

USGS and the Census Bureau: TIGER Roads and The National Map



Esri User Conference
July 12, 2017

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Title 13 Presentation contains no Title 13 or 26 data

Presentation Outline

- Partnership Background
- TIGER Roads sharing and quality control (QC)
 - Review and resolution process
 - Transmitting data
- Limited-Access Highways MTFCC Change
- Moving ahead

* Topologically Integrated Geographic Encoding and Referencing

** Master Address File (MAF)/TIGER Feature Class Code

Partnership Background

- History of cooperation dating from 1980's
- USGS and the Census Bureau established interagency team to investigate the use of TIGER roads as the primary roads layer in *The National Map (TNM)* in 2011
- Requirements identified in 2011-12
- Use of TIGER roads recommended in 2013

USGS and the Census Bureau

- MOU signed in April 2014
- Implementation group formed in 2014
- Road review and resolution processes implemented 2014-16
- Continuous exchange of updated data

TIGER Roads Sharing and QC

USGS QC of TIGER Roads

1. Interstates – the backbone of road data in TNM
2. Urban – top 100 cities by population
3. All areas – high-level view for major errors (current phase)

Review and Resolution Process

US Geological Survey
Denver, CO

US Census Bureau
Washington, DC

USGS reviews TIGER roads
against imagery in ArcMap



USGS creates error shapefile



USGS sends error shapefile to
Census

TIGER converted and uploaded to
TNM

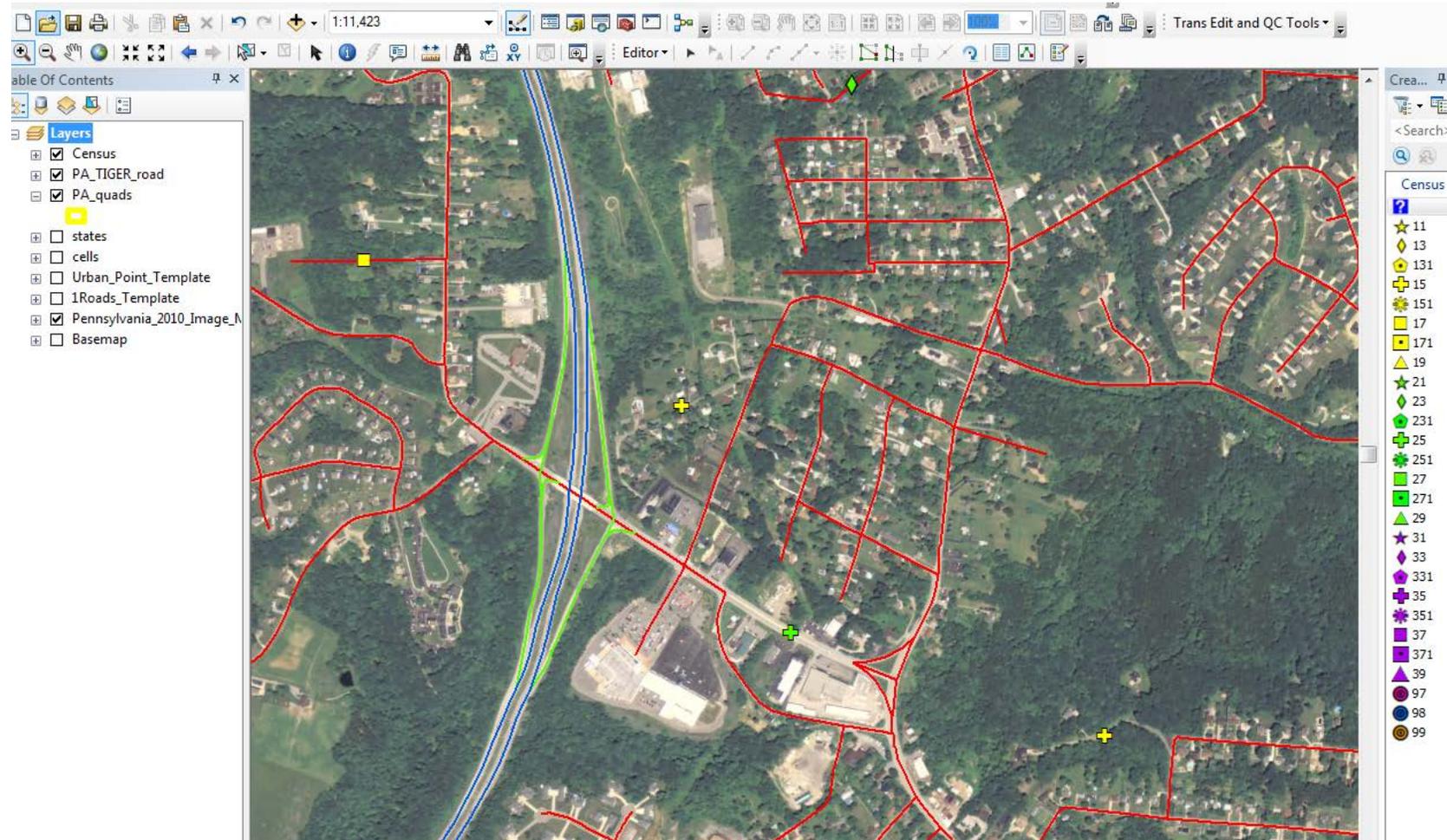
Census makes the
edits in TIGER



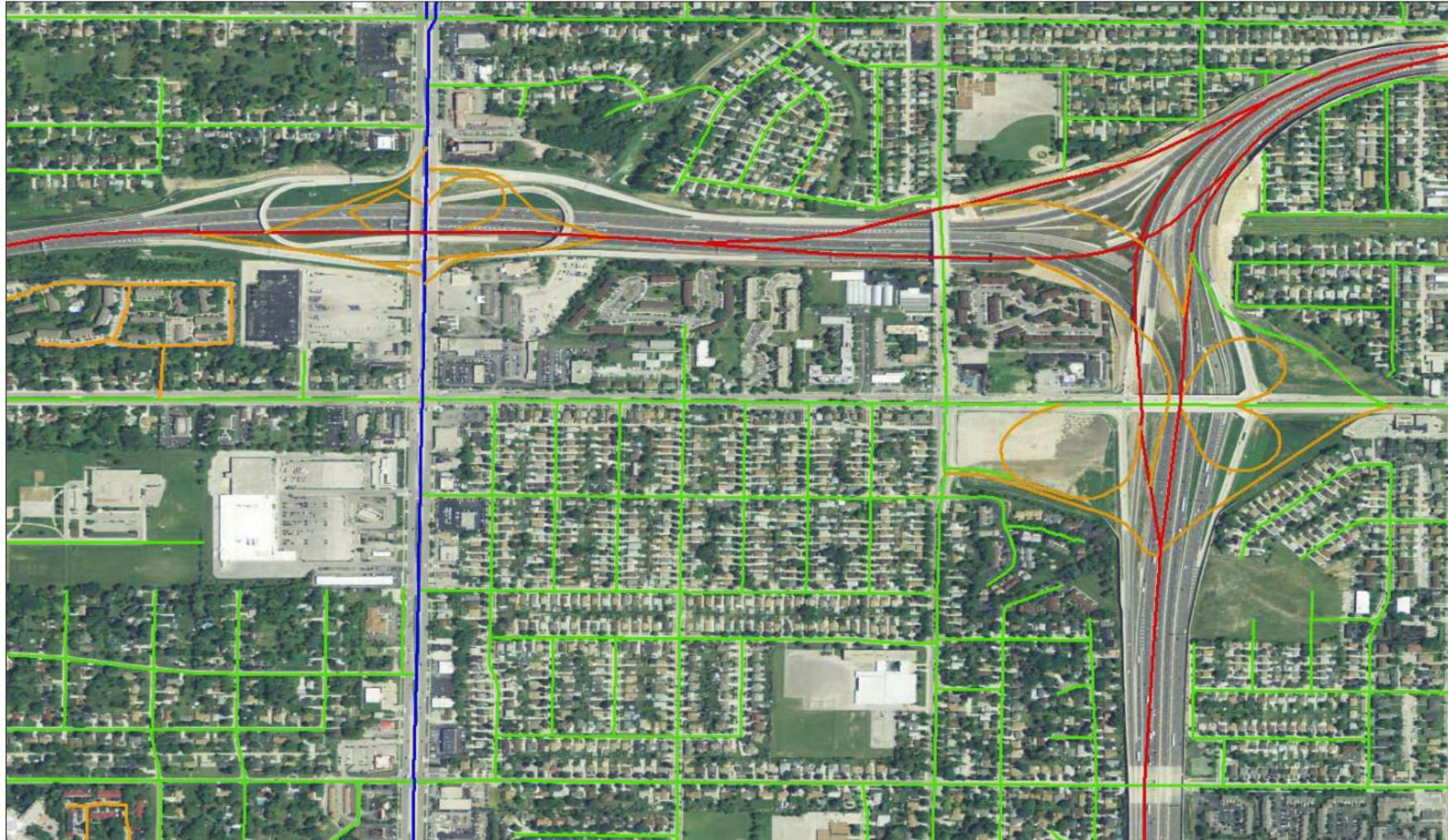
Census sends updated
TIGER to USGS



USGS Urban Review

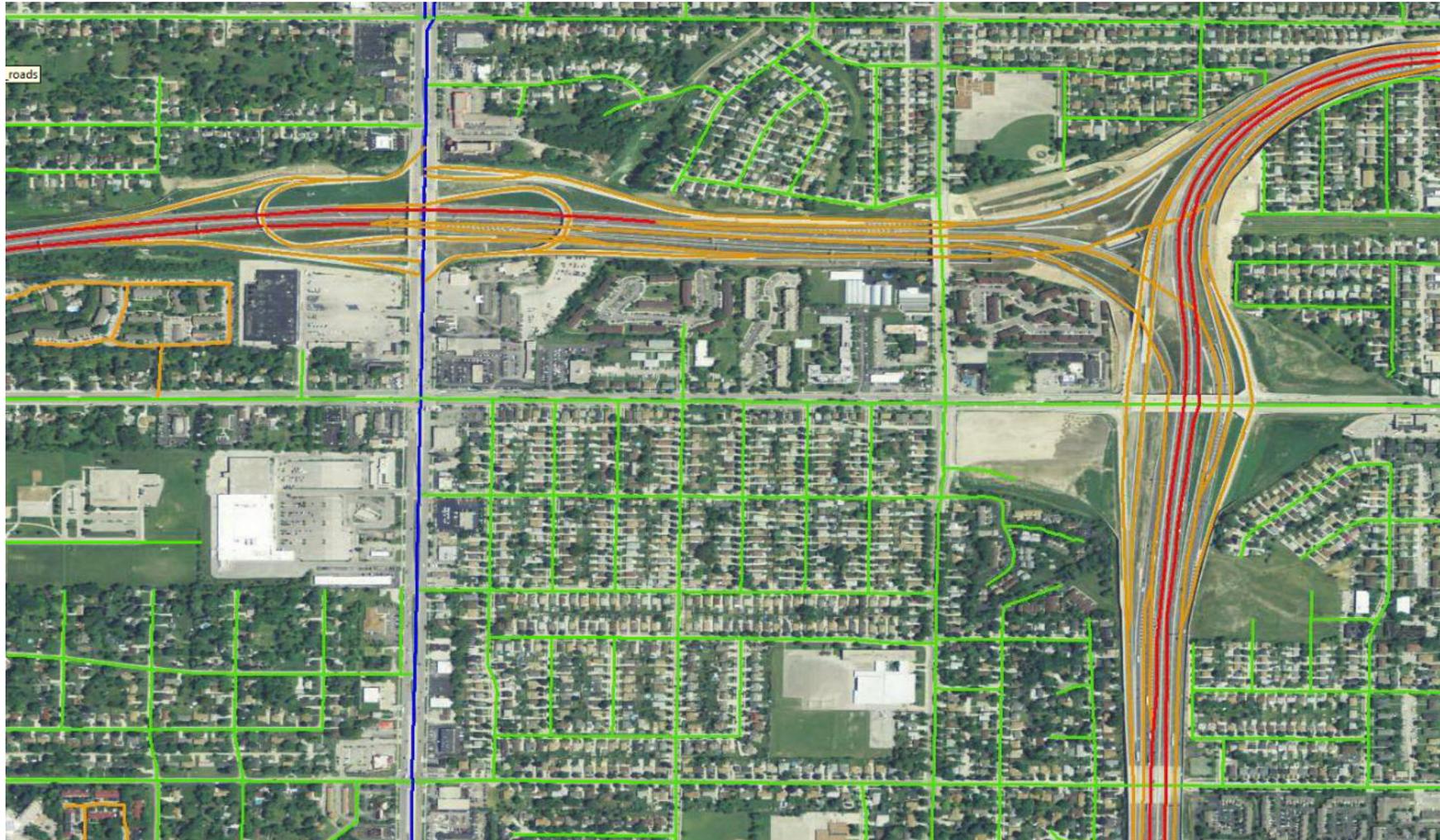


Misaligned Interchange



- Interstate
- Secondary Roads
- Local Roads
- Ramps

