



# Hampton Roads Priority Data Needs

HRPDC Retreat

February 17, 2011

J. McBride

Principal Regional Planner



# Outline

- Priority Data Needs
  - Consistent GIS Data
  - Regional Land Use and Land Cover Data
  - Acquiring High Resolution Elevation Data
- Recommended Future Directions
- Discussion

# Priority Data Needs

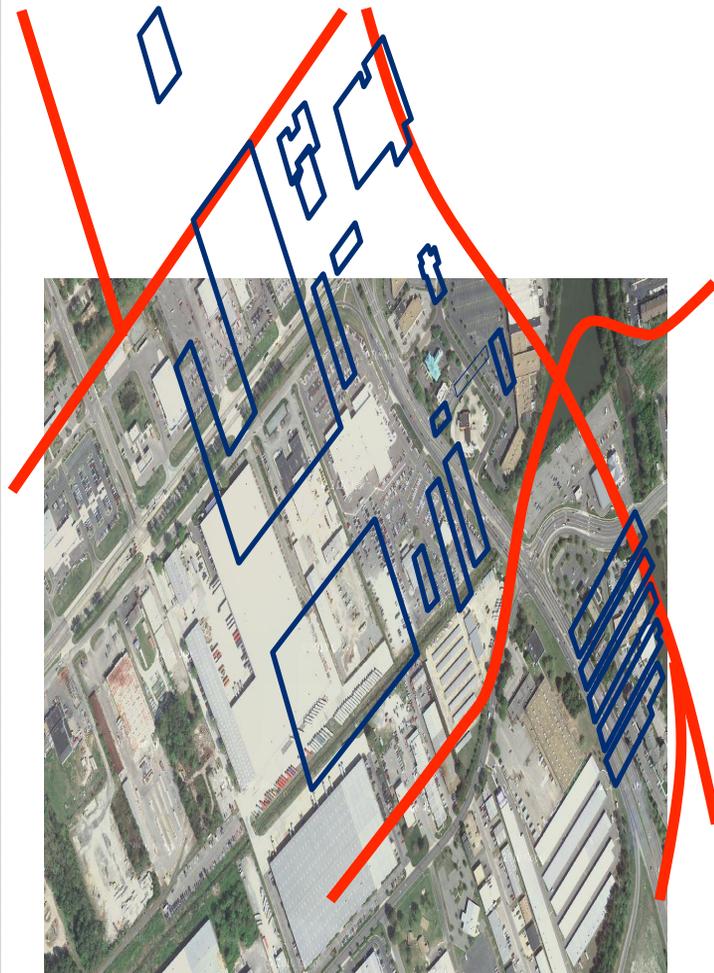
## Consistent GIS Data

# Definition

- GIS data that is:
  - Accurate
  - Reliable
  - Usable
  - Compatible
  - Complete

