Results of a National Survey
Imagery for the Nation Proposal

National States Geographic Information Council

Final Results Compiled by NSGIC (Version 2.0)

September 12, 2006

Please Note: If you are not familiar with the Imagery for the Nation Proposal, you should review the brochure available at:

http://www.nsgic.org/hottopics/imageryofnation.cfm

prior to reviewing these slides.

Relevant Metadata on Survey

- The Imagery for the Nation survey was conducted between April 7, 2006, and July 26, 2006, for a total of 110 days
- It was principally advertised through list servers maintained by NSGIC, NACo, URISA, and their respective members. It was also advertised in the Spring 2006 issue of ArcNews[tm]
- The survey was conducted to determine if the design of the Imagery for the Nation Proposal is adequate to meet the needs of State and Local governments, and to characterize their needs and current uses of imagery
- An Internet-based survey tool was created using www.SurveyMonkey.com
- The survey was conducted by NSGIC with cooperation from the National Digital Orthophoto Program
- There were 1,887 individual responses to the survey
- No effort made to eliminate duplicate responses, nor was there any indication of a problem with duplicate responses
- There were 345 responses from State Government (18%)
- There were 888 responses from "Local" Government (47%)

Notes on Technique & Format of Slides

- Summary reports were downloaded from SurveyMonkey[tm] as Excel[tm] spread sheets
- Reports were filtered for 1) all responses, 2) local government responses only, and 3) state government responses only
- The Excel[tm] spread sheets were used to create the charts which were then copied and pasted into this PowerPoint[tm] file
- The charts in this presentation were saved as images in PowerPoint[tm] to reduce file size and prevent alterations
- Every slide has its own title from Excel[tm] that is hidden under the titles created in PowerPoint[tm]
- These slides are best viewed (as shown) on a white background since they are image files
- At the bottom of each slide, you will find the total number of respondents for this question (as filtered) and a notation to tell you if multiple answers were allowed (resulting in a cumulative response greater than the total number of respondents) or if a single answer was required
- When not labeled, the x or y axis represents number of respondents
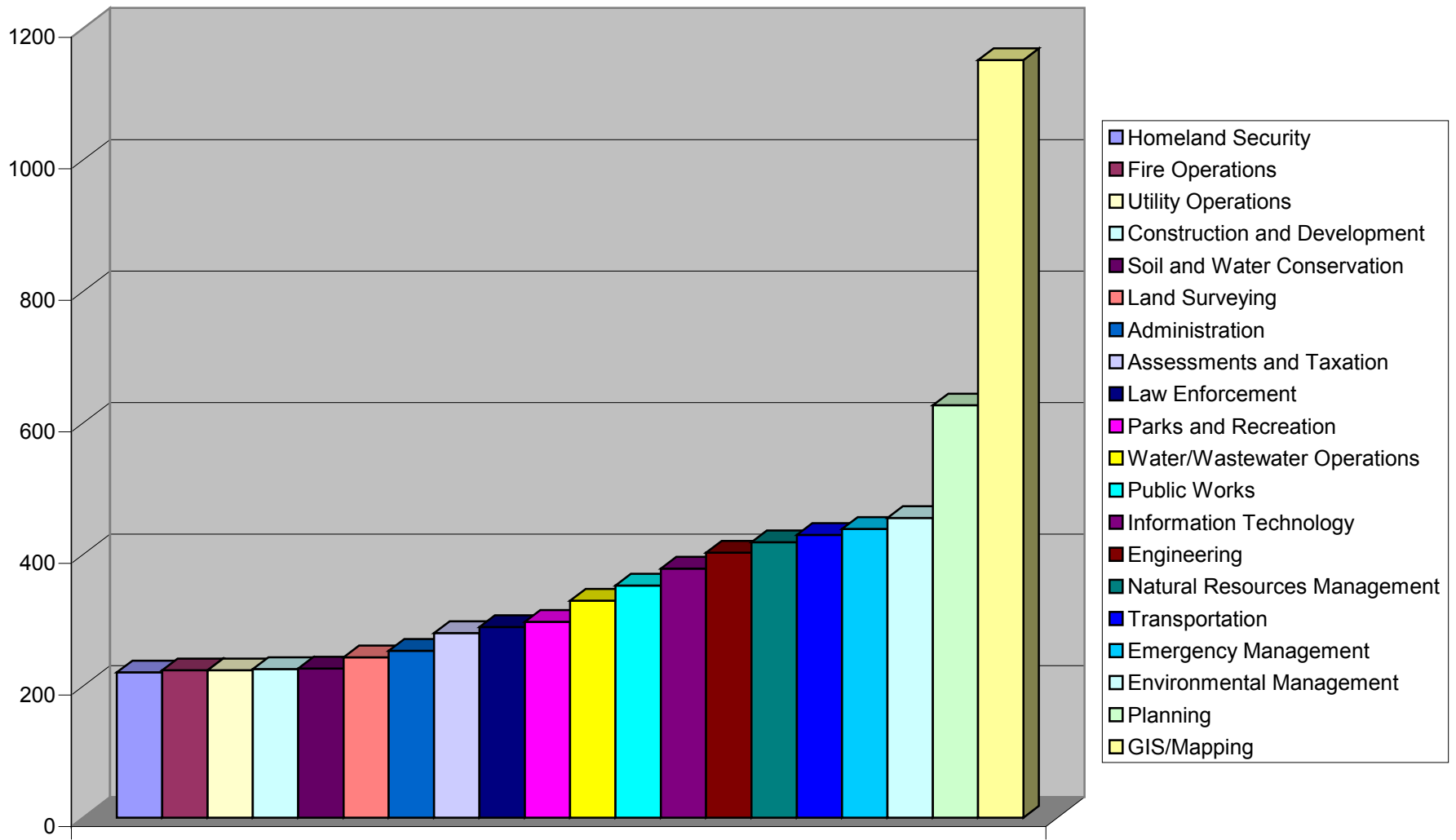
NSGIC

Who were the Respondents?
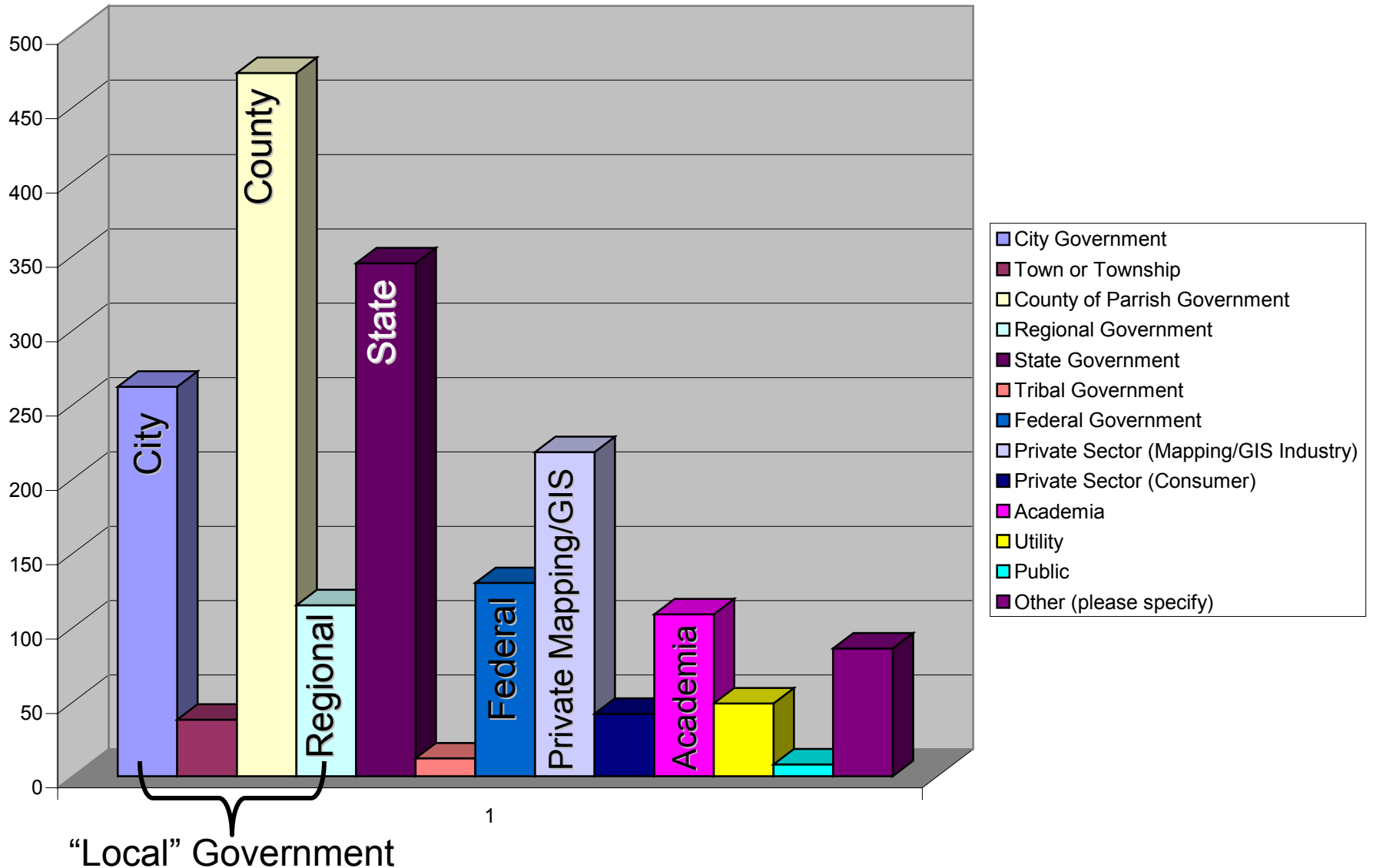
"Local" Government

 # Respondents for this question: 1,887

Single Answer Only

Top 20 Functions of Respondents

Legend:
- Homeland Security
- Fire Operations
- Utility Operations
- Construction and Development
- Soil and Water Conservation
- Land Surveying
- Administration
- Assessments and Taxation
- Law Enforcement
- Parks and Recreation
- Water/Wastewater Operations
- Public Works
- Information Technology
- Engineering
- Natural Resources Management
- Transportation
- Emergency Management
- Environmental Management
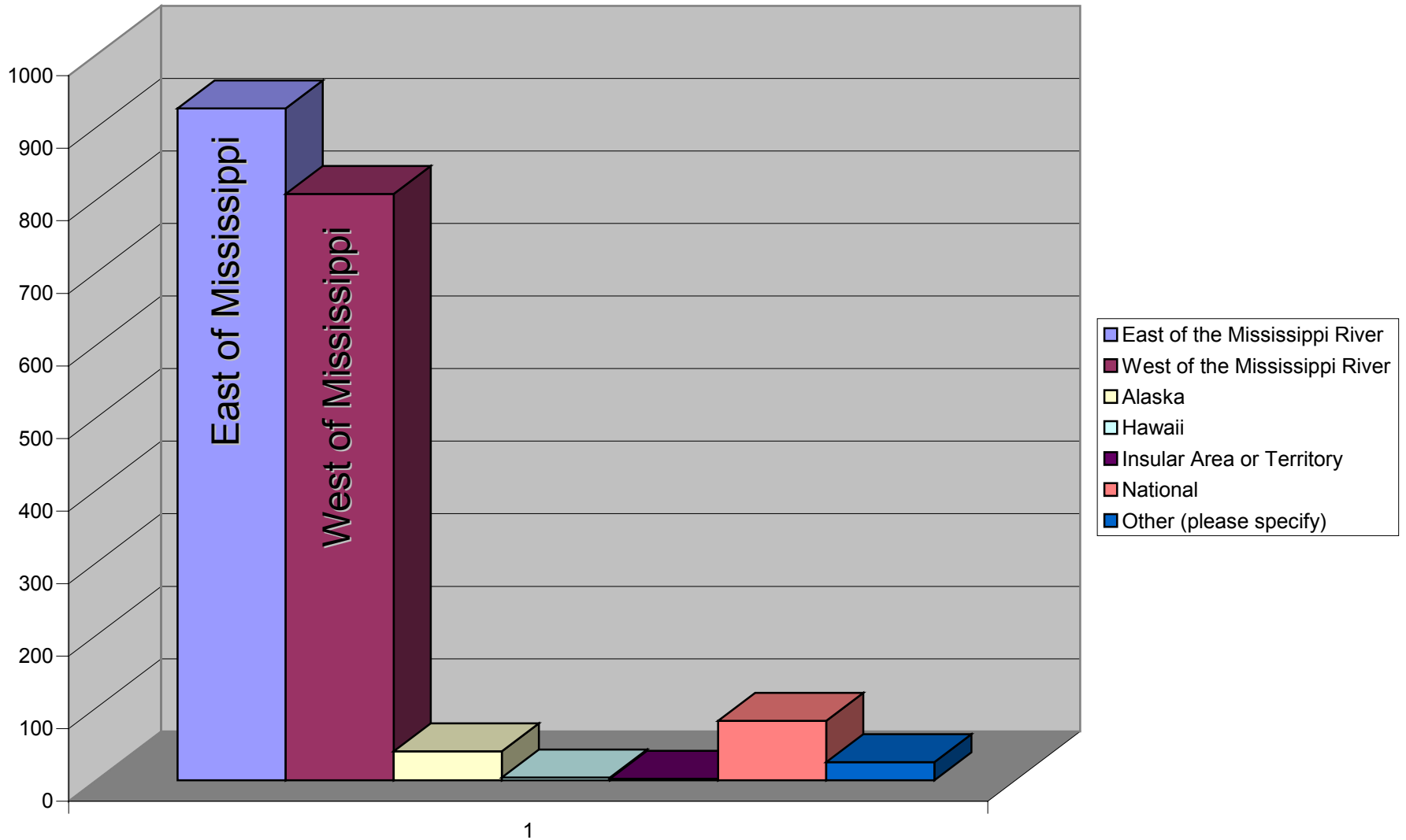- Planning
- GIS/Mapping

Respondents were allowed to select more than one function.

