



TRAFFIC ANALYSIS ZONES

HOW DO WE MOVE FORWARD?

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PRESENTATION OUTLINE

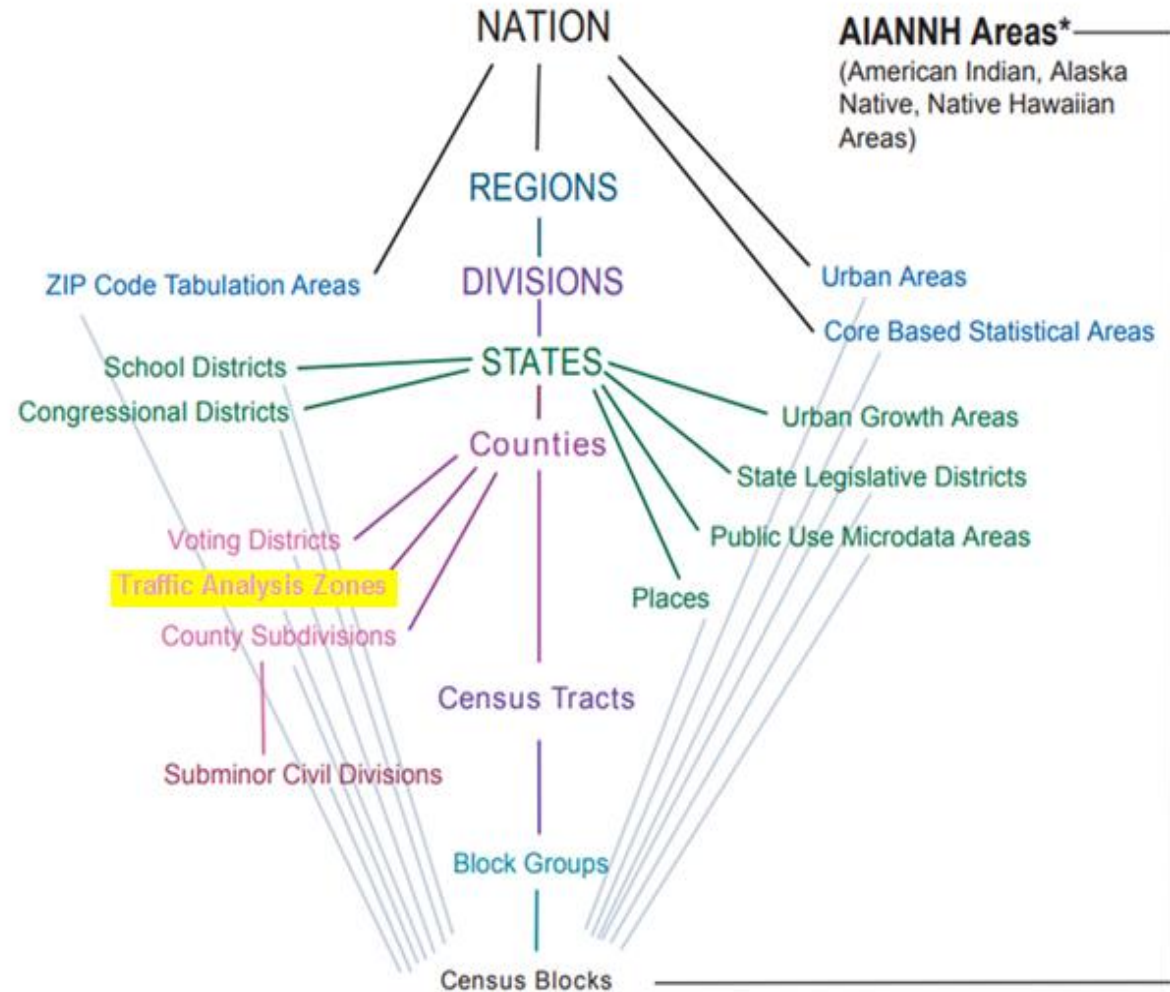
- Introduction
- Census Geography
- CTPP and Census TAZ: History, Organizational Cooperation and Issues
- Census TAZ User Online Survey
- Moving Forward with TAZ
- Q & A

INTRODUCTION

- Census TAZs: a part of the CTPP/UTPP data product since the inception of the tabulation
- Challenges of TAZ Delineation Process: costly to produce, redundant with other geographies, and sometimes confusing in their structure
- TAZ/CTPP Issues
 - From a historic perspective
 - From an organizational perspective
 - From a user perspective
- How to Move Forward: identify potential future strategies to maintain Census small area analysis for transportation planning