Misaligned Interchange

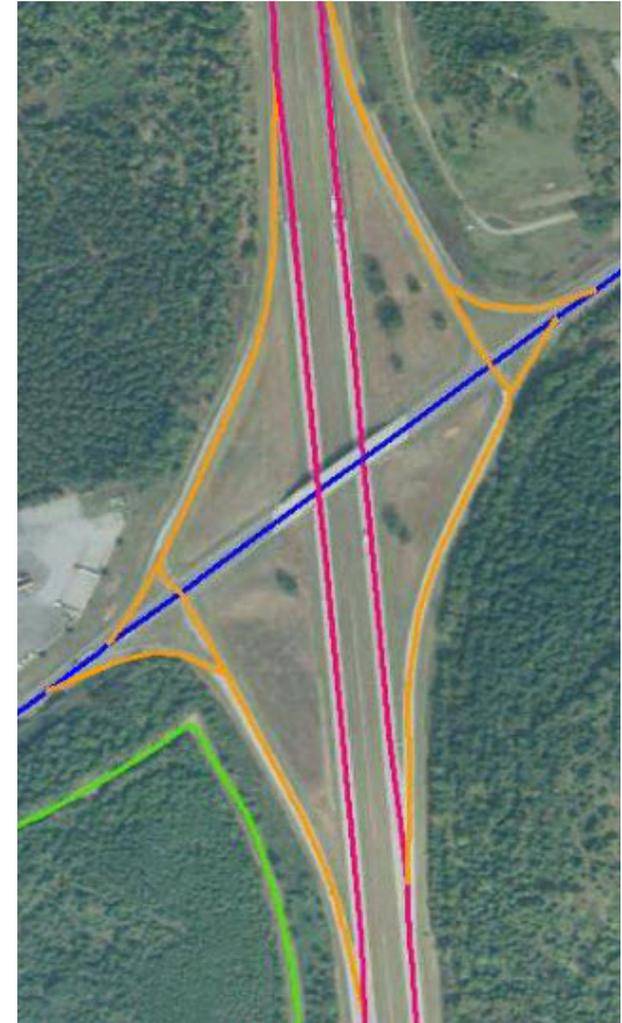


- Interstate
- Secondary Roads
- Local Roads
- Ramps

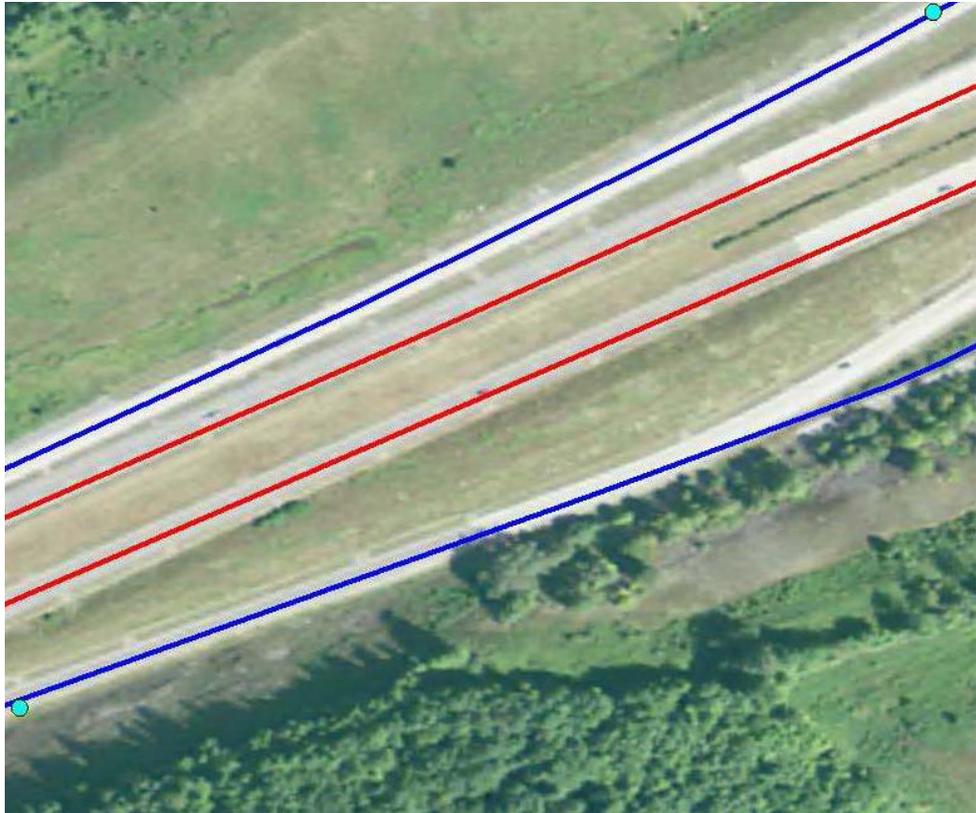
Miscoded Interchange



- Interstate
- Secondary Roads
- Local Roads
- Ramps



Miscoded Ramps



- Interstate
- Secondary Roads
- Local Roads
- Ramps



Missing Interstate

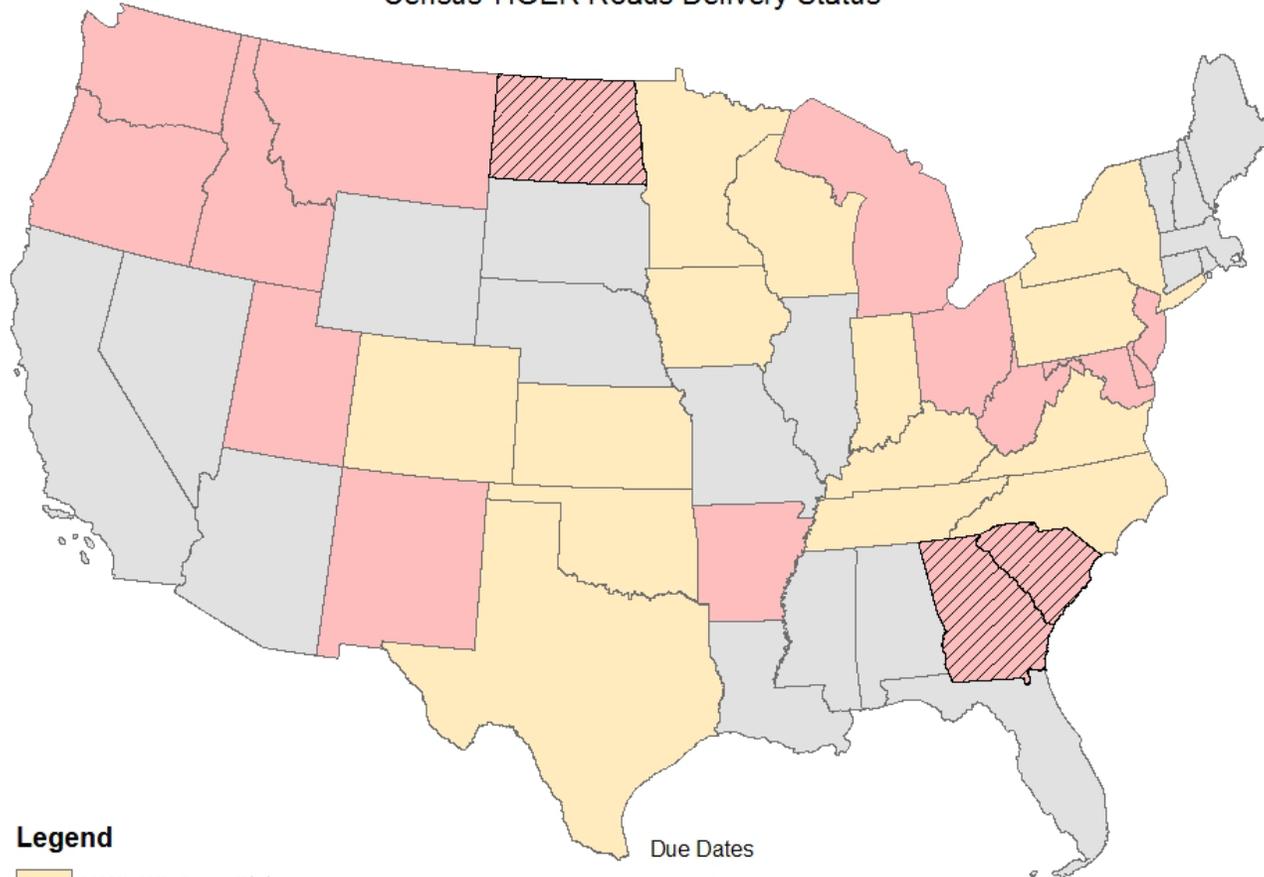


- Interstate
- Secondary Roads
- Local Roads
- Ramps



Transmitting Resolved TIGER

Census TIGER Roads Delivery Status



Legend

- FY16_US_Topo_States
- FY17_US_Topo_States
- FY18_US_Topo_States
- Remaining_FY17_States

