An Introduction to IPLS
Integrated Parcel Lifecycle System
Department of Systems Management for Human Services

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Data Sources

Development Plans

GIS

Permits & Insp.

Zoning

Comp. Planning

IPLS

Real Estate

Assumptions

2

Data Sources

GIS Data:
Land parcels & centroids
Master address file
Parcel history
Various geography layers

Real Estate Data:
Land & lot characteristics
Housing characteristics
Commercial & Industrial structure characteristics
Property sales information
Existing land use

Zoning Data:
Proposed rezonings
Approved rezonings
Existing zoning layer

Development Plan Data:
Proposed development plans
Approved development plans
Project types
Housing units

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Data Sources

Permits & Inspections Data:
Building permits issued
Building permit inspections

Comprehensive Planning Data:
Planned land use layer
Plan options for mixed & alternative use areas

Assumption Data:
Average household size
Vacancy rates
Rental complexes with mixed structure types
Forecasting assumptions

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Parcel Level Data Created

Housing Units

Population

Development Pipeline

Existing Land Use

Households

Housing Value

Gross Floor Area

Employment

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Concepts

- Land parcels are the primary building blocks of the IPLS data warehouse.
- IPLS data are stored in a GIS Oracle database.
- IPLS layers are spatially enabled, allowing Oracle spatial functions to be used.

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Concepts... continued

- IPLS data are accessible to all county staff via GIS clients (ArcMap) and Oracle clients (SQLplus, Toad, SAS, etc.).
  - Additional data can be loaded into GIS and used with the IPLS data warehouse.
- Data can be summarized by *any* geography because
  - Parcels are the building blocks,
  - Data are assigned to parcel centroids, and
  - Layers are spatially registered.

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Enhanced Forecasts

- Enhanced demographic forecasts:
  - Households forecasts in addition to housing units and population.
  - Annual forecasts for a 30 year period.
  - Low, high and current (most likely) forecasts.
  - Mixed use, alternative use and plan option information captured.
  - Forecasts vary based on parcel characteristics such as age of structure, location, steepness, flood plains, etc.

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IPLS Table and Layer Structure

- Most tables and layers contain multiple years
  - Eventually, the active tables will contain 10 years of data.
  - Older years will be archived.

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IPLS Table and Layer Structure

- IPLS tables have a very complex structure.
  - Data structure is often a many to many relationship.
  - To join data between tables multiple fields often must be used to create unique identifiers.
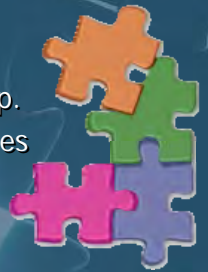
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IPLS Table and Layer Structure

- Because joining data between tables is complex and must be done with tools other than ArcMap:
  - Selected tables are joined and preprocessed with spatial information to create user-friendly layers for use in ArcMap.
  - Preprocessed layers contain only the most recent year of data.
  - Preprocessed layers are available through the GIS data-loader.

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Preprocessed Layers

Current Housing Units	IPLS_CURRE_HOUSI_UNIT_G
Housing Unit Forecasts	IPLS_FOREC_HOUSI_UNIT_G
Current Households	IPLS_CURRE_HHLDS_G
Household Forecasts	IPLS_FOREC_HHLDS_G
Current Population	IPLS_CURRE_POPUL_G
Population Forecasts	IPLS_FOREC_POPUL_G
Housing Unit Value	IPLS_MARKE_SALE_RATIO_G
Residential Development Pipeline	IPLS_HOUSI_UNIT_PIPEL_G
Nonresidential Gross Floor Area	IPLS_NON_RESID_GFA_G

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Housing Unit Estimates
IPLS_CURRE_HOUSI_UNIT_G

- Fields in table
  - Parcel identification number
  - Housing unit type
  - Existing land use code
  - Year built
  - Current number of units
  - Valid from date
  - Valid to date

