



# RTM Developments for New Mobility

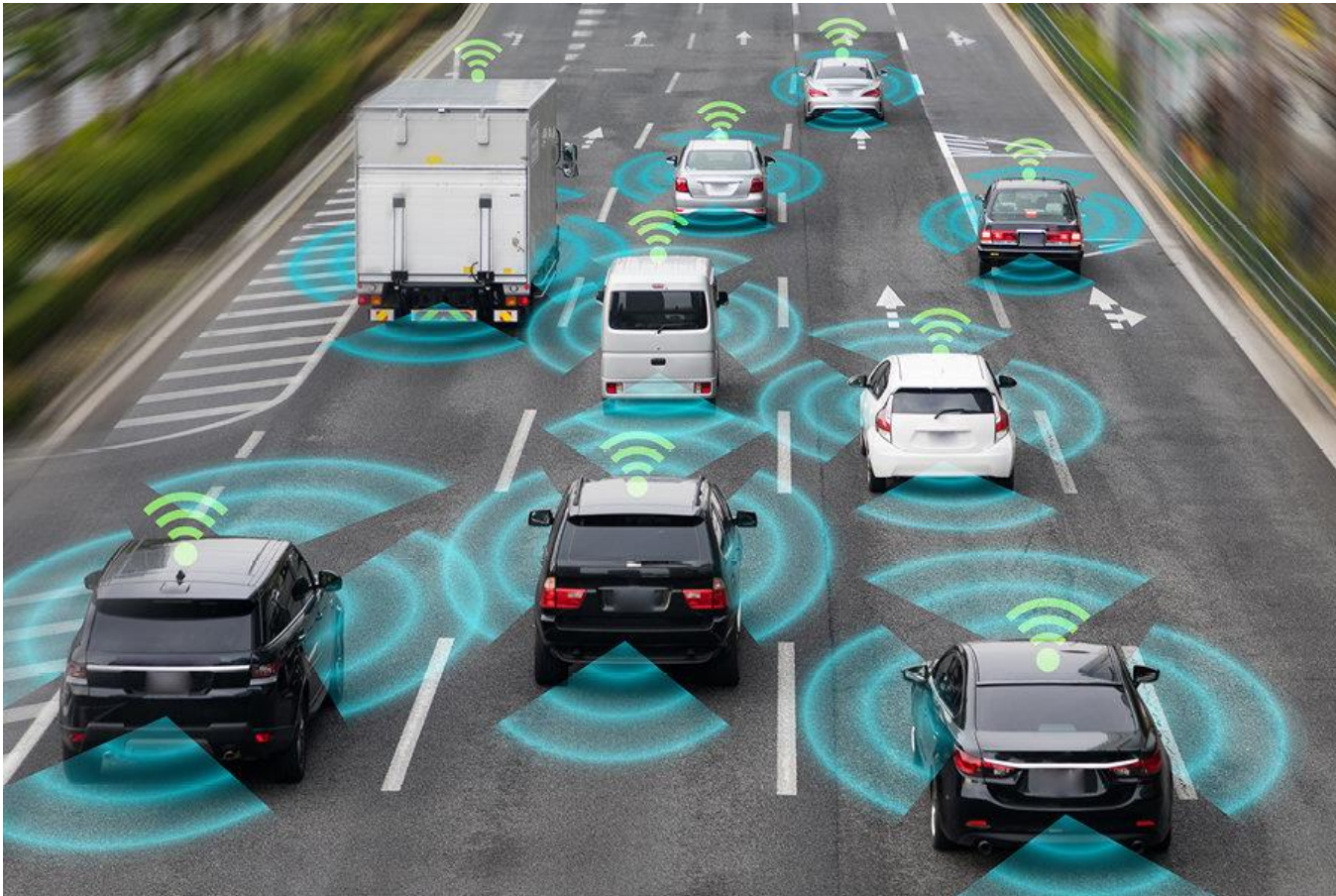
## Stakeholders Meeting

Prepared by  
TransLink's Forecasting Group  
October 30, 2018

# Long-term Planning

- TransLink is updating its Regional Transportation Strategy (RTS) for 2050
- Previous RTS themes focused on:
  - Infrastructure
  - Demand Management
  - Land-use

