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Importance of Decennial Census for Regional Planning in California

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Regional Planning Context

Special thanks to:
Gina Schmidt, AMBAG
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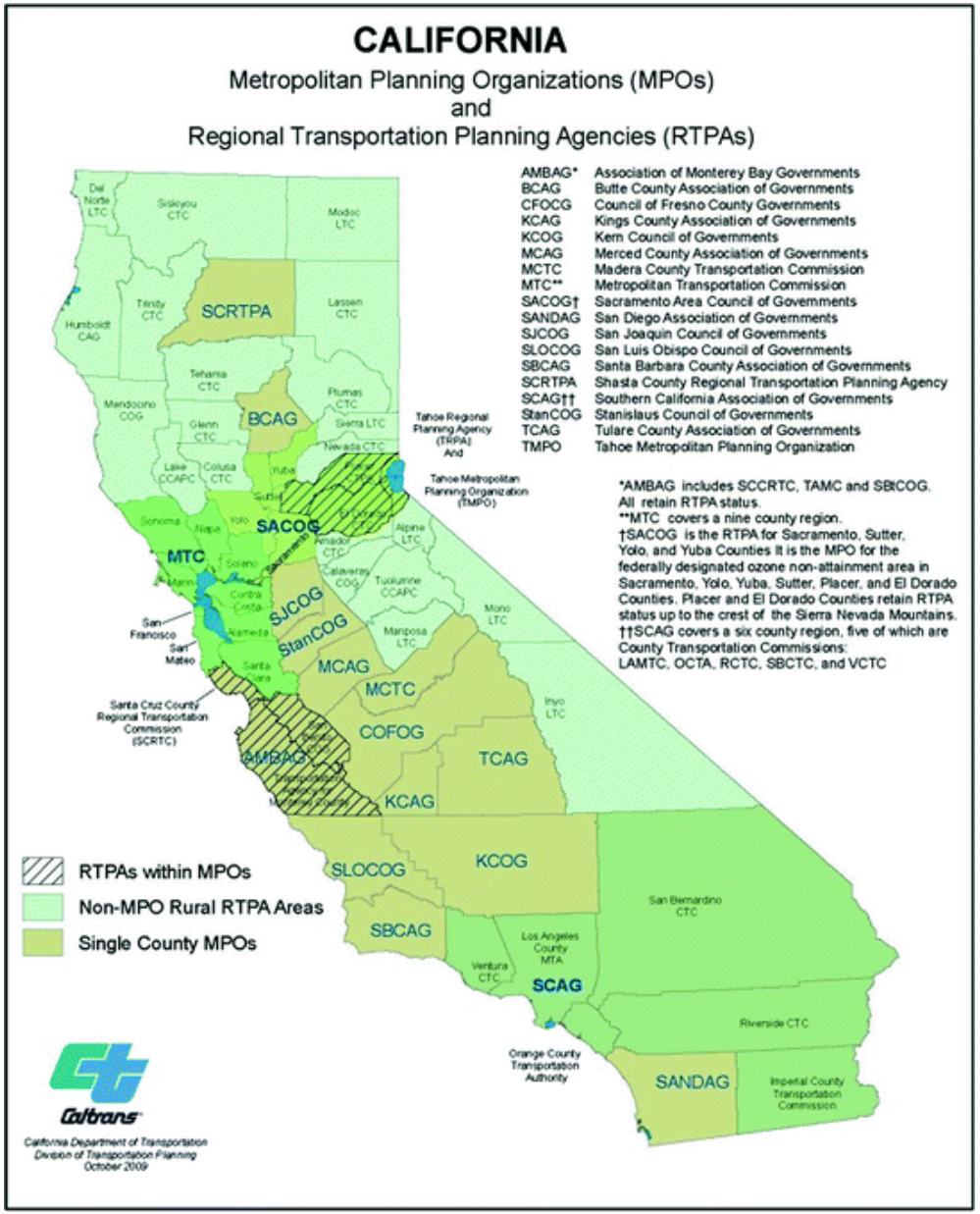
for feedback