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Housing Unit Estimates
IPLS_CURRE_HOUSI_UNIT_G

- Housing unit types
  - SF – Single family detached
  - TH – Townhouse
  - DX – Duplex
  - MP - Multiplex
  - LR – Low-rise multifamily
  - MR – Mid-rise multifamily
  - HR – High-rise multifamily
  - MH – Mobile home

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Housing Unit Forecasts
IPLS_FOREC_HOUSI_UNIT_G

- Fields in table
  - Parcel identification number
  - Housing unit type
  - Year 1 through 30 current housing unit forecasts (separate field for each year)
  - Year 1 through 30 low housing unit forecasts (separate field for each year)
  - Year 1 through 30 high housing unit forecasts (separate field for each year)
  - Valid from date
  - Valid to date

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Housing Unit Forecasts
IPLS_FOREC_HOUSI_UNIT_G

- Forecasts by type of unit are summarized into four housing unit types
  - SFD – Single family detached (SF)
  - SFA – Single family attached (TH, DX & MP)
  - MF – Multifamily (LR, MR & HR)
  - MH – Mobile home

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Housing Unit Forecasts
IPLS_FOREC_HOUSI_UNIT_G

- Forecasts cover 30 years
  - Add VALID_TO year to forecast YEAR_x number to get year of forecast
    - VALID_TO = '1-Jan-2010' and CURRE_YEAR_20_UNIT would be a forecast for 2030.
- Three forecasts for each year
  - Current or most likely forecast
  - Low forecast
  - High forecast
- Table may contain parcel identification numbers not in base-year parcel centroid layer.

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Households & Population
IPLS_CURRE_HHLDS_G
IPLS_CURRE_POPUL_G

- Households are occupied housing units.
- Three estimates for current households and population.
  - Current or most likely estimate
  - Low estimate
  - High estimate

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Methodology

10 Housing Units and 9 Households
Vacancy rate is spread across all housing units.

| 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |

Households & Population
IPLS_FOREC_HHLDS_G
IPLS_FOREC_POPUL_G

- Forecasts cover 30 years
  - Add VALID_TO year to forecast YEAR_x number to get year of forecast
    - VALID_TO = '1-Jan-2010' and CURRE_YEAR_20_POPUL would be a forecast for 2030.
- Three forecasts for each year
  - Current or most likely forecast
  - Low forecast
  - High forecast
- Tables may contain expired parcel identification numbers

Housing Value
IPLS_MARKE_SALE_RATIO_G

- Three types of housing value
  - Market Value is the estimated price for which a property should exchange in an arms-length transaction.
  - Sales Value are the actual sales of owned housing units (not all records will have a sales value because not all sell in a given year).
  - Assessed Value are the real estate appraisal values for tax purposes.
- Same housing types as for current housing units (SF, TH, DX, MP, LR, MR, HR & MH).

Residential Development
IPLS_HOUSI_UNIT_PIPEL_G

- Estimates of the unduplicated number of housing units by type in the residential development pipeline.
  - SFD – single family detached (SF)
  - SFA – single family attached (TH, DX & MP)
  - MF – multifamily (LR, MR & HR)
- Stage of development
  - Rezoning (submitted or granted)
  - Development plan (submitted or approved)
  - Building permit (no constr. or under constr.)
- Table may contain expired parcel identification numbers

Nonresidential GFA
IPLS_NON_RESID_GFA_G

- Estimates of nonresidential gross floor area (GFA) by general activity type.
  - IND – industrial use
  - INS – institutional use
  - OFF – office use
  - RET – retail use
- Institutional gross floor area is incomplete because not all non-taxable properties have complete information.