CENSUS GEOGRAPHY

Standard Hierarchy of Census Geographic Entities (Source: U.S. Census Bureau)



CENSUS/TRANSPORTATION GEOGRAPHY

- Model TAZs
 - Essential geography for transportation planning
 - Generally no minimum population/employment thresholds
 - In many cases similar to census block group in size
- Census TAZs
 - A geography unit delineated by State/local transportation agencies for tabulating CTPP data
 - Minimum population/employment requirements to ensure data quality
 - Not the same as Model TAZs in many regions
 - Two geographic structures in 2010 delineation: TAZ and TAD

CTPP AND CENSUS TAZ: HISTORY

- From 1970 to 2000, based on decennial census long form
- 1970 and 1980 UTPP: cost-reimbursable program
- 1990 and 2000 CTPP: pooled-fund program administrated by AASHTO (a penny per person)

	1970	1980	1990	2000
Buyers/Users	112	152	All States/MPOs	
Cost	\$0.6 M	\$2.0 M	\$2.5 M	\$3.0 M
Tables	43	82	120	203

CTPP AND CENSUS TAZ: HISTORY (CONT.)

- 2010 CTPP
 - Pooled-fund program
 - Data source: census long form replaced with the continuous American Community Survey
 - Two geography structures: TAZ and TAD
- Other cost to the transportation community
 - TAZ delineation process
 - Technical support, software, coordination, staff time
 - Overwhelming support for the TAZ delineation process in the past

CTPP AND CENSUS TAZ: ORGANIZATIONAL COOPERATION

- U.S. Census Bureau
 - Data collection
 - Data process and tabulation
 - CTPP as a cost-reimbursable product for the Bureau
- Transportation Community
 - A pooled-fund program administrated by AASHTO
 - Financially supported by State DOTs and local MPOs
 - Main user of the data
- Pros and Cons

CTPP AND CENSUS TAZ: ISSUES

- Data Quality
 - Change of data collection method and sample size change
 - Past difficulties of geocoding and geoprocessing
 - Margin of Errors recommended by the Bureau to be incorporated in the analysis
- Data Contents
 - Residence-based tabulations for worker and household characteristics
 - Workplace-based tabulations for worker characteristics
 - Worker flows between home and work, including travel mode
 - Workplace geocoding problem directly leads to the loss of data
 - The problem is more prevalent for smaller geographic units

CTPP AND CENSUS TAZ: ISSUES (CONT.)

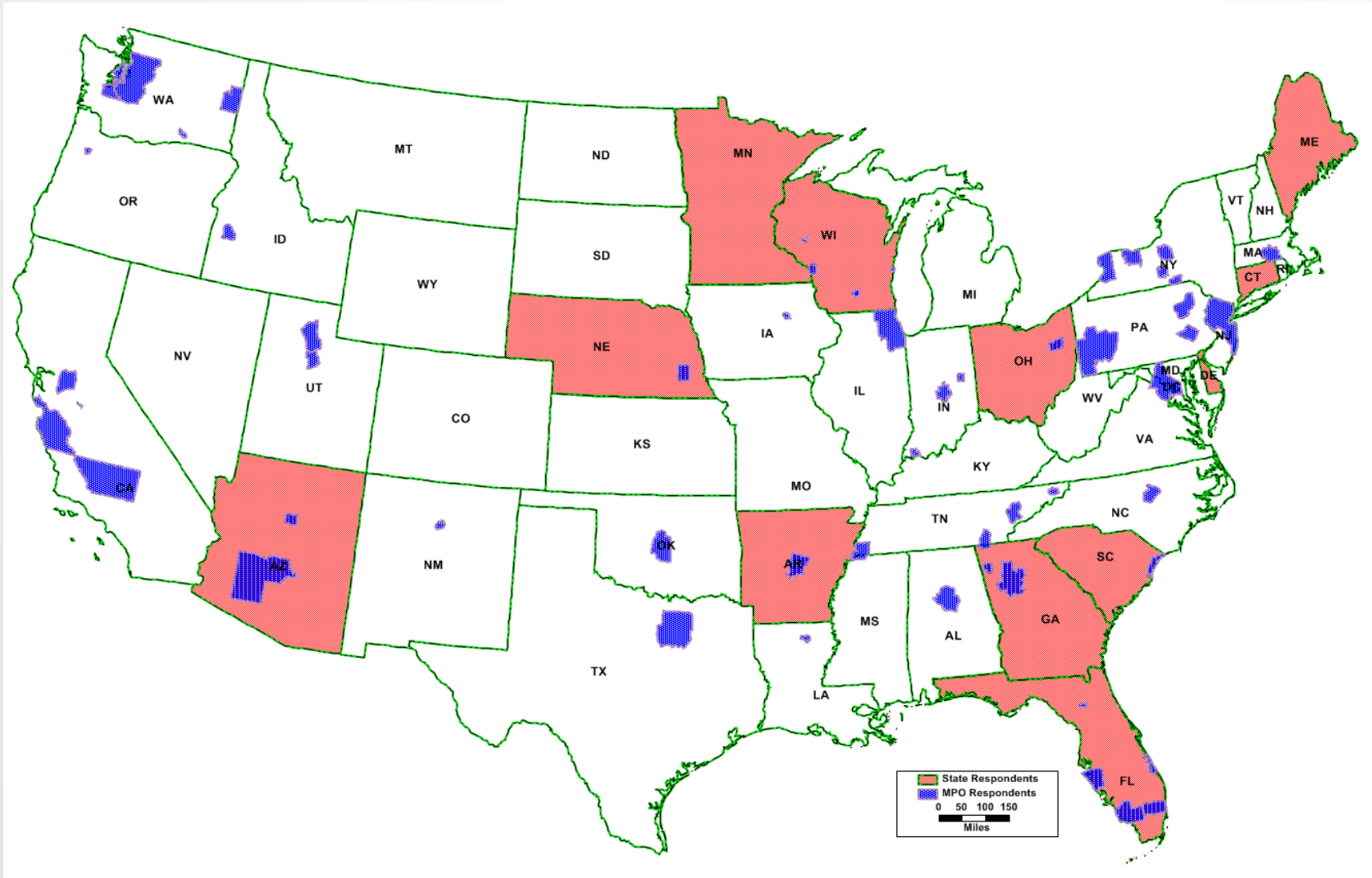
- Data Usage
 - Evaluate the existing conditions
 - Develop or update travel demand models
 - Analyze demographic and travel trends
 - Evaluating the existing conditions and historic trends can be based on tabulations on a larger scale geography
 - TAZ geography is essential for travel demand model development