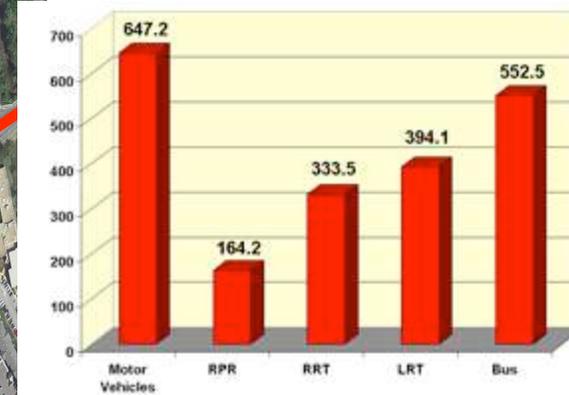
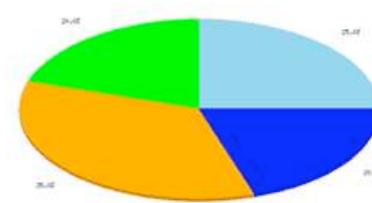
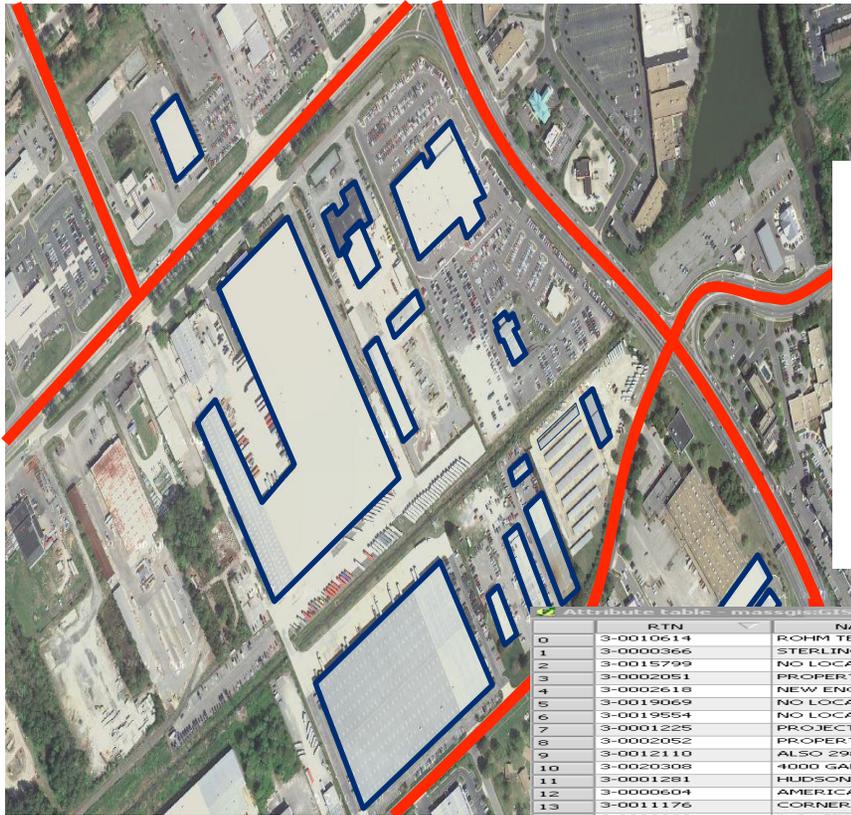
# Inconsistent vs. Consistent Data?

Inconsistent Data



# Inconsistent vs. Consistent Data?

## Consistent Data



RTN	NAME	ADDRESS	TOWN	REGION	STATUS
0	3-0010614	ROHM TECH INC	195 CANAL ST	MALDEN	3.0
1	3-0000366	STERLING CLARK...	184 COMMERCIA...	MALDEN	3.0
2	3-0015799	NO LOCATION AID	332 PLEASANT ST	MALDEN	3.0
3	3-0002051	PROPERTY	291 MIDDLESEX ...	MEDFORD	3.0
4	3-0002618	NEW ENGLAND E...	170 MEDFORD ST	EVERETT	3.0
5	3-0019069	NO LOCATION AID	420 PEARL ST	MALDEN	3.0
6	3-0019554	NO LOCATION AID	420 PEARL ST	MALDEN	3.0
7	3-0001225	PROJECT TRIAN...	420 PEARL ST	MALDEN	3.0
8	3-0002052	PROPERTY	1-13 HIGHLAND ...	MALDEN	3.0
9	3-0012110	ALSO 298 MEDF...	360-392 PEARL ST	MALDEN	3.0
10	3-0020308	4000 GALLON LST	100 HIGHLAND A...	MALDEN	3.0
11	3-0001281	HUDSON BUS LIN...	70 UNION ST	MEDFORD	3.0
12	3-0000604	AMERICAN FENC...	24 SHIP AVE	MEDFORD	3.0
13	3-0011176	CORNER OF FEL...	469-471 SALEM ST	MEDFORD	3.0
14	3-0003290	INDUSTRIAL PR...	320-330 MIDDLE...	MEDFORD	3.0
15	3-0020805	MBC MAINTENA...	1 WICKLOW ST	MALDEN	3.0
16	3-0017462	NO LOCATION AID	20 SYCAMORE AVE	MEDFORD	3.0
17	3-0018292	CORNER OF REV...	235 SALEM ST	MEDFORD	3.0
18	3-0010429	NO LOCATION AID	461 RIVERSIDE ...	MEDFORD	3.0
19	3-0002366	NISSAN BAKERY	48 COMMERCIAL ...	MEDFORD	3.0
20	3-0021984	COMMERCIAL ST...	30 COMMERCIAL ...	MEDFORD	3.0
21	3-0004564	FELLSWAY PLAZA	632-760 FELLSW...	MEDFORD	3.0
22	3-0011747	FELLSWAY AND ...	590 & 616 FELL...	MEDFORD	3.0
23	3-0016502	NO LOCATION AID	170 MYSTIC AVE	MEDFORD	3.0

