The Effects of Urban Fabric Changes on Real Estate Property Tax Revenue: Evidence from Six American Cities

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Conclusions:
- Land used by surface parking contributes much less tax revenue than land used by buildings or structured parking.
- The opportunity cost incurred by this lack of tax revenue can be enormous.

The Cities:
- Arlington, VA
- Berkeley, CA
- Cambridge, MA
- Hartford, CT
- Lowell, MA
- New Haven, CT

Introduction:
- This study analyzed the changes in urban fabric in six small American cities over fifty years and quantified the resulting changes in tax revenue.

Methodology:
Data were compiled to track changes in urban fabric, mode choice, and tax revenue.
- **Urban Fabric**: Buildings and parking facilities were identified manually in ESRI ArcMap using aerial photographs. This analysis was conducted within the Central Business District (CBD) of each city, which were delineated in the 1950s aerials and then re-analyzed near the end of the study period to quantify changes.
- **Mode Choice**: Data from U.S. Census “Journey to Work” volumes and Census Transportation Planning Packages.
- **Tax Revenue**: Parcel assessment data from municipal tax assessment databases.

Tax Revenue Productivity:
- The tax revenue productivity is a measure of the relative tax contribution of different land uses in the CBD.
- Tax revenue productivity = (% of land used)/(% of tax revenue contributed)

Opportunity Cost:
- To estimate the opportunity cost of surface parking in the CBD of each city, it was assumed that surface parking land consumption would be returned to 1950s levels.
- Opportunity Cost = (Land occupied by surface parking in acres) x (Average tax revenue/acre of surface parking).

Urban fabric graphics: 1950’s vs. 2000’s

Opportunity Cost of Land Conversion in CBD
- Arlington
- Berkeley
- Cambridge
- Hartford
- Lowell
- New Haven

Opportunity Cost = $2.91
- $0.24
- $0.55
- $1.21
- $6.49
- $21.78

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