A USER PERSPECTIVE: ONLINE SURVEY

- Purpose: to understand state DOTs, MPOs, RPOs, and other transportation organizations' experiences and preferences of Census TAZ
- Survey contents: 15 TAZ-related questions using Google Form
 - Category one: the agency and its transportation data sources
 - Category two: TAZ delineation program
 - Category three: CTPP-TAZ data usage
- Initially reached out to ~300 contacts on CTPP TAZ delineation contact list on July 11th, 2017
- Requested one survey response per agency
- Survey closed on Aug. 3rd, 2017 with 99 survey responses (96 online and 3 via marked survey forms in PDF)

ONLINE SURVEY SUMMARY: SURVEY PARTICIPANTS

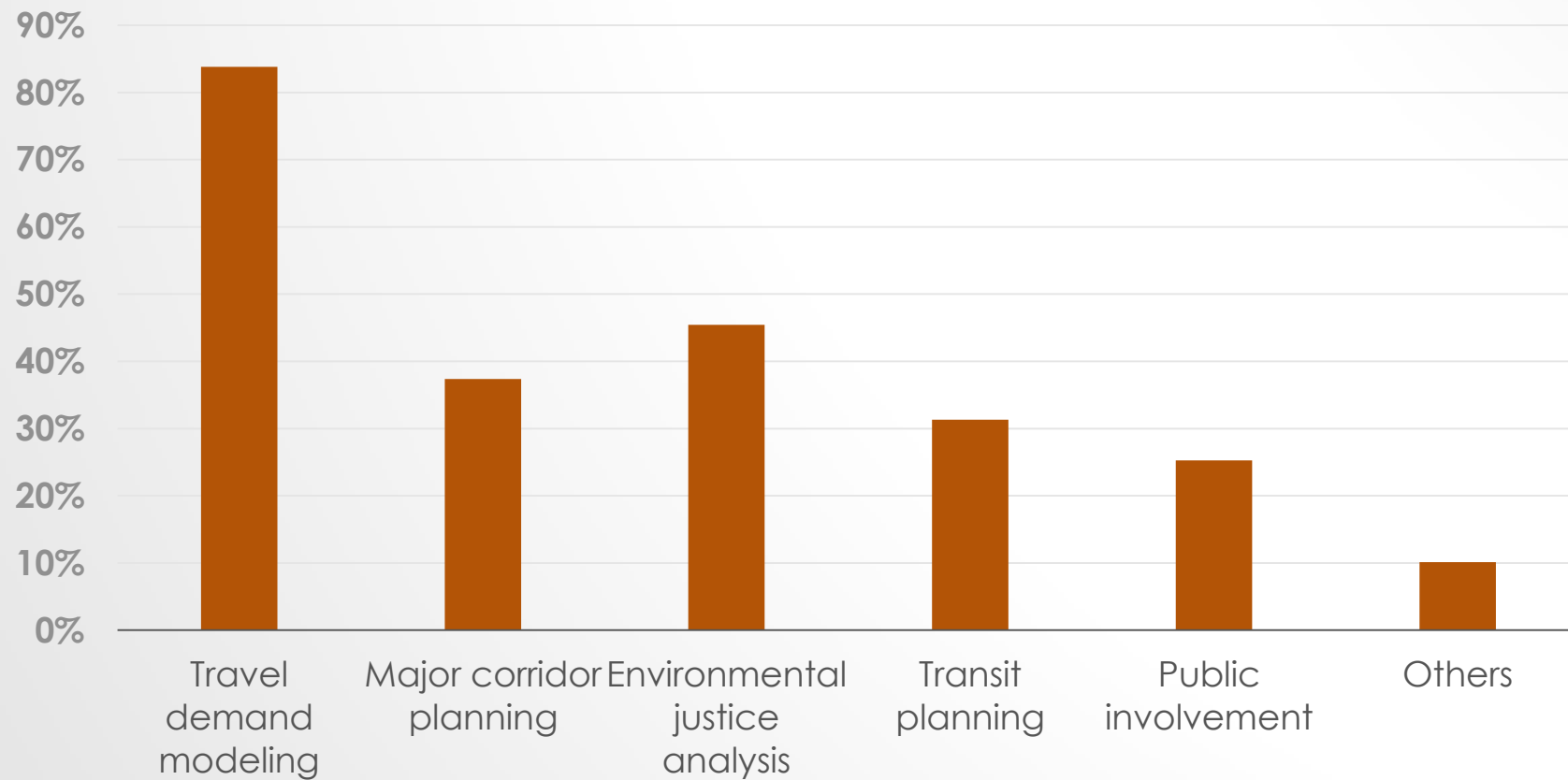
- Small regions are interested in CTPP data: 40 MPOs with population less than 500k, 7 RPOs, and 17 State DOTs
- Indicated greater importance of CTPP data for small- and medium-sized regions
- About half of the survey participants supplement regional household travel survey with CTPP data package for their transportation planning data needs



ONLINE SURVEY SUMMARY: CENSUS TAZ DELINEATION PROGRAM

- 85% survey respondent agencies participated in TAZ delineation program
- Staff shortage and budget constraint are the main reason for not participating
- Among TAZ delineation program participants, 35% have Census TAZ same as Model TAZ
- The Census Bureau/USDOT recommended minimum population/employment requirement is the main reason for TAZ system difference

ONLINE SURVEY SUMMARY: CTPP DATA USAGE



ONLINE SURVEY SUMMARY: DATA USAGE

