The City of Puyallup would like to gain deeper insights into their historical sales tax revenue, identify opportunities for revenue growth, & find ways to increase their economic resilience to recessions.

Project Scope

- Predict sales tax revenue,
- Perform Descriptive & Diagnostic Analytics,
- Create Power BI demographics dashboards,
- Create Text Analytics Word Clouds and Sentiment Analysis,
- Create automated chatbot.

Data Discovery & Analysis

- The city provided ten years sales tax data. The team performed data transformation, analysis and create visualizations.
- Steady trend and clear seasonality are noted and the significant dip in 2020 is due to COVID-19. We created a time series regression to predict future revenues.

Predictive Analysis

- Predicted future sales tax revenue by quantifying the relationship between the key economic indicators and the sales tax revenue using the SARIMA (seasonal ARIMA model) with exogenous variables.

Technology Used

- The city provided ten years sales tax data. The team performed data transformation, analysis and create visualizations.
- Developed a Power BI Dashboard that highlights factors contributing towards cost of living in Puyallup, which is a significant decision factor for businesses.

Descriptive & Diagnostic Analysis

- Created Text analytics Word Clouds and Sentiment analysis using azure API using 2020 vision survey.
- Created automated Q & A chatbot that answer FAQ and guide users.