# New Mobility



# New Mobility





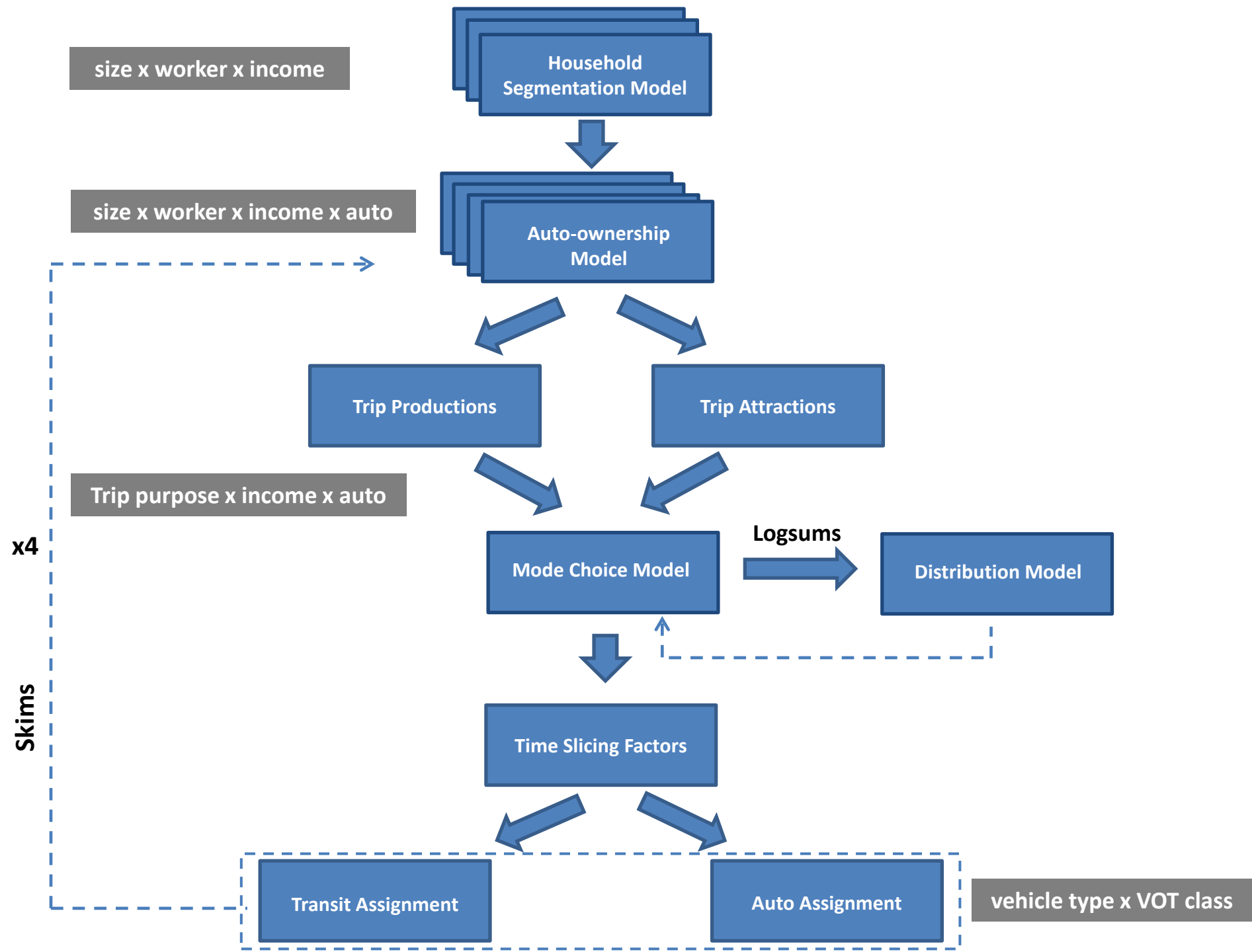
# New Mobility



# New Mobility

- New Mobility will change our trip making behaviour.
- Observed behaviour is virtually non-existent in Metro Vancouver (similar to many other regions).
- However, it is important to understand the envelope of potential outcomes in the long-term.

