

The logo graphic consists of three overlapping parallelogram shapes pointing to the right. The top shape is light green, the middle is light blue, and the bottom is a darker blue.

CAMBRIDGE  
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Think  Forward

# SERPM 8 Model Status and Next Steps

*presented to*  
RTTAC-MS

*presented by*  
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# Outline

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- Model status
- PopSyn input utility
  - » Utility work flow
  - » 2045 SE data development
- Model update and enhancement schedule
- Shadow pricing guidance [tbd during next maintenance call]

# Model status

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- Latest model version released for use - January 30, 2019
- Developer version enhancements completed
  - » **Fixes:** TNC repositioning trip mechanism
  - » **Enhancements:** Default to utilize all threads in Cube Catalog
  - » **Reports:** SE Data; PopSyn; TNC & C/AV summaries
  - » **Utilities:** seed skim generation; free-flow network; voyager.exe check; PopSyn checker, site impact preparation
  - » **Catalog:** scenario key defaults; key names
  - » **Inputs:** highway network updated with D6 feedback and removed unused fields
- Pending enhancements
  - » Update JPPF (to utilize all processors on Windows 10 systems)
  - » Calibration based on D4 feedback
- Model approval schedule: February 1, 2020
- Bi-weekly maintenance calls
  - » Next call Monday September 30, 3 - 3:45pm