 # Respondents for this question: 1,873   **Multiple Answers Allowed**

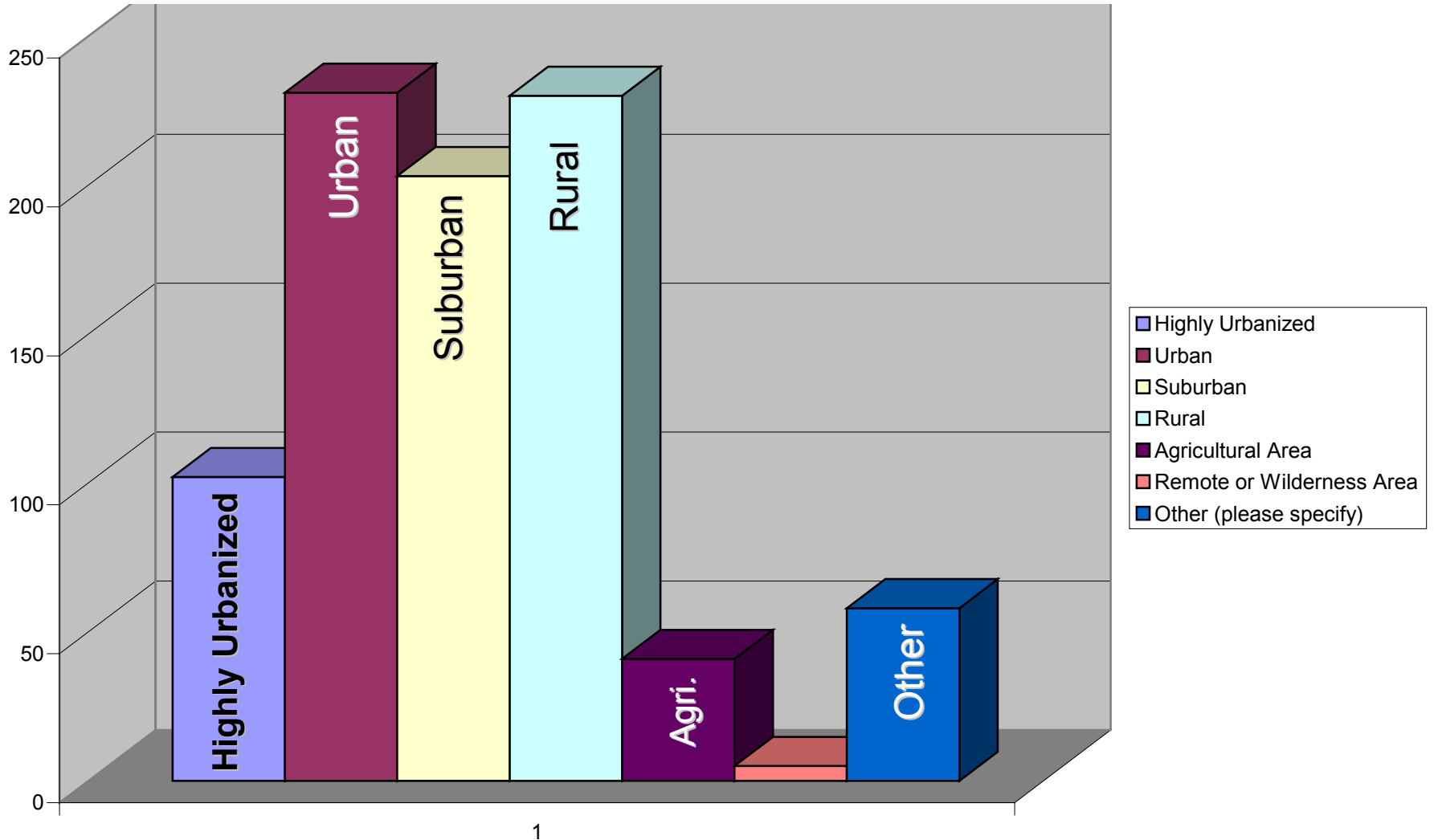# Geographic relationship to IFTN

Legend:
- East of the Mississippi River
- West of the Mississippi River
- Alaska
- Hawaii
- Insular Area or Territory
- National
- Other (please specify)

 # Respondents for this question: 1,887

Single Answer Only

Development Intensity for
Local Government

Legend:
- Highly Urbanized
- Urban
- Suburban
- Rural
- Agricultural Area
- Remote or Wilderness Area
- Other (please specify)

 # Respondents for this question: 870

Single Answer Only

Sources of Imagery – All Respondents

Chart legend:
- Obtain and use existing public domain or other free orthoimagery
- Obtain licensed orthoimagery from another source
- We contract for the production of new orthoimagery
- We produce new orthoimagery within our own organization
- Not Sure

Bar labels: Public Domain, Licensed Imagery, Contract for New Imagery

Create Imagery within Organization
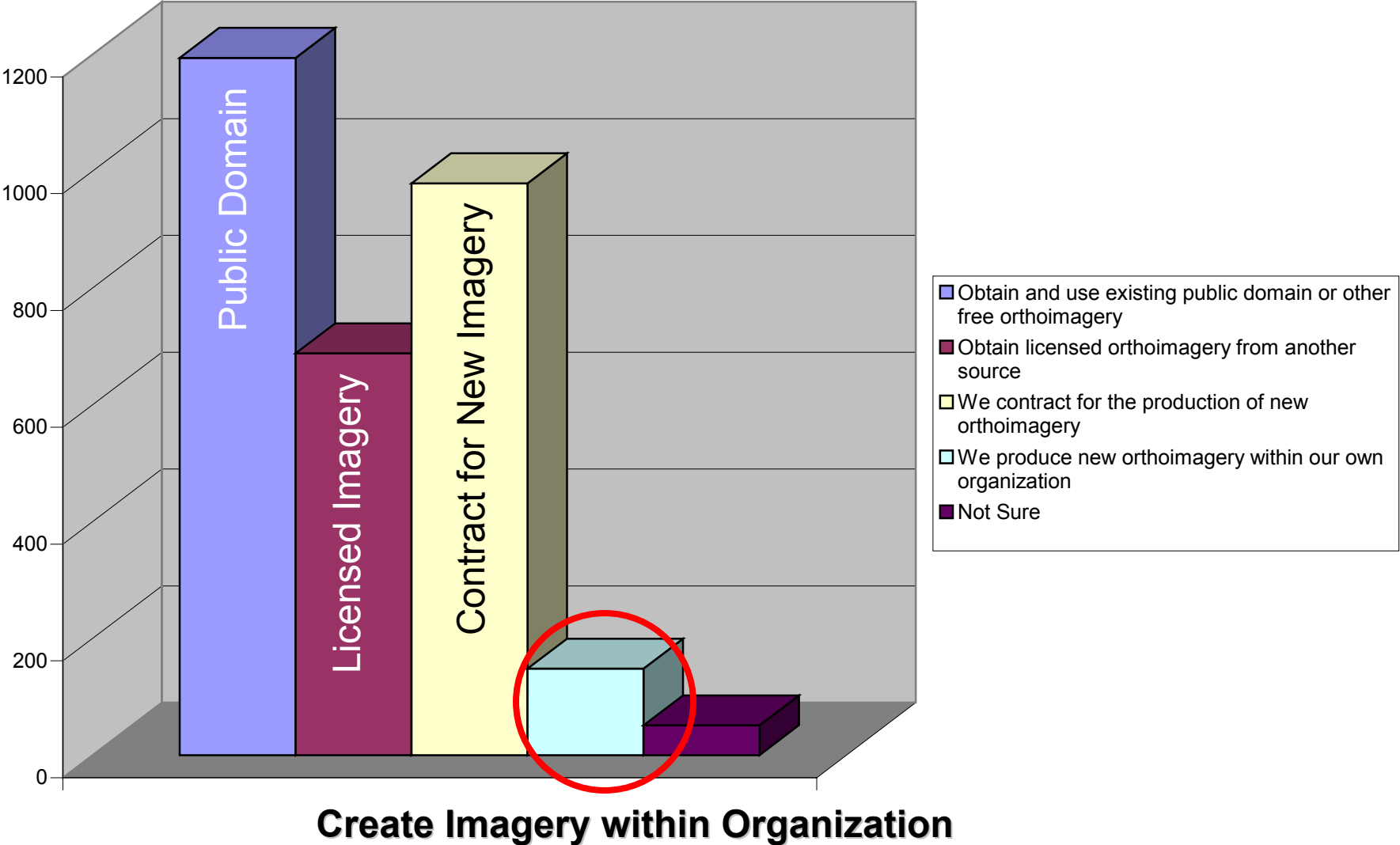
 # Respondents for this question: 1,842

Multiple Answers Allowed

Sources of Imagery - Local Government

Create Imagery within Organization

Legend:
- Obtain and use existing public domain or other free orthoimagery
- Obtain licensed orthoimagery from another source
- We contract for the production of new orthoimagery
- We produce new orthoimagery within our own organization
- Not Sure

Bar labels: Public Domain, Licensed Imagery, Contract for New Imagery
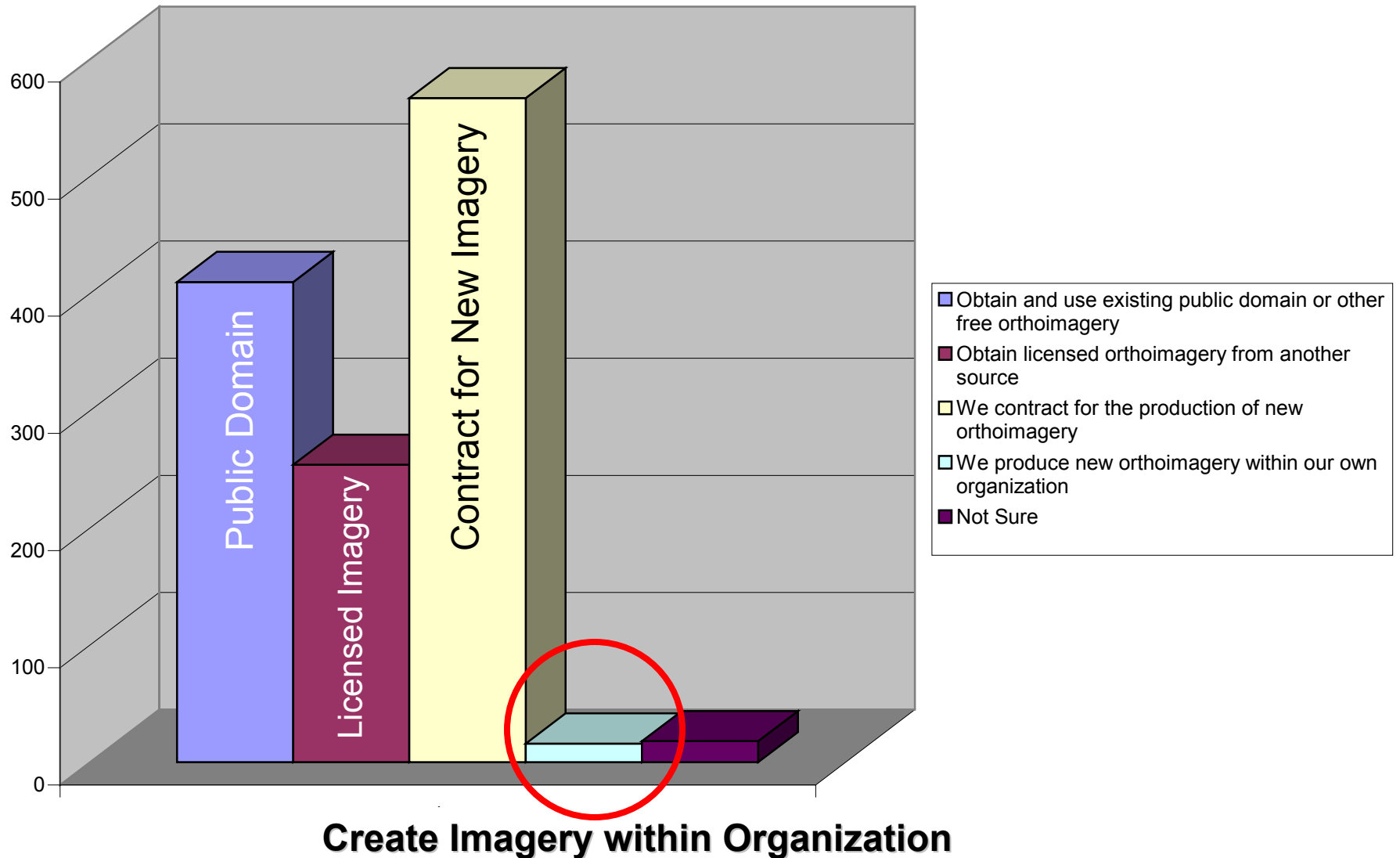
 # Respondents for this question: 870

Multiple Answers Allowed

Sources of Imagery - State Government

Create Imagery within Organization
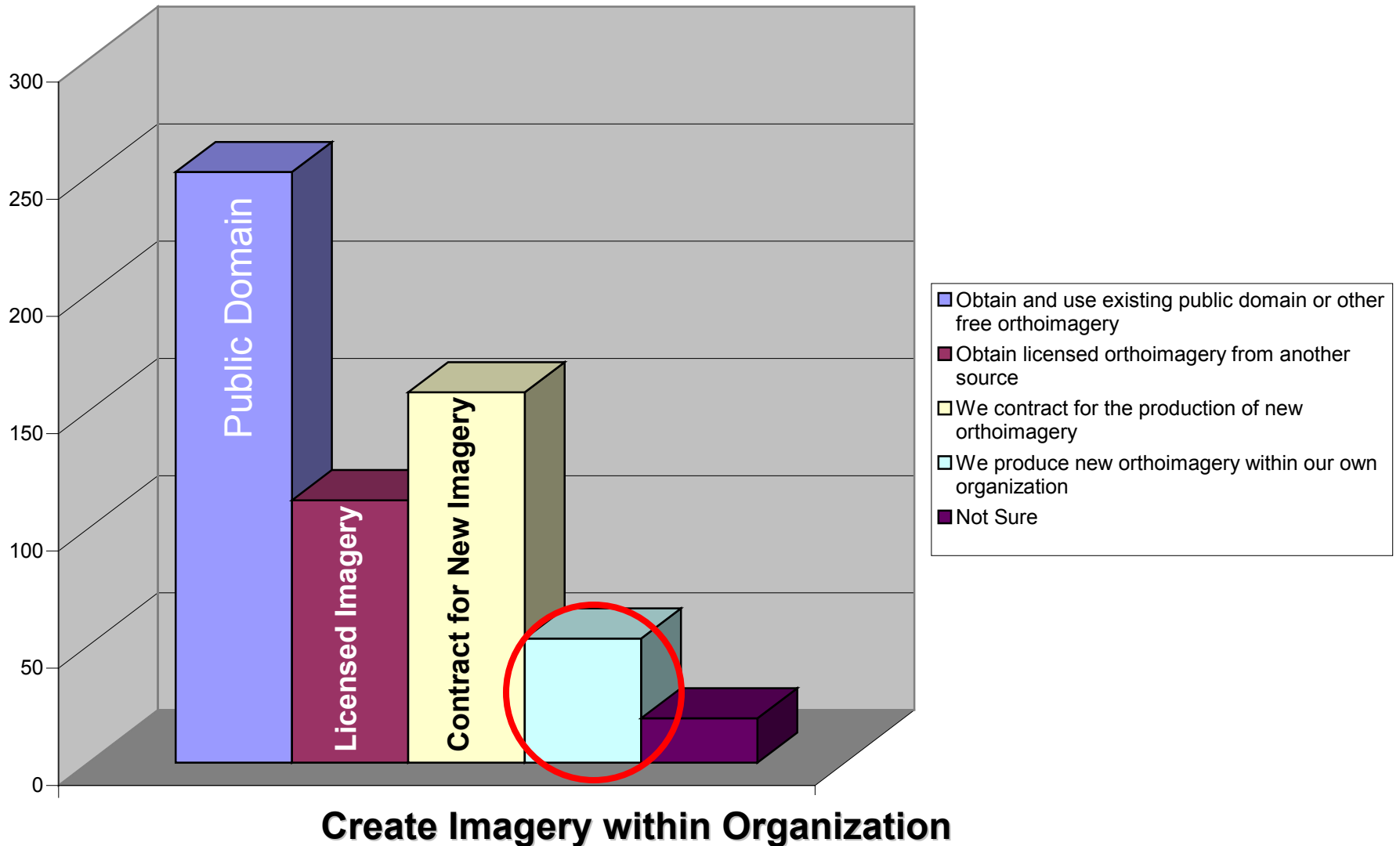
 # Respondents for this question: 336