# RTM FRAMEWORK

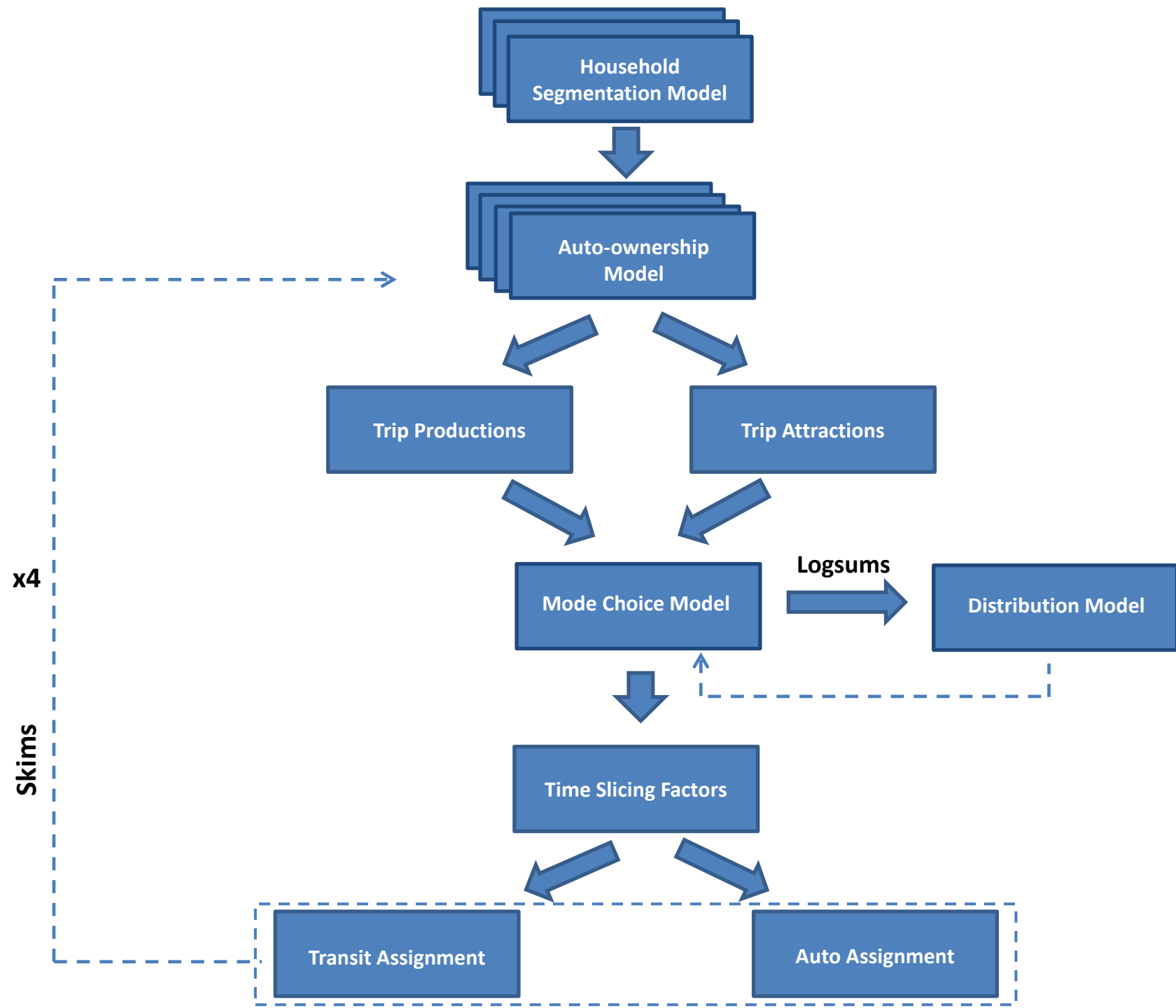




# Modelling New Mobility

# What will change?

- Households segmentation
  - New segment: CAV vs non-CAV households
- Auto ownership
  - Changes in the level of ownership (CAV/TNC)
- Trip generation
  - Higher trip rates for CAV households (especially HBO and NHB trips)
  - Higher trip rates for CAV car-deficient households
  - Higher trip rates for children and seniors in CAV households
- Travel modes
  - New modes: CAV, Taxi/TNC, CAV/TNC transit access
  - Lower perception of disutility of travel
- Network
  - Speed and capacity changes
  - Changes in VKT



Household  
Segmentation Model



Auto-ownership  
Model



Trip Productions

Trip Attractions



Mode Choice Model

Logsums



Distribution Model



Time Slicing Factors



Transit Assignment

Auto Assignment

• CAV & non-CAV HHs

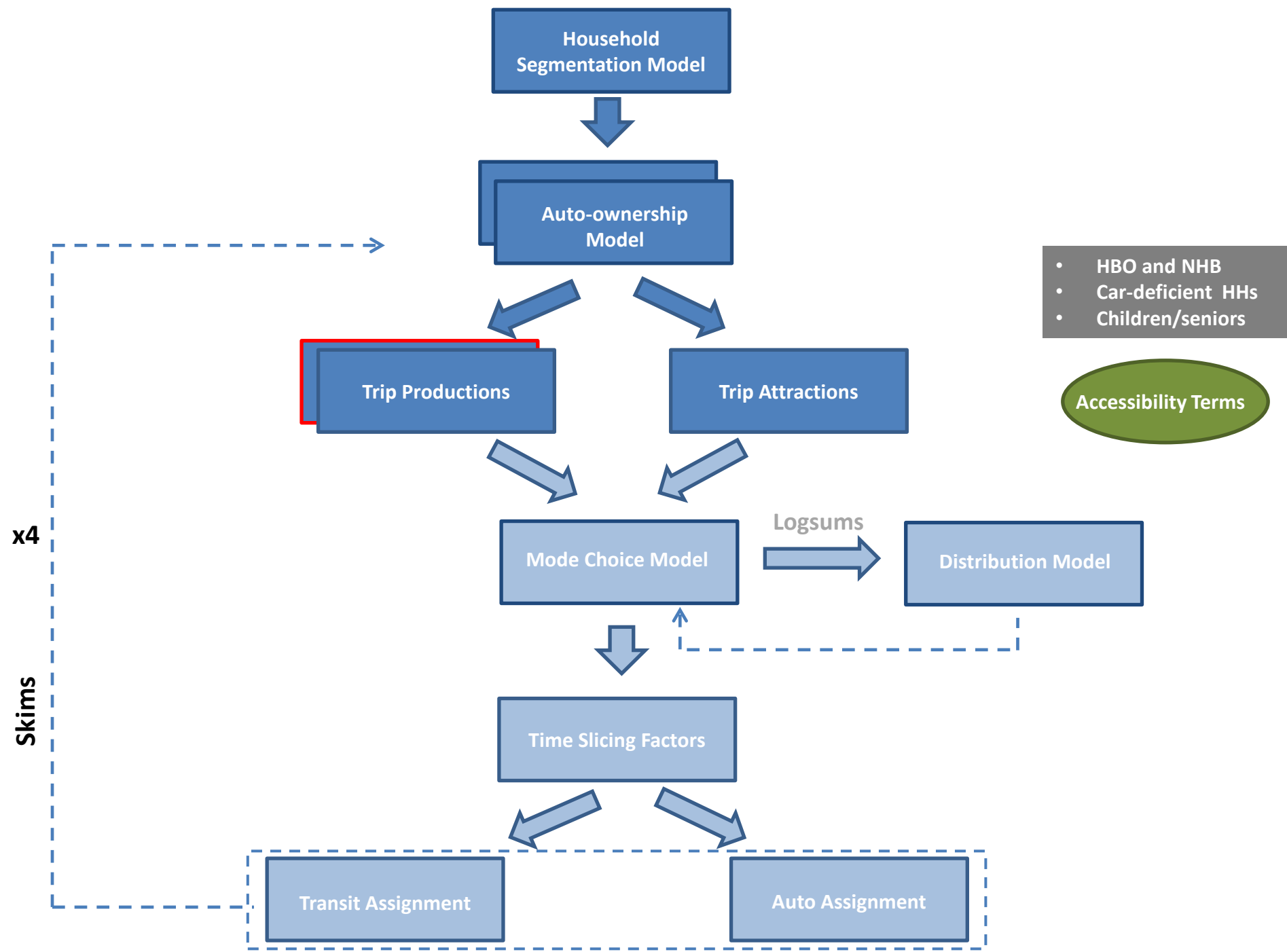
CAV & TNC  