# PopSyn Input Utility

# PopSyn Input Requirements

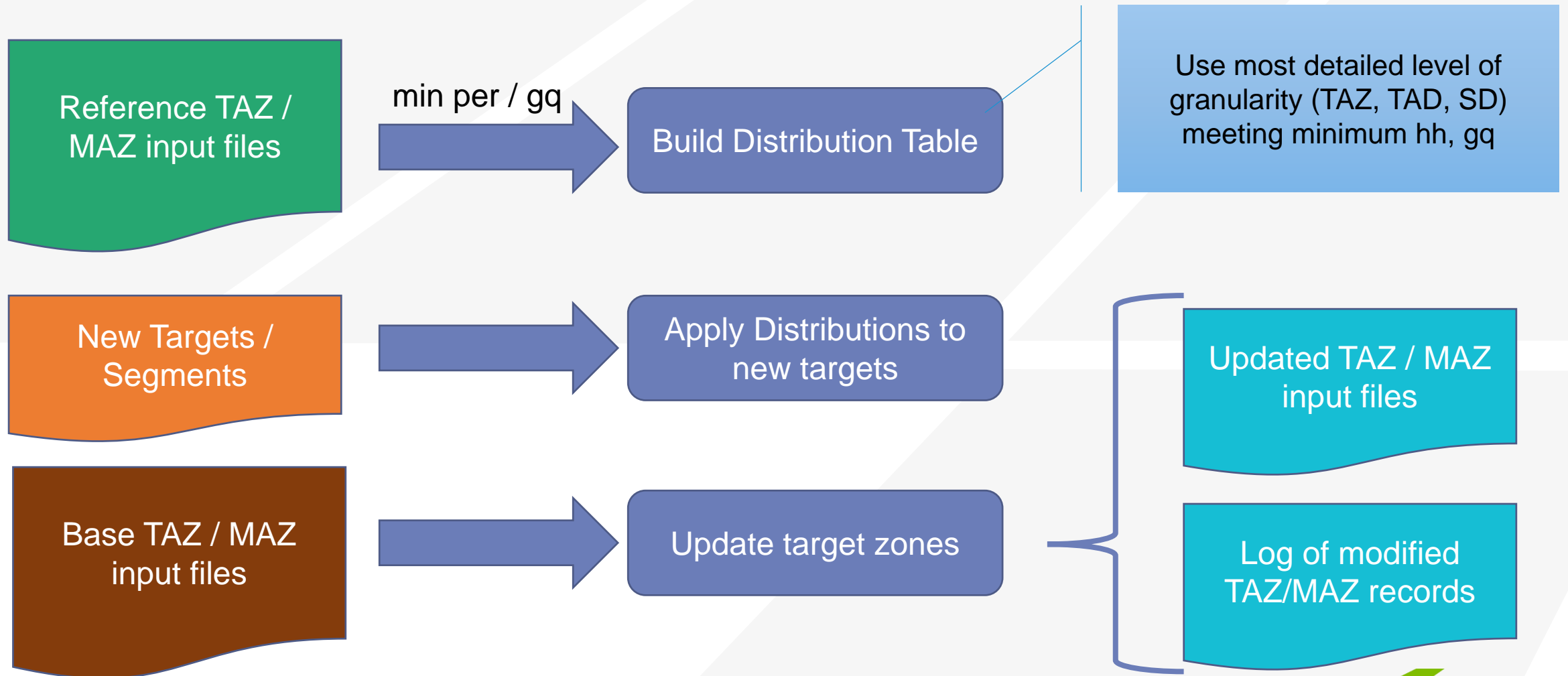
## TAZ

## MAZ

Persons		Households	
Age		Income in 2009 dollars	
1	0-17	1	<\$25,000
2	18-24	2	\$25,000-\$50,000
3	25-34	3	\$50,000-\$75,000
4	35-49	4	\$75,000-\$100,000
5	50-64	5	\$100,000 or more
6	65-79	Household Size	
7	80+	1	1
Gender		2	2
1	Male	3	3
2	Female	4	4+
Race/Ethnicity		Number of Workers	
1	Hispanic	1	0
2	White Non-Hispanic	2	1
3	Black	3	2
4	Indian	4	3+
5	Asian	Types of Housing Unit	
6	Islander	1	Single-Family
7	Other Non-Hispanic	2	Multi-Family
8	Mixed	3	Mobile Home
		Presence of Children in Household	
		1	No children present
		2	One or more children
		Group Quarters <sup>1</sup>	
		1	Institutionalized
		2	College
		3	Military
		4	Other

Total Households
Total Group Quarters

# Input utility work flow



# Target / segment input requirements and options

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- Include only zones to be updated
  - » Input MAZ-level population / GQ data?
- Minimum requirement:
  - » Total population or total households
  - » Total group quarters
- Include segments as desired?
  - » Segmentation must be consistent across all inputs
  - » Integer values that are consistent
- Default minimum to build distributions (e.g.):
  - » 1000 persons
  - » 100 group quarters

# 2045 SE data status

➤ Process produces updated set that meets the following checks

TAZ Checksum: Child Segment  
TAZ Checksum: GQ Segment  
TAZ Checksum: Income Segment  
TAZ Checksum: Person Age  
TAZ Checksum: Size Segment  
TAZ Checksum: Unit Segment  
TAZ Checksum: Worker Segment  
TAZ HH-Person Consistency: HH Children with no Child persons  
TAZ HH-Person Consistency: HH Size != Total Persons (Size 4P==0)  
TAZ HH-Person Consistency: HH Size > Total Persons (Size 4P>0)  
TAZ HH-Person Consistency: HH Workers > Total Persons  
TAZ HH-Person Consistency: No HH with Children with Child persons  
TAZ Value Check: NA Value  
TAZ Value Check: Negative Value

Average Household Size of 4+  
Person Households still showing up  
(2 zones in PB) could be due to  
seed distributions



# SE data next steps

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- Test different minimum population thresholds (map aggregation level each zone would use)
- Process Broward using Total Population as target
- Send updated dataset to Palm Beach and Broward for Review
- Compile and generate new synthetic population

# Model Updates and Enhancements

# Addressing Known Issues

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- Calibration updates
- Network updates
  - » D6 feedback applied to 2045 network
  - » D4 feedback applied to 2015 and 2045 networks
- SE data updates
  - » Zones flagged by enhanced checking utility corrected
  - » Households by size (average size of 4+ person households)
  - » Workers by population
- SE data Corrections
  - » Override with TAD (or SD) distributions

# Next steps: model enhancements

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- PopSyn input utility [new checks discussed in RTP section]
- Windowed area model [site impact incorporated]
- Determination of traveler characteristics
- Computational efficiencies

# Enhancement schedule

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- PopSyn utility and initial test results (October)
  - » Finalize thresholds and application guidance for utility
  - » Initial results on WAM testing
  - » Initial results on Computational Efficiency testing
  - » Draft traveler characteristics excel report
- WAM and computational improvement testing (November)
  - » PopSyn utility complete
  - » Complete WAM geographic sampling tests
  - » Complete Computational Efficiency tests and recommendations
  - » Sample traveler characteristics results
- Finalize approach to WAM and computational efficiencies (December)
  - » Traveler characteristics process complete
- Updated catalog (January)
  - » Updated catalog with enhancements incorporated