Multiple Answers Allowed

Sources of Imagery

All Respondents **Local Government** **State Government**
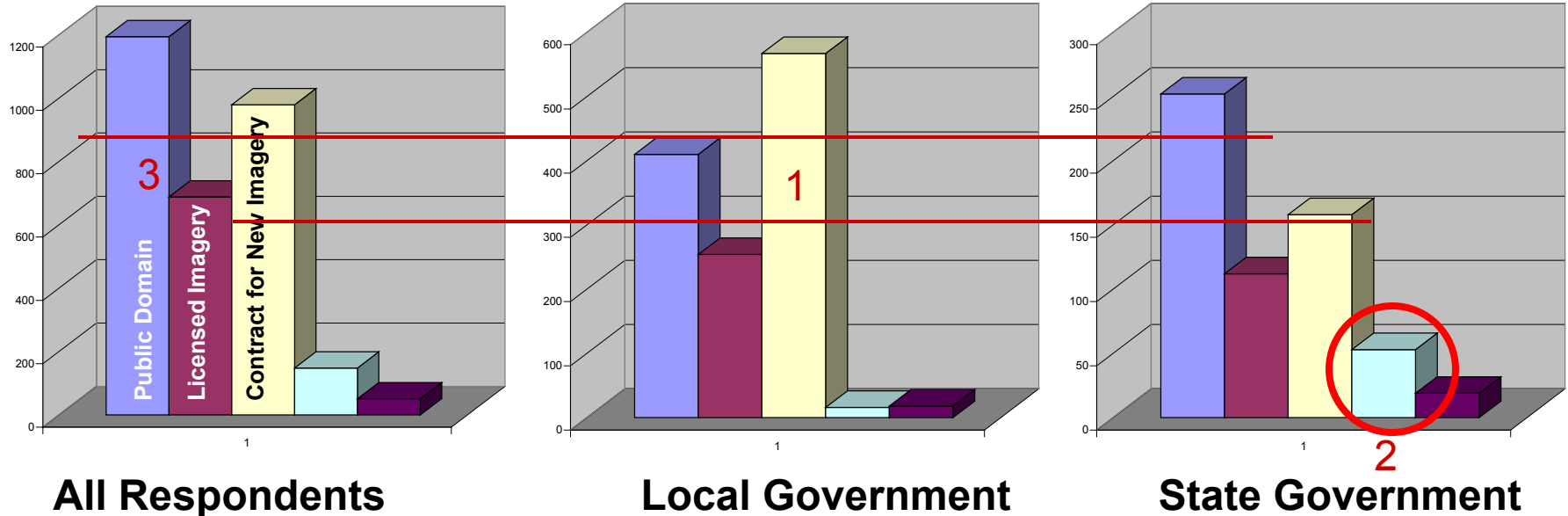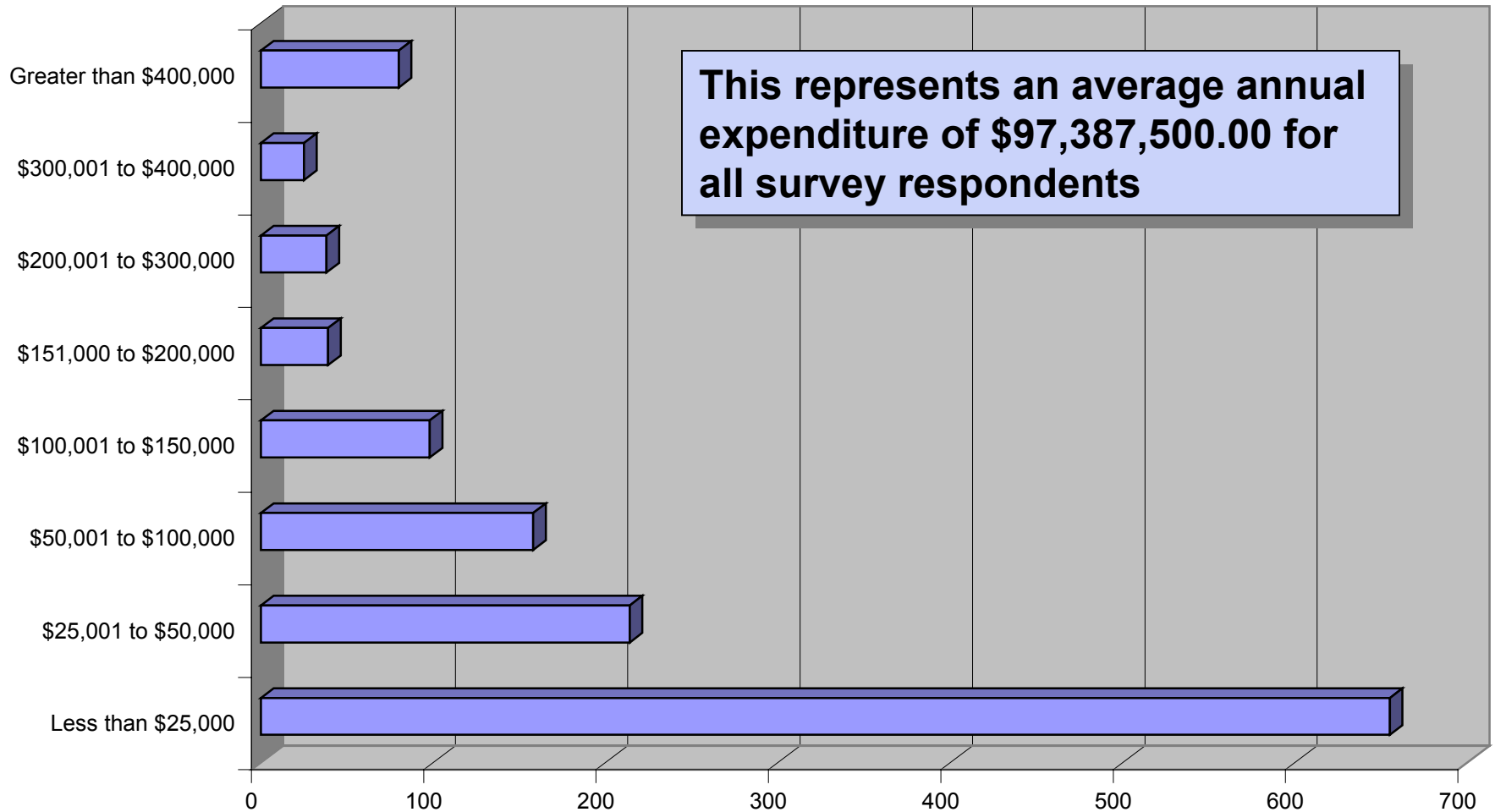
Observations

1. Local Government is more likely to contract for new imagery and less dependent on public domain sources than state government
2. State Government is more likely to acquire and process imagery "in-house" than local government
3. The entire group of respondents, including Federal, Tribal, private, academic, and public are more dependent on Public Domain and Licensed sources of imagery
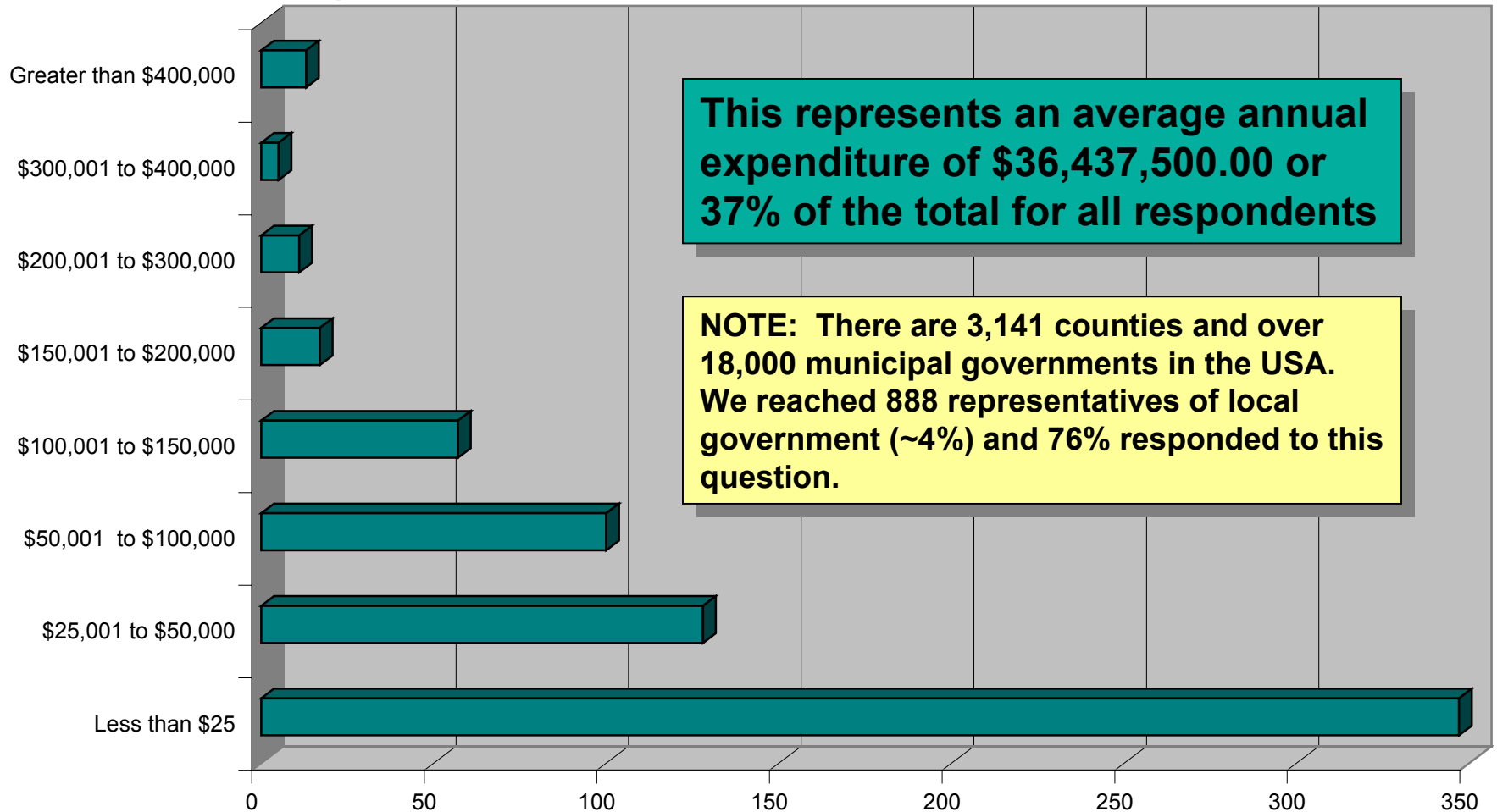
Average annual expenditure on imagery – All Respondents

This represents an average annual expenditure of $97,387,500.00 for all survey respondents

Chart categories (top to bottom):
- Greater than $400,000
- $300,001 to $400,000
- $200,001 to $300,000
- $151,000 to $200,000
- $100,001 to $150,000
- $50,001 to $100,000
- $25,001 to $50,000
- Less than $25,000

X-axis: 0, 100, 200, 300, 400, 500, 600, 700

 # Respondents for this question: 1,307

Single Answer Only

Average annual expenditure on imagery – Local Government
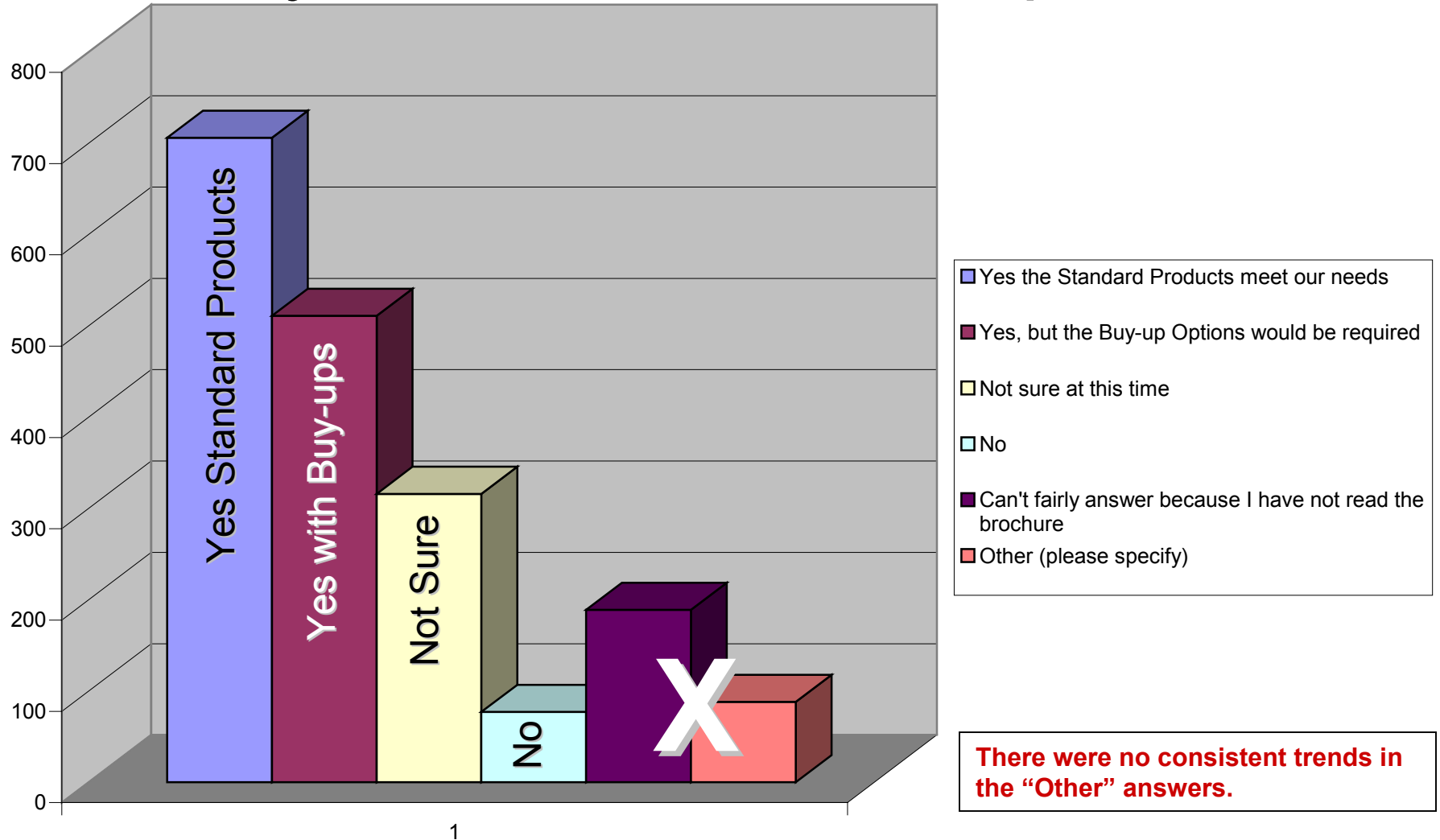
This represents an average annual expenditure of $36,437,500.00 or 37% of the total for all respondents

NOTE: There are 3,141 counties and over 18,000 municipal governments in the USA. We reached 888 representatives of local government (~4%) and 76% responded to this question.

