The Local Government Fiscal Resiliency Project

Final Product | May 2018

This document is the Final Product of the Local Government Fiscal Resiliency Study and we are required to provide several caveats in this form:

- It is meant to be a starting point for further discussion on how to improve the fiscal resilience of local governments in Oregon.
- While we consider the data to be accurate, it is not formatted or presented in a way that we would consider a standard report.
- We believe this methodology is unique and may in the future be expanded and extended through academic papers or additional presentations.

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Acknowledgements and Authorship

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While the Local Government Resiliency Team consisted of members from both the North Star Civic Foundation and Portland State University's Center for Public Service (CPS), all final editorial decisions – as well as any errors or omissions in this work – are solely the responsibility of CPS. The full team consisted of:

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- The North Star Civic Foundation
- The Ford Family Foundation
- The Federal Reserve Bank of San Francisco
- Craft3
- American Leadership Forum of Oregon
- InterMountain ESD

Notes on the project authorship: The project was a collaboration of the people above to develop the methodology and identify the locations to analyze. While the whole team assisted on all sections, authors of specific sections were:

1. Phil Keisling: Results in Brief – Local Government Fiscal Resilience: Building a Data-driven Model to Assess the Capability of Local Governments and their Communities to Maintain Core Public Services.
2. Bob Winthrop: Methodology Section 1: The Oregon Local Government Resiliency Study: In the future, will governments in Oregon be able to provide the same level of service that they have in the past?
3. Katelyn Wilkins: Methodology Section 2: a. Interview Summary, b. Selected Abstracts from Articles that Assisted in Informing this Study, c. Data Collection, and d. Selection of Jurisdictions.

Results in Brief: Local Government Fiscal Resilience

Building a Data-driven Model to assess the Capability of Local Governments and their Communities to Maintain Core Public Services

In the fall of 2017, the North Star Civic Foundation contracted with the PSU Center for Public Service team to look at the current and near-term fiscal fortunes of 35 representative local governments in Oregon. The backdrop for this analysis is a reality that's long been acknowledged: many Oregon local governments' revenues are growing more slowly than their expenses due to a combination of many factors.

The fiscal health of Oregon governments reflects dynamics and trade-offs that have been building for decades. Depending on the region and government, budget imbalances have been caused by property tax limits, comparatively low corporate tax rates, PERS legacy commitments, deferred maintenance of public assets, reduced economic opportunity due to movement away from extraction industries such as timber harvesting, and a persistent decrease in income taxes since the Great Recession.

While these fiscal imbalances are well understood at the state level, our analysis sought to reveal and model how local governments have been impacted by these economic pressures. The analysis shared here models the realities for 35 representative local governments, and hopes that this new information creates an opportunity for a broader conversation about how to navigate the next twenty years of budget shortfalls and the impacts on community well-being, economic development, and civic trust.

Here are the themes we particularly focused on with this study, and a brief description of what we found:

Theme 1: What is the most accurate way to measure and then track Local Government "Fiscal Resiliency?" How resilient are Oregon's counties?

This is a more complex question than might first appear. Traditional methods of analysis are based on published budgets and annual financial statements, and they often bury – or miss – key pieces of this puzzle. Our team built a new framework by which to gather and compare key fiscal metrics across different jurisdictions and types of local governments.

After a review of the research and academic literature our team concluded that a given community's "Fiscal Resiliency Score" may be calculated by zeroing in on three key metrics:

1. Projected Expense Costs: The ability to finance and sustain the necessary expenses (including personnel costs) to maintain current and future demand levels, based on determined patterns of revenue, expenses, and population growth;
2. Capital Asset Depreciation: The relative age of reported capital assets – e.g. roads, utility systems, public safety equipment – as expressed by how much had been depreciated (and thus may need to be replaced soon)[1]; and

[1] While depreciation of existing capital assets is not an exact measure – that is, some assets do last longer than financial analysts assume, and vice versa – it serves as a valuable proxy of how well a community is able to think about future investments. The higher the depreciation (or lower the undepreciated assets), the more likely a large bill looms in the near future to replace aging infrastructure.

3. Debt Service as a percent of Operating Expenses: Debt service for past investments, relative to annual operating expenses.

At the outset, it should be stressed that our model is still exactly that: a model. Which strategies local governments will use to address budget realities cannot be predicted with certainty. This focus area is explored in greater detail in methodology section[1].

That said, the model we've built includes some notable findings:

1. Projected Expense Costs:

- On the first measure – the ability to keep up with the needed number of personnel (and their costs) to maintain existing service levels – just 5 of the 35 jurisdictions have projected revenues in excess of expenses: Polk County, Polk County Fire District #1, Portland Public Schools, Malheur County, and Ontario School District 8C.
- In 2022 the median deficiency projected between revenues and expenses (assuming current service levels remain constant) is -4.6% for the jurisdictions studied. It was not within the purview of this study to assess the financial strain implied by any given level of deficiency. However, public administrators and budget managers in jurisdictions of different sizes, needs, and capacities may expect challenges associated with deficiency of 0% or more.
- The greatest fiscal deficiencies projected are: Polk County Soil and Water (-11.1%), the city of Roseburg (-11.4%), Klamath County Fire District (-12.7%), and for Umatilla County (-17.0%).

2. Capital Asset Depreciation:

- Just 6 jurisdictions report that 40% or less of their capital assets are depreciated, indicating a relatively new (and easier to maintain) set of capital assets. These include 3 school districts – Bend-LaPine SD; Klamath County SD; and Ontario SD 8C – along with Rockwood PUD; and the cities of Redmond, and Monmouth.[2]
- The median level of depreciated assets is about 47% (that is 53% of capital assets are still relatively new and have not yet depreciated).
- Two jurisdictions that report depreciation (Douglas County and Polk County) have depreciated assets that account for 65% or more of their capital assets.

3. Debt Service as a percent of Operating Expenses:

- Thirteen jurisdictions have debt service levels below 5% of operating expenses.
- The median level of debt service as a share of operating expenses in our sample is about 7.3%.
- Four jurisdictions have debt/operating expense ratios that exceed 20%. These are: the City of Portland (Multnomah county); the City of Newport (Lincoln County); Southwest Lincoln County Water District; and Owyhee Irrigation District.

[2] Four Jurisdictions, Malheur County, Polk County Fire District 1, Central SD 13J, and Polk County Soil and Water Conservation District either had no depreciation or did not report that information in financial reports. Therefore, these jurisdictions are not included in this section. Data exhibits show 100% undepreciated assets

Theme 2: Are the challenges of local government fiscal resiliency largely confined to Oregon's rural areas – or are they more widespread?

The resiliency challenges faced by local government jurisdictions are not confined to rural areas. Many jurisdictions in urban and peri-urban areas are also financially strained. Still, rural communities do reveal an overall higher level of fiscal stress, and the general pattern is a sobering one. Almost everywhere we looked in this study, communities are grappling with the very real prospect of "back sliding" – in some cases, dramatically so – in the next 5 years and beyond.

This becomes clearer in looking at the practical "trade-offs" between the three factors. Consider these three examples:

- Polk County is one of the few in our sample projected to be able to maintain current personnel levels to serve its growing population. But the county's high level of depreciated capital assets (71%) –and an already modest amount of debt (5%) – suggests the near-term need for future investments that could cloud this picture.
- Douglas County has one of the lowest debt levels in our sample. But it, too, has one of the highest levels of depreciated assets (70%) – and faces a (-6.2%) deficiency in available resources vs. projected expenses under our model.
- The city of Portland is facing a smaller (though still significant -3.7%) deficiency in available resources to meet projected expenses, and shows 47% depreciation of assets. But its current debt load: 26.7% of annual operating expenses – is the second highest in the sample, and the highest ratio for any city in sample.

Theme 3: Where do fiscal resiliency challenges loom especially large?

In our sample of 35 jurisdictions, we found a number of them below the median in at least two categories. For example:

- Umatilla County faces a 17% deficiency in available resources for and a 59% rate of depreciated assets;
- Two jurisdictions in Malheur County face what look to be unique problems and appear to be in fiscal distress: Treasure Valley Community College has been steadily losing enrollment, with a projected 10% deficiency and an 8.2% debt/operating expenses ratio; Owyhee Irrigation District has an 8% deficiency and a debt load that is 304% of operating expenses.
- Southwest Lincoln County water district had relatively low values for all three categories– an 8.2% deficiency in available resources; a 56.6% depreciation rate, and debt/operating expense ratio of 20.5%.

Finally, there were seven jurisdictions that scored below or close to the median in all three categories. The following jurisdictions had a 7% or higher deficiency rate for available resources; a 50% or greater asset depreciation rate; and a debt/operating ratio of 7% or higher: Umatilla County, City of Roseburg, City of Klamath Falls (Klamath), Douglas County Fire District #2, Southwest Lincoln County Water District, Owyhee Irrigation District, City of Medford.

The data exhibits provide more detail on the calculated values for each jurisdiction. In addition to the three main factors discussed above, we also calculated the "structural imbalance" of each jurisdiction – that is, the actual projected shortfall of revenues estimated by 2021-22 to meet projected obligations, given the model and various assumptions.

In the Methodology sections below, we discuss in greater detail both the methodology and the approach that the PSU team decided on for gauging Fiscal Resiliency.

Methodology Section 1

The Definition of Resilience: An ability to recover from or adjust easily to misfortune or change

https://www.merriam-webster.com/dictionary/resilience

The Oregon Local Government Resiliency Study: In the future, will governments in Oregon be able to provide the same level of service that they have in the past?[3]

The North Star Civic Foundation, in partnership with Portland State University Center for Public Service and a consortium of private foundations[4], have joined together to evaluate the fiscal health and resilience of local governments in Oregon.

Initially, we envisioned that we would look at several jurisdictions as "cases" in a "case study" approach to best understand jurisdiction resiliency. However, as we began our research, we did not find a consensus definition of what "resiliency" means for governments, either in academia or the community at large. In addition, we faced a communication challenge in describing what the financial condition of a jurisdiction means for the communities it serves. Past studies have used ratios and the sterile language of finance to display the financial condition of governments. But those measures don't seem to motivate action or truly communicate the challenges that communities face.

We believed that, as a general rule, revenues were increasing at a slower rate than expenses (e.g. salaries, and in particular, pension costs and health insurance). Therefore, the study team decided to develop a measure that would allow us to test that belief with data. The core question was: How can we estimate the resource gap that will result from changes in revenue and expense growth over the next four years?

While the original question above may seem simple, past research has not determined a straightforward and meaningful way to answer it. The PSU/North Star Local Government Resiliency team has devised a measure that is both straightforward and useful in answering it. The measure is this: First, assume that in today's budget, a government's revenues and personnel and materials and services expenses equal each other. Second, assume that in the next four years the revenues and expenditures grow based on their current mix (i.e. charges for services, property tax, salary, health insurance, etc.). At the end of four years, the difference between revenues and expenditures will determine the available resources or "Structural Balance". If the government has excess or even revenue growth over its expenditure growth, the government should be very resilient. However, if the government has excess expenditure growth over revenue growth, it will instead need to either cut employees/services or raise additional revenue.

This analysis has created a "Resiliency Score" that has three separate parts:

1. Projected Expense Costs: The resources available in excess of costs in four years. This includes looking at the "margin," that is: $\frac{Revenues\text{-}Expenses}{Revenues}$ as well as the $\frac{Margin\ Available}{Number\ of\ FTEs}$, that is the "Resources Available" or "Structural Balance."

[3] In Gorina Et. Al., the authors define "fiscal distress as the condition of local finances in which the government cannot provide public services and meet its own operating needs to the extent that it did previously." P. 7

[4] The North Star Civic Foundation, The Ford Family Foundation, The Federal Reserve Bank of San Francisco, Craft3, American Leadership Forum of Oregon and InterMountain ESD make up that consortium.

2. Capital Asset Depreciation: The percentage of assets that have not been depreciated during the latest year of financial statements available, and

3. Debt Service as a percent of Operating Expenses: The debt service requirement for the four years preceding the latest budget year divided by the expected expenditures related to personnel costs, materials and services:

$$\frac{Avg.\ Debt\ Over\ Previous\ 4\ Years}{Proj.\ Personnel,\ Materials,\ \&\ Services\ Costs}$$

Local Government Resiliency Score

Can we afford enough employees to provide the same level of service in four years?

Is our infrastructure in good shape?

Do we have more debt than we can afford?

We developed this unique measure of resiliency after examining past research and attempting to answer the questions below.

1. Are there any other studies that look at projecting government-wide revenues and expenditures?
2. What is the composition of Revenues and Expenditures included? We limit our study to operating revenues and expenditures as defined by non-capital revenues and non-capital, debt or transfer expenditures. What about capital spending, transfers, debt service, and other types of non-personnel or non-materials and services spending? Why not just use the values from the latest actual of revenues and expenditures[5]?
3. Why is it valid to set revenues and expenditures to be equal and then grow them?
4. Why test structural balance by determining the growth rate for revenues and expenditures? Why not simply compare the values from the latest actual of revenues and expenditures?
5. Are the growth factors chosen the right ones?
6. Why do we include depreciation rather than fund balance?
7. Why look at Debt Service as the average of the latest available data rather than include it as an expense projection like other factors?

In addition to expanding on and addressing each of these questions, the following sections will discuss the sources that we referenced to develop the Resiliency Score.

1. Are there any other studies that look at projecting government-wide revenues and expenditures?

The PSU/North Star team surveyed experts in the field and reviewed the research to determine whether there was a similar type of study this analysis could replicate. We interviewed several experts in the field[6] and reviewed article abstracts, as well as several articles, on the topic of

[5] According to Finkler, Steven A. Financial Management for Public, Health, and Not-for-Profit Organizations (Second Addition), P. 438. Under cash accounting, resources are considered to flow out of the organization, and an expense is incurred when cash is paid. Under accrual accounting, resources flow out of the organization, and an expense is incurred when a resources has been consumed in the process of generating revenue. In modified accrual accounting, however, resources are considered to leave the organization and an expenditure occurs as soon as the organization becomes legally obligated to pay for a resource and we know that payment will be made from available resources.

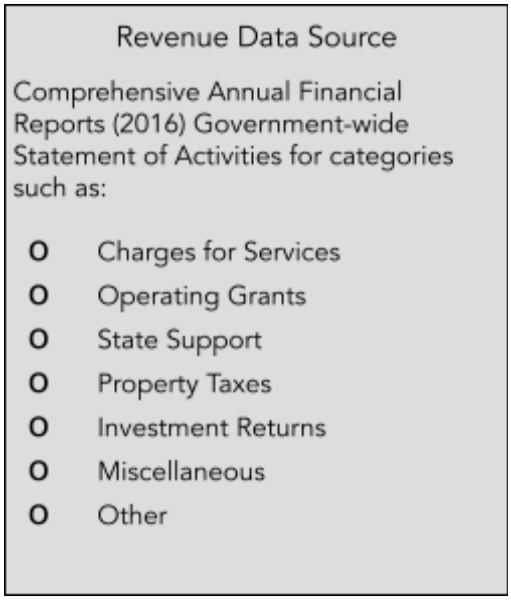
[6] S. Kavanagh and V. Reitano work with GFOA's Research and Consulting Center; interviewed 08/18/2017; Dr. Rebecca Hendrick, professor at University of Illinois, Chicago (UIC), Listed her is her UIC profile; interviewed 08/22/2017; Dean Mead, Senior Research Manager GASB; interviewed 08/31/2017

government financial condition[7]. We wanted to ascertain if there were any articles that addressed the following:

a. Future projections of revenues and expenditures,
b. Government-wide – not just governmental fund – financial factors[8],
c. Latest Budget data (we wanted to know if any studies were using latest budget data available as opposed to data from Annual Financial Reports only).

Most studies we identified used ratios from annual financial report data (usually at least a year old) and most were limited to governmental functions. What we found was that there was little consensus on the best measures of fiscal health for governments[9]. We therefore felt that we needed to create our own to understand how Oregon's public sector communities are faring financially.

2. What makes up the Composition of Revenues and Expenditures included?



For this study, we determine our measure of service levels based on the relationship of operating revenues to operating expenditures. We define these as non-capital revenues and non-capital, debt or transfer expenditures. When assessing the resiliency of a governmental organization, operating or recurring revenues and expenditures provide a representation of whether the financial capacity of the organization is sufficient to maintain its past service levels. As a proxy for governmental service levels, we use the financial capacity to pay governmental employees salary and benefits, (i.e. total employer cost of compensation). While borrowing for capital spending and one-time capital grants can be helpful, it is axiomatic that over the long term a governments' revenues must exceed expenses or the government must raise additional revenues or cut services (employees). Capital spending and debt issuance distort the cash flows or structural balance of a jurisdiction. A one-time influx of capital and payment for acquisition of an asset (or construction, or improvement) that can be repaid over time is appropriate to match the consumption of that asset, but that is only appropriate for assets that have a long useful life. Most governmental services are provided during the course of one year. Ongoing revenues and expenditures must pay for those services, generally within the time frame they are provided.

[7] At the end of this document we include methodology sections with interview summary and abstracts from articles used to inform this study. These were prepared by Katelyn Wilkins, Graduate Student, Portland State University.
[8] Government-wide factors include both Governmental and Business type activities.
[9] Gorina et al.'s Paper, Local Fiscal Distress: Measurement and Prediction, as published in Public Budgeting and Finance, 5 May 2017 indicated on page 2 of the article: "In 2013, the diversity of approaches to the analysis and management of financial condition was reflected in the Handbook of Local Government Fiscal Health, edited by Levine, Justice, and Scorsone (2013), which brought together a cohort of leading fiscal health researchers. The edited volume demonstrates that while there is some agreement on what fiscal health is as a theoretical concept, there is still little consensus on how to measure, predict, and manage a decline in fiscal health (Justice and Scorsone 2013). Importantly, empirically based studies that would test the external validity of the proposed measure of fiscal health are particularly lacking although some of this work has been started by Clark (2015) and Stone et al. (2015)."

In addition, to provide those ongoing services, governments use both "Personnel" and "Materials and Services" (including contracted services). These are sometimes called "object categories" in government financial reports. Some other categories one might see in a governmental budget include: Land, Buildings, Capital Spending, Unappropriated Fund Balance, Contingency, Internal Services, and Indirect Charges. The categories represent either transfers from one part of the government to another or (generally) payment for a long-lived asset not matched to the time that asset was consumed.

Therefore, the study team assessed that an appropriate measure of resiliency is the ongoing and projected balance of revenues and expenditures.

To capture this information, we combined revenue data from each jurisdiction's latest Comprehensive Annual Financial Report (normally 2016) with budget data from each jurisdiction's latest annual budget (normally 2018). Note that while revenue data is often available in jurisdiction budgets, budget data for revenues are generally not separated into one-time and ongoing categories. Therefore, the government-wide statements in the Comprehensive Annual Financial Reports provided a more detailed, (and for our purposes) more useful view of revenue sources.

For expenditures, the team felt that using the latest available year of data for ongoing or operating expenditures (i.e. personnel and materials and services) budgeted offers a good representation of each organization's financial status. Budgeted expenditures for Personnel and Materials and Services components include information that the jurisdiction leadership has regarding how prices for items might change. The jurisdiction may know about increases for certain bargaining units, prices for health insurance and the employer contribution rates for PERS. Therefore, we thought the best available information was from the budgeted expenditures for the latest available year.

Expense Data Source

Budget (2018) Categories for Personnel Services including:

- Salary
- FICA (Social Security)
- Oregon PERS (Public Employees Retirement System
- Health Insurance
- Other benefits

- Materials and Services include contractual services as well

The team decided to exclude capital grants and contributions or other one-shots of a capital nature in revenues. In addition, we did not consider capital spending. This is because revenues and spending fluctuated widely when including these non-recurring revenues and expenditures. In addition, to capture the resiliency of capital assets, it seemed more appropriate to look at accumulated depreciation – a longer term measure of asset condition – than looking at capital spending on a time-limited basis.

3. Why is it valid to set Revenues and Expenditures to be equal and then grow them?

Given that the aim of our analysis was to understand the resiliency of the jurisdictions, we set the operating revenues equal to expenditures as listed in the budget for the latest available budget year. In other words, we extracted personnel and materials and services spending from the latest budget and set the revenues equal to that amount. The reason for doing so is that governments develop budgeted operating expenditures to provide the level of services the governmental leadership expects to provide. The government has less control over revenues. However, if the government were to collect significantly more revenues

than it needed to cover its cost of services, over time the government would reduce the revenues collected until they equaled its costs. A government's function is not to collect and acquire assets of its residents. A government's function is to provide those governmental services desired by the residents that have established that local government. If the government collected less revenue than it needed to provide the level of services expected, it would need to either reduce services to fit with the available revenue level or increase revenues.

4. Why test structural balance by determining the growth rate for revenues and expenditures? Why not simply compare the values from the latest actual of revenues and expenditures?

In this paper we determine the appropriate growth rate for revenues and expenditures and then compare that to the base of expenditures in the latest year we have available from the 2018 budget to determine the notional operating deficit four years later - in 2022. We do this because it allows us to estimate the regular, recurring operating balance between the resources a government gets in one year and the resources it expends for the current level of services. Budgets and Actual financial reports intersperse data related to one-shot revenues and one-time expenditures with the regular on-going revenues and expenditures. Our method provides a standardized way to look at a jurisdiction's structural balance. Governments have tactics to deal with one-time occurrences, but a measure of resiliency is whether there is enough revenue coming in on an ongoing basis to pay for those services going out.

5. What were the growth factors chosen?

Projection Factor Sources

- Oregon PERS System:
  - Inflation – 2.5%
  - Wage Growth – 3.5%
  - Health Insurance – 5.3%/5.4%
- EcoNorthwest:
  - Employer PERS Rates
- PSU Population Research Center:
  - Population
- PSU Team:
  - Property Tax

When looking at structural balance (that is: do a government's operating revenues exceed its operating expenditures over time?), most governments do not publish forecasts over a medium (4-year) term. The Local Government Resiliency team felt that it was important to make those forecasts in order to understand the financial picture Oregon governments will be facing in a relatively short time. The Oregon PERS Actuaries complete a rigorous and complex analysis to determine projection factors for general inflation, salaries, employer pension costs, and health insurance increases. Using their factors allows for a standard way to look at how expenses will grow. Portland State University's Population Research Center forecasts population growth at the Urban Growth Boundary (UGB) and county level. For property tax, there are two generally accepted tools for projecting tax growth: statistical modeling and qualitative assessments. Statistical modeling includes various time series estimates such as annual and moving averages. Another statistical modeling option is to use econometric tools that project growth based on macroeconomic models for a region. The qualitative approach involves interviews with local tax officials to explore their experience and project possible growth from their responses. Of these

various methods, moving averages have been found to be the most consistent when later compared with actual tax growth rates.[10] For this project we used a three-year moving average for property tax to estimate growth trends over time. In some cases we noted that a unique event caused a spike in the historic data, distorting projections. For example, the expiration and non-renewal of a local option levy.

At the end of this paper, there is a table of the growth factors we used for each type of revenue or expense category. The implementation of these factors was:

$$Value_{Year\ 1} * (1 + Growth\ Factor_1) * (1 + Growth\ Factor_2) = Value_{Year\ 2}$$

In order to calculate costs we needed to determine if there was any employee growth or reductions. To do that, we created a Simulated Full Time Equivalent (Simulated FTEs) employee value. The Simulated FTEs were calculated by first determining the ratio of FTEs per thousands of population for 2015 through 2018. These are data where we had either actual or budgeted numbers for FTEs. In this context, population could be either population, service population, or enrollment. Population was projected using the PSU Population Research Center's Oregon Population Forecast Program (OPFP). The OPFP support land use planning around the state by providing measures of future population demand on communities to assess development and infrastructure needs. The data from this program provides population projections for city urban growth boundary areas and for unincorporated county lands. We set the 2019 and beyond value for FTE to the 2018 value. We then calculated the ratio of FTEs/thousands of population for 2019, 2020, 2021, and 2022. If that ratio was greater or lower than any of the population ratios between 2015 and 2018, we modified the FTE value until the ratio of FTEs/ thousands of population was either the maximum or minimum of 2015-2018 depending on which direction the ratio left the bound.

6. Why do we include depreciation rather than fund balance?

The Local Government Resiliency team chose to look at depreciation rather than fund balance as a measure of the overall state of long-term assets (in other words, the jurisdiction's "wealth" or accumulation of assets rather than cash flow or structural balance). The team chose depreciation as it is not subject to restrictions such as fund balances can be (i.e. fund balances may be restricted in use) and also encompasses the long-term (i.e. life of the asset). While fund balance can be important, the fund balance is only a part of the asset structure of an organization. Depreciation generally measures a larger base of the "wealth" of a jurisdiction.

7. Why look at Debt Service as the average of the latest available data rather than include it as an expense projections like other factors?

The team chose to look at Debt Service on average from 2014 through 2018 as a measure of how much a jurisdiction normally pays for past investments. This level indicates a call on current resources. We did not project this data because jurisdictions

[10] Kong, Dongung. 2007. Local Government Revenue Forecasting: The California Experience. Journal of Public Budgeting 19(2):178-199.

can issue debt either frequently or infrequently. If we were to project data, those that issue debt infrequently would be overstated. However, those that issue debt frequently can "roll over" or refinance debt – either situation would distort our projections.

Methodology Section 2a: Interview Summary

The Portland State research team conducted a brief review of prominent research and interviewed experts on the topic of government finance to ascertain if comparable projects had been undertaken with similar methodologies.

The expert interviews offered confirmation that this approach is unique and identified some challenges that would need to be addressed during the study. The first interview conducted by the research team was with Shayne Kavanagh and Vincent Reitano with the Government Finance Officers Association (GFOA).[11] They indicated that they had encountered many studies about fiscal health and sustainability, but none exactly like this approach. They also offered suggestions about considering the inclusion of fund reserves and/or the exclusion of "business-type activities" which both might skew the research data either positively or negatively. The two cautioned against using Kenneth Brown's 10-Point Test of Financial Condition because it is not predictive.[12] Rather than looking at multiple years of data and changes over time, it focuses on a single fiscal year as a point in time. Additionally, they pointed the research team to Dr. Rebecca Hendrick, and recommended consulting CAFR experts and reviewers about the methodology.

On the recommendation from the GFOA interview, the next individual the research team reached out to was Dr. Rebecca Hendrick. Dr. Hendrick is a professor at University of Illinois, Chicago (UIC) and a prominent figure in the field of municipal fiscal policy and health.[13] Dr. Hendrick pointed the team to the ICMA dimensions of fiscal health published in Evaluating Financial Conditions as a possible assessment tool, though she noted there is not standard approach for this type of study. Similar to Mr. Kavanagh and Mr. Reitano, Dr. Hendrick was hesitant to recommend Brown's 10-Point Test. She hesitated to utilize Brown's test due to the tendency of some to collapse various dimensions of fiscal health into one benchmarking tool rather than evaluating them separately. Dr. Hendrick also mentioned using Statements of Revenues, Expenditures, and Changes in Fund Balance in the annual CAFRs because they included depreciation and capital expenses. Dr. Hendrick also cautioned that the team would need to address mixing analysis of both modified accrual accounting and full accrual accounting. Often, budgets are developed on a modified accrual basis while annual audits are performed using full accrual.

The third interview the research team conducted was with Dean Mead with the Government Accounting Standards Board (GASB).[14] Mr. Mead posed several cautions to the research team specifically relating to vocabulary and phrasing used in initial communication. He advised that the team needed to clarify using either expenditures or expenses because the two words could have different meanings in a formal finance context. Expense refers to a changing of amount the entity is obligated to pay, while an expenditure is what is actually being spent. The team also originally labeled

[11] S. Kavanagh and V. Reitano work with GFOA's Research and Consulting Center; interviewed 08/18/2017
[12] Kenneth Brown (1993) "The 10-Point Test of Financial Conditions: Toward an Easy-to-Use Assessment Tool for Smaller Cities. *Government Finance Review.* Retrieved from: https://fyi.uwex.edu/lgc/files/2016/04/kenneth-brown-Ten-point-test.pdf
[13] Dr. Hendrick's UIC profile; interviewed 08/22/2017
[14] Dean Mead, Senior Research Manager GASB; interviewed 08/31/2017

revenues and expenditures as recurring and non-recurring, but Mr. Mead noted that the categories were actually capturing operating and non-operating figures prompting a label change. Finally, Mr. Mead reinforced the unique nature of this particular approach by noting that many similar studies focus on historical data rather than trying to project forward.

Methodology Section 2b: Selected Abstracts

Benjamin Y. Clark (2015) Evaluating the Validity and Reliability of the Financial Condition Index for Local Governments. (Public Budgeting & Finance, Vol. 35 Issue 2, pgs. 66-88)

- Understanding the financial condition of local governments is important for public managers and elected officials as they work to align revenues with public demands for services, while maintaining financial solvency. This task becomes even more important when the economic and financial environment, over which local officials have little to no control, is collapsing around them. This article seeks to expand the literature of measuring financial condition of local governments by testing the validity and reliability of the Financial Condition Index (FCI). The FCI is a framework for evaluating financial condition that was initially developed by Groves, Godsey, and Shulman and later applied in US state-level studies by a number of scholars. The results from this article cast serious doubt on the applicability of using the FCI, and the four associated solvency dimensions, as an appropriate methodology for evaluating local government financial condition.

Evgenia Gorna, Craig Maher, & Marc Joffee (2017) Local Fiscal Distress: Measurement and Prediction. (Public Budgeting & Finance, Early Access)

- During and after the Great Recession, many local governments were compelled to declare fiscal emergencies, lay off workers, and cut services while others weathered the recession without needing to take such actions. In this paper, we construct an action-based measure of fiscal distress using comprehensive annual financial reports, budgets, and media coverage and then use it as a dependent variable to model fiscal distress as a function of past financial performance and socio-economic environment. The empirical models show the relative importance of fiscal reserves, debt, and revenue composition in predicting local fiscal distress.

Craig Maher & Steven Deller (2013) Assessing the Relationship between Objective & Subjective Measures of Fiscal Condition Using Government-Wide Statements. (Public Budgeting & Finance, Vol. 33 Issue 3, pgs. 115-136)

- Government Accounting Standards Board (GASB) Statement 34 has been in effect for a decade yet there is limited research examining government-wide financial reporting data. This study builds on our ability to delve into the fiscal condition of Wisconsin counties during the Great Recession. The principal aims of the research are: (1) expand on works utilizing GASB 34 reporting requirements; (2) report on county administrators' perceptions of fiscal condition; and (3) examine the relationship between subjective and objective measures of fiscal condition. We find little evidence that objective fiscal condition indices are related to subjective administrative assessments of fiscal condition.

Shannon Sohl, Michael Peddle, Kurt Thurmaier, Curtis Wood, & Gregory Kuhn (2009) Measuring the Financial Position of Municipalities: Numbers Do Not Speak for Themselves. (Public Budgeting & Finance, Vol. 29 Issue 3, pgs. 74-96)

- There are several challenges facing someone who wants to know if a city's revenue structure is fair and reasonable. There are few generally accepted standards to use as benchmarks of financial condition, and there is no generally accepted methodology to

assess relative financial position. This article reviews literature on financial position and condition, and then develops a methodological approach that creates a cohort of similar cities for benchmarking financial position, and then forming a basis for assessing financial condition. Based on a study of the financial position of a medium-sized city, the article offers lessons for practitioners and scholars.

Samuel Stone, Akheil Singla, James Comeaux, & Charlotte Kirschner (2015) A Comparison of Financial Indicators: The Case of Detroit. (Public Budgeting & Finance, Vol. 35 Issue 4, pgs. 90-111)

- Financial condition analysis is a critical task for public managers, but it is still unclear which indicators are the most salient measures of financial well-being. The financial health of Detroit, Michigan is unequivocally poor, providing an interesting case to evaluate the financial condition indicators that currently exist. We calculate the key financial indicators using data from Detroit over the last 11 years. We find the indicators fall into three groups: those that show no sign of impending financial crisis, those that show a steady worsening financial condition, and those that demonstrate a substantial change immediately prior to filing bankruptcy.

Bruce McDonald III (2017) Measuring the Fiscal Health of Municipalities. (Lincoln Institute of Land Policy, Working Paper)

- One of the difficulties faced in the effective and efficient management of public organizations is the understanding of when the organization is experiencing financial distress. Administrators and researchers alike have typically relied upon ratio analysis for this determination, but too heavy of a reliance on ratios can produce misleading results. Using 150 municipalities from the Fiscally Standardized Cities (FiSC) database for the period of 1977 to 2012, this study reconsiders the measurement of fiscal health through an exploration of several predominate approaches. The efficacy of the measurement approaches is tested with a series of event history analyzes that captures their utility in predicting municipal bankruptcy.

Tina Kim Ramsey (2013) Measuring & Evaluating the Financial Condition of Local Government. (MPPA Thesis – California State University)

- Turnkey solutions to measuring and evaluating the financial condition of local government do not exist. The contextual diversity between local jurisdictions precludes a one-size-fits-all approach; however, there are more similarities than differences. While many impediments, (lack of normative standards, lack of empirical evidence, and perceived ambiguities regarding the efficacy of various approaches, shifting intergovernmental relationships, and lack of control over revenue generating capacity) present, techniques, tools, and methodologies do exist. The key lies in developing jurisdiction-specific analytical models to routinely monitor, assess, and identify potential issues early enough to avoid and mitigate fiscal vulnerabilities. Developing such a framework requires intimate contextual and domain knowledge, as well as awareness of the multi-causal relationships that exist between a jurisdiction's external environment, its internal finances, and its management practices.

William Rivenbark & Dale Roenigk (2011) Implementation of Financial Condition Analysis in Local Government.

- One of the core objectives of financial reporting in local government is to provide information on financial position and condition of an organization. Financial position is accomplished when unqualified annual financial statements are provided to stakeholders at fiscal year-end. Two additional steps are required, however, before interpretations can be made concerning the financial condition of a local government. Ratio analysis is conducted to evaluate financial relationships, and comparative analysis is used for building context. When the decision is made in local government to analyze, interpret, and communicate financial condition to elected officials, the next logical inquiry is to explore what management practices facilitate financial condition analysis and how do elected officials use the results for making policy decisions. This article presents three case studies in North Carolina, documenting lessons learned on transitioning from financial position to condition in local government.

Methodology Section 2c: Data Collection

Description of Data Collected

The majority of data was collected from the annual budgets and Comprehensive Annual Financial Reports (CAFR) from each jurisdiction. Budgets were obtained from each jurisdiction's website if available, and all CAFRs were gathered from the Oregon Secretary of State's webpage.[15] Any data that was not collected from these documents was given to the research team directly by finance officers from the jurisdiction. The research team collected financial information for operating revenues, operating expenditures, personnel services cost components, total debt service, net position, and depreciation.

For the purposes of this study, operating revenues were defined as recurring revenues that did not include capital grants and contributions or gain on sale of capital assets. All revenue data was pulled from the CAFRs for fiscal years (FY) 2012-2013 through 2015-2016 to provide the most recent data as well as multiple years from which projections could be made. Specifically, the research team referenced the "Government-wide Statement of Activities" in the Basic Financial Statements section for each year. If the Statement of Activities was not available, the "Statement of Revenues, Expenses, and Changes in Net Position" was utilized instead. In each case, the research team gathered revenue data for categories including charges for services, operating grants, property taxes, franchise fees, earnings on investments, and miscellaneous revenues reported for each fiscal year. Additional categories were included for some jurisdictions as reported in the CAFR. The most common revenue category added to the data collected was intergovernmental revenue such as state-shared taxes for cities and counties or federal and state funding for school districts. Additional revenue categories were only included if they fit the Local Government Resiliency definition for operating revenues.

Operating expenditures were limited to personnel costs and materials and services spending. Both items were gathered from annual budgets for FYs 2014-2015 through 2017-2018 to include two years of actual data and two years of budgeted data, and again provide multiple years for projections. Personnel services costs for each year were broken out into salary, Federal Insurance Contributions Act (FICA), health insurance, public employee retirement system (PERS), and "other" components to provide more accurate forecasts and allow for more detailed ratio analysis of each element. Salaries included any form of salaries, wages, overtime, stipends, or additional compensation. FICA included Social Security, Medicare, or both depending on how the individual jurisdictions labeled the object in the budget. The health insurance object typically only included medical and dental, but occasionally additional health insurance was included if recorded in the budget. PERS information only included employer-paid public retirement system contributions, not any additional retirement. Anything not included in the first four categories was recorded in the "other" category. This could include such objects as additional retirement, life and

[15] CAFRs retrieved from: https://secure.sos.state.or.us/muni/public.do

disability insurance, workers compensation, and professional development or training depending on individual jurisdictions.

