

Decentralization opportunities (for merging & maintaining internal and external datasets):

- ◆ **Researching land use and ownership patterns**
 - Issues, surprises, organizational strategies for capitalizing on access to digital parcel data records
- ◆ **Use some of the ‘official’ parcel database for Boston to illustrate some of the ideas and issues**
- ◆ **Let’s look for patterns of land ownership that could help us understand who has what interest in land use planning in various neighborhoods**

Boston Parcel Data

PARCEL_ID	OWNER	MAILADDR	STCLASS	LA	LANDVAL	BUILDVAL	LOTSIZE
0100001000	PASCUCCI CARLO	195 LEXINGTON ST	105	R3	39,400	55,500	1,150
0100002000	MASTROPILLO ANGELO P	197 LEXINGTON	105	R3	39,400	59,600	1,150
0100003000	HASELTON PETER	P O BOX 743	105	R3	39,400	48,400	1,150
0100004000	DILLON KELLEY A	201 LEXINGTON ST	105	R3	39,400	73,400	1,150
0100005000	DIGIROLAMO JOHN F	203 LEXINGTON ST	104	R2	40,900	73,700	2,010
0100006000	BOTTE FRANK A	205 LEXINGTON ST	105	R3	41,600	65,100	2,500
0100007000	PORCELLA RACHELA	209 LEXINGTON ST	105	R3	41,600	79,700	2,500
0100008000	CASTALDINI PIETRO ET	213 LEXINGTON	105	R3	41,600	81,000	2,500
0100009000	MERCADANTE MARY A	215 LEXINGTON ST	105	R3	41,600	67,400	2,500
0100010000	DAGOSTINO GRACE	217 LEXINGTON	105	R3	41,600	75,700	2,500
0100011000	DIETZ ROBERT ETAL	20 PINE ST	105	R3	41,600	75,600	2,500
0100012000	SCIACCA JOSEPHINE A	221 LEXINGTON ST	105	R3	41,600	61,900	2,500
0100013000	MELIA GERARD F JR	223 LEXINGTON ST	105	R3	41,600	71,100	2,500
0100014000	TRIPPE VIRGINIA	225 LEXINGTON ST	105	R3	41,600	81,800	2,500
0100015000	DEANGELIS ANGELO J E	227 LEXINGTON	104	R2	41,600	68,200	2,500

Owners of multiple parcels

```
SELECT owner, count(*) parcels FROM parcel96
WHERE owner LIKE '%BOSTON%'
GROUP BY owner HAVING count(*) > 1
ORDER BY count(*) desc;
```

OWNER	PARCELS
CITY OF BOSTON	2876
CITY OF BOSTON BY FCL	1258
BOSTON REDEVELOPMENT AUTH	231
BOSTON HOUSING AUTHORITY	215
BOSTON KENMORE REALTY CORP	131
BOSTON UNIVERSITY TRSTS OF	111
CITY OF BOSTON FCL	98
BOSTON WHARF CO GPS	88
BOSTON REDEVELOPMENTAUTH	83
BOSTON REDEVELOPMNT AUTH	82
ROMAN CATH ARCH BOSTON	63
BOSTON REDVLPMT AUTH	60
BOSTON UNIVERSITY TRSTS	56
BOSTON HOUSING AUTH	46
BOSTON UNIVERSITY TRS OF	44

17 Spellings of BRA

```

SELECT owner, count(*) parcels, sum(totalval)/1000 totval_k,
       sum(lotsize)/43560 acres
FROM parcel96
WHERE owner LIKE '%BOSTON%' AND
       (owner LIKE '%REDEV%' or owner LIKE '%REDV%')
GROUP BY OWNER;

```

OWNER	PARCELS	TOTVAL_K	ACRES
BOSTON REDEVELOPMENT AUTH	1	327	0.2
BOSTON REDEVELOPMENT	5	157	0.5
BOSTON REDEVELOPMENT AUTH	231	106,863	123.9
BOSTON REDEVELOPMENT AUTHRTY	3	61	0.1
BOSTON REDEVELOPMENTAUTH	83	0	11.9
BOSTON REDEVELOPMENTAUTHRTY	1	0	0.1
BOSTON REDEVELOPMNT AUTH	82	32,975	23.3
BOSTON REDEVELPMENT AUTH	41	1,418	3.0
BOSTON REDEVELPMNT AUTH	22	5,073	2.4
BOSTON REDEVELPOMENT AUTH	1	33	0.2
BOSTON REDEVLPMNT AUTH	28	7,488	3.2
BOSTON REDEVLPMNT AUTHOR	29	2,955	3.3
BOSTON REDEVLPMNT AV	1	0	0.0
BOSTON REDVLPMNT AUTH	60	2,472	7.8
BOSTON REDVLPMNT AUTHOR	15	3,416	1.8
BOSTON REDVLPMNT AUTHORITY	1	1,095	0.5
BOSTON REDVLPMNT CORP	1	662	0.1
	PARCELS	TOTVAL_K	ACRES
BOSTON REDEVELOPMENT AUTH	605	164,991	182.3

Fixing the Spelling Problems

- ◆ Bottom-up strategy: correct errors as needed and get on with it
- ◆ Top-down strategy: standardize spellings and redesign system to double check when entering the data
- ◆ Loosely coupled strategy: use local 'lookup' tables to cross-reference original and corrected spellings

Complicating Factors

- ◆ Bottom-up strategy: correct as needed and get on with it
 - But you can only correct your copy; the original data is beyond your control
 - When next year's parcel dataset arrives you'll have trouble transferring your changes
- ◆ Top-down strategy: standardize spellings and redesign system to double check when entering the data
 - Trapping errors is hard rigid, and complex
 - Can't know names in advance: 'John & Jane Smith et al.'
 - Official owner name isn't the right grouping anyway