Category	
Greater than $400,000	
$300,001 to $400,000	
$200,001 to $300,000	
$150,001 to $200,000	
$100,001 to $150,000	
$50,001 to $100,000	
$25,001 to $50,000	
Less than $25	

(x-axis: 0, 50, 100, 150, 200, 250, 300, 350)

 # Respondents for this question: 678

Average annual expenditure on imagery – State Government

This represents an average annual expenditure of $25,750,000.00 or 26% of the total for all respondents

Category	
Greater than $400	
$300,001 to $400,000	
$200,001 to $300,000	
$150,001 to $200,000	
$100,001 to $150,000	
$50,001 to $100,000	
$25,001 to $50,000	
Less than $25	

0 10 20 30 40 50 60 70 80

 # Respondents for this question: 205
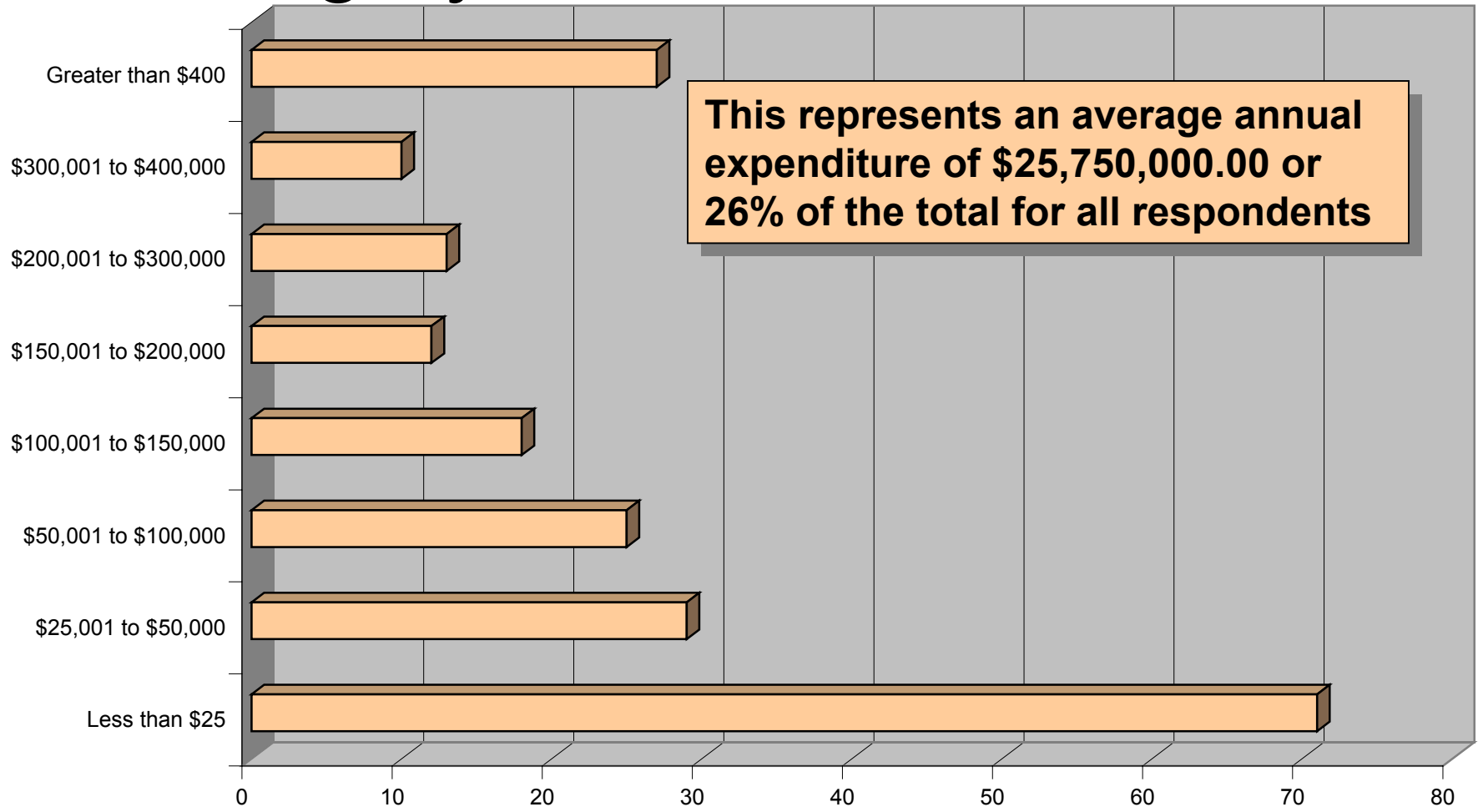
Single Answer Only

Will the Imagery for the Nation Proposal meet your needs? - All Respondents

Legend:
- Yes the Standard Products meet our needs
- Yes, but the Buy-up Options would be required
- Not sure at this time
- No
- Can't fairly answer because I have not read the brochure
- Other (please specify)

Bar labels: Yes Standard Products, Yes with Buy-ups, Not Sure, No, X

There were no consistent trends in the "Other" answers.

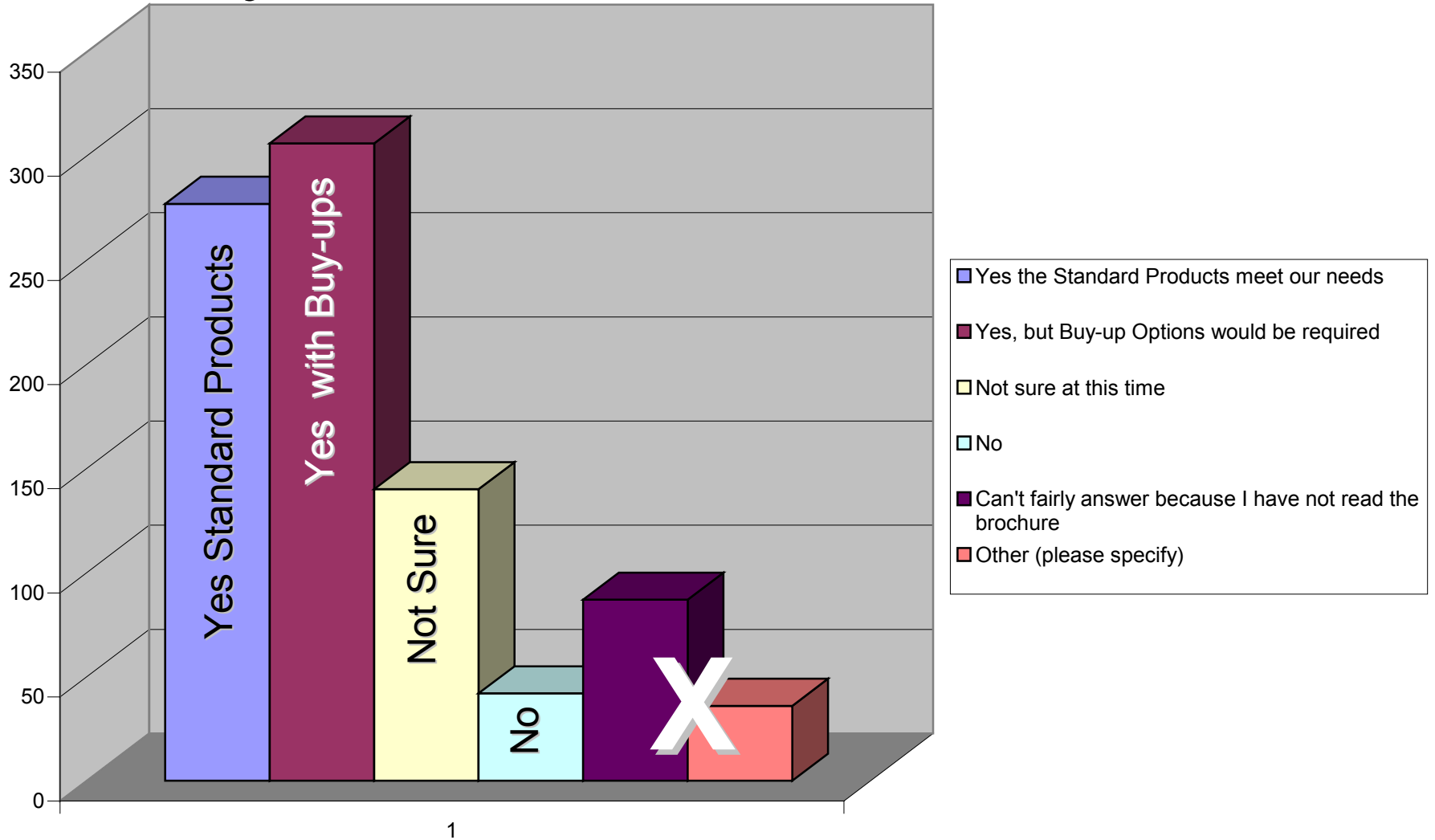**# Respondents for this question: 1,887**