Nonresidential Development & Employment

- Databases and applications are under development.
  - Developing business rules
  - Determining data needs
  - Creating methodology

Parcel Centroid Layer
GIS_PARCE_CENTR_P

- Parcel centroids have been created for each land parcel in the county.
- Multiple years of data are contained in layer.
- The parcel centroids are the key for spatially locating data in IPLS tables.
  - Use this layer to associate IPLS information to other geographies.
  - To speed processing time, some spatial information is preprocessed in this layer.
- For some tables, multiple years of centroids must be used to link all data spatially.
  - For example, forecast tables and residential development tables.

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Parcel Centroid Layer
GIS_PARCE_CENTR_P

- Fields in table
  - OBJECTID – unique GIS identifier
  - Parcel identification number
  - Valid from date
  - Valid to date
  - Planning district layer ID
  - Vacancy rate layer ID
  - Household size assumption layer ID
  - Forecast household size assumption layer ID
  - Planned land use layer ID
  - Zoning layer ID
  - Planned land use density assumption layer ID
  - Parcel layer ID
  - Supervisor district ID
  - Census block group ID
  - Census tract ID
  - Human services region ID
  - Political jurisdiction ID
  - Sewer district ID
  - Voting precinct ID
  - Zip code ID
  - Transportation analysis zone ID

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IPLS Reporting Tool

- User reports available through ArcMap extension
  - Population Density Map
  - Report of Current and Forecasted Population, Housing Units & Households
  - Report of Residential Condominiums
  - Report and Map of Housing Units Authorized by Building Permits
  - Report and Map of Housing Starts
  - Report and Map of Housing Units Completed
 - Report of Market Value of Housing Units

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IPLS Reporting Tool

- User reports available...continued
  - Report of Inventory of Office Space
  - Report of Inventory of Wholesale & Warehouse Storage Facilities
  - Report and Map of Vacant Land Planned for Commercial or Industrial Use
  - Report and Map of Underutilized and Vacant Land Planned for Residential Use
  - Existing Land Use Acres by Geography
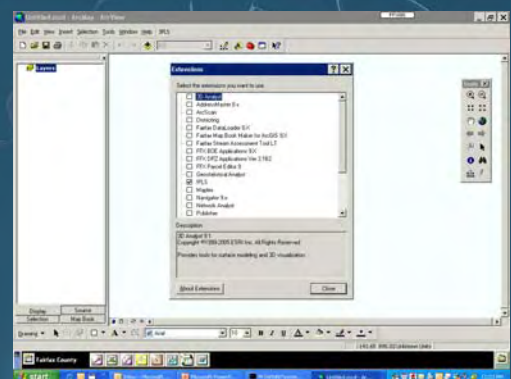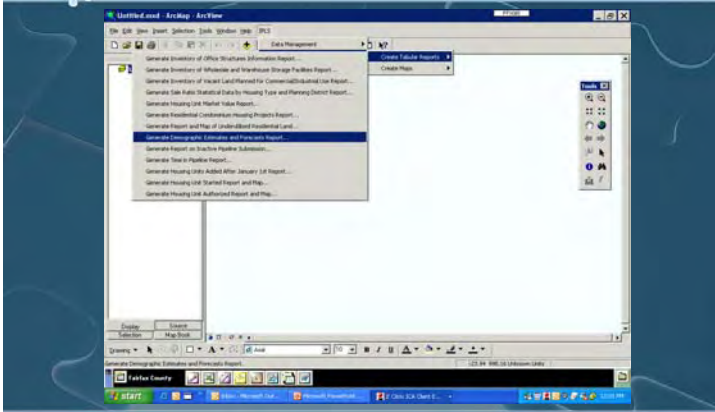 - Zoned Acres by Geography