Planning for
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California: Regional Housing Needs Allocation (RHNA)

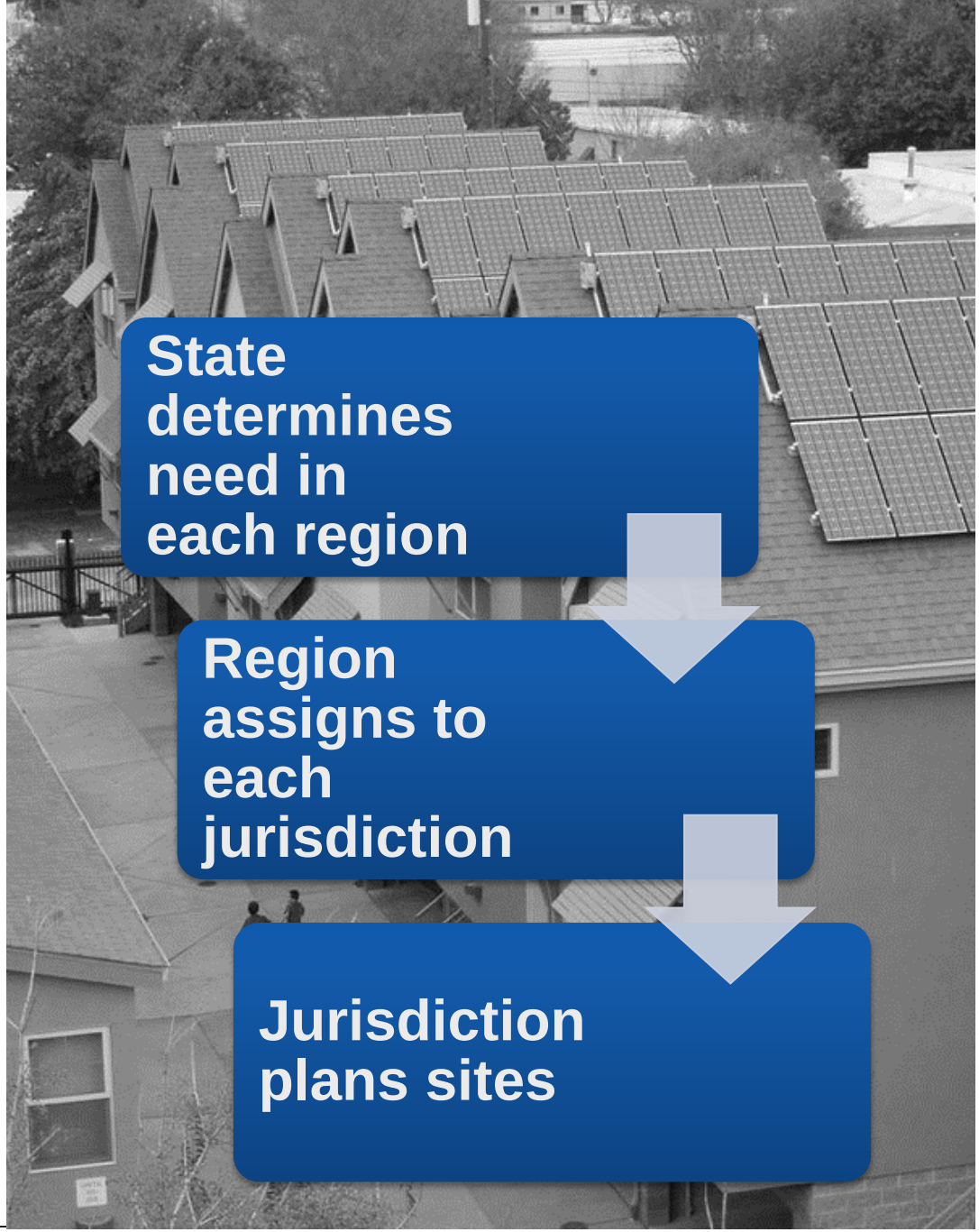
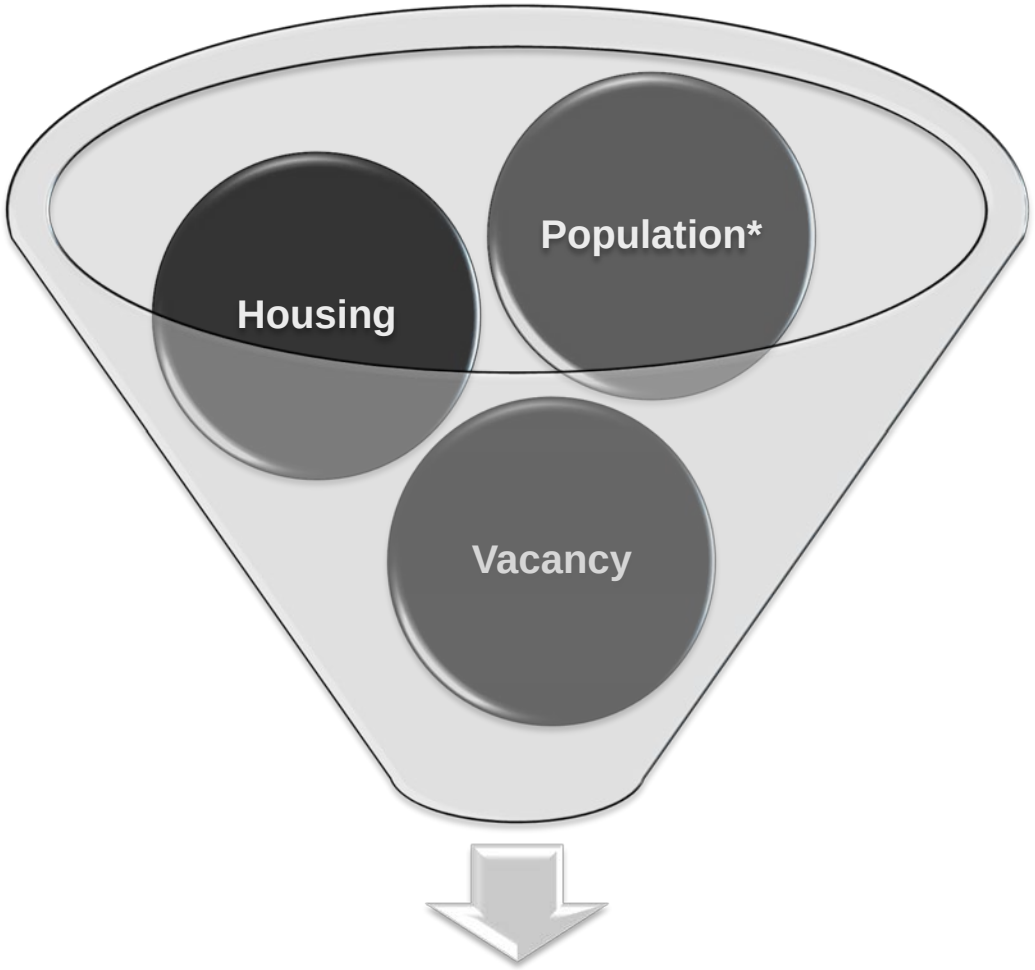