Single Answer Only

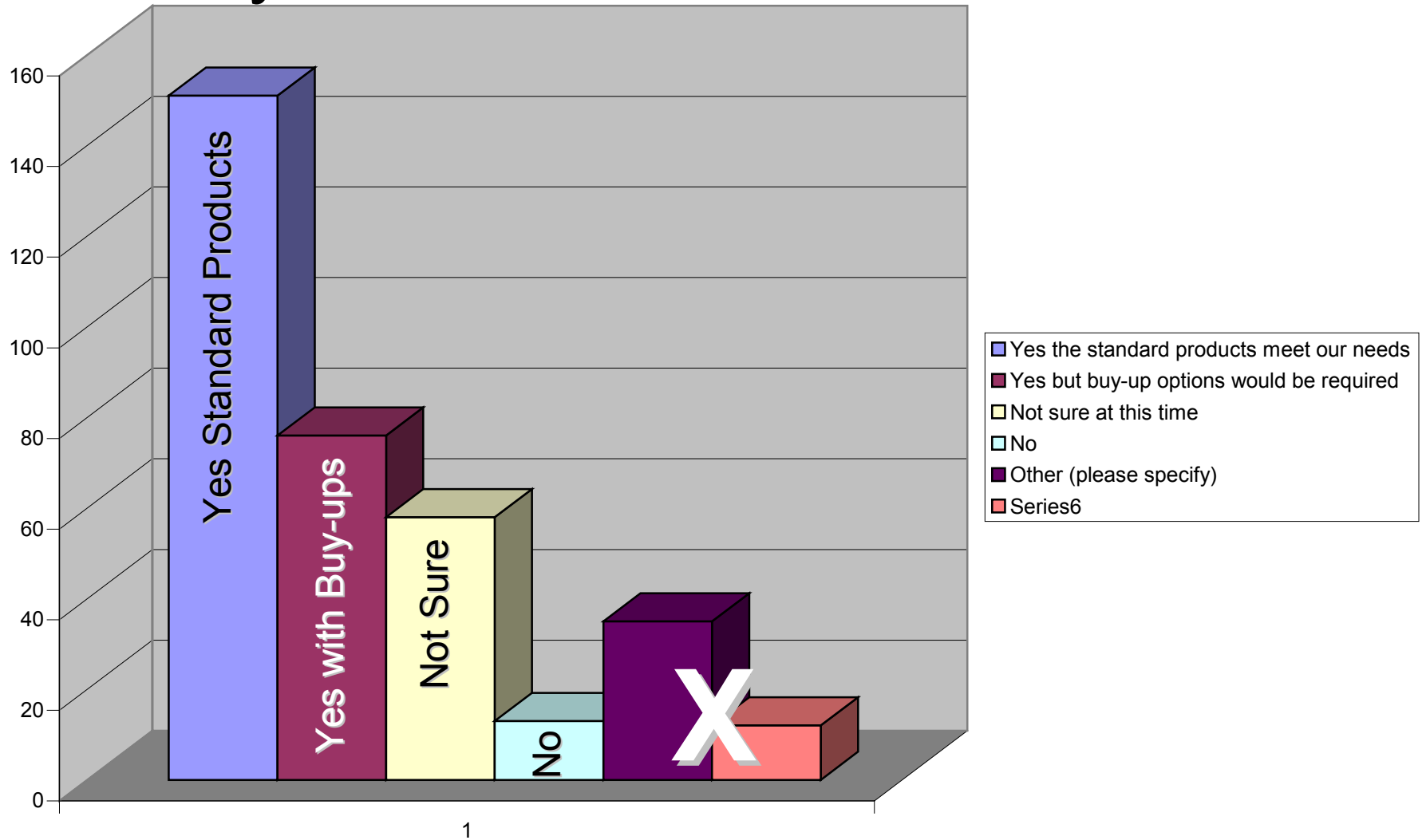# Regional Acceptance of Products
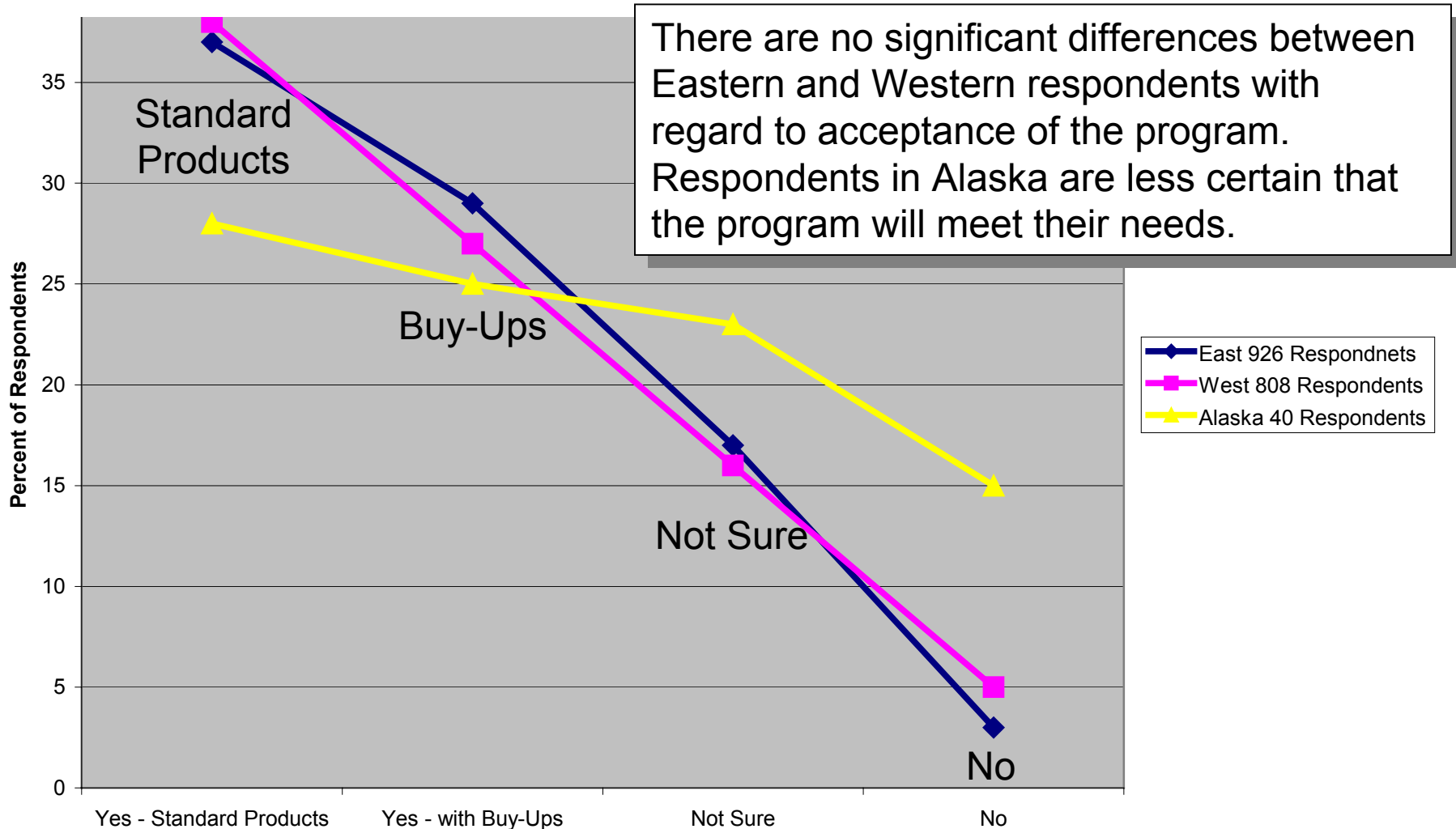
Urbanized vs. Rural Acceptance
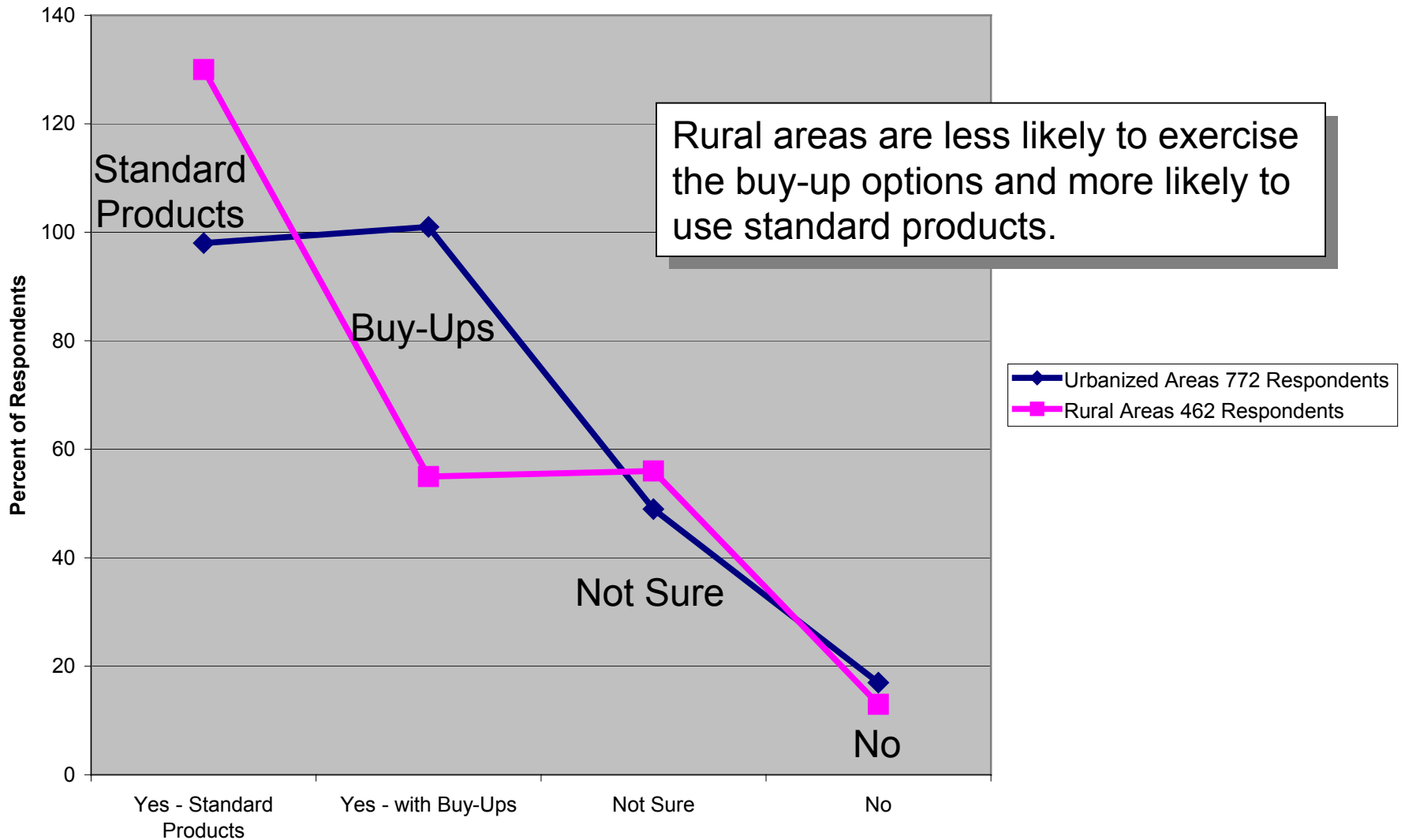
Will the Imagery for the Nation Proposal meet your needs? - Local Government

Legend:
- Yes the Standard Products meet our needs
- Yes, but Buy-up Options would be required
- Not sure at this time
- No
- Can't fairly answer because I have not read the brochure
- Other (please specify)

Bar labels: Yes Standard Products, Yes with Buy-ups, Not Sure, No, X

 # Respondents for this question: 888

Single Answer Only

Will the Imagery for the Nation Proposal meet your needs? - State Government

Legend:
- Yes the standard products meet our needs
- Yes but buy-up options would be required
- Not sure at this time
- No
- Other (please specify)
- Series6

Bars:
- Yes Standard Products
- Yes with Buy-ups
- Not Sure
- No
- X

 # Respondents for this question: 345

Single Answer Only

What "Buy-Up" options will you fund? – All Respondents


Legend:
- Improved Horizontal Accuracy
- Increased Frequency
- Increased Footprint
- Increased Pixel Resolution
- 4-Band Digital Product
- False Color Infrared Image Type
- Sampling High-Resolution Products Back to 1-Meter
- Higher Resolution Digital Elevation Data
- True Ortho Production (Removing Building Lean)
- Other (please specify)
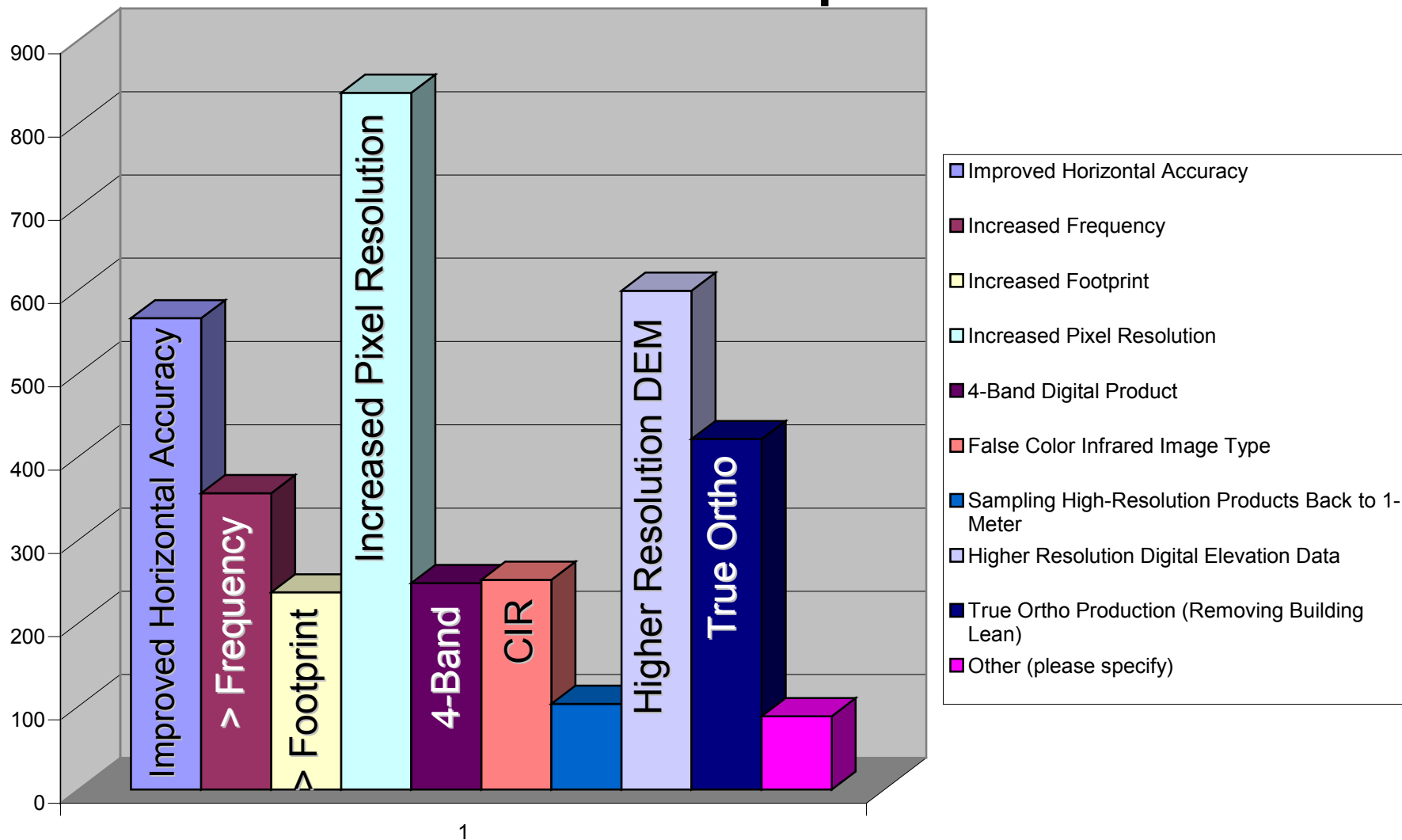
 # Respondents for this question: 1,313   **Multiple Answers Allowed**

What "Buy-Up" options will you fund? – Local Government
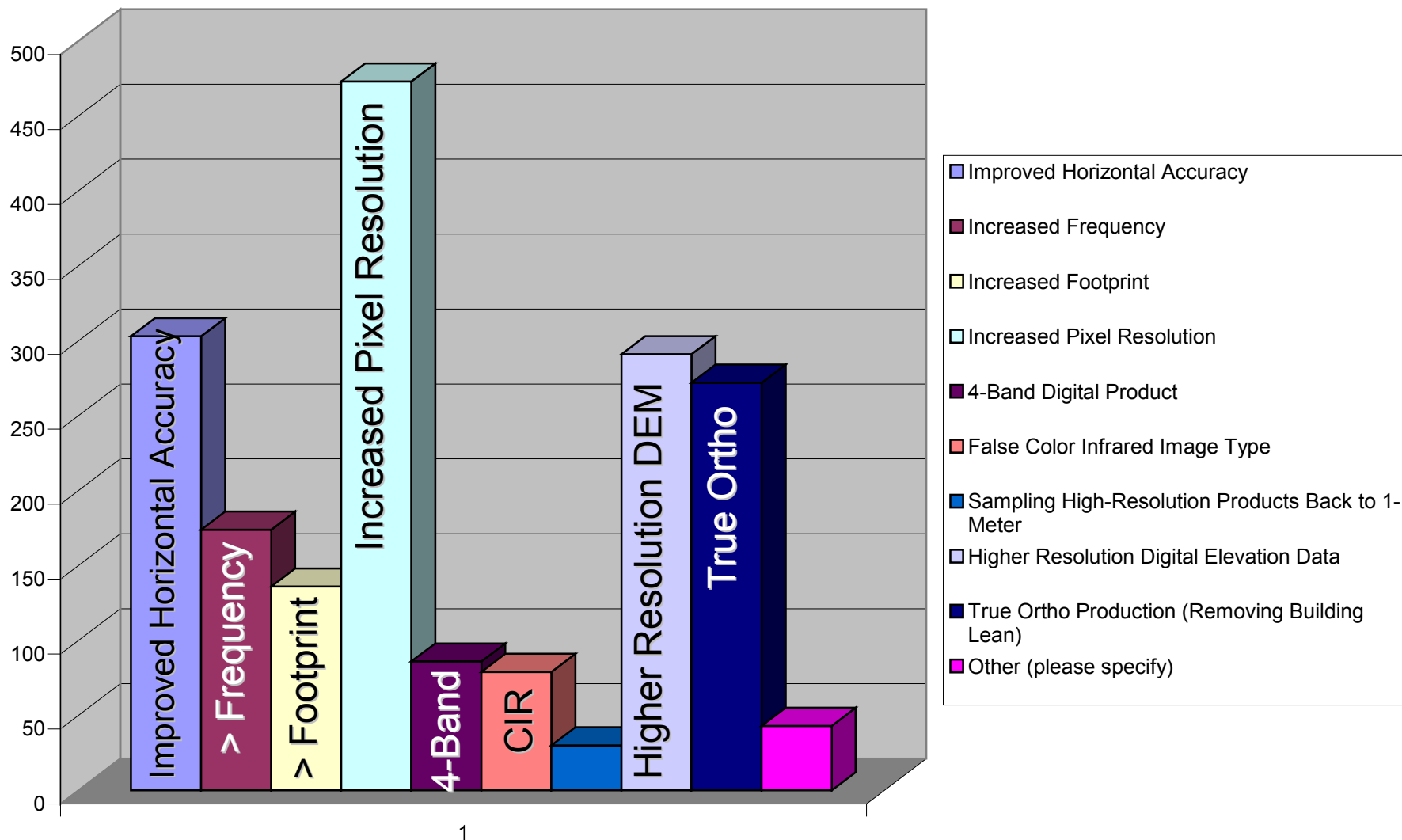
Legend:
- Improved Horizontal Accuracy
- Increased Frequency
- Increased Footprint
- Increased Pixel Resolution
- 4-Band Digital Product
- False Color Infrared Image Type
- Sampling High-Resolution Products Back to 1-Meter
- Higher Resolution Digital Elevation Data
- True Ortho Production (Removing Building Lean)
- Other (please specify)

