee contributions. Annual returns are generally based on investment performance and are not typically guaranteed. DC plans can provide workers with access to annuities upon retirement.[79]
- **Discount Rate**: Used to discount future cash flows in discounted cash flow (DCF) analysis.[80]
- **Enterprise Risk Management (ERM)**: An effective agency-wide approach to addressing the full spectrum of the organization’s significant internal and external risks by understanding the combined impact of risks as an interrelated portfolio, rather than addressing risks only within silos.
- **Economic Shock**: Any change to fundamental macroeconomic variables or relationships that has a substantial effect on macroeconomic outcomes and measures of economic performance, such as unemployment, consumption, and inflation.[81]
- **Employer Contribution Rates**: Total amount paid by local government for pension costs, expressed as a percentage of payroll.
- **Equities**: Stocks held by investors that represent ownership in a piece of a company. They can be domestic or international. Equities do not guarantee a specific rate of return and thus are generally riskier than fixed-income investments. But equities also have the potential for higher returns, and shareholders’ investments may grow rapidly with the market.[82]
- **Financial Distress**: From a short-term perspective, fiscal [dis]stress can be defined as the [in]ability to make payments in a timely manner. In the long-term, fiscal [dis]stress is expressed as a gap between a local government’s tax base or revenues relative to its expenditures and commitments.[83]

- **Future Pension Cost**: A financial indicator that measures the future financial burden of a city's pension costs by comparing its projected annual required contributions to its present level of annual revenues. Rising pension costs may supplant a city's other spending priorities and potentially cause it to curtail critical services, unless it is able to generate additional revenues to offset these increasing costs.[84]
- **Fixed Income**: Investments in which returns are predictable and paid at designated times. These can include domestic or international bonds. Because fixed-income investments generate predictable streams of income, they are generally considered low risk.[85]
- **Funded Ratio**: The level of assets at market value in proportion to accrued pension liability. This is an annual point-in-time measure, as of the valuation date.[86]
- **GAO**: Government Accountability Office.
- **GASB**: Governmental Accounting Standards Board.
- **GFOA**: Government Finance Officers Association.
- **Hybrid Retirement Plan**: Combines a defined benefit based on the employee's final average salary with a separate defined contribution savings account.[87]
- **Likelihood**: Refers to the chance of something happening, whether defined, measured or determined objectively or subjectively, and described using general terms or mathematically (such as a probability or a frequency over a given time period).[88]
- **Level of Risk**: Magnitude of a risk expressed in terms of the combination of consequences and their likelihood.[89]
- **Miscellaneous Pension Plans**: Provides defined-benefit deferred compensation to retirees from public agencies (except police and fire).
- **Net Pension Liability**: Current-year pension debt calculated as the difference between the total value of pension benefits owed to current and retired employees or dependents and the plan assets on hand. Pension plans with assets greater than accrued liabilities show a surplus.[90]
- **Normal Cost**: The cost of benefits earned by employees in any given year. Also called service cost.[91]
- **Own Source Revenue (OSR)**: Revenues raised directly by state and local governments, generally excluding funds from the federal government.[92]
- **Overconfidence Bias**: A tendency to be overconfident in our ability to predict the future and to underestimate the degree of uncertainty we face. Experimental evidence has shown people usually underestimate uncertainty by approximately 50 percent.[93]
- **Pay-as-you-Go**: Contributions pay for benefits as they come due, rather than pre-funding benefits as they are earned.[94]

- **Pension Debt/Unfunded Liabilities**: The difference between the total value of pension benefits owed to current and retired employees or dependents and the plan assets on hand. This is an unfunded obligation for past service. The data reflect the Governmental Accounting Standards Board (GASB) standards in effect at the time. Before 2014, the data represent the unfunded actuarial accrued liability. In 2014 and after, this is reported as the net pension liability. Pension plans with assets greater than accrued liabilities show a surplus.[95]
- **PERF***:* Public Employees' Retirement Fund*.*
- **Private Equity**: An asset class consisting of equity securities and debt in operating companies that are not publicly traded on a stock exchange.
- **Real Assets**: Physical or tangible assets, such as precious metals, commodities, or oil, as opposed to financial assets.[96]
- **Revenue Trends**: A measure of the extent to which a city's general fund revenues are increasing or declining over time.
- **Risk**: An uncertain event or sequence of events that if realized may inhibit or enhance the accomplishment of an organization's objectives.
- **Risk Register**: A record of information about identified risks.[97]
- **Risk Management**: Coordinated activities to direct and control an organization with regard to risk.[98]
- **Risk Management Processes**: Systematic application of management policies, procedures and practices to the tasks of communicating, consulting, establishing the context, identifying, analyzing, evaluating, treating, monitoring and reviewing risk.[99]
- **Risk Pool**: An intergovernmental arrangement through which a group of public entities – the members – contribute to a shared fund that pays for claims and thus distributes the burden of risk across all members of the pool, reducing the burden to any individual member.[100]
- **Risk Profile**: A description of a set of risks.[101]
- **Risk Transfer**: Sharing with another party the benefit of gain, or burden of loss, from the risk; passing a risk to another party.[102]
- **Risk-Free Rate of Return**: The theoretical rate of return of an investment with zero risk.[103]
- **Safety Pension Plans**: Provides defined-benefit deferred compensation to retirees from public safety agencies (police and fire).
- **SCC**: Santa Cruz County.
- **SCC Cities**: Capitola, Santa Cruz, Scotts Valley, Watsonville.
- **State Policy (behavioral) Assumption**: Condition applied to Pew's stress test analysis that assumes strict adherence to current actuarial funding requirements based on states' written contribution policy.[104]