# Benefits of Consistent GIS Data

- Utilize data produced by others more quickly through the use of common formats and access methods;
- Faster response time, and improved operations;
- Develop applications faster and easier;
- Provide better data for decision making;
- Easily resolve problems created by conflicting data;
- Cost Savings

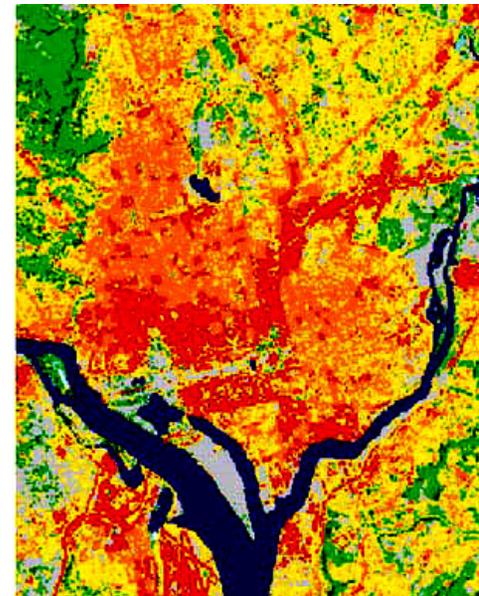
# Priority Data Needs

Consistent Regional Land Use/Land  
Cover Data

# Definition



Land Use is a description of how people utilize the land and socio-economic activity.



- Open Water
- Low-Int. Resident
- High-Int. Resident
- Comm/Indust/Trans
- Bare Rock/Sand
- Quarry/Strip Mine
- Transitional
- Deciduous Forest
- Evergreen Forest
- Mixed Forest
- Grass/Herbaceous
- Pasture/Hay
- Row Crops
- Small Grains
- Other Grasses
- Woody Wetland
- Herb. Wetlands

Land Cover is the physical material at the surface of the earth. Land covers include grass, asphalt, trees, bare ground, water, etc.

# Benefits:

## Regional Land Use and Land Cover Data

- Provide interaction between the physical geography of land and its social economic variables
- Provides the ability to analyze patterns of water pollution and sedimentation
- Provides the data necessary for understanding the linkages between land use change and the nutrient loads and sedimentation rates. This analysis will be beneficial in the Bay TMDL assessments.
- Supports predictive modeling techniques to better forecast future areas of urban growth.
- Aids in Emergency Management, Green Infrastructure Management, Regional Housing Planning, & Transportation Planning