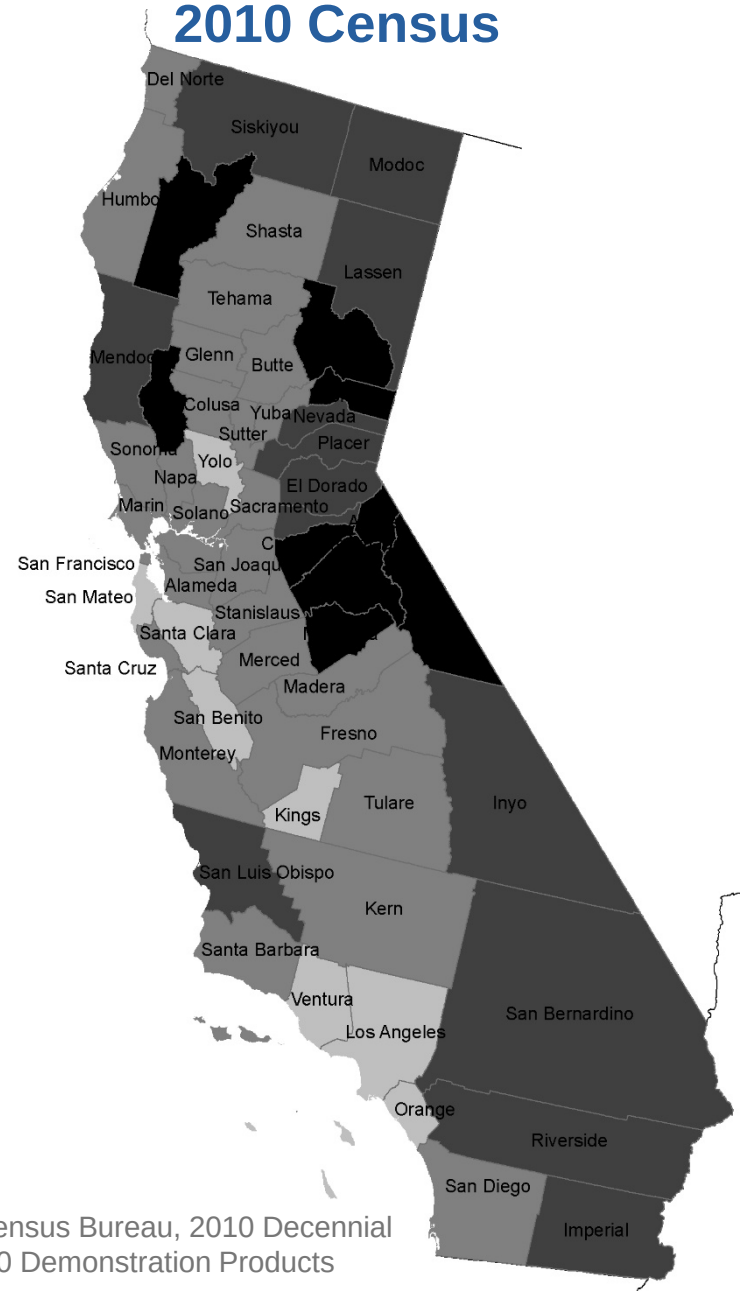
Image: https://www.flickr.com/photos/usepagov/12222069396/