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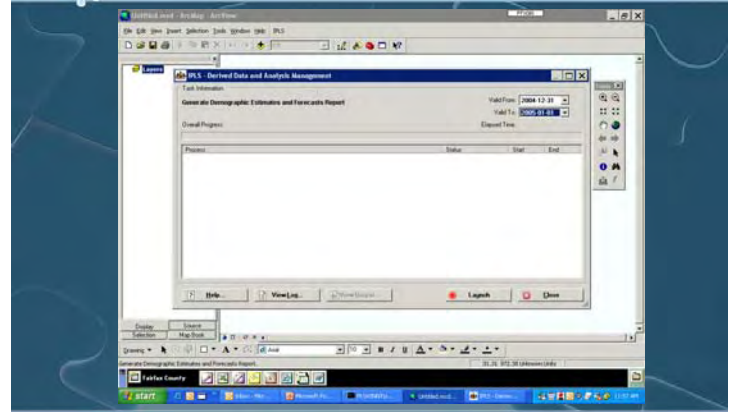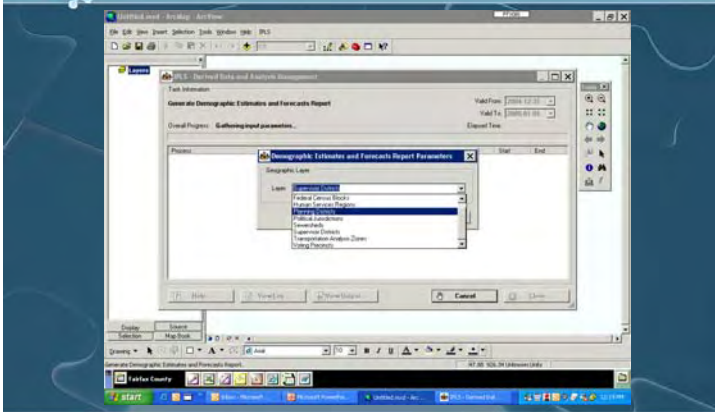## IPLS Report Tool
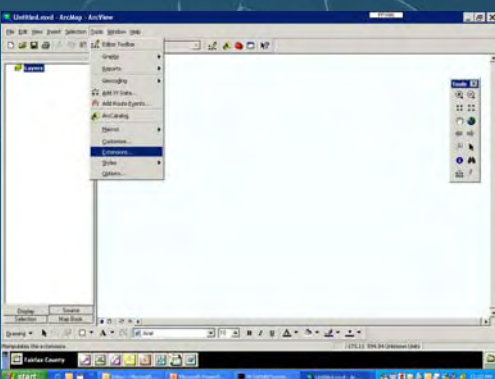
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IPLS Report Tool

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IPLS Report Tool

IPLS Report Tool

IPLS Report Tool

Sample IPLS Report

Sample IPLS Map
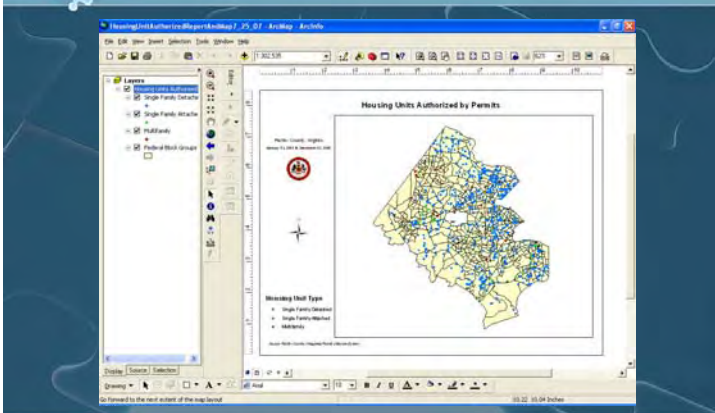
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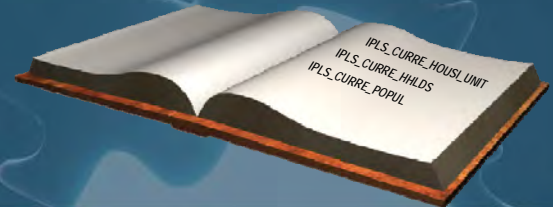
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IPLS_CURRE_HOUSI_UNIT
IPLS_CURRE_HHLDS
IPLS_CURRE_POPUL