

Public Housing Inspections Star Schema

1.

- Facts in dataset:

TotalFacts
6464

- Identified facts:

	COST_OF_INSPECTION_IN_DOLLARS	INSPECTION_SCORE	INSPECTION_DATE
▶	27217	93	12/10/2014
	37068	67	5/22/2014
	16133	97	7/24/2013
	24047	84	1/28/2014
	32874	72	1/27/2014

- For the facts identified COST_OF_INSPECTION_IN_DOLLARS and INSPECTION_SCORE are quantitative facts. INSPECTION_DATE is a temporal fact.

2.

- Dimensions in the dataset:

	UniqueAgencies	UniqueDevelopments	UniqueCities	UniqueStates
▶	1772	5045	2413	54

- Identified dimensions:

	PUBLIC_HOUSING_AGENCY_NAME	INSPECTED_DEVELOPMENT_NAME	INSPECTED_DEVELOPMENT_ADDRESS	INSPECTED_CITY
▶	Abbotsford Housing Authority	GREEN VISTA	310 E Pine St	Abbotsford
	Abingdon Redevelopment and Housi	Kings Mountian	300 Green Spring Rd	Abingdon
	Ada County Housing Authority	ADA COUNTY HA	Scattered Sites	BOISE
	ADAMS METROPOLITAN HOUSING AUTHO	ADAMS APARTMENTS	401 E 7th St	Manchester

3.

To store the data for senior management's analysis, we need to design fact tables optimized for both detailed inspection-level analysis and periodic summary reporting. I would recommend Transaction Fact Table and Periodic Snapshot Fact Table

The Transaction fact table enables thorough tracking of inspections, which is necessary for audit trails and precise operational information.

include dimensions such as the housing agency name, the inspection ID, and development details to link to other relevant data.

Periodic Snapshot fact table aggregates indicators for predetermined time periods, like monthly or quarterly, such as total costs and average scores.

helps top management make decisions by giving them a high-level overview without overloading them with information.

4.

Because agency names and addresses might change over time as a result of mergers, relocations, and other circumstances, the Public Housing Agency in this instance is a slowly changing dimension (SCD). The way the company needs to monitor changes will determine the best handling approach for this kind of dimension.

Type 2 is probably the best choice out of the Types 0, 1, 2, and 3 alternatives offered by the Kimball technique.

Type 2 is the best approach for handling the slowly changing Public Housing Agency dimension because it allows the business to track all historical changes while associating the correct agency details with each inspection over time. This approach gives senior management the most flexibility and accuracy in analyzing the evolution of public housing agency data.