California: Regional Housing Needs Allocation (RHNA)

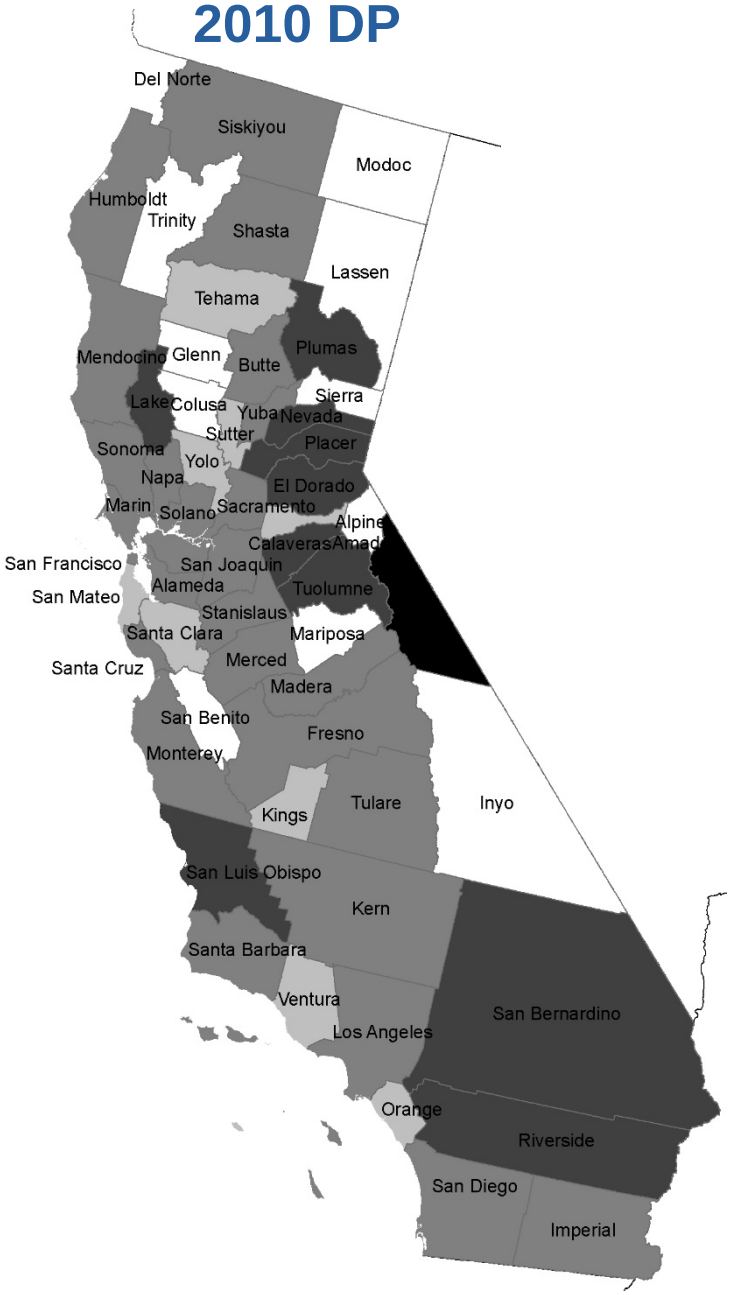


**Population detail considered in RHNA includes household population, group quarters, age/race/ethnicity/sex. These inputs are used to calculate average household size and age/R/E/sex specific headship rates.*

2010 Census



2010 DP



Sources: U.S. Census Bureau, 2010 Decennial Census and 2010 Demonstration Products

Example Existing Housing Need Calculation: Monterey city, CA

	Total Housing	Vacancy Rate	Avg. Household Size (Persons per HH)	Target Vacancy Rate*	Estimated Existing Need*
2010 Census	13,584	10.3%	2.08	11.4%	168
2010 DP	13,584	1.7%	1.91	11.4%	1,492

*For illustration purposes, need is estimated based on 11.4% vacancy rate (U.S. average in 2010). Actual RHNA calculations take more factors into account and need differs from estimates shown here.

Source: U.S. Census Bureau, 2010 Demonstration Products

Accuracy and Internal Consistency Key for Planning

Mathematical identities must not be violated

Population = Household Pop + Group Quarters

Occupied Units = Housing – Vacant Units

Household Pop = Occupied Units x Household Size
(No partial people, household size must be >=1)

Mathematical Impossibilities: Households > Household Population

	Number in California	Number with HH > HHP
Counties	58	1
Places	1,523	63

Example: Alpine County, CA
1,760 Housing units
1,760 DP households (0% vacancy, was 72% in original 2010)
1,152 DP household population

Source: U.S. Census Bureau, 2010 Demonstration Products

Mathematical Identities

Household Population…

Size categories 1 through 7+

$$HHP \geq (HH_1 \times 1) + (HH_2 \times 2) + \ldots (HH_{7+} \times 7)$$

Households by Size: Illustration

	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7+	Calc (min) HHP
Households	10	10	10	10	10	10	10	
Household Population								

Households by Size: Illustration

	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7+	Calc (min) HHP
Households	10	10	10	10	10	10	10	
Household Population	10	20	30	40	50	60	70+	