**# Respondents for this question: 671**   **Multiple Answers Allowed**

What "Buy-Up" options will you fund? – State Government

Legend:
- Improved Horizontal Accuracy
- Increased Frequency
- Increased Footprint
- Increased Pixel Resolution
- 4-Band Digital Product
- False Color Infrared Image Type
- Sampling High-Resolution Products Back to 1-Meter
- Higher Resolution Digital Elevation Data
- True Ortho Production (Removing Building Lean)
- Other (please specify)
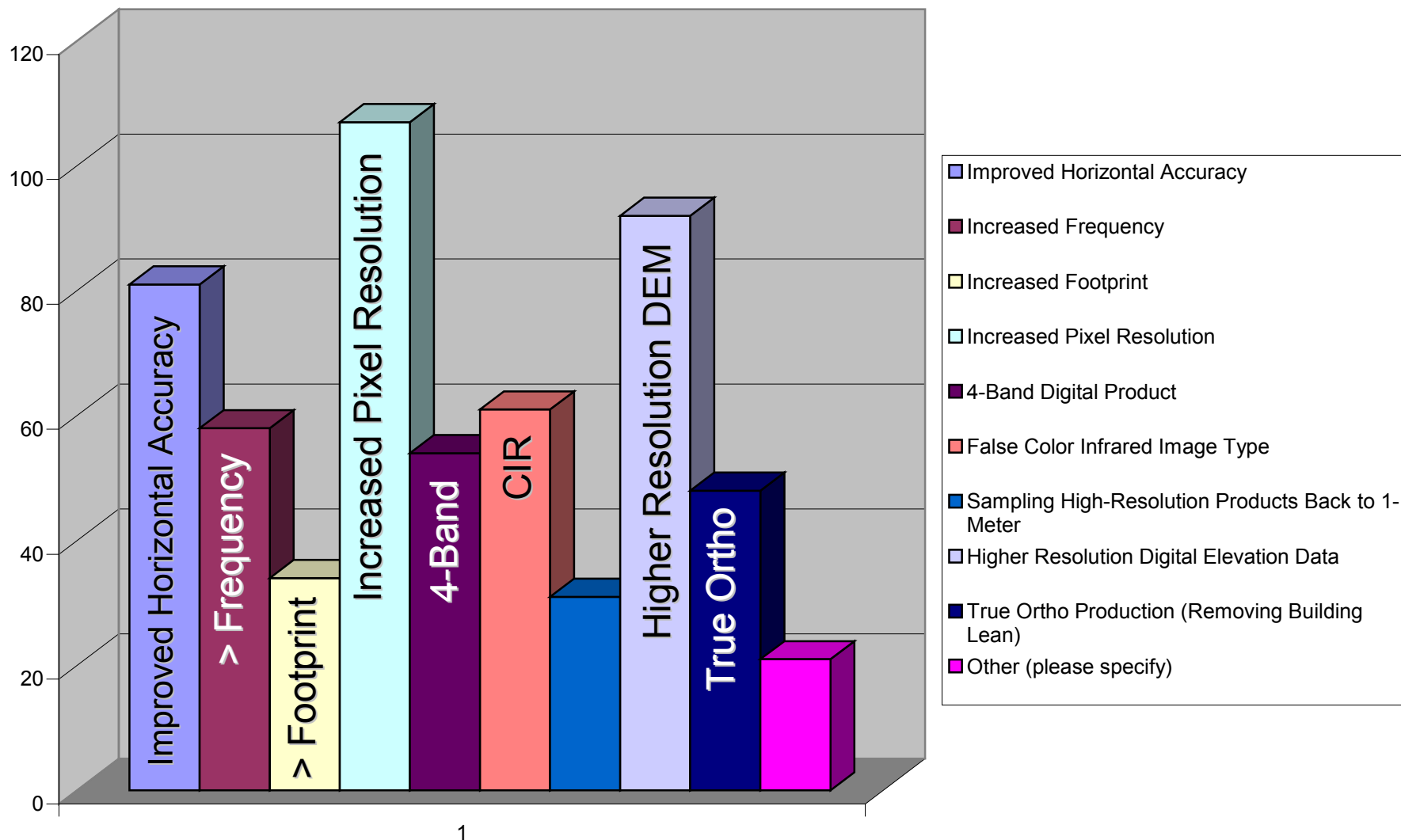
 # Respondents for this question: 224　　　　　**Multiple Answers Allowed**

Comparison of Buy-Up Options

All Respondents   **Local Government**   **State Government**
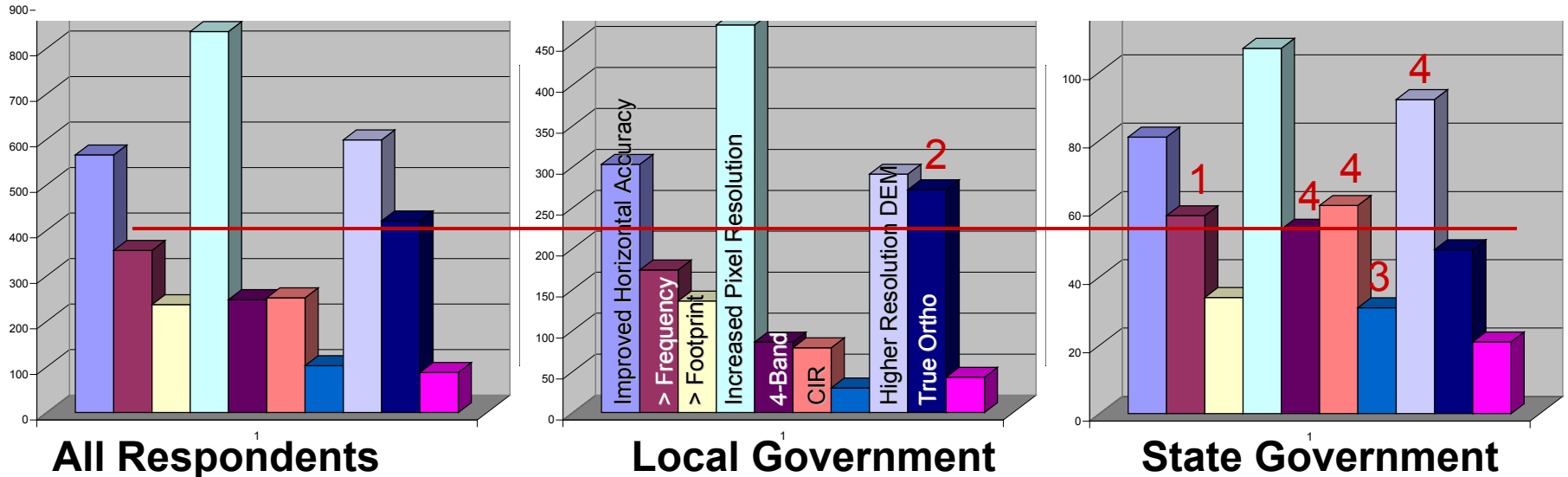
Observations

1. Surprisingly, State government showed a greater interest about increased frequency of acquisition.
2. As expected, Local government showed a greater interest in True Ortho production to remove building "lean" in their imagery.
3. State government showed a surprising interest in sampling high resolution products.
4. State government showed a significantly greater interest in 4-Band, CIR, and improved elevation products.

Most Popular Responses to "Other" for Buy-Up Options

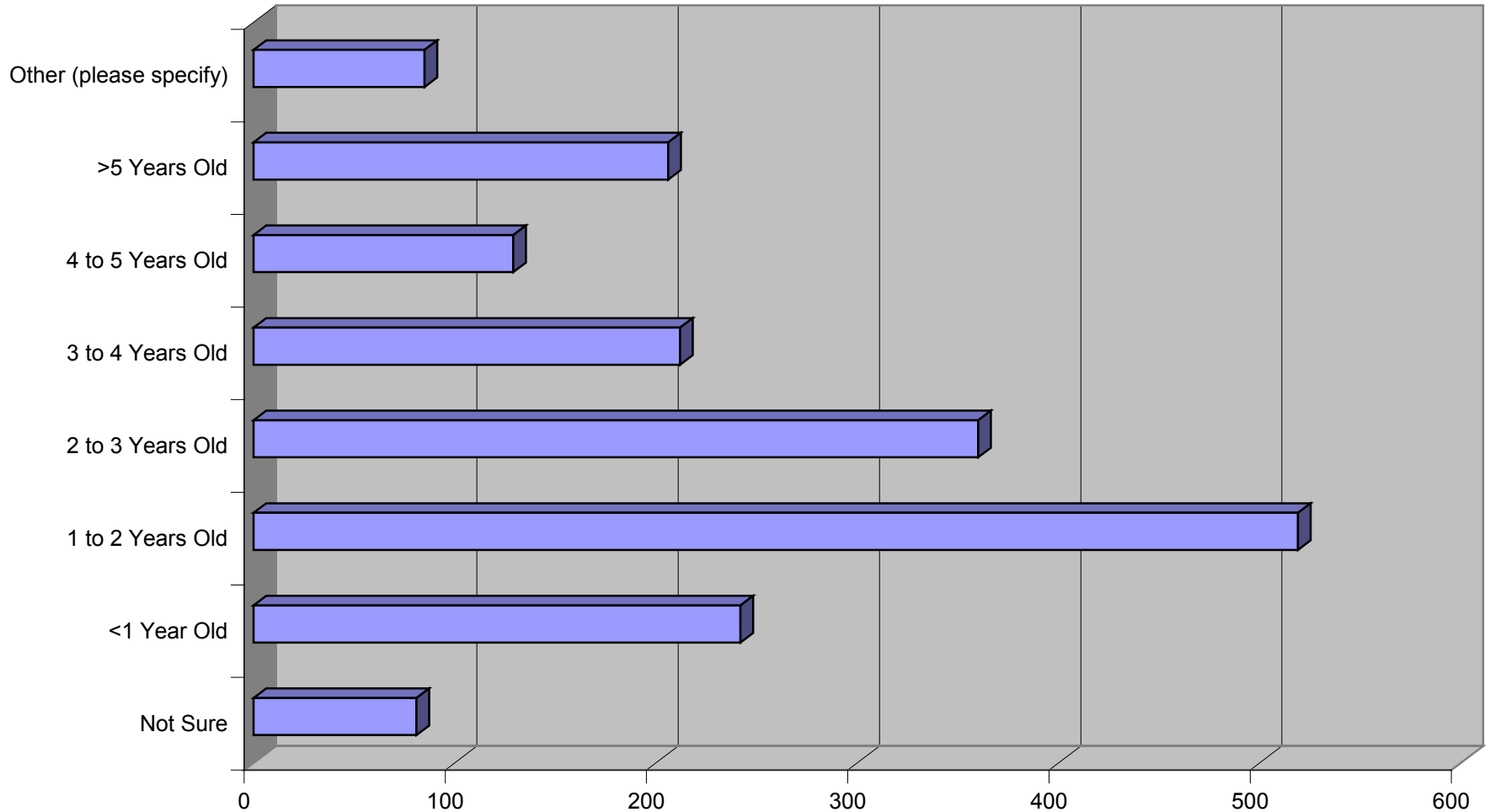| Desired Additional Buy-Up Options	# of Respondents
• Exercising the Buy-Up Options is dependant on cost of options	9
• Want Leaf-Off Products	5
• Want Oblique Imagery	3
• Want Planimetrics	3
• Need Increased Vertical Accuracy	2

