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### **Public Housing Inspections Star Schema**

#### ALY6030-Mod4: Assignment 3

#### Integrated Data Warehousing and SQL

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**INTRODUCTION**

Public housing in the United States is overseen by local Public Housing Agencies (PHAs) under HUD's supervision. PHAs conduct inspections, assign scores, and determine costs for developments. As a Developer hired by HUD, the task is to analyze the inspection data and provide key insights to Senior Management.

The dataset includes PHA names, development details, inspection dates, scores, and costs. The report aims to answer several questions. Firstly, we identify the facts and their types in the dataset. Secondly, we determine the dimensions present. Thirdly, we suggest appropriate fact table types to store the data for inspection-level and periodic cost summary views. We also address slowly changing dimensions related to changes in PHA names and addresses.

Lastly, we perform an analysis to identify PHAs with increased inspection costs. The final deliverable will be a file containing PHA information, most recent inspection date and cost, second most recent inspection date and cost, change in cost, and percentage change. We will utilize lead or lag functions in SQL for this analysis. Additionally, we will investigate converting dates from TEXT to Date format for proper function usage and ensure a clean dataset by filtering out duplicates and PHAs with a single inspection.

By providing comprehensive answers and insights, this analysis will assist Senior Management in making informed decisions and optimizing public housing programs.