Question 10	Which of the following CTPP tables are most useful to serve for your agency's transportation data needs?	
Choice	Response Options	Count
a	Residence-based tables	28
b	Workplace-based tables	16
c	Home-to-work flows tables	54
Total		98

HOW CRUCIAL IS TAZ GEOGRAPHY

- More than 70% of survey respondents prefer to have CTPP tabulations at the TAZ level
- About a quarter of survey respondents described TAZ level tabulations as a necessity
- Close to 40% of survey respondents indicated that worker characteristics at workplace need to be presented at TAZ level
- Close to 40% of survey respondents stated that worker flow data need to be at TAZ level for their use
- The survey confirmed transportation community's preference of CTPP data at TAZ level

NOTABLE COMMENTS

- The expansion of MPO coverage area makes CTPP tabulations outdated and less useful
 - More frequent TAZ delineation process?
- Base year for new travel demand model is 2015 and can't use 2006-2010 tabulations
 - Data processing takes time and effort
 - 2012-2016 CTPP based on 2012-2016 ACS to be released in 2018-2019

MOVING FORWARD WITH TAZ GEOGRAPHY

- Long term goal: essential to have data at TAZ level for transportation planning
- TAD level tabulations will help to mitigate some of the TAZ data geocoding issues immediately
- Due to more frequent data collection of ACS and LRTP update cycle, TAZ delineation process should be conducted on a more frequent basis
- Adopting new technologies in ACS data collection process could greatly improve workplace location data and reduce the workload for geocoding

QUESTION?