Welcome!

SES 5394: Travel Behavior and Forecasting

Assignment due today!

- Post an introduction on the discussion board
  - Name/pronunciation/pronouns
  - Something interesting that you learned this past semester (may or may not have been related to a class you took)
  - For full credit (9/10 points), you should comment on some else's post as well.
- Feel free to do this during today's lecture – I'll also leave some time at the end.

Discussion Assignments

- Generally due each Thursday before* class
- You'll be commenting on selected readings (articles or book chapters posted to Canvas)
- For full credit, you'll always be expected to comment on a classmate's post in addition to posting your own
- Full credit is 9/10 points – I may award one or two students 10/10 each week for particularly excellent contributions to the discussion
- You're meant to spend about 30 minutes per week on these (including time spent reading)
- Altogether, these discussion points are worth 35 percent of your final grade
  - There are 13 of them, so each one is worth just under 3 percent of your grade.
  - There are fairly low-effort points – don't just skip them

**Technically due at the end of class because I won't start grading them until after class, but I don't want you to be doing them during class.*

Assignment due in one week!

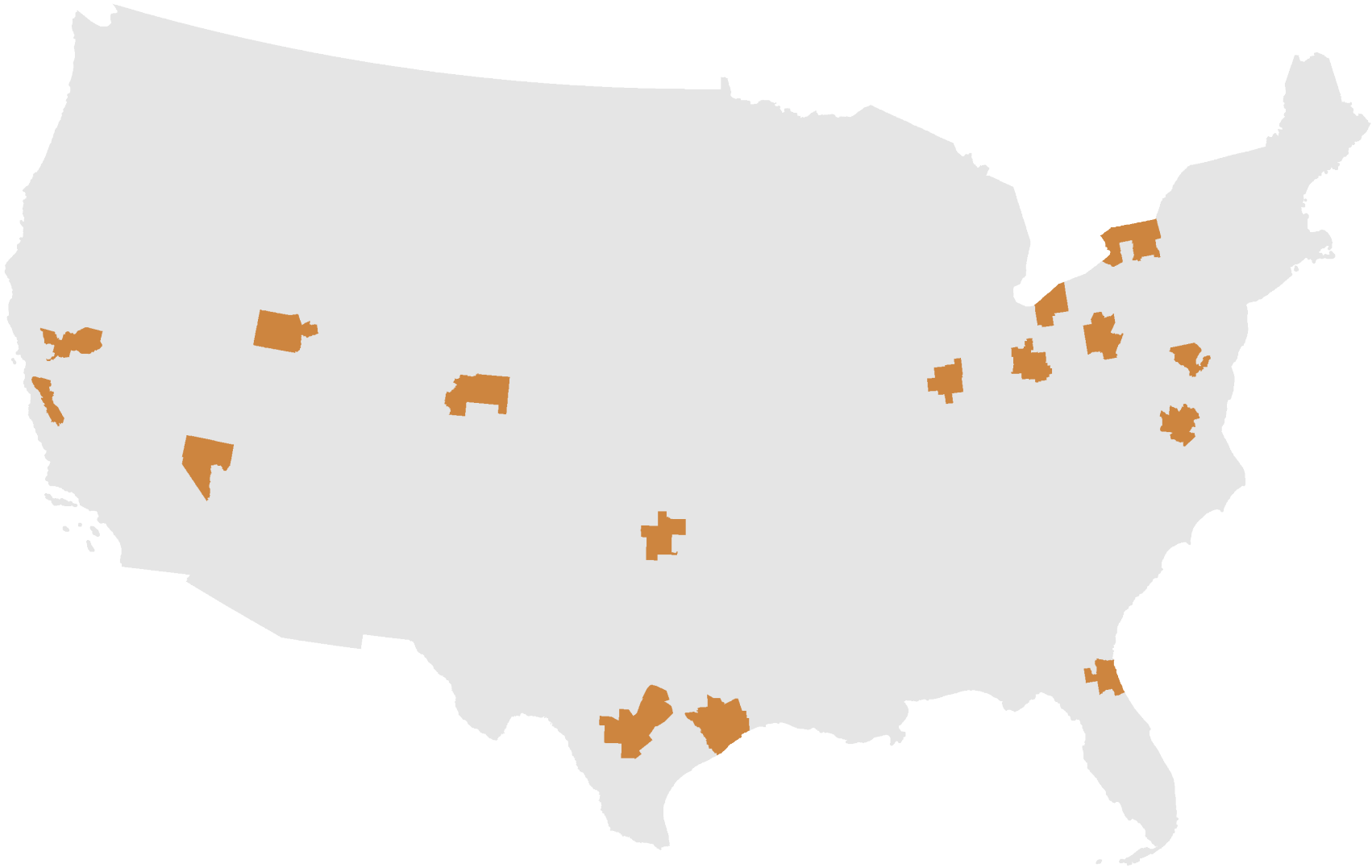
- Select a team, a study area, and an alternative to evaluate for all future analysis assignments over the course of the semester

Select a team

- Teams should be two or three people.
  - If you're not sure you'll stay in this class, join a team of three (where the other two are feeling pretty committed).
- You will be doing a lot of pair/triad coding as a team,
  - Budget at least three hours per week of team time outside of class *(probably another hour or so of asynchronous work on team assignments)* Choose teammates whose schedules align with yours.
- I've put up a discussion board (not for credit) on Canvas you can use to coordinate.

Potential study areas for project:

- Austin, Texas
- Baltimore, Maryland
- Buffalo, New York
- Cleveland, Ohio
- Columbus, Ohio
- Denver, Colorado
- Houston, Texas
- Indianapolis, Indiana
- Jacksonville, Florida
- Las Vegas, Nevada
- Oklahoma City, Oklahoma
- Pittsburgh, Pennsylvania
- Richmond, Virginia
- Rochester, New York
- Sacramento, California
- Salt Lake City, Utah
- San Antonio, Texas
- San Jose, California



Once you've selected your team and study area, you'll need to join the group corresponding to your study area on Canvas prior to submitting any team assignments.

Define alternative

- Weekly analysis assignments will build towards comparing outcomes (regional VMT, route-level transit ridership, and a measure of accessibility) of two alternatives:
  - An existing condition
  - Something that is different in terms of:
    - Land use (population/employment) