Exhibit A

BACKGROUND - TRP'S ECONOMIC MODELS AND THE GENERAL FUND FORECASTS

The Council on Revenues (Council) meets to produce forecasts of General Fund tax revenues four times each year. The forecasts are transmitted to the Governor and to the Legislature in reports that are due by January 10, March 15, June 1, and September 10. Before each Council meeting, the Tax Research and Planning Office (TRP) in the Department of Taxation sends the Council members a survey to complete. The survey asks the members for their individual forecasts for economic variables ("indicators") that predict what will happen to Hawaii's economy over the next seven years. The economic indicators are listed below:

1) Real growth of Hawaii total personal income
2) Nominal growth of construction completed in Hawaii
3) Honolulu consumer price index
4) Growth in the number of total State visitor arrivals by air
5) Nominal growth of U.S. GDP
6) U.S. GDP deflator
7) Nominal growth of total wages in Hawaii
8) Nominal growth in visitor expenditures by air in Hawaii
9) Real growth of Hawaii GDP

Each survey sent to the members is accompanied by the results from the previous survey and by a table with the forecasts from the previous meeting. After the members return their surveys, the TRP provides them with a workbook for the meeting. The workbook contains a table with the average of the members' forecasts for each economic indicator, a table with historical data on the economic indicators, and tables with predictions of General Fund tax revenues based on the members' economic forecasts.

The TRP uses the Council's forecasts for economic indicators to predict General Fund tax collections from the following taxes:

1) General excise and use taxes
2) Individual income tax
3) Corporate income tax
4) Public service company tax
5) Tax on insurance premiums
6) Cigarette and tobacco tax
7) Liquor tax
8) Tax on banks and other financial corporations
9) Inheritance and estate tax
10) Conveyance tax
11) Miscellaneous taxes
12) Transient accommodations tax

The TRP uses three models to make its predictions. The first model, referred to as the "Regular Model," has a separate regression equation for each of the above-listed taxes, except for the transient accommodations tax (TAT) and the inheritance and estate tax. The TAT is simply predicted to grow by the rate of growth of visitor arrivals plus the rate of inflation in Honolulu. Collections from the estate tax are assumed to grow at the rate of inflation (as measured by the U.S. GDP deflator) because we have not had enough experience with the new tax to develop a regression equation. The results for each equation are summed to get the forecast for total General Fund tax collections.

The second model, referred to as the UCLA Model, contains only three regression equations and predicts collections for the general excise tax, the individual income tax, and the corporate income tax. These three taxes accounted for 87% of total General Fund tax revenues in fiscal year ended June 30, 2017. The collections for the remaining taxes are predicted using the same equations as in the first model. The UCLA model was developed by Anderson Forecasting under a contract with the Department of Taxation in 2009.

At the request of Council members, the TRP added a third model in 2012 which uses a single regression equation to forecast total General Fund tax collections.

The regression equations from all of the models predict future tax collections based on the Council's forecasts for what will happen to Hawaii's economy. However, the amount of taxes paid into the General Fund also depends on new legislation, such as changes in tax rates, in tax credits, or in the portion of a tax that is dedicated to the General Fund. To take account of the effects of new legislation, the TRP uses revenue estimates that were prepared for the Legislature. The revenue estimates are combined with the regression results to predict the actual General Fund tax collections.

To clarify the nature of the TRP's contribution to the work of the Council, TRP does not engage in forecasting. Instead, it provides a conditional prediction of General Fund tax revenues, based on the Council's economic forecasts. That is, the TRP provides regression results that predict what the tax collections will be if the economy behaves as forecast by the Council. Essentially, the regressions tell us what to expect if tax collections react to economic changes the way they have reacted to similar economic changes in the past. Then, special adjustments are added to account for changes in tax laws and for other things that might cause the reaction to be different in the future than it was in the past.

The TRP updates the regression equations at least once each year, trying new variables and different equations to improve its predictions, and adding adjustments to take account of new legislation that affects tax collections. In addition, the TRP informs the Council of any changes that it believes might materially affect the General Fund tax revenue forecast, such as unusual receipts from court settlements, or changes in processing times of refunds.

How have the models performed? If the Council's forecasts were completely accurate, so that any prediction error was solely the fault of the models, here is what the results would look like from the March meeting in recent years:

Fiscal Year	**2014**	**2015**	**2016**	**2017**
		(Growth Rate)		
Actual GF	-1.8%	6.8%	8.0%	2.0%
Council's Forecast	0.0%	5.5%	6.7%	2.5%
Regression Models:				
1) Regular	1.5%	5.0%	8.9%	5.0%
2) UCLA	1.9%	5.2%	8.8%	5.4%
3) Single Equation	1.6%	4.7%	6.9%	4.0%