Due Dates

- FY 16 - All deliveries shipped, includes HI
- FY 17 - Due Dates of remaining states:
ND 12/31/16, SC 2/5/16, GA 3/1/16
- FY 18 - TBD
- AK - Roads provided by AK DOT

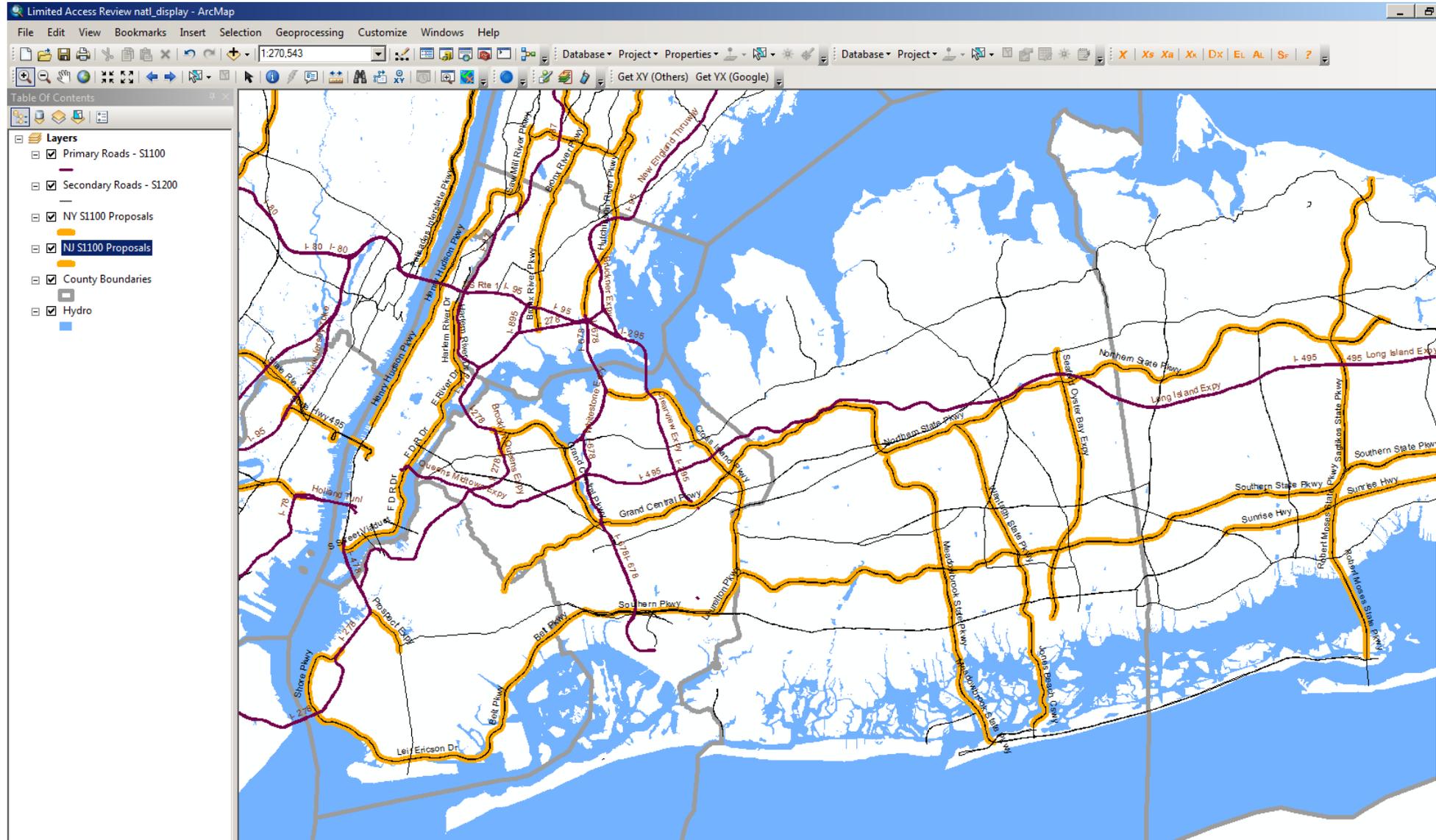
11/28/16

- States updated in accordance with the USGS production schedule
- Deliveries don't correspond with Census production cycle so states benchmarked on the fly for out-of-cycle delivery to USGS

Limited-Access Highways

- USGS requested that Census change all Limited-Access Highways to an MTFCC of S1100 (Primary Roads)
- Currently only Interstate Highways are S1100
- Census agreed to make the change
- USGS provided shapefiles by state to change all Limited-Access Highways currently classified as Secondary (S1200) to Primary (S1100)

Limited-Access Highways - Proposals



Limited-Access Highways

- Federal Register Notice open for comments 4/25-5/25/2017, none received

The screenshot shows a Federal Register notice page. At the top, it says 'FEDERAL REGISTER The Daily Journal of the United States Government'. Below that, the title 'Limited-Access Highway Classification Codes' is displayed, followed by 'A Notice by the Census Bureau on 04/25/2017'. The main content is divided into two columns: 'PUBLISHED DOCUMENT' and 'DOCUMENT DETAILS'. The 'PUBLISHED DOCUMENT' column contains sections for 'AGENCY:', 'ACTION:', 'SUMMARY:', 'DATES:', and 'ADDRESSES:'. The 'DOCUMENT DETAILS' column contains sections for 'Printed version:', 'Publication Date:', 'Agencies:', 'Dates:', 'Comments Close:', 'Document Type:', 'Document Citation:', 'Page:', 'Agency/Docket Number:', and 'Document Number:'.