- **Total Liabilities**: Total value of pension benefits owed to current and retired employees or dependents based on past years of service; sometimes referred to as the actuarial accrued liability (AAL).[105]
- **Transparency**: Government's obligation to share information with citizens that is needed to make informed decisions and hold officials accountable for the conduct of the people's business.[106]
- **Unfunded Actuarial Accrued Liability (UAAL)**: Calculated by subtracting the actuarial value of the assets from the actuarial accrued liability (AAL) of each fund.[107]

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Site Visits

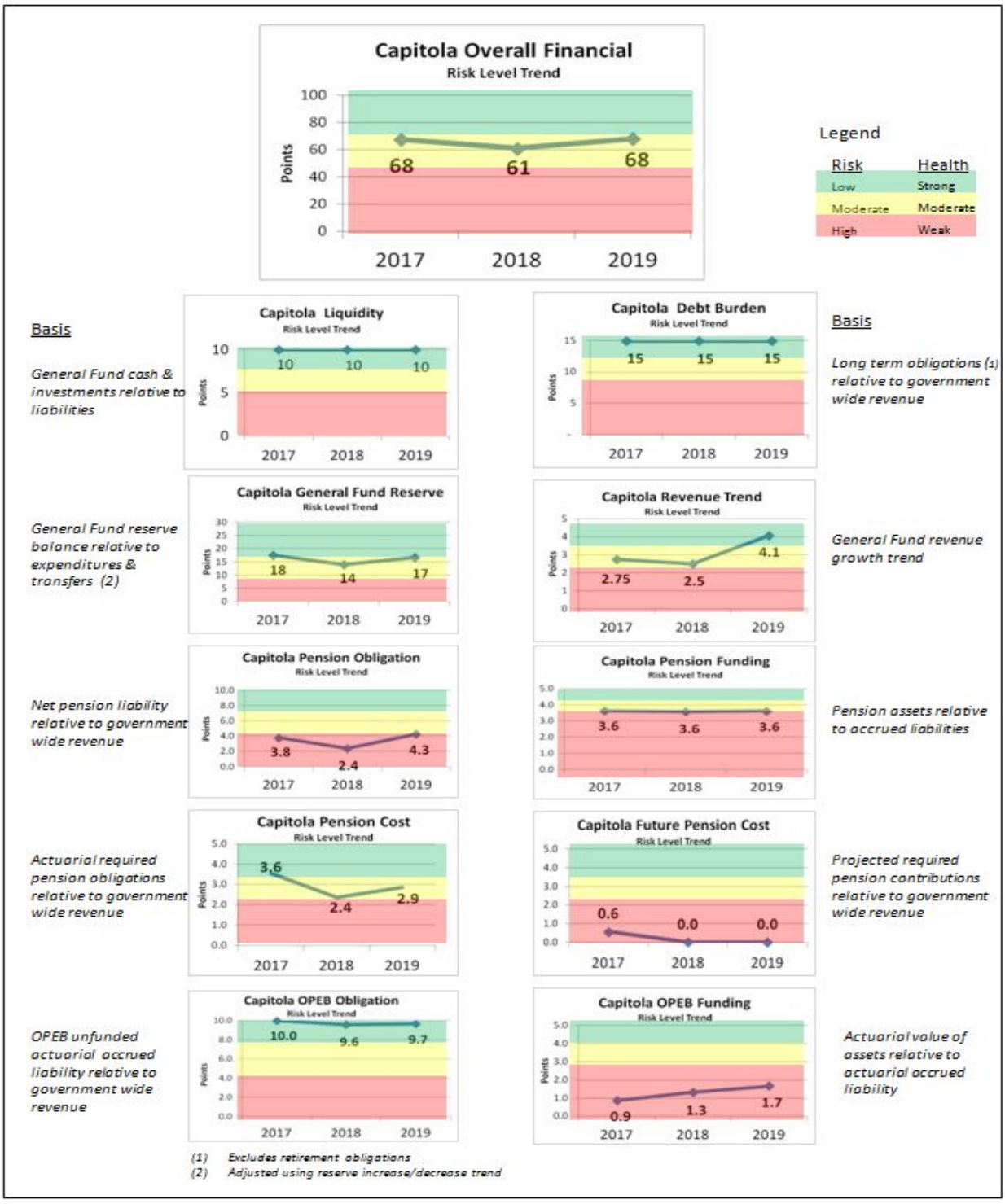
None

Websites

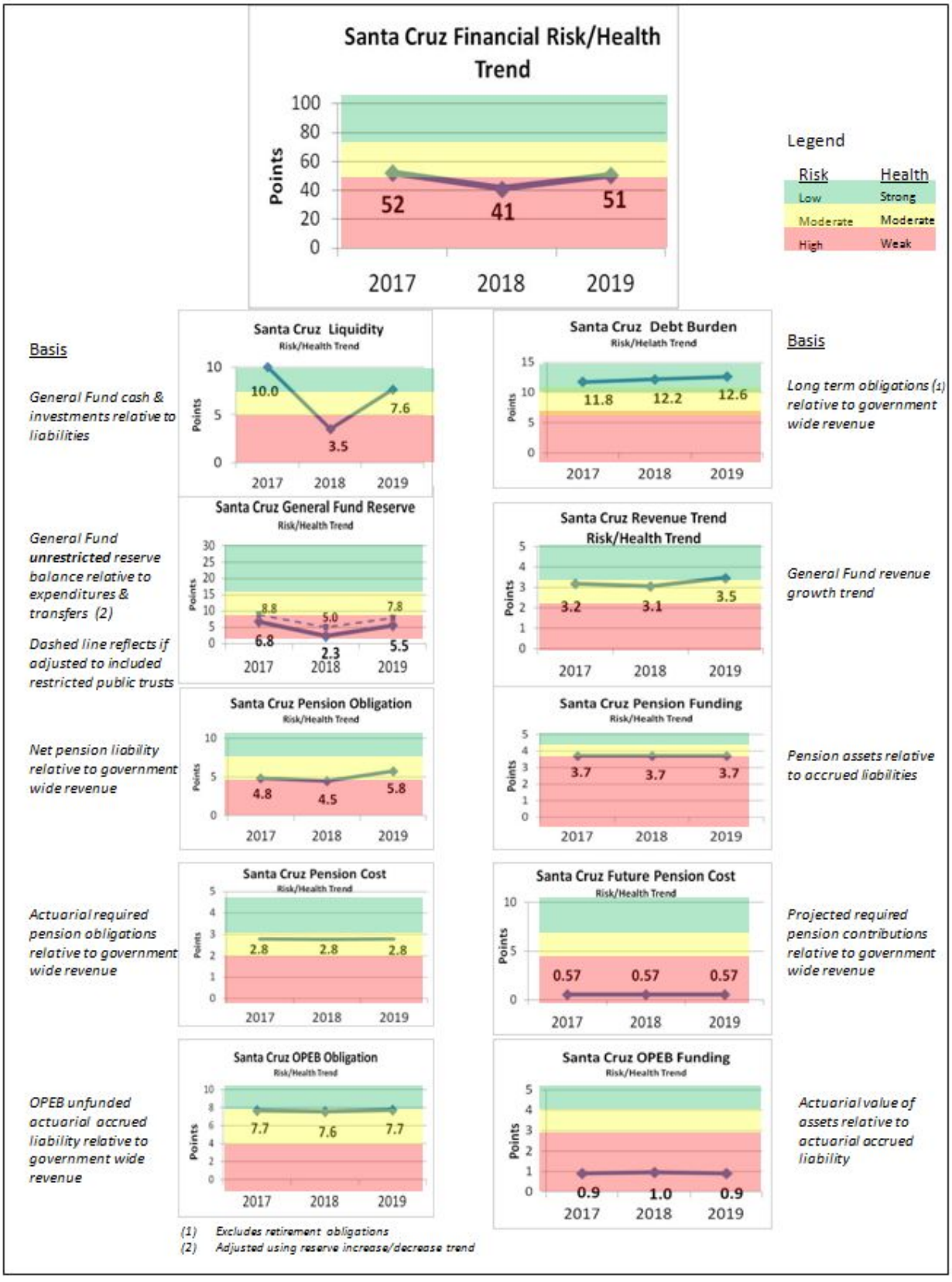
None

Appendix A
City Fiscal Distress Risk Assessment Trends by Financial Indicator[108]