Annual debt service was calculated separately including amounts for both principal and interest. To maintain consistency, all debt service schedules were pulled from the FY 2013-2014 and FY 2015-2016 CAFRs, and were located in the "Notes to Basic Financial Statements" section under "Long-term Debt." Principal and interest payment schedules for each bond or loan were added to arrive at the total amounts for each fiscal year from 2015 through 2018.

Net position and depreciation information was only collected for the most recent CAFR year (FY 2015-2016) as point-in-time calculations. The net position was pulled from the "Statement of Net Position" in the Basic Financial Statements section. This object included investment in capital, restricted, unrestricted, and total balance categories. For the purposes of the study, investment in capital was subtracted from the total balance, then the resulting amount was calculated as a percentage of revenue for that fiscal year. Depreciation figures for both government and business activities were found in the "Notes to Basic Financial Statements" section under "Capital Assets." To calculate the percentage of assets already depreciated, the total accumulated depreciation was subtracted from the total of assets being depreciated to determine the net total of assets being depreciated. The net total was then divided by the original total to calculate the percent of assets not yet depreciated. This figure was subtracted from one to determine the percent of assets already depreciated.

Jurisdiction Communication Strategy and Results

The PSU research team communicated with each jurisdiction included in the study throughout the course of data collection and validation. Initial contact with a few jurisdictions occurred because budget data was not available online, so early e-mail requests were sent out at the start of data collection. All but two budgets were ultimately provided to the research team. As data collection progressed and minor alterations were made to the methodology, it was decided that many jurisdictions would need to be contacted regarding a breakout of personnel costs into object-level components. This breakout was often not readily available in budget documents or clarification was required about the information. This proved to be the most challenging piece of data collection, and stalled progress for 5 jurisdictions. Initially email requests for specific object-level data or clarification were sent, and a few jurisdictions were quick to respond. If a jurisdiction did not respond some time later, additional emails were sent followed by phone calls to the jurisdiction's finance department. Three jurisdictions requested the research team submit public records requests. Initially the team was going to eliminate those jurisdictions from the study, but given the number of jurisdictions that were uncommunicative or reticent to provide information, it was ultimately decided to submit the records requests.

As the data collection was ongoing, many jurisdictions progressed more quickly than others and were able to provide all requested data. After all required data was gathered and entered for a jurisdiction, the research team reviewed the data and

created a validation request that summarized the information gathered. The validation requests were sent to each jurisdiction with any clarifying questions that were necessary. They also served to notify selected jurisdictions about their inclusion in the study if the team had not yet been in contact with them.

Methodology Section 2d: Selection of Jurisdictions

The selection of jurisdictions included in the Local Government Resiliency Study was a joint effort between the Advisory Committee, North Star Civic Foundation, and the Portland State (PSU) research team. The Advisory Committee chose the original seven counties including Deschutes, Douglas, Klamath, Lincoln, Malheur, Multnomah, and Polk. The Committee chose these counties as a representative sample of the state based on demographics, income, and the share of jobs held by government employees. These counties are also representative of each of the Oregon Employment Department's Local Workforce Areas (LWA) and several Bureau of Labor and Industries (BOLI) prevailing wage districts.

After the Advisory Committee chose the first seven counties, the PSU research team developed a list of 73 possible jurisdictions to select from. This list contained the county governments, largest city in each county by population, and largest school district in each county by enrollment. With only a few exceptions, population data for each city and county was obtained from the PSU Population Research Center's 2016 "Certified Population Estimates."[16] Enrollment data for each school district was gathered from the Oregon Department of Education's "Fall Membership Report" for the 2016-2017 school year.[17] Additional options were provided to include special districts containing the largest separate fire and water districts by budget and other representative jurisdictions. Initial budget information for the special district selection process was collected from the Special District Association of Oregon (SDAO).[18] The Oregon Secretary of State's Office and US Census of Governments were also consulted to search for special districts that may not be members of SDAO. In order to be included, a special district was required to report some number of full-time equivalent (FTE) employees, given that a large portion of the study is based on the impact of personnel costs to each jurisdiction. In a few cases, there was not a fire or water district that met the FTE criteria, so additional special district options were provided to the Advisory Committee.

Of the 73 options originally provided, the Committee chose 32 jurisdictions with four or five entities from each county. In cases where a fire, water, or other special district was not available, replacement jurisdictions were chosen or the number of jurisdictions from that county were decreased. To round out the number of jurisdictions and address additional concerns from the Advisory Committee and PSU research team, eight other jurisdictions were added to the original selection. Two community colleges and a public utility district were added as representation for different types of special districts. An extra city was added for Polk County to provide a more complete picture of the county. Also, two additional counties, Jackson and Umatilla, were included along with one city in each to round out certain areas of the state.

[16] Retrieved from: https://www.pdx.edu/prc/population-reports-estimates
[17] Retrieved from: http://www.oregon.gov/ode/reports-and-data/students/Pages/Student-Enrollment-Reports.aspx
[18] 2017 SDAO Members Master List