Penetration Rates

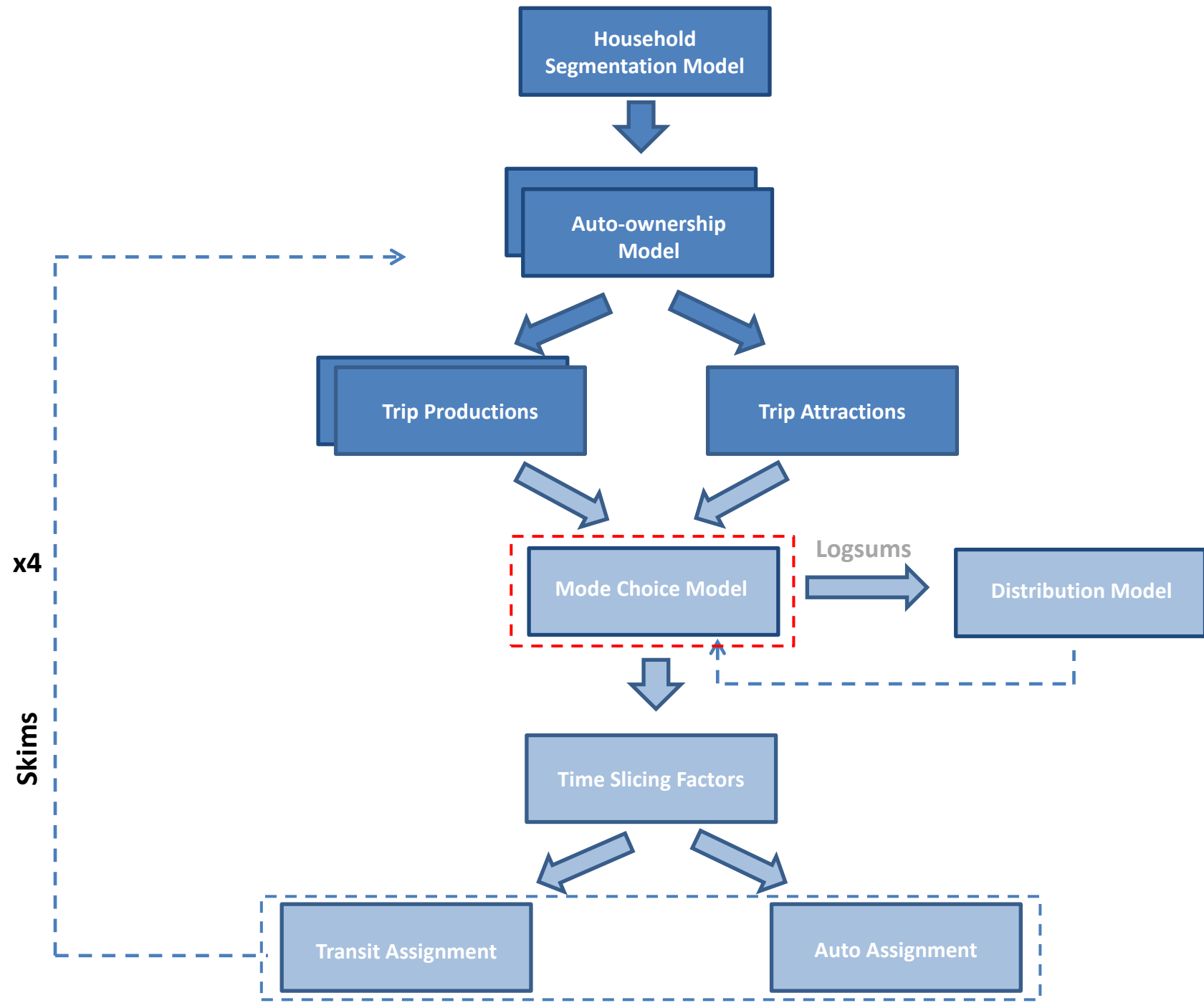
Accessibility Terms

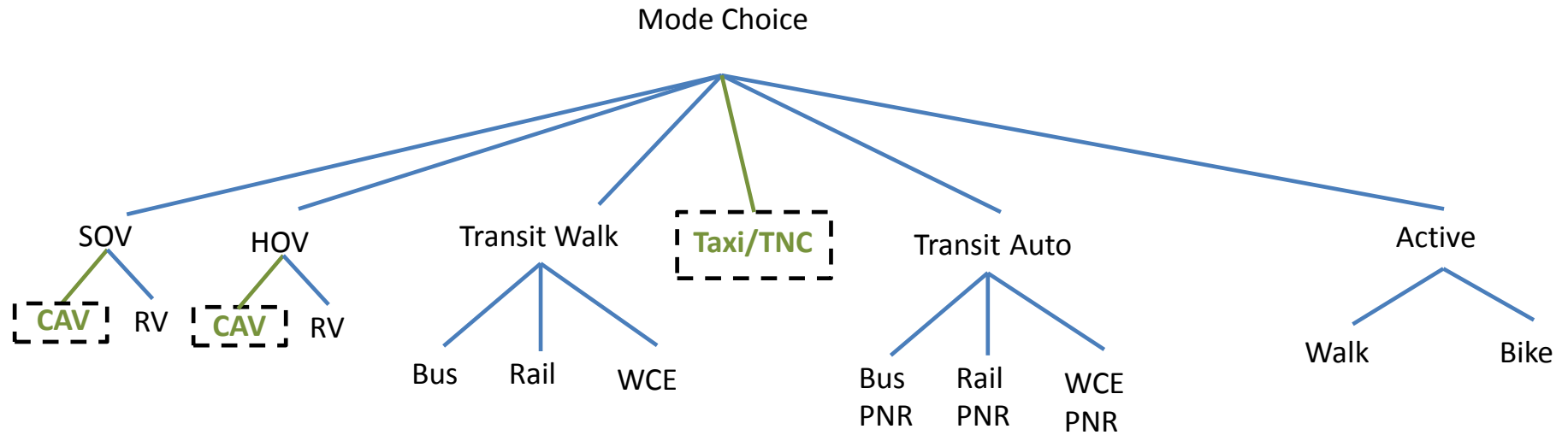
x4

Skims









**CAV considerations:**

- Reduced IVTT perception
- Repositioning:
  - 1) Park at destination
  - 2) Park at home
  - 3) Park at nearby free-parking zone
- ZOVs

