Narrative Explanation: Residential ECF Derivation Methodology

City of Dearborn | 2025 PA 660 Assessment Audit
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To address the completeness and consistency of Economic Condition Factor (ECF) calculations across all residential properties in Dearborn for the 2025 roll, the City has implemented a structured, layered approach grounded in mass appraisal best practices and MCL 211.10e compliance.

1. Neighborhood Stratification

All properties are first stratified by geographic area (e.g., 101, 104, 201), each representing a distinct neighborhood. Within each neighborhood, residential properties are further classified by:

- **Property type** (e.g., Standard, Duplex, Block Construction)

- **Size category** (based on 1st floor area from the Michigan Assessors Manual)

This yields ECF groupings such as 101S2 (Standard, 1100–1350 SF), 104D1 (Duplex, 850–1100 SF), etc.

2. Observed ECFs from Valid Sales

Where available, valid sales are used to calculate raw ECFs. These form the **baseline values**—typically from Standard properties with adequate volume and distribution.

3. Size-Based Adjustments

For size categories lacking sufficient sales within a neighborhood, we apply **citywide size adjustment factors**. These are derived from observed changes in ECFs by square footage tier across all neighborhoods with robust sale counts. For example, if properties in the 1350–1600 SF range tend to sell 3% higher in cost-manageable value relative to 1100–1350 SF homes, this 3% increase is used as an adjustment multiplier.

4. Type-Based Adjustments

Similarly, for alternate property types (e.g., Duplex, Traffic Obsolescence, Functional Obsolescence), we apply citywide **paired sale-derived adjustment ratios**. These are calculated from areas where both the Standard and alternate types sold within the same size tier. These ratios are then propagated into neighborhoods lacking such sales directly.

5. Full ECF Matrix Completion

This method allows the City to fully populate a comprehensive ECF matrix by neighborhood, type, and size, ensuring every property has a valid, consistent ECF assignment—even in the absence of direct comparable sales.

6. Documentation and Transparency

All calculations, assumptions, adjustment percentages, and source data are provided in the submitted Excel workbooks. These include:

- "Residential ECF Type Adjustments.xlsx"

- "Residential ECF Size Adjustment Calculations.xlsx"

- "Residential ECF Adjustment Calculations.xlsx"

Each tab is labeled by neighborhood, and inferred values are traceable back to a clearly defined logic trail.