# Priority Data Needs

## Consistent High Resolution Elevation Data



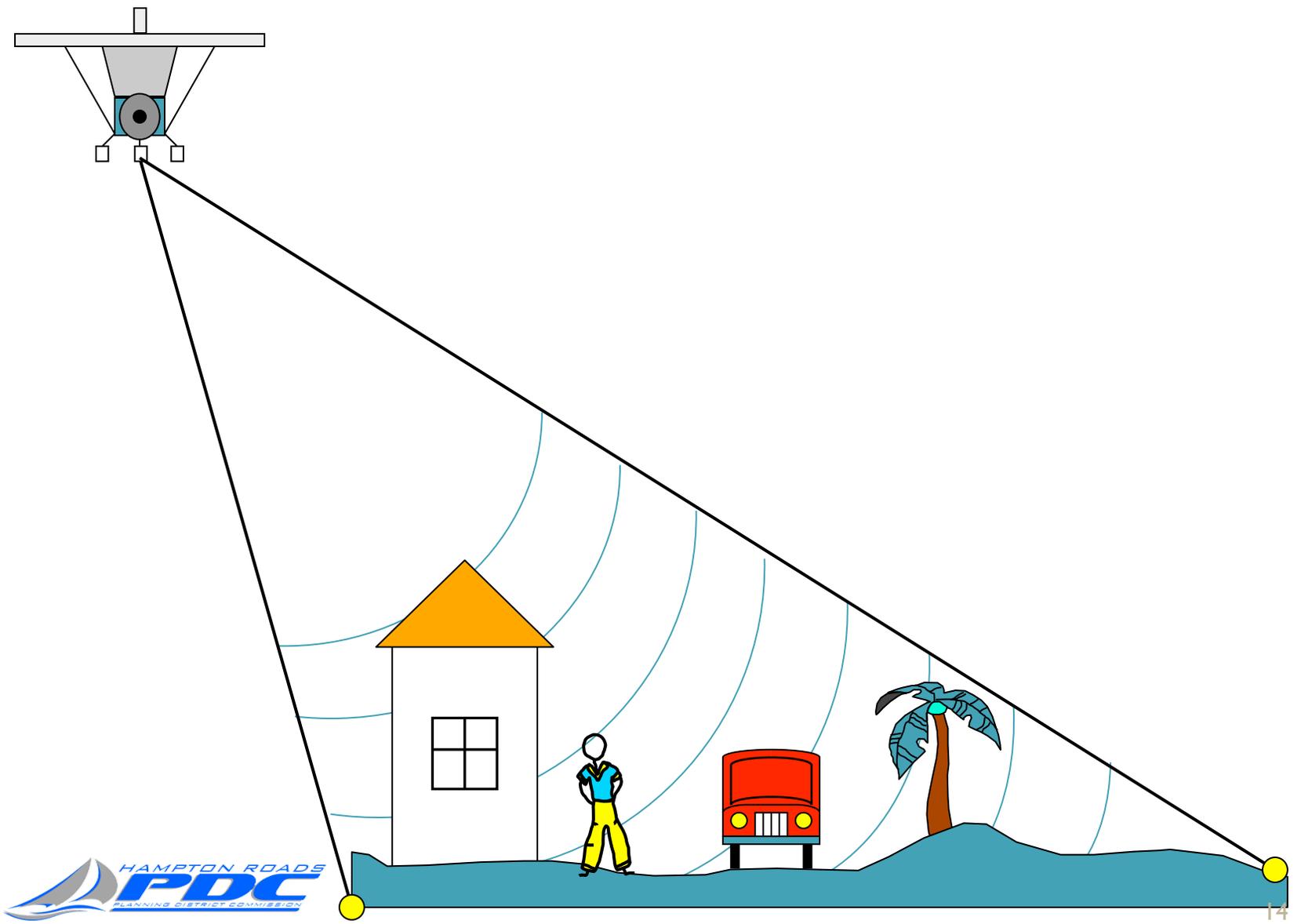
# Definition

- Accurate Computer Generated Image that displays a very intense degree of sharpness when measuring an object or structure.

