Modeling Transit Capacity
CMAP’s new activity based model

Transport Chicago Conference
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Chicago Metropolitan Agency for Planning

• 7 counties, 284 municipalities, 8.5 million residents

CMAP’s overarching goals
• Make Chicagoland more competitive
• Enhance quality of life
• Support local planning
ON
TO
2050
Why study capacity?
Annual unlinked transit trips, in millions

Source: The Federal Transit Administration’s National Transit Database.
What we know
Metra percent of peak trains over capacity, 2017

- 0-10%
- 11-20%
- 21-30%
- >30%
- Terminal

Source: Metra.
Modeling 101
CMAP Modeling

Trip Based Model

Activity Based Model

FTA STOPS
Activity Based Model

Person level trip detail
  Income, household size, car ownership, employment

10 travel purposes – vs 3 in trip based

Biking and walking

Flexible travel time

Transit congestion factor
Forecasted change in household density, 2015-50

- Population decline
- Low growth

Source: Chicago Metropolitan Agency for Planning forecast of population, households, and employment.
DRAFT-Impact of Regionally Significant Projects in 2050