**Taxi/TNC considerations:**

- Variable wait time by location
- Price
- ZOVs

SOV: Single Occupancy Vehicles

HOV: High Occupancy Vehicles

ZOV: Zero Occupancy Vehicles

RV: Regular Vehicles

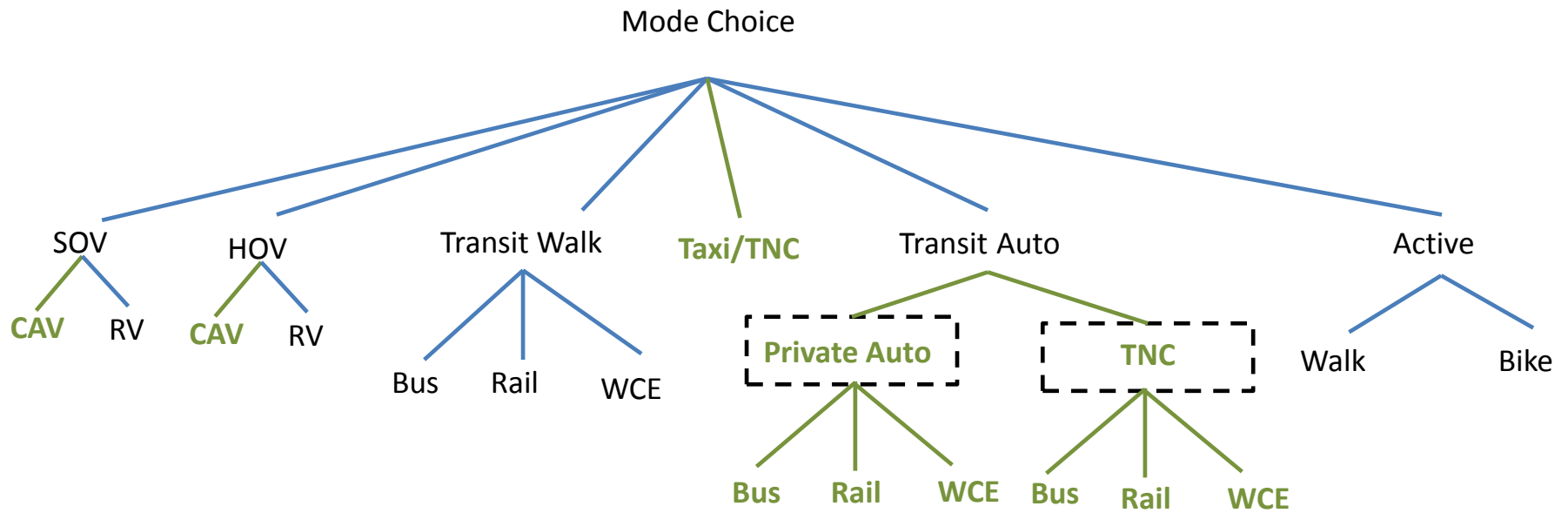
CAV: Connected & Autonomous Vehicles

PNR: Park-and-Ride

TNC: Transportation Network Companies

WCE: West Coast Express



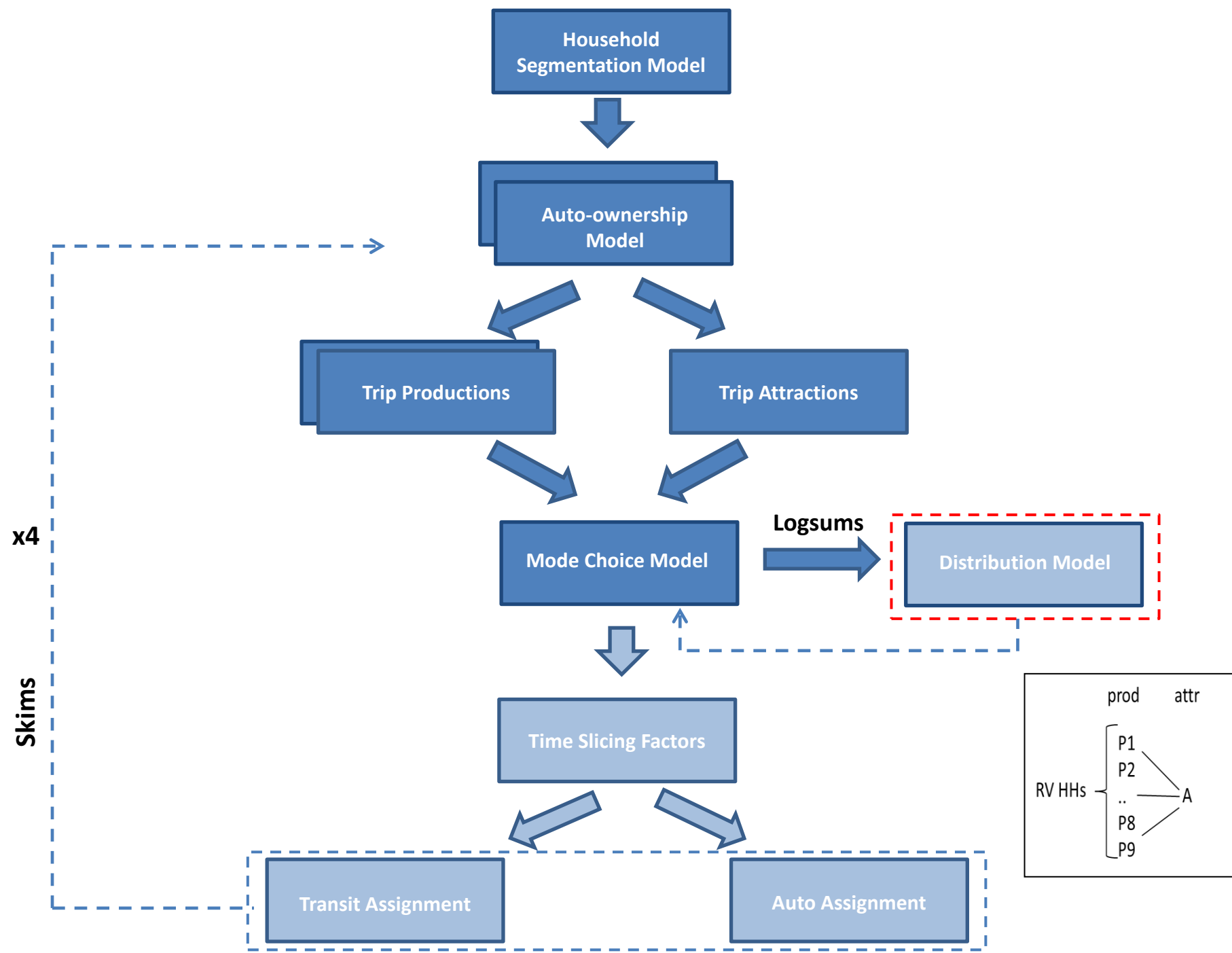


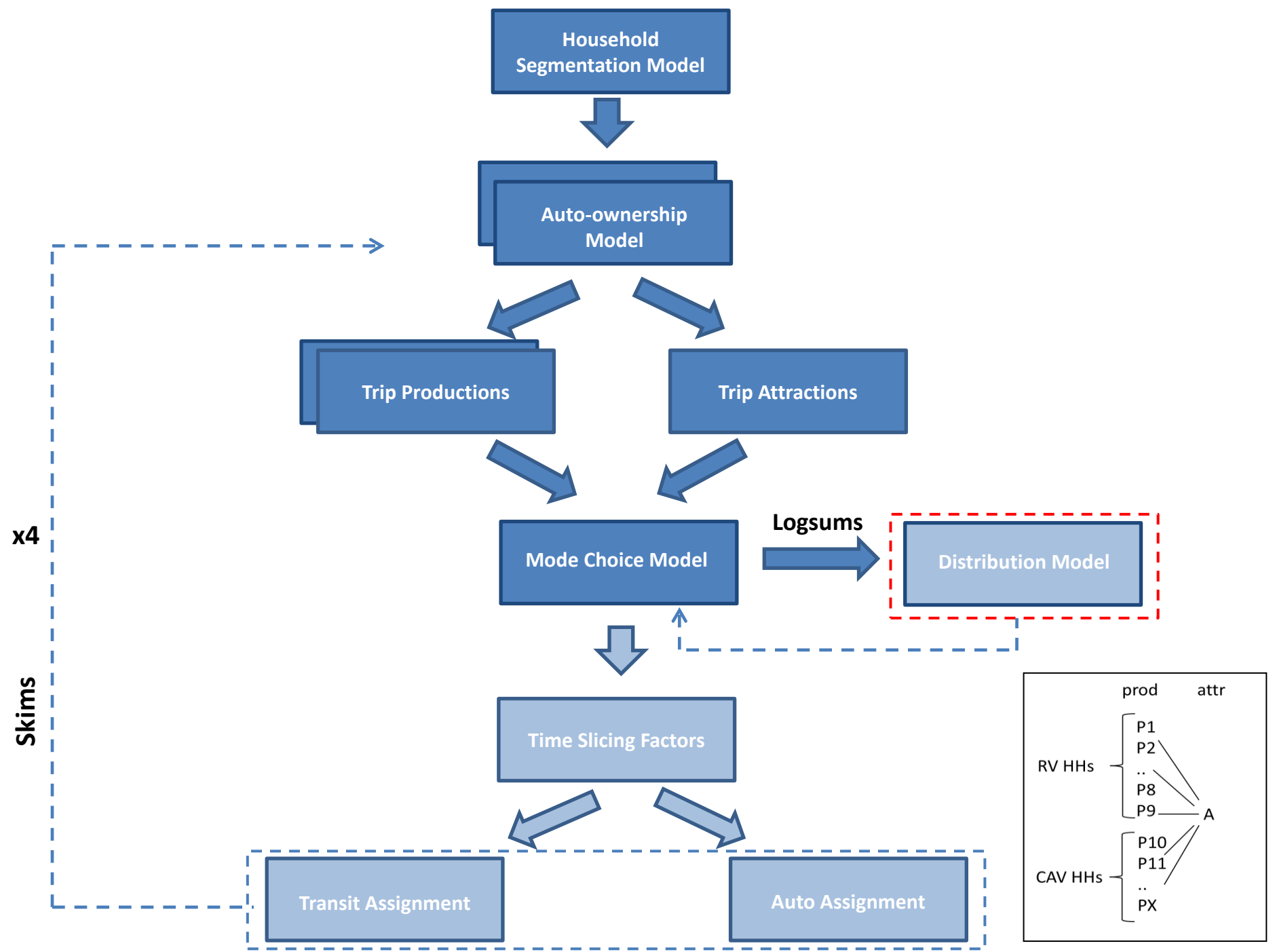
**Transit Private Auto Access:**

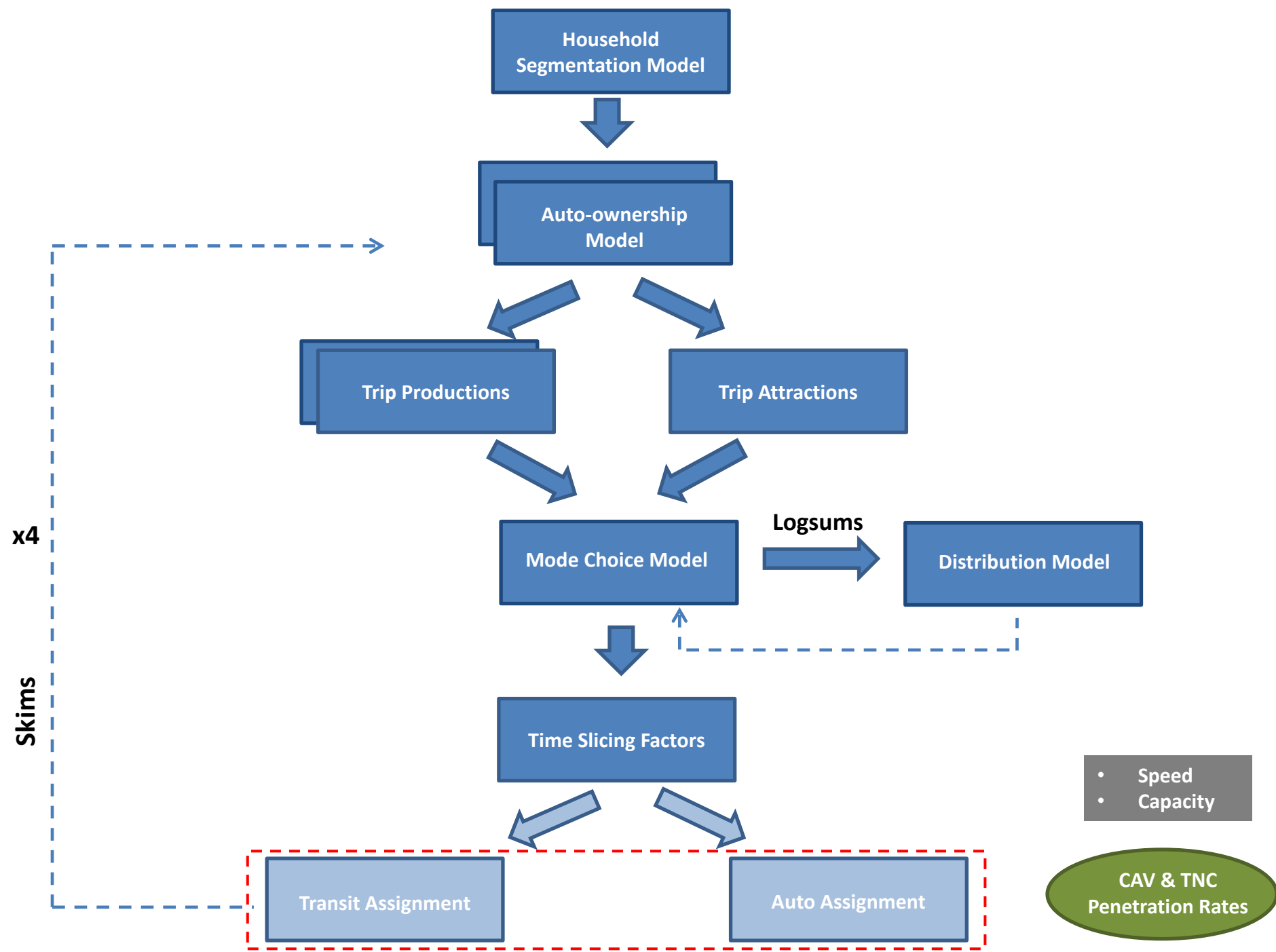
- RV HHs access regular PNR stations
- CAV HHs access SkyTrain stations and Bus exchanges
- Decision to park or reposition depends on price

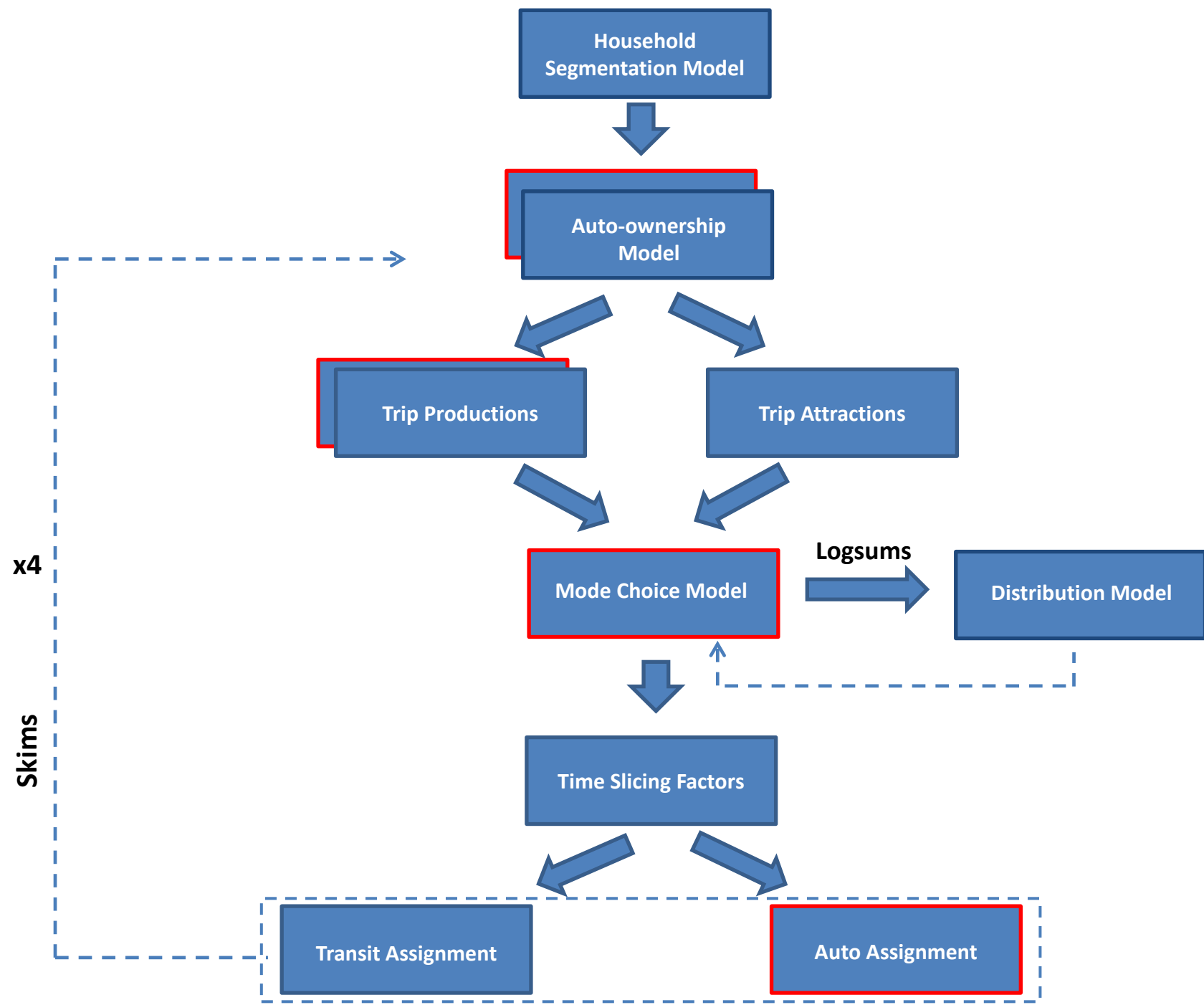
**Transit TNC Access:**

- All HHs access SkyTrain stations and Bus exchanges









# Summary

- RTM re-configuration:
  - Additional level of household segmentation by CAV/RV ownership
  - Accessibility terms affect auto-ownership and trip generation
  - New modes are introduced to mode choice
  - Network volume-delay functions are adjusted to capture speed and capacity changes based on CAV/TNC penetration rates

# Summary

CAV ownership ✓

Accessibility-based  
trip generation ✓

New modes ✓

Network speed/capacity  
adjustments ✓

Intra-household travel ✗

TNC dispatch model ✗

TNC ridesharing ✗

Parking demand model ✗