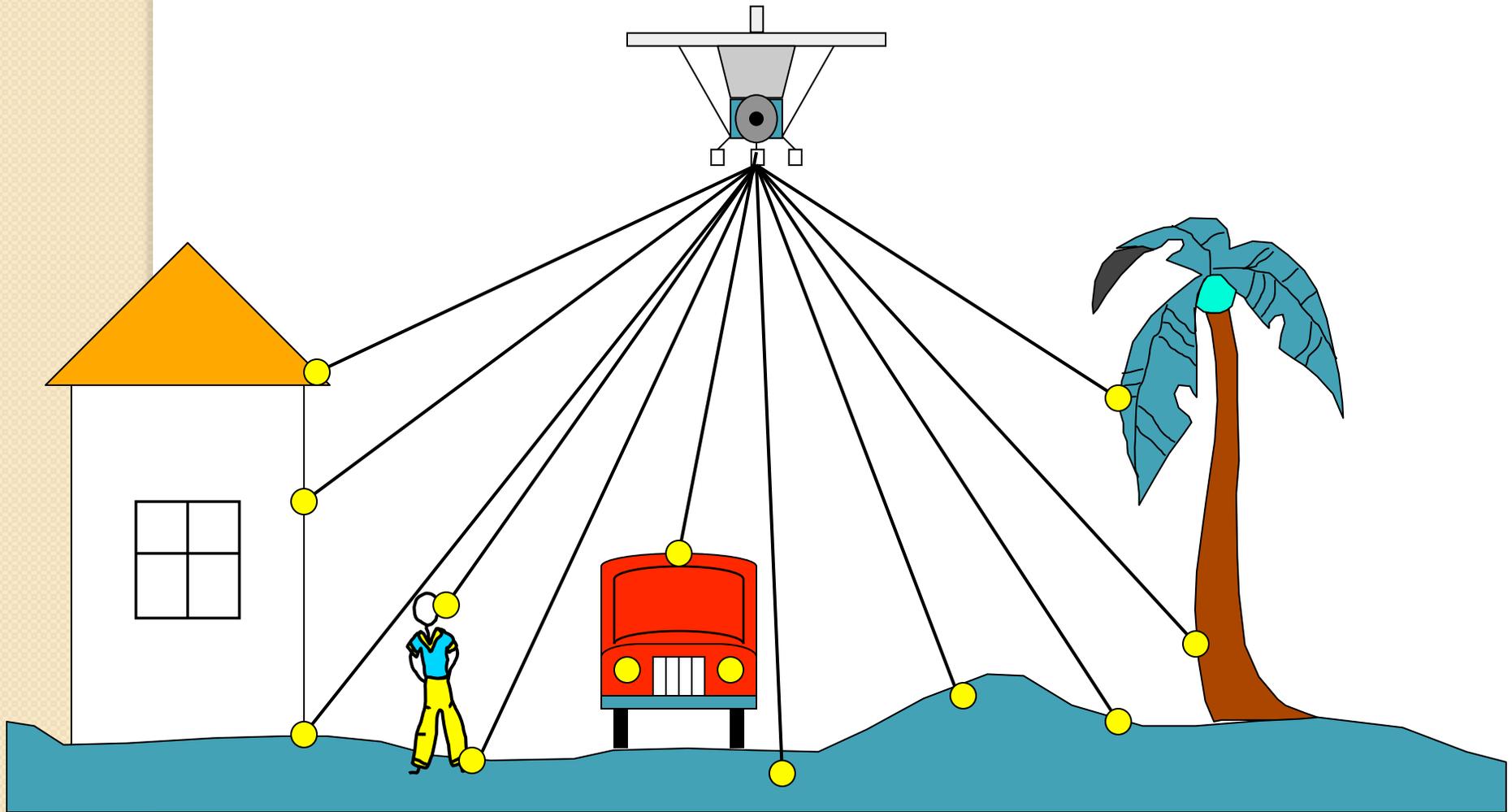
# Methods used to Acquire High Resolution Elevation Data

- IFSAR or INSAR(Interferometric Synthetic Aperture Radar)
- LiDAR (Light Detection And Ranging)