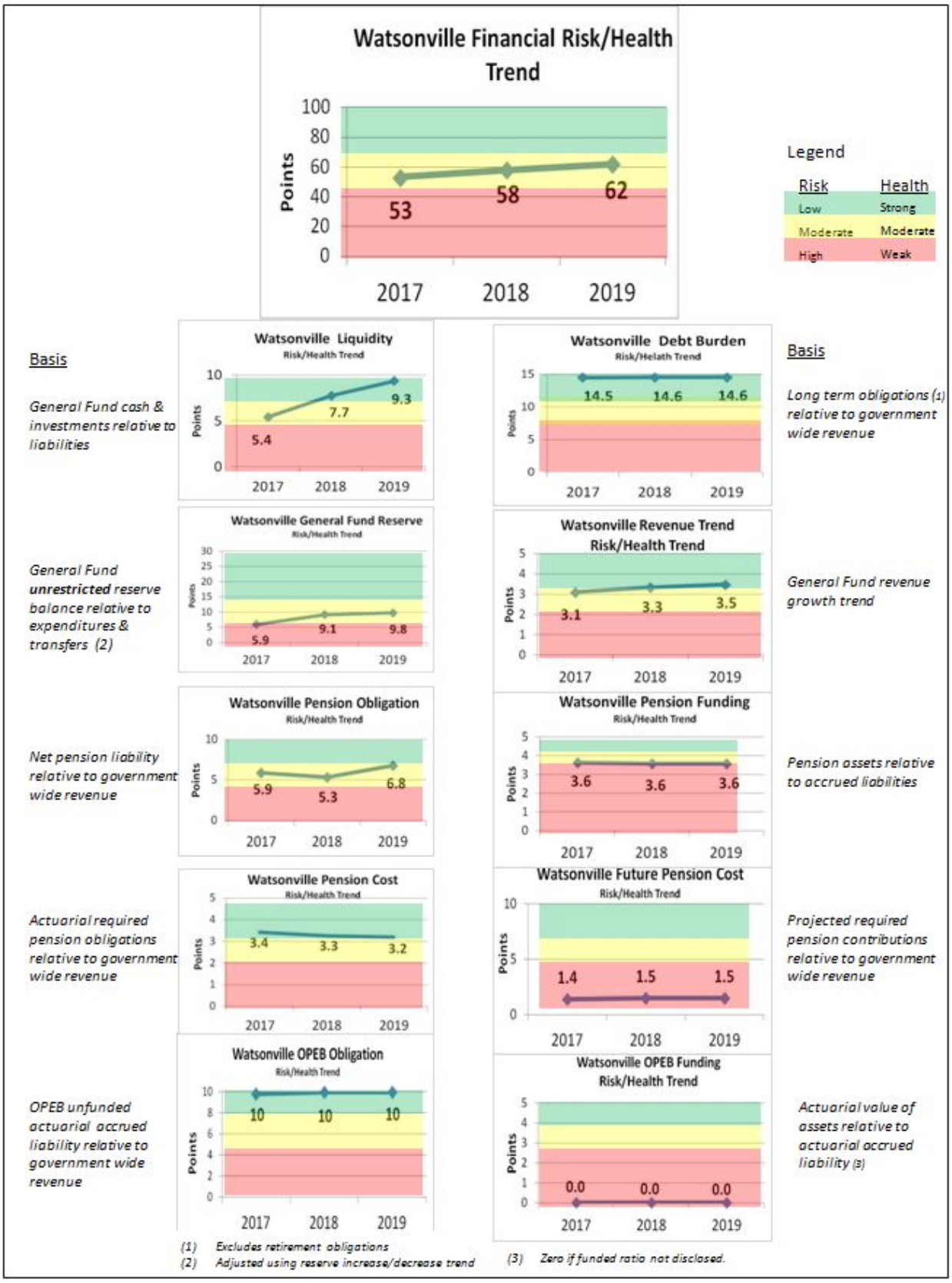
City of Capitola Financial Risk Trend



City of Santa Cruz Financial Risk/Health Trend

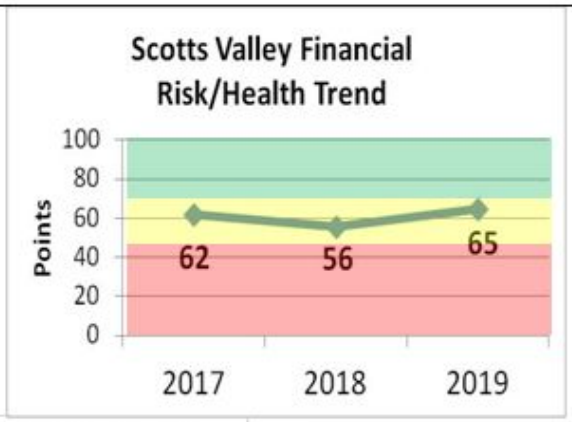


City of Watsonville Financial Risk/Health Trend



(1) Excludes retirement obligations
(2) Adjusted using reserve increase/decrease trend
(3) Zero if funded ratio not disclosed.

City of Scotts Valley Financial Risk/Health Trend

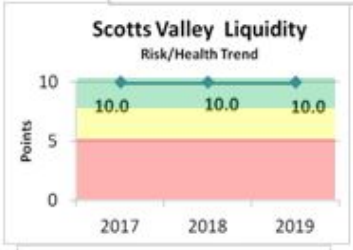


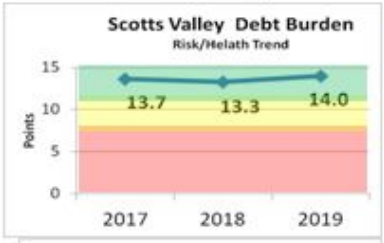
Legend

Risk	Health
Low	Strong
Moderate	Moderate
High	Weak

Basis

General Fund cash & investments relative to liabilities

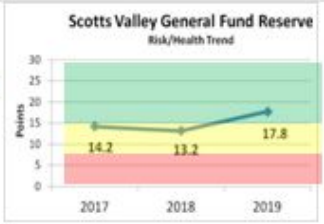


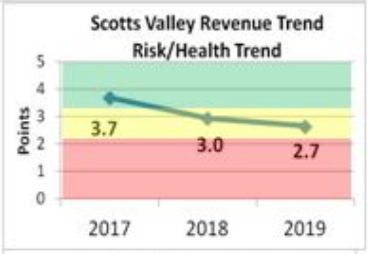


Basis

Long term obligations (1) relative to government wide revenue

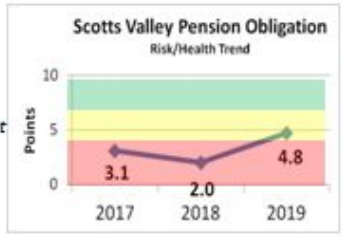
