Starting GIS at a Contract City

Presenter:

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IT Manager

City of Lake Forest

About Lake Forest

- 17 Square Miles
- 80% Urbanized, 20% Open Space
- Population 75,000
- Contract City
- 60 F/T Staff
- Contracted Services:
    - Police & Fire Services
    - Landscape & Street Maintenance
    - Building Inspection
    - Traffic Engineering
    - Water Quality Inspection
    - Information Technology
    - Web Hosting
- High proportion of managers/supervisors relative to overall staff.

Timeline

Lake Forest
City Incorporation

Hosted GIS solution;
Digitized & licensed data

1991   2002

Transition to In-House GIS

- Educating key staff members
- Communicating benefits
- Gaining staff support
- Gathering requirements
- Defining a vision
- Implementation

Education & Benefits (2004)

Key D...

"GIS"

Data controlled
consultant

Standalone syst...

Data retrieval i...
cumbersome

Low resolution,
size printing

Key D...

"GIS"...

Static, low res...
images

Can answer:
· What is at a given l...
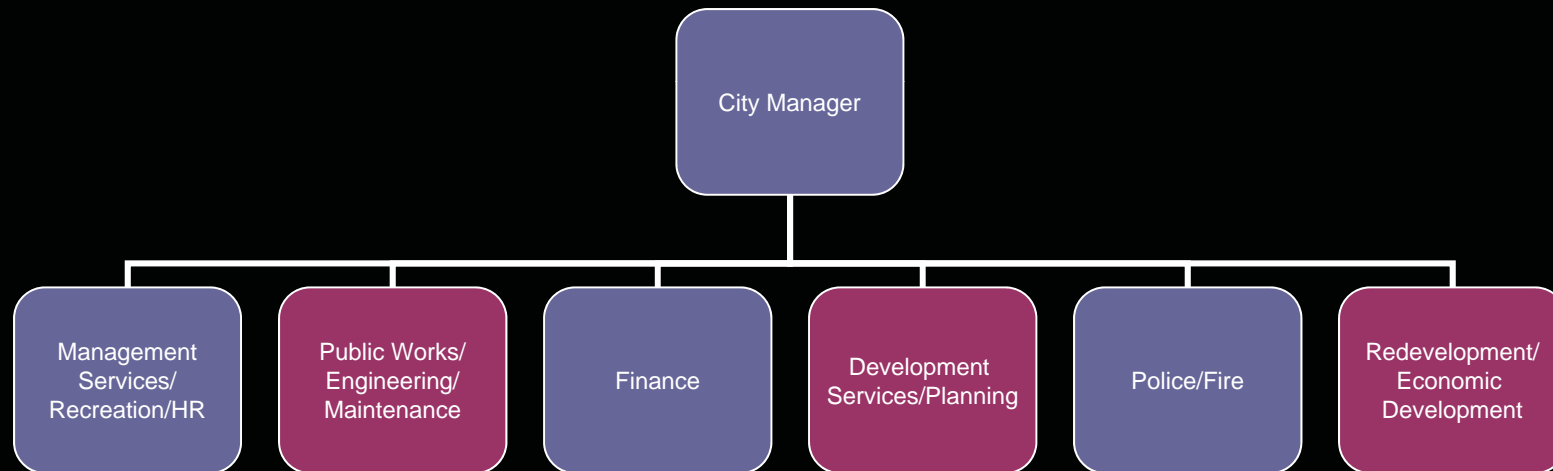· Where does it occu...

Data lookup on...

Why an in-house GIS?

- Full data ownership and management
- Ability to expand, enhance and edit existing data
- Linkages to other City systems can be achieved easily
- Able to share data with other agencies
- Not reliant on an outside consultant
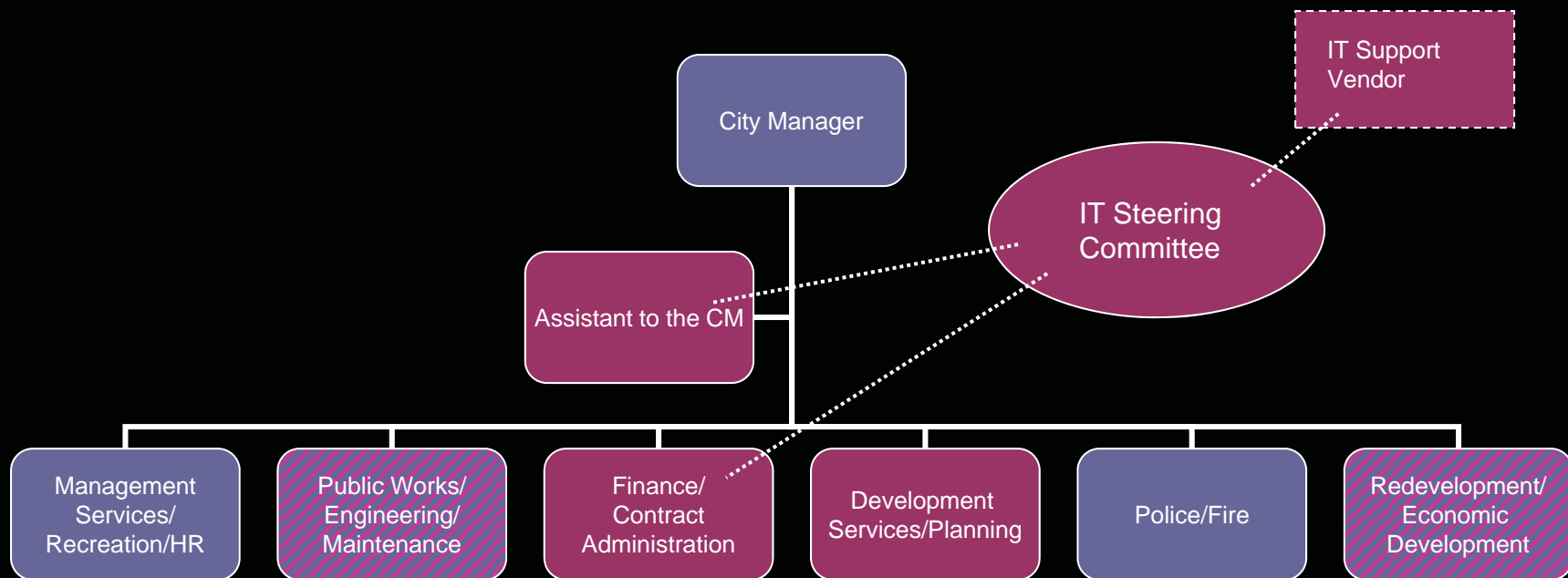- Cost effective and potentially revenue generating

Organizational Support for Hosted GIS

In-House GIS Support

Requirements

- **Department Needs**
- **Justification**

The GIS Vision

- Emphasized system Integration
- Shared data eliminates "Silos"
- Leads to better decisions
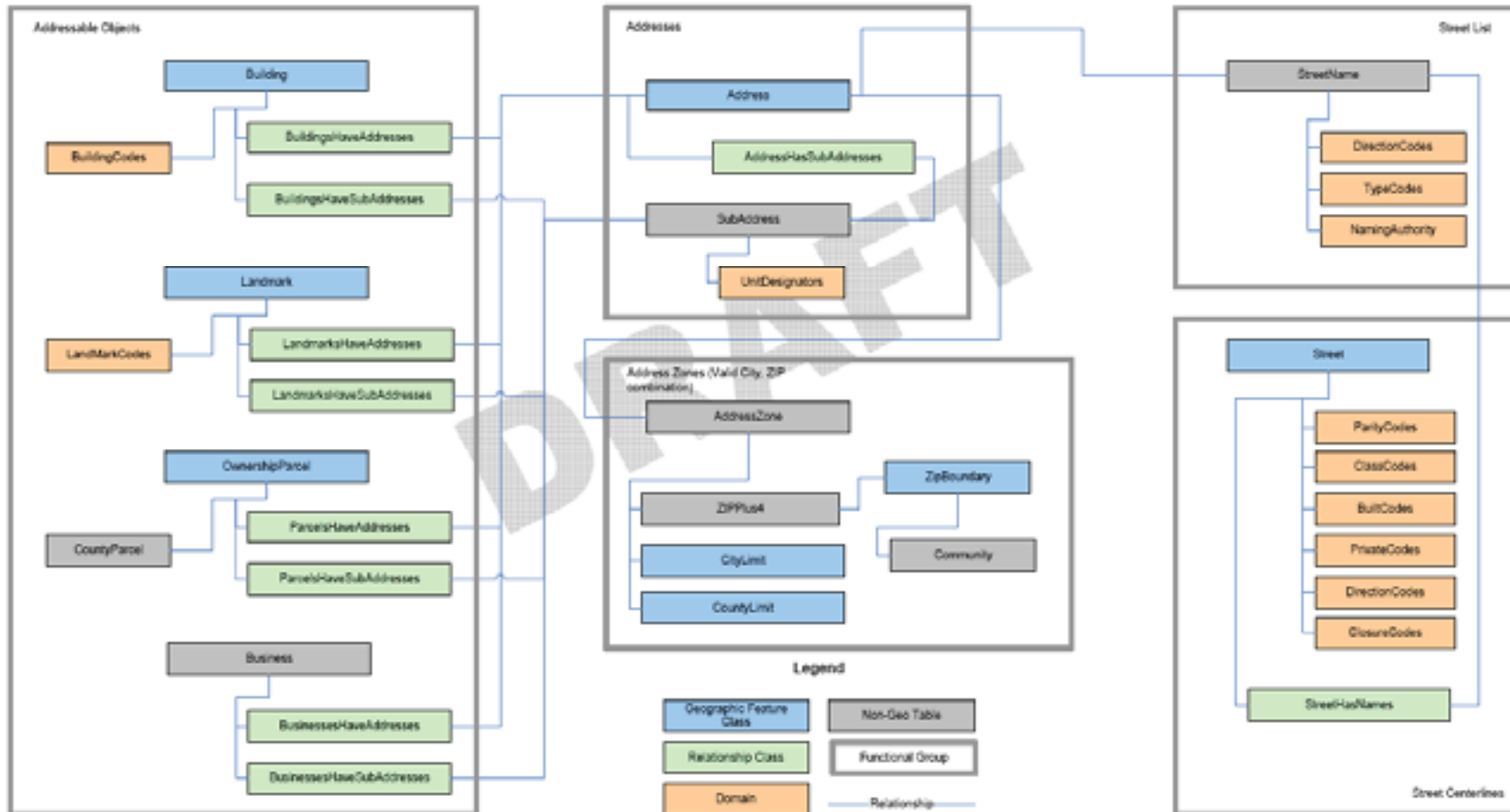
Implementation

- Budget Approval

- Consultant

- Software (ArcMap)

- Staff Training (Optional)

- Data Model

(cont'd)

Addressable Objects

- Building
  - BuildingCodes
  - BuildingsHaveAddresses
  - BuildingsHaveSubAddresses
- Landmark
  - LandMarkCodes
  - LandmarksHaveAddresses
  - LandmarksHaveSubAddresses
- OwnershipParcel
  - CountyParcel
  - ParcelsHaveAddresses
  - ParcelsHaveSubAddresses
- Business
  - BusinessesHaveAddresses
  - BusinessesHaveSubAddresses

Addresses

- Address
  - AddressHasSubAddresses
- SubAddress
  - UnitDesignators

Address Zones (Valid City, ZIP combination)

- AddressZone
- ZIPPlus4
  - ZipBoundary
  - Community
- CityLimit
- CountyLimit

Street List

- StreetName
  - DirectionCodes
  - TypeCodes
  - NamingAuthority

Street Centerlines

- Street
  - ParityCodes
  - ClassCodes
  - BuiltCodes
  - PrivateCodes
  - DirectionCodes
  - ClosureCodes
  - StreetHasNames

Legend

- Geographic Feature Class
- Non-Geo Table
- Relationship Class
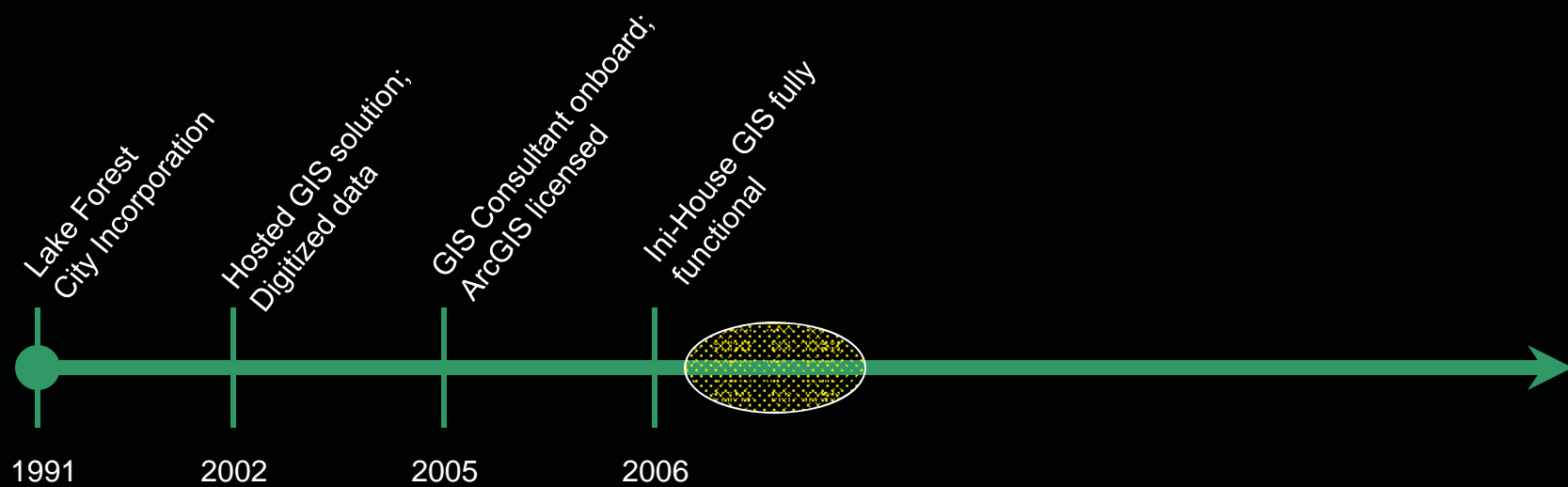- Functional Group
- Domain
- Relationship

Implementation

- Data Acquisition
  - Parcels & Owner
  - Imagery
  - Streetlines
  - Hosted Data
  - Address Points
- Processes

Plateau

■ Mixed success

Lake Forest
City Incorporation

Hosted GIS solution;
Digitized data

GIS Consultant onboard;
ArcGIS licensed

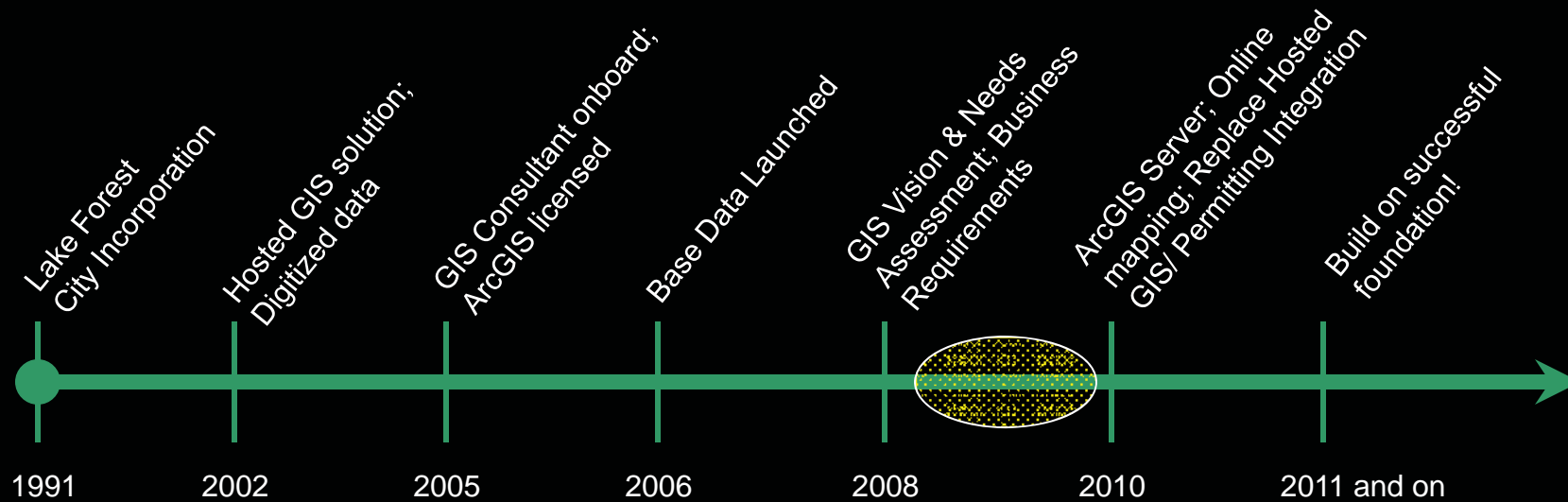Ini-House GIS fully
functional

1991   2002   2005   2006

2006-7 Overall Status

- Key data created or migrated in-house
- Non-GIS staff using ArcMap for map composition & project data
- GIS Internship created
- Integration Points
  - Imaging System (Documentum)
  - Recreation Registration (Class)
- ArcGIS Used by all departments to support multiple projects
  - Cell Tower Managment; Animal Shelter Study; Medicinal Marijuana Sales; Storm water Data Management; Collision Analysis; Flood Control Evaluation, etc, etc, etc...
- Fell short of some goals:
  - Hosted solution not replaced
  - Integration limited
  - No online mapping
- Other problems
  - Too much data
  - Few defined responsibilities

Reassessment

Lake Forest
City Incorporation

Hosted GIS solution;
Digitized data

GIS Consultant onboard;
ArcGIS licensed

Base Data Launched

GIS Vision & Needs
Assessment; Business
Requirements

ArcGIS Server; Online
mapping; Replace Hosted
GIS/ Permitting Integration

Build on successful
foundation!

| 1991 | 2002 | 2005 | 2006 | 2008 | 2010 | 2011 and on |

Actions in 2008

- **Revamp GIS Vision**
- **Detailed Needs Assessment**
- **Recommendations**
  - Migrate to ArcGIS Server
  - Defined Data Responsibilities (RACI)
  - Integrate with Permitting System
  - Hi-Res Aerial Photography
  - Continue periodic re-assessment (2 yr)
 - Functional Specification for Online Mapping

GIS Expenses 2004-2011

	2004-5	2005-6	2006-7	2007-8	2008-9	2009-10	2010-11 (Projected)
Software License	$10,000	$13,000	$16,000	$22,000	**$60,000**	$60,000	$60,000
Data	$30,000	$7,500	$30,000	$10,500	$30,000	**$105,000**	$20,000
Staff & Services	$30,000	$50,000	$50,000	$50,000	$60,000	$60,000	$90,000
H/W	**$15,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**	**$1,000**
Training	$5,000	$5,000	$5,000	$5,000	$5,000	$3,000	$3,000
Hosted GIS	$15,000	$15,000	$16,500	$16,500	$16,500	**$0**	**$0**

Note: All figures are approximate
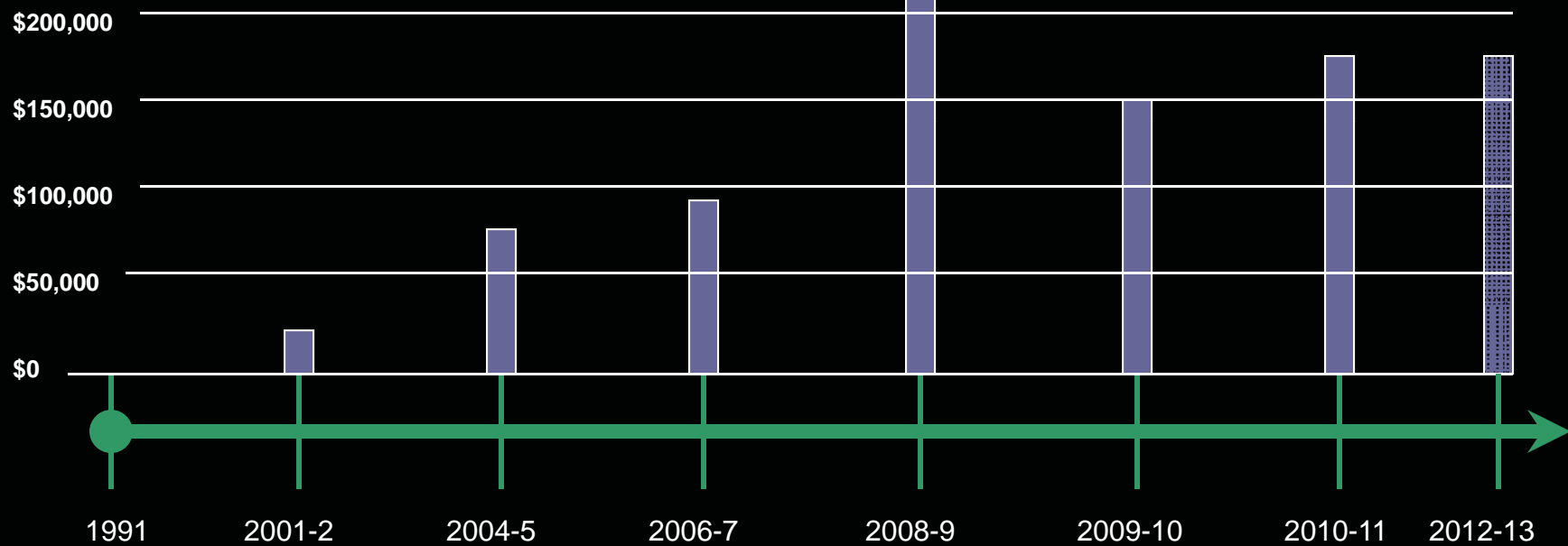
Lessons Lake Forest Learned

1. Collaboration
2. Deliver on promises
3. Prove value early to many
4. Define data maintenance responsibilities
5. Every data source must have a distinct purpose
6. Define application integration business goals
7. Regularly re-assess business requirements/direction

Recommend: ArcNews Winter 2011: URISA Proposes a Local Government GIS Capability Maturity Model

Questions?

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