Households by Size: Illustration

	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7+	Calc (min) HHP
Households	10	10	10	10	10	10	10	
Household Population	10	20	30	40	50	60	70+	**280+**

Mathematical Impossibilities: Households by Size

	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7+	Calc (min) HHP	DP Rpt HHP
Monterey Cty, CA	125,936	27,353	35,122	18,916	18,056	11,630	6,554	**382,178**	
San Benito Cty, CA	17,870	2,612	4,637	2,740	3,195	2,051	1,291	**60,295**	
Santa Cruz Cty, CA	95,317	25,064	30,819	14,677	12,108	6,069	3,319	**252,251**	

Source: U.S. Census Bureau, 2010 Demonstration Products

Mathematical Impossibilities: Households by Size

	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6	Size 7+	Calc (min) HHP	DP Rpt HHP
Monterey Cty, CA	125,936	27,353	35,122	18,916	18,056	11,630	6,554	**382,178**	**396,315**
San Benito Cty, CA	17,870	2,612	4,637	2,740	3,195	2,051	1,291	**60,295**	**54,837**
Santa Cruz Cty, CA	95,317	25,064	30,819	14,677	12,108	6,069	3,319	**252,251**	**251,339**

Source: U.S. Census Bureau, 2010 Demonstration Products

Planning for
Transportation

Data Needs: County and Place

- For estimates and projections
  - Population (by age, sex, race/ethnicity)
  - Group quarters (by type, by age, sex, race/ethn.)
  - Household size and structure
  - Housing tenure
  - Headship by age, sex, race/ethnicity
    - Household population and householder characteristics
- For funding allocations
  - Population (total)

Data Needs: Block (or BG or Tract)

- For transportation analysis, modeling, and planning
  - Population (total—at a *minimum*)
  - Group quarters (by type—at a *minimum*)
  - Housing
  - Occupancy/vacancy
  - Household size and structure

Data Needs

Summary

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Key Data Needs

- Housing occupancy and vacancy should be invariant at block level

Data Dictionary for HUD Aggregated USPS Administrative Data for Quarter 4, 2007 and All Quarters After

Field Name	Field Description
GEOID	2000 Census Tract Unique ID (State FIPS + County FIPS + Tract Code)
AMS_RES	Total Count of Addresses - Residential
AMS_BUS	Total Count of Addresses - Business
AMS_OTH	Total Count of Addresses in AMS - Other
RES_VAC	Total Count of Vacant Addresses - Residential
BUS_VAC	Total Count of Vacant Addresses - Business
OTH_VAC	Total Count of Vacant Addresses - Other
AVG_VAC_R	Average Days Addresses Vacant - Residential
AVG_VAC_B	Average Days Addresses Vacant - Business
VAC_3_RES	Vacant 3 Mos. to Less Count - Residential
VAC_3_BUS	Vacant 3 Mos. to Less Count - Business
VAC_3_OTH	Vacant 3 Mos. to Less Count - Other
VAC_3_6_R	Vacant 3 Mos. to 6 Mos. Count - Residential
VAC_3_6_B	Vacant 3 Mos. to 6 Mos. Count - Business
VAC_3_6_O	Vacant 3 Mos. to 6 Mos. Count - Other
VAC_6_12R	Vacant 6 Mos. to 12 Mos. Count - Residential
VAC_6_12B	Vacant 6 Mos. to 12 Mos. Count - Business
VAC_6_12O	Vacant 6 Mos. to 12 Mos. Count - Other
VAC_12_24R	Vacant 12 Mos. to 24 Mos. Count - Residential
VAC_12_24B	Vacant 12 Mos. to 24 Mos. Count - Business
VAC_12_24O	Vacant 12 Mos. to 24 Mos. Count - Other

Key Data Needs

- Housing occupancy and vacancy should be invariant at block level
- Person/household joins are *critical*
- Keep GQ invariant at block level (consider invariant by type at BG or tract)
- Population (ideally) invariant at blocks, must be accurate for places
- Consider population size: Don’t zero-out a population that exists

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