 # Respondents for this question: 1,313   **88 Free Text Answers for "Other"**
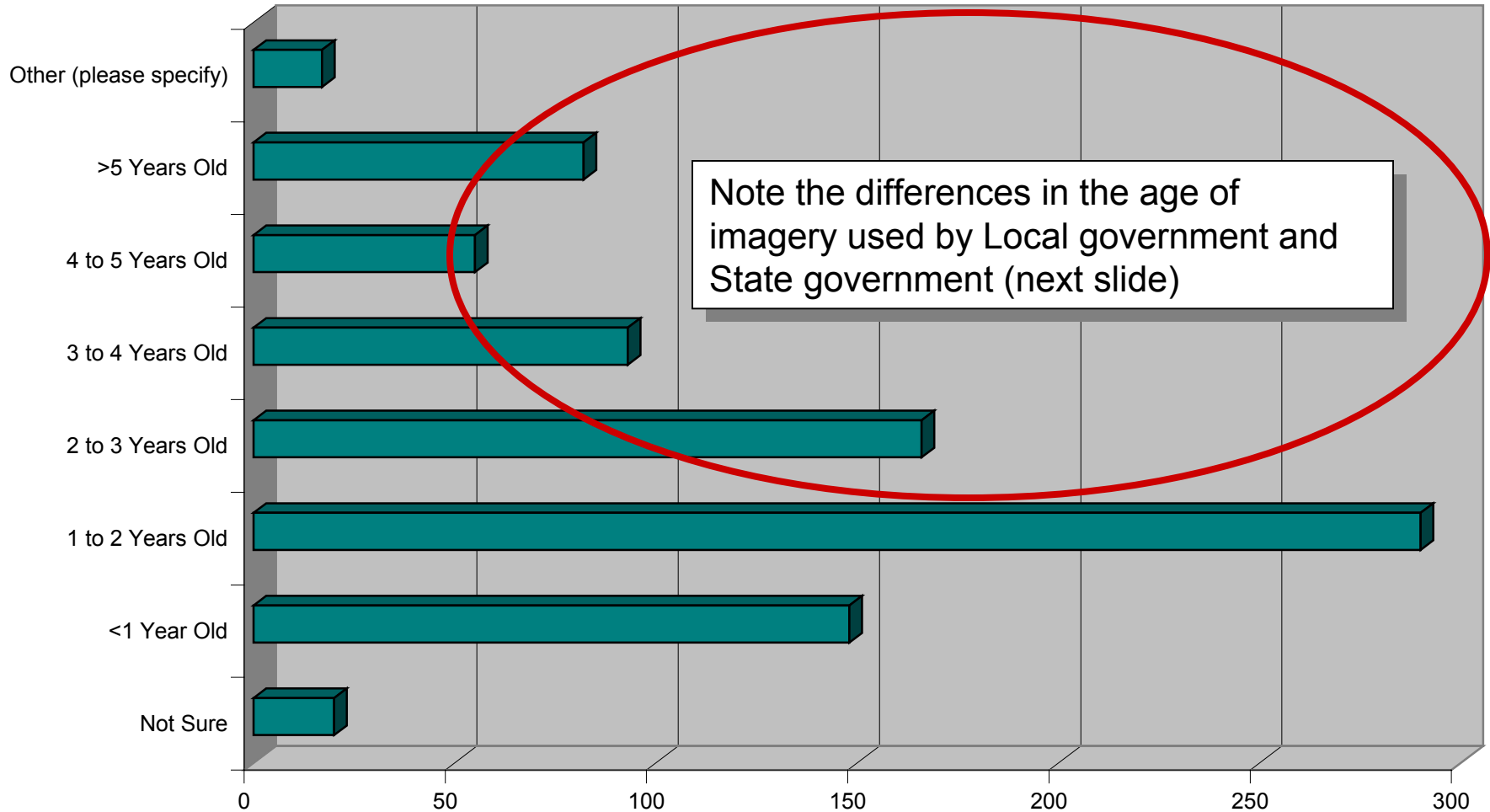
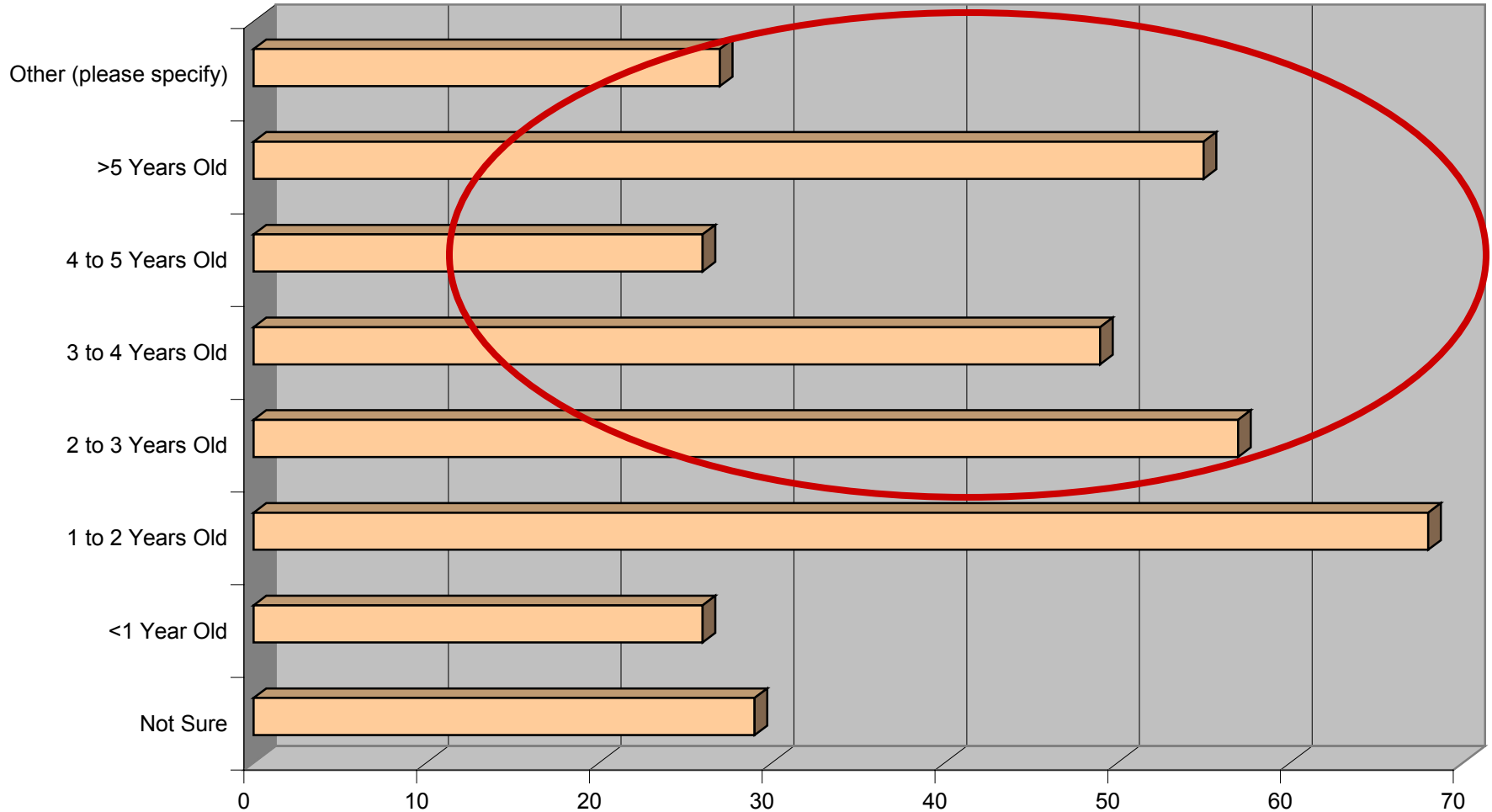# What is the age of your current imagery ? - All Respondents

85 respondents commented using the "Other" choice. Most indicated that they used multiple image sources that were acquired over many years.

 # Respondents for this question: 1,834

Single Answer Only

What is the age of your current imagery ? - Local Government

Note the differences in the age of imagery used by Local government and State government (next slide)

 # Respondents for this question: 871

Single Answer Only

What is the age of your current imagery ? - State Government

Bar chart showing number of respondents by age of current imagery:

- Other (please specify): ~28
- >5 Years Old: ~56
- 4 to 5 Years Old: ~27
- 3 to 4 Years Old: ~49
- 2 to 3 Years Old: ~58
- 1 to 2 Years Old: ~68
- <1 Year Old: ~27
- Not Sure: ~30

Your current imagery type by Pixel Size - All Respondents

Legend:
- False Color Infrared
- Black & White
- Natural Color

X-axis: ~3" Pixel, ~6" Pixel, ~12" Pixel, ~18" Pixel, ~24" Pixel, ~36" Pixel, ~72" Pixel, >72" Pixel
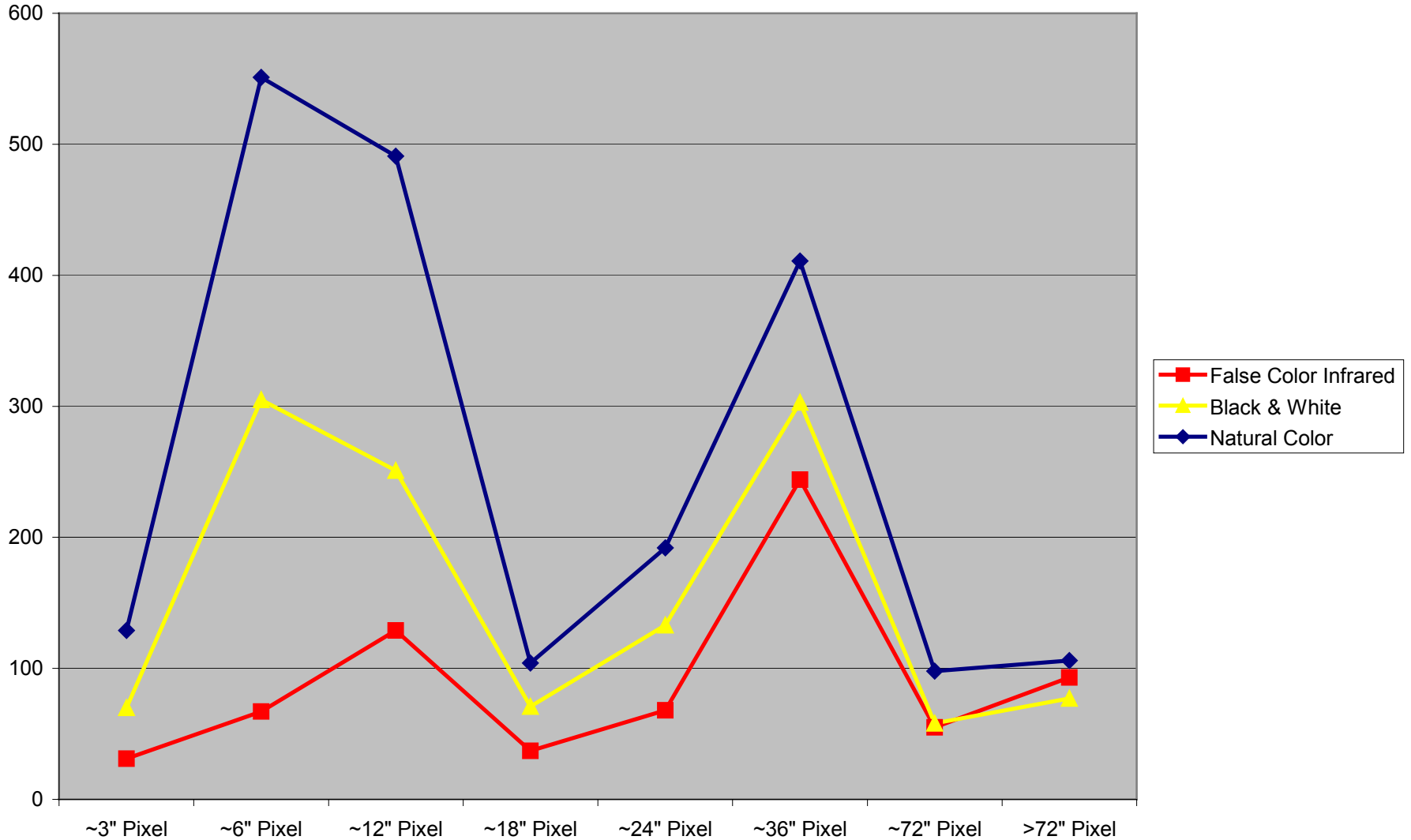
 # Respondents for this question: 1,561

Multiple Answers Allowed

Your current imagery by Leaf On/Off Status - All Respondents

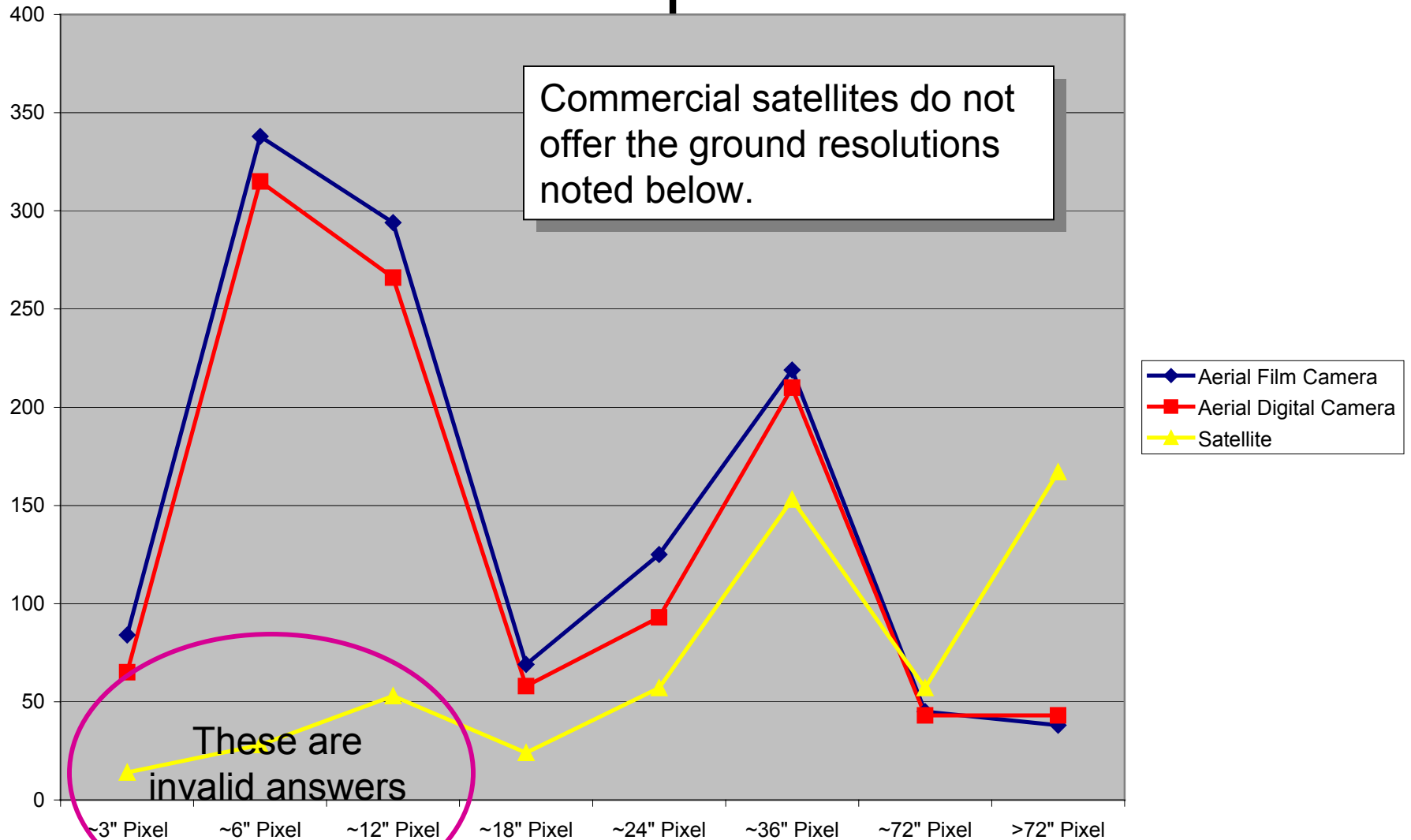The shift between leaf-on and leaf-off at ~ 1-meter and greater resolutions appears to be related to NAIP Imagery and its availability in the public domain.