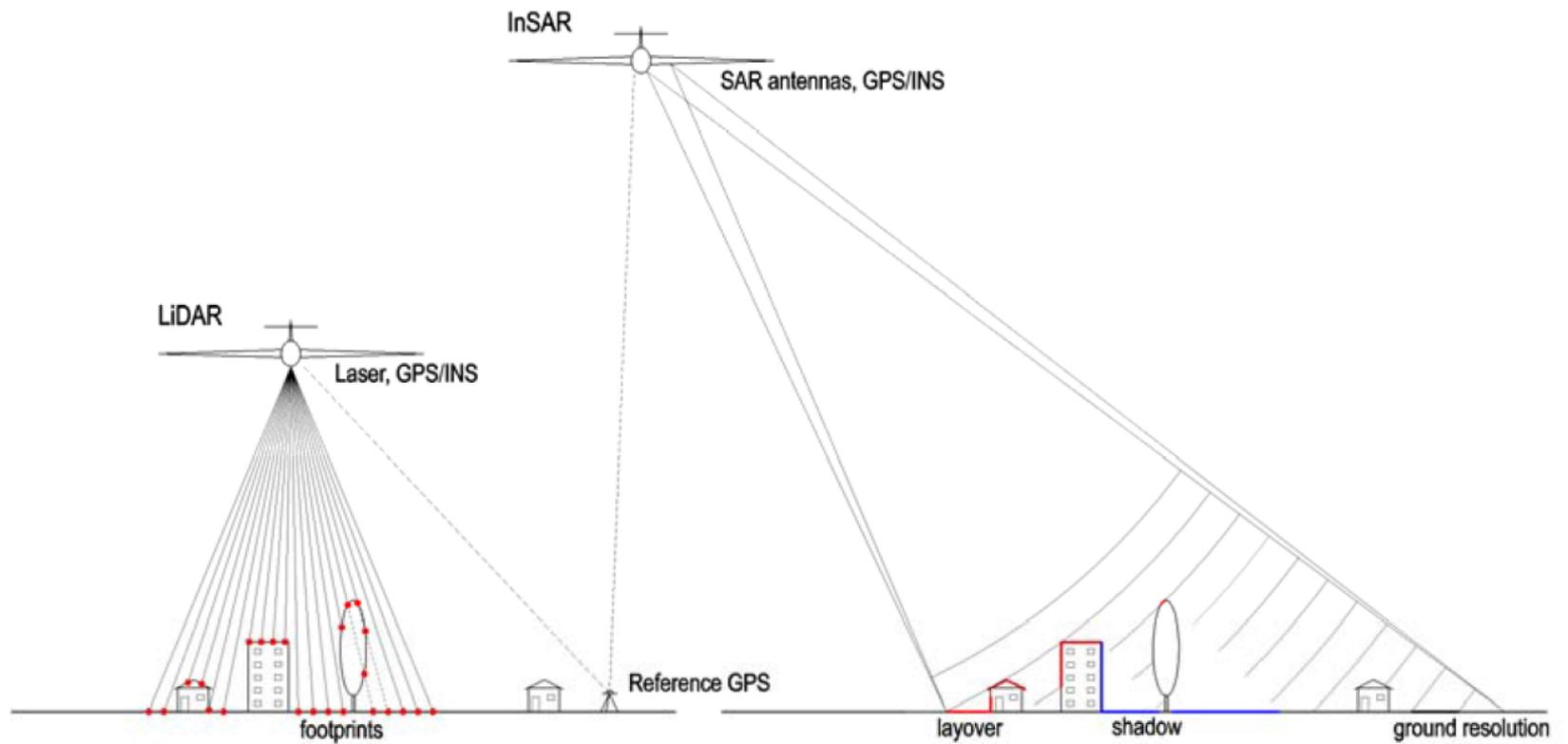
# IFSAR/INSAR



# LiDAR

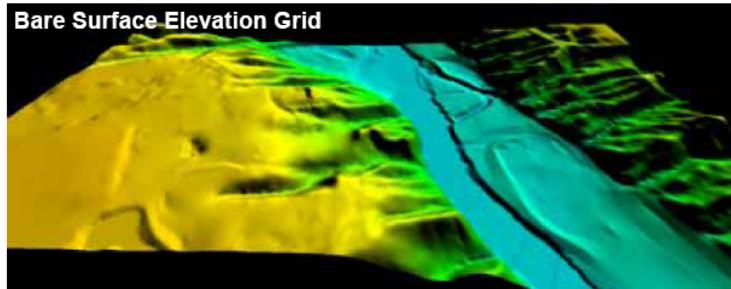
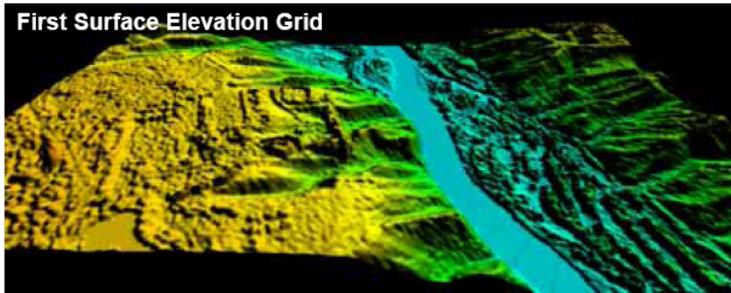
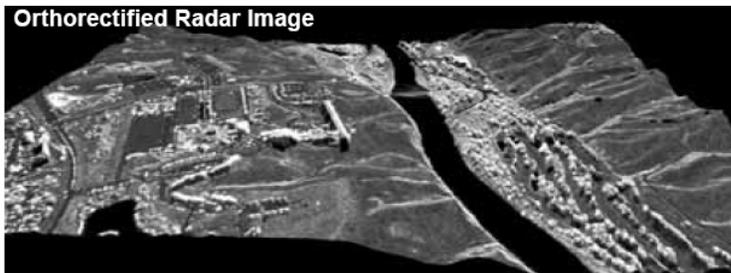


# LiDAR vs. IFSAR/INSAR

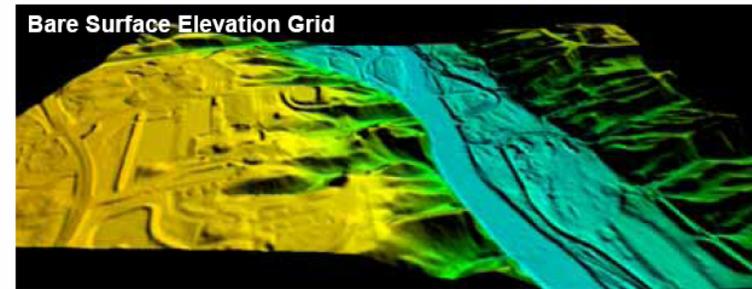
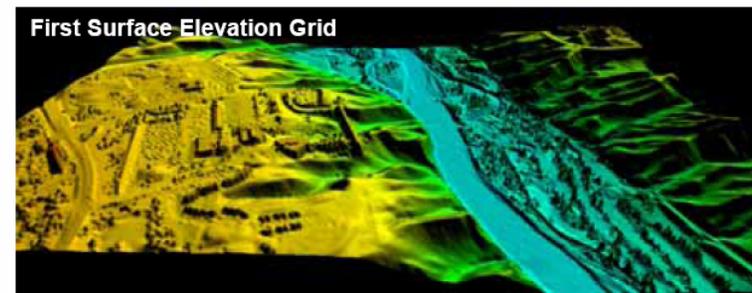


# Why LiDar?

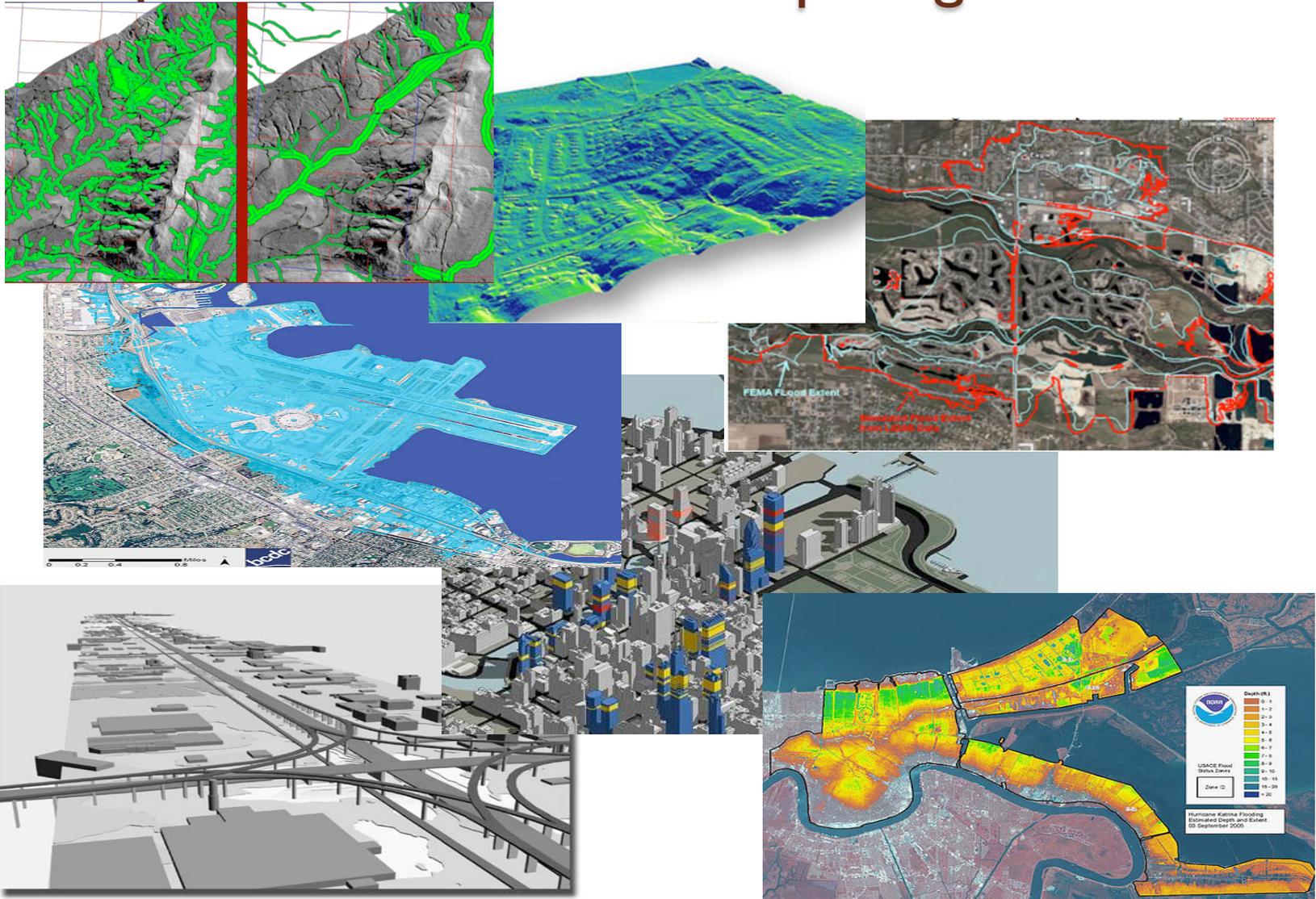
## IFSAR



## LiDAR



# Capabilities/Benefits of Acquiring LiDAR



# Recommended Future Direction

- Organize regular meetings of GIS managers in HR localities to discuss regional GIS/data management issues
- Discuss development of some core regional data sets and how the data would be developed, maintained and accessed by others
- Continue moving forward on the creation of regional land use data.
- Continue researching LiDAR acquisition at the regional level.