FEDERAL REGISTER
The Daily Journal of the United States Government

Notice

Limited-Access Highway Classification Codes
A Notice by the Census Bureau on 04/25/2017

PUBLISHED DOCUMENT

AGENCY:
Bureau of the Census, Commerce.

ACTION:
Notice and request for comment.

SUMMARY:
The Bureau of the Census (U.S. Census Bureau) publishes this notice to request public comment on a proposal to change the classification of limited-access highways in the Census Bureau's Master Address File/Topologically Integrated Referencing and Encoding (MAF/TIGER) System. The change will assign all limited-access highways a MAF/TIGER Feature Classification Code (MTFCC) of S1100 (Primary Roads). Currently, the classification code for limited-access highways is either S1100 (Primary Roads) or S1200 (Secondary Roads).

DATES:
Written comments must be submitted on or before May 25, 2017.

ADDRESSES:
Direct all written comments regarding the MTFCC change for limited-access highways to the Geography Division, U.S. Census Bureau, 4600 Silver Hill Road, Washington, DC 20233, or by email <geo.geography@census.gov>.

DOCUMENT DETAILS

Printed version:
PDF

Publication Date:
04/25/2017

Agencies:
Bureau of the Census

Dates:
Written comments must be submitted on or before May 25, 2017.

Comments Close:
05/25/2017

Document Type:
Notice

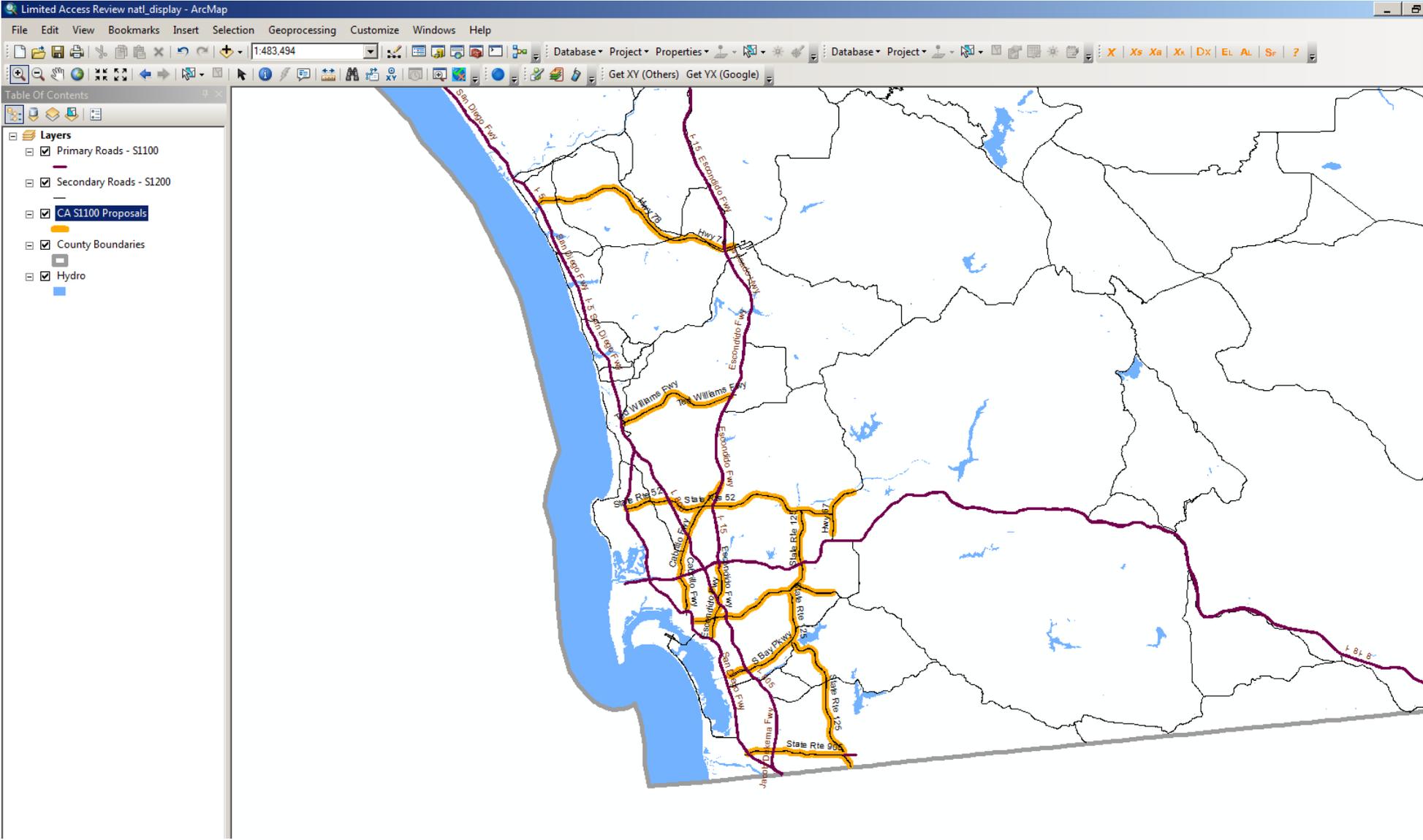
Document Citation:
82 FR 19020

Page:
19020-19021 (2 pages)