General Fund reserve balance relative to expenditures & transfers (2)

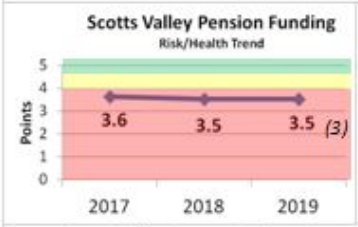




General Fund revenue growth trend

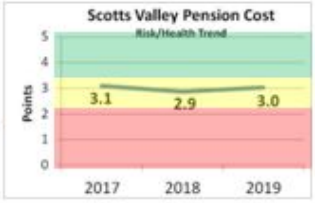
Net pension liability relative to government wide revenue





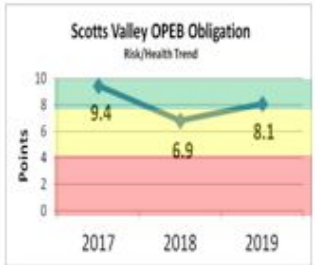
Pension assets relative to accrued liabilities

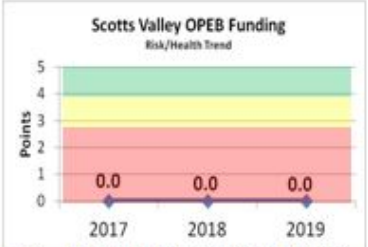
Actuarial required pension obligations relative to government wide revenue



Projected required pension contributions relative to government wide revenue

OPEB unfunded actuarial accrued liability relative to government wide revenue





Actuarial value of assets relative to actuarial accrued liability (4)

(1) *Excludes retirement obligations*
(2) *Adjusted using reserve increase/decrease trend*
(3) *Data not available, uses 2018 for 2019*
(4) *Zero if funded ratio not disclosed.*