Legend:
- Leaf-On
- Leaf-Off

X-axis: ~3" Pixel, ~6" Pixel, ~12" Pixel, ~18" Pixel, ~24" Pixel, ~36" Pixel, ~72" Pixel, >72" Pixel
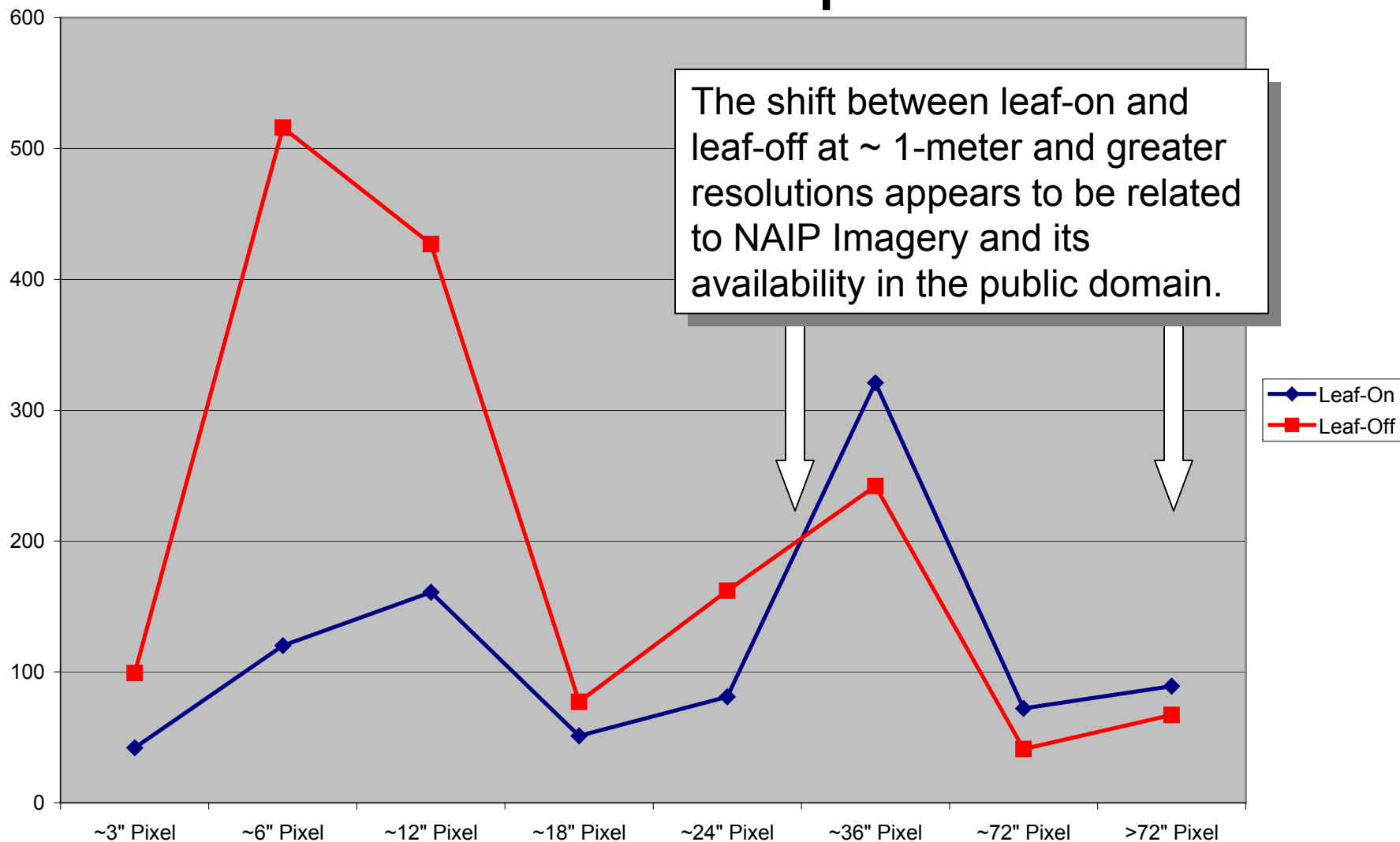
 # Respondents for this question: 1,561

Multiple Answers Allowed

Your current imagery by Source
All Respondents

Commercial satellites do not offer the ground resolutions noted below.

Legend:
- Aerial Film Camera
- Aerial Digital Camera
- Satellite

These are invalid answers

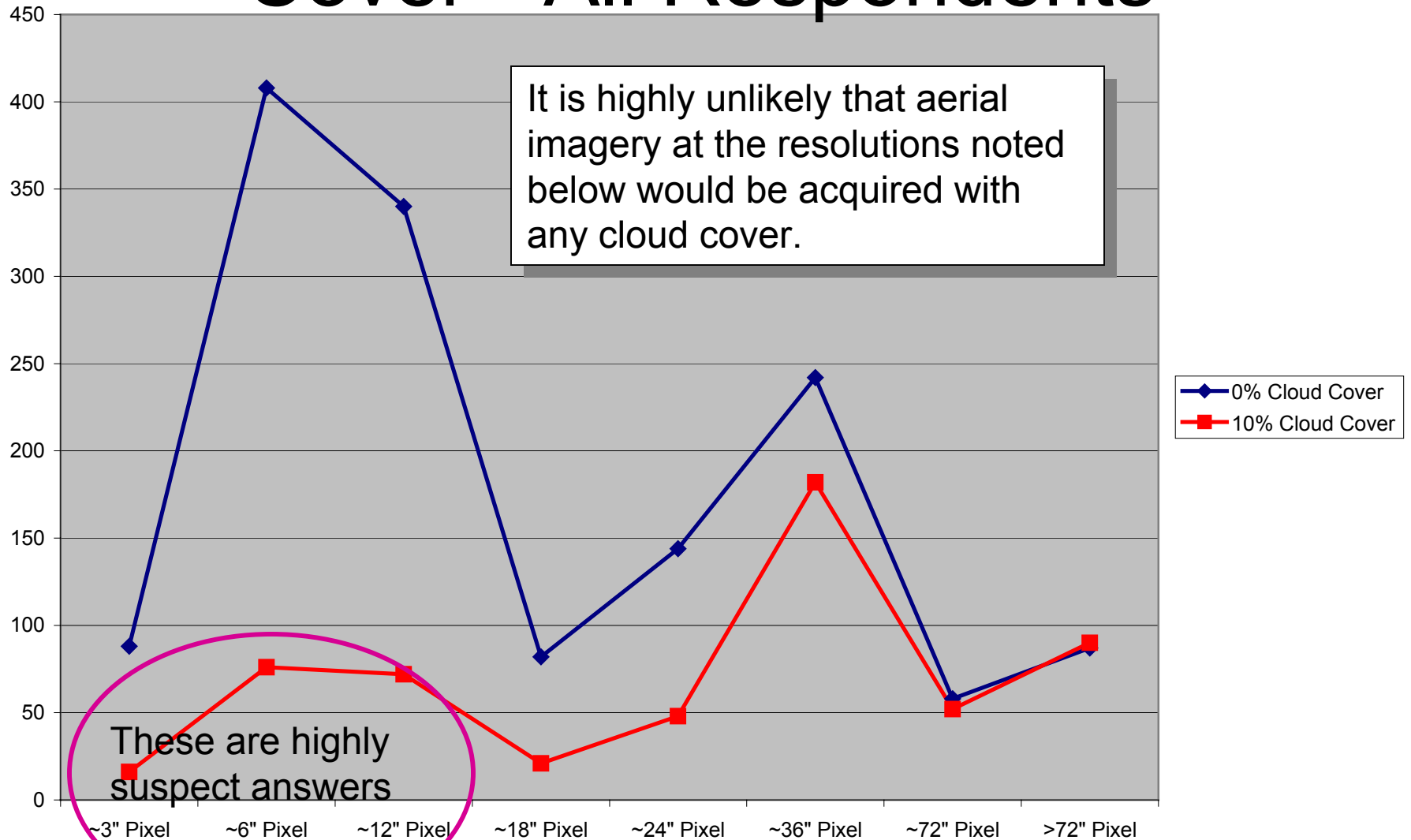X-axis: ~3" Pixel, ~6" Pixel, ~12" Pixel, ~18" Pixel, ~24" Pixel, ~36" Pixel, ~72" Pixel, >72" Pixel

 # Respondents for this question: 1,561

Multiple Answers Allowed

Your current imagery by % Cloud Cover - All Respondents

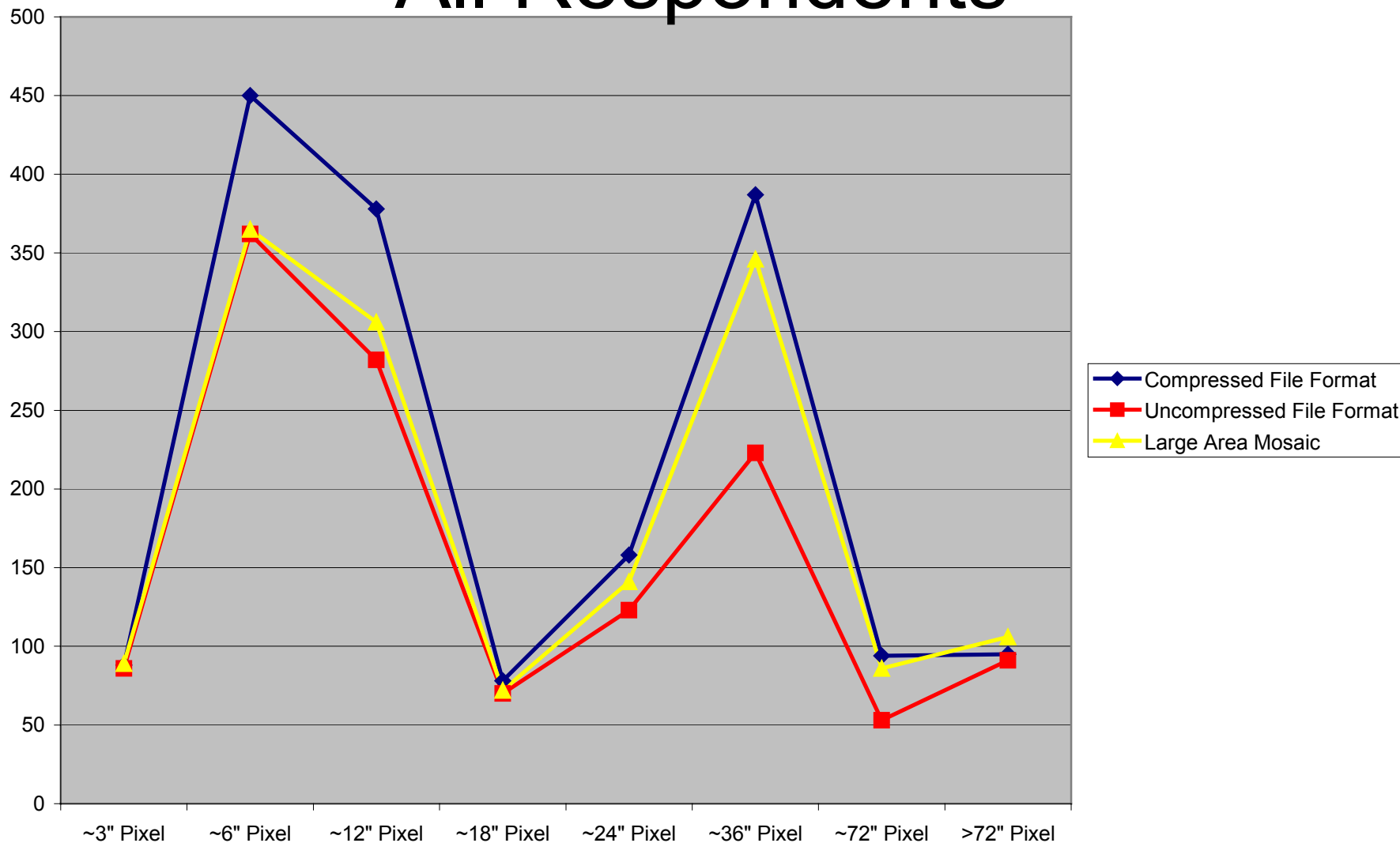It is highly unlikely that aerial imagery at the resolutions noted below would be acquired with any cloud cover.

0% Cloud Cover
10% Cloud Cover

These are highly suspect answers

~3" Pixel   ~6" Pixel   ~12" Pixel   ~18" Pixel   ~24" Pixel   ~36" Pixel   ~72" Pixel   >72" Pixel

Respondents for this question: 1,561

Multiple Answers Allowed

Your current imagery by its format
All Respondents

Legend:
- Compressed File Format
- Uncompressed File Format
- Large Area Mosaic

X-axis categories: ~3" Pixel, ~6" Pixel, ~12" Pixel, ~18" Pixel, ~24" Pixel, ~36" Pixel, ~72" Pixel, >72" Pixel

Y-axis: 0 to 500

 # Respondents for this question: 1,561

Multiple Answers Allowed

Final Thoughts of Respondents

- The respondents were asked to make a value judgment about the IFTN Proposal through the final question - "What do you think of the Imagery for the Nation Proposal? (Optional)"

- Each answer was determined to be "positive," "neutral," or "negative

- See the results and sample comments in the following 4 slides

 # Respondents for this question: 1,025 Responses Evaluated

Free Text Answers

NSGIC

What do you think of the IFTN Proposal?

- **79% Positive Comments**
- **Examples of positive comments:**
  - "As a representative in the Oil and Gas Industry, I think the nation wide Imagery proposal is a great advancement for the country. We have holdings in several different states and to have access to imagery in all of those areas will be an asset to the company."
  - "I think it is imperative to have this. I am a Detective and Crime Scene Technician with the Sheriff's Office. I have used this tool to assist my investigative package for trial purposes. I can not stress enough how valuable this can be in a criminal trial. Thank you for the opportunity to share my views."
  - "Excellent"
  - "I think it is a great idea that should have come sooner"

What do you think of the IFTN Proposal?

- ## 17% Neutral Comments

- ## Examples of neutral comments:

  - "A good start"

  - "It seems like a very interesting proposal."

  - "If image quality & accuracy meet our standards, I would be very interested in the product."

  - "I think you will find that some areas that are fast developing areas will require photography more often then once every three years. Another factor will be the turn around time from when the photography is flown to when it is available to the customer."

Please Note: Comments were determined to be neutral if they pondered about provisions of the program, did not specifically endorse or reject IFTN, or were esoteric discussions on related or unrelated points.

What do you think of the IFTN Proposal?

- **4% Negative Comments**
- **Examples of negative comments:**
  - "Great concept. Necessary concept. Very poorly managed in the typical top down fashion we are use to seeing from this group. Also can not answer question 12 because it is based on pixel size and not negative scale or digital equivalent. An example of the misunderstanding common to IFTN"
  - "Current and readily available imagery would be very beneficial in a business sense. However, I don't believe that it is something that taxpayers should fund."
  - "Waste of government money. There are more significant, vital needs than imagery that is not that good. This sounds like and feels like a scam put together by orthoimagery folks and companies who will keep their jobs from such a product. Sounds like a good product but it walks like a duck, sounds like a duck and is a duck!"

What do you think of the IFTN Proposal?

- **For Special Consideration**
- Examples of Responses
  - "It is a great proposal except it is very unfair to western states!!!"
  - "Great idea! This is where data acquisition should be headed: region-wide with many participants. Would be nice to have the 1' image cover more of the western united states (less population density or more control for flying population centers within the areas as a option.)"

For more information on the Imagery for the Nation Proposal, please see:

http://www.nsgic.org/hottopics/imageryofnation.cfm

For specific information on this survey, please contact the following individuals:

Bill Burgess, NSGIC Washington Liaison william.burgess@comcast.net or

Ted Koch, Wisconsin State Cartographer tkoch@wisc.edu

NSGIC