Store Corrections in 'Lookup Table'

```
select oldowner, owner, owngrp
  from owngroup
 where owner like '%CITY%';
```

OLDOWNER	OWNER	OWNGRP
BOSTON CITYWIDE LAND TRUST I	BOSTON CITYWIDE LAND TRUST I	XXXXXXXXXXXXXXXXXXXX
CITY DEVELOPMENT CORP TRST	CITY DEVELOPMENT CORP TRST	XXXXXXXXXXXXXXXXXXXX
CITY DEVELOPMENT CORP	CITY DEVELOPMENT CORP	XXXXXXXXXXXXXXXXXXXX
CITY HEIGHTS CONDOMINIUM TR	CITY HEIGHTS CONDOMINIUM TR	XXXXXXXXXXXXXXXXXXXX
CITY OF BOSTON	CITY OF BOSTON	BOSTON
CITY OF BOSTON	CITY OF BOSTON	BOSTON
CITY OF BOSTON MUNICIPAL	CITY OF BOSTON	BOSTON
CITY OF BOSTON BY FCL	CITY OF BOSTON BY FCL	BOSTON FORECLOSURE
CITY OF BOSTON BY FCL	CITY OF BOSTON BY FCL	BOSTON FORECLOSURE
BOSTON HOSPITAL FOR WOMEN	BOSTON HOSPITAL FOR WOMEN	XXXXXXXXXXXXXXXXXXXX
BOSTON HOTEL LP	BOSTON HOTEL LP	XXXXXXXXXXXXXXXXXXXX
BOSTON HOUSING AUTH	BOSTON HOUSING AUTHORITY	BOSTON BHA
BOSTON HOUSING AUTHORITY	BOSTON HOUSING AUTHORITY	BOSTON BHA
BOSTON HOUSING AUTHOURTY	BOSTON HOUSING AUTHORITY	BOSTON BHA
BOSTON INDIAN COMMUNITY	BOSTON INDIAN COMMUNITY	XXXXXXXXXXXXXXXXXXXX
145-149 W SIXTH ST CONDO TR	145-149 W SIXTH ST CONDO TR	XXXXXXXXXXXXXXXXXXXX
176 FEDERAL REALTY CP	176 FEDERAL REALTY CP	XXXXXXXXXXXXXXXXXXXX
21R UNION AVE CONDO TRUST	21R UNION AVE CONDO TRUST	XXXXXXXXXXXXXXXXXXXX
236 BEACON CONDO TRUST	236 BEACON CONDO TRUST	XXXXXXXXXXXXXXXXXXXX

Using the Lookup Table

Official Parcel Data

PARCEL_ID	OWNER	STCLASS.
0306490000	BOSTON REGULPMNT AUTH	132.
0306525000	CITY OF BOSTON	131.
0400945010	SOUTH BOSTON-II LP	102.
0401479008	NEW BOSTON INVESTMENTS IN	102.
0401479018	NEW BOSTON INVESTMENTS IN	102.
0402209000	SHAGMUT BANK OF BOSTON MA	132.
0600624000	CITY OF BOSTON BY FCL	132.
0600648000	CITY OF BOSTON BY FCL	104.
0600654000	CITY OF BOSTON	132.
0600655000	CITY OF BOSTON BY F CL	132.
0600656000	CITY OF BOSTON	132.
...		

Lookup Table for Categorizing Owners

OLDOWNER	OWNER
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AUTO CITY INC	XXXX XXXX X XXXX XXXX XXXX XXXX
CITY OF BOSTON	BOSTON
CITY DEVELOPMENT CORP TRST	XXXX XXXX X XXXX XXXX XXXX XXXX
CITY DEVELOPMENT CORP	XXXX XXXX X XXXX XXXX XXXX XXXX
CITY HEIGHTS CONDOMINIUM TR	X XXXX XXX XXXX XXXX XXXX XXXX
CITY OF BOSTON	BOSTON
CITY OF BOSTON MUNICIPAL	BOSTON
CITY OF BOSTON BY FCL	BOSTON FORECLOSURE
CITY OF BOSTON BY F CL	BOSTON FORECLOSURE
CITY OF BOSTON BY FCL	BOSTON FORECLOSURE
CITY OF BOSTON BY FCL.	BOSTON FORECLOSURE
...	

Researching land use and ownership patterns

- ◆ Top-down and bottom-up strategies break down quickly into rigid, hierarchical automation efforts or inefficient ‘one-shot’ analyses.
- ◆ Emerging technologies (RDBMS, SQL, ODBC, Internet,...) allow alternative - more promising - organizational strategies (loosely coupled strategies that permit decentralization but with sufficient structure and standardization to be sustainable)
- ◆ Less ‘automation’ and more ‘enabling’ requires a more sophisticated labor force and attention to learning paths.
- ◆ Access to technology is not sufficient to evolve patterns of use that can take advantage of it

Exploiting the 'Lookup table' Idea

- ◆ Lookup table can be local and private while parcel table is 'official' record, centrally maintained, and part of online registry/assessing/planning system
- ◆ Official database can be expensive, robust, online-transaction processing system(Oracle, Informix,...) while lookup tables are kept on desktop in Access, Lotus, etc.
- ◆ If planner/organizer can count on such a structure, it's use can enable development of an efficient and effective 'knowledge accumulation' strategy (e.g., for arson prevention effort)
 - Develop lookup 'rules' to group common ownership
 - Every week, rerun *same* query to look for combination of amassing land, arrears in taxes, tenant disputes, etc.
 - Develop 'intelligent agents' to study spatial patterns and help target time-consuming research