Agency/Docket Number:
Docket Number 170112067-7067-01

Document Number:

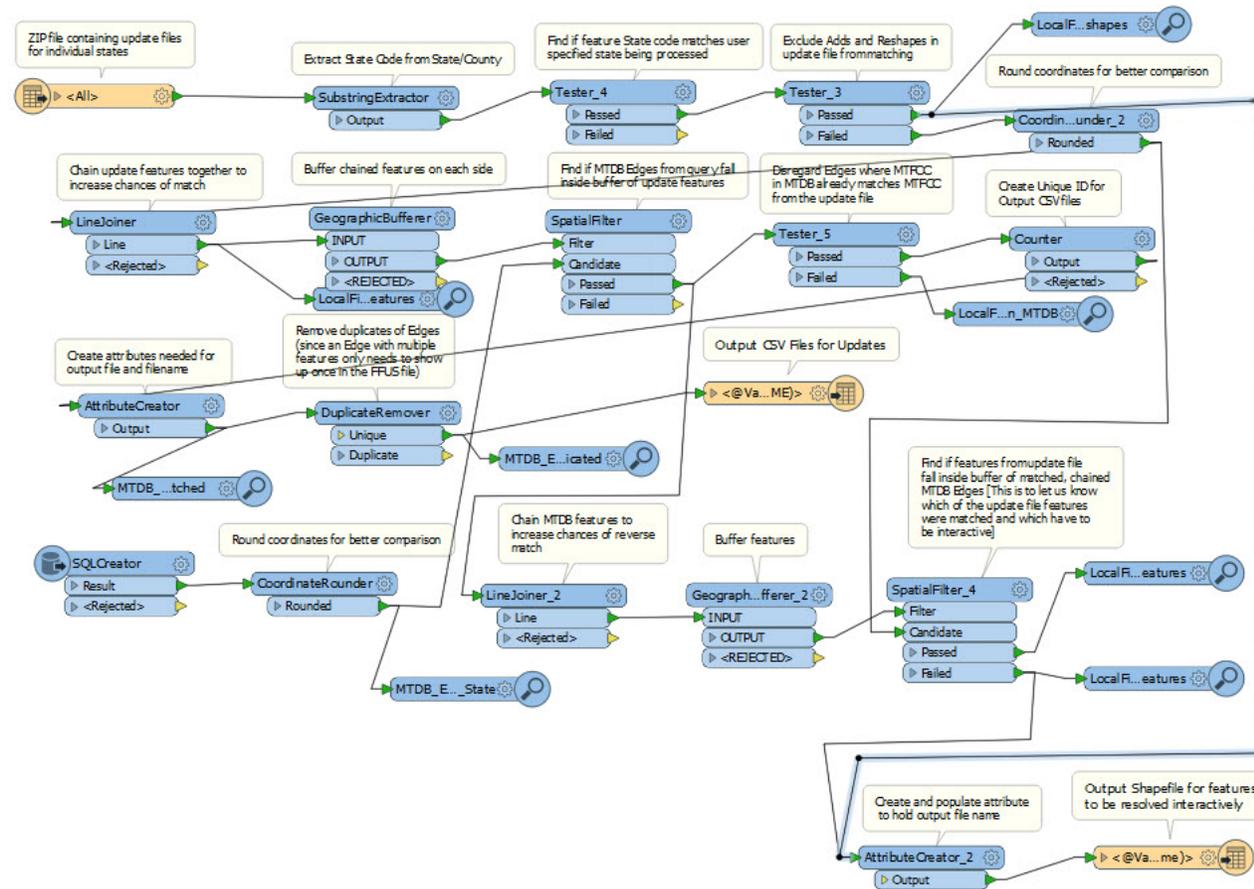
Limited-Access Highways – QC Proposals



Limited-Access Highways – Matching using FME

(Feature Manipulation Engine)

- Match USGS proposals to TIGER Roads



Limited-Access Highways – Matching using FME

- Output files
 - Comma-delineated (.csv) file of matches, by county – classification changes uploaded to TIGER in Feature Framework Update System (FFUS)
 - Shapefile of unmatched proposals for interactive review
- Match rate ~ 95%

Moving Ahead

- Limited-Access Highways
 - Final announcement in Federal Register
 - Automated updates – Late Summer 2017
 - Interactive updates as part of normal TIGER updating process
- Continue GSS Updates of TIGER at the Census Bureau
- Continue to improve quality of TIGER roads alongside USGS production schedule

Moving Ahead

- Alaska TIGER Roads and Trails Review – for use in The National Map

FGDC Federal Trail Data Stds		USGS-labels	Census - TIGER
All Terrain Vehicle	ATV		
Bicycle	Bike		S1820 - Bike Path/Trail
Dog Sled	Dog		
Four Wheel Drive (>50" in width)	4WD	4WD	S1500 - 4WD
Hiker/Pedestrian	Hike	Foot	S1710 - Walkway/Pedestrian Trail
Motorcycle	Mtrcycl		
Pack & Saddle	Pack	Pack	
Snowmobile	Snomo	Winter?	
Snowshoe	Snowshoe	Winter?	
Motorized watercraft	Wcraft(Mtr)		
Non-motorized watercraft	Wcraft(NMtr)		
Watercraft	Wcraft		
Cross-Country Ski	Xski		
Not Specified	NSPC	No Label	
		combinations (eg. 4WD/Winter Access)	
			S1640 - Service Dr
			S1720 - Stairway
			S1730 - Alley
			S1740 - Pvt Rd for Srv Vehicle
			S1750 - Internal Census Use
			S1780 - Parking Lot Rd

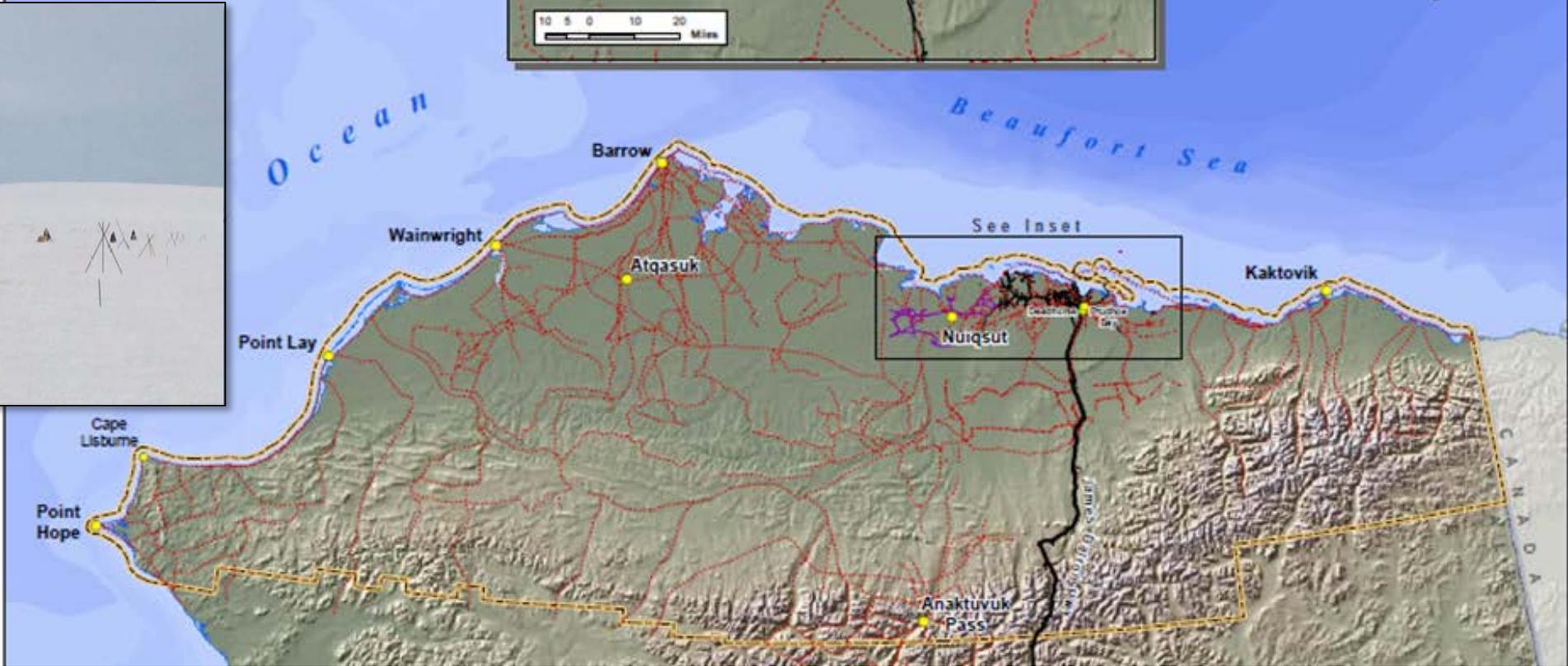
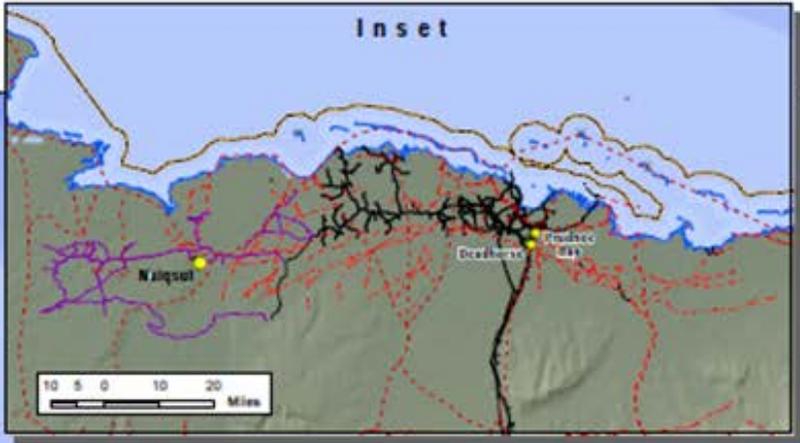


Figure 4
Regional Surface Transportation
 North Slope Borough, Alaska

Legend

- Highway
- Surface Roads
- Ice Roads
- Trails
- North Slope Borough Boundary

Source: Alaska Department of Natural Resources, Land Records Information Section, Alaska Dept. of Transportation (ADOT) and AASHTO's special



Moving Ahead

- TNM Goals – 2018 - Complete national coverage of US Topo maps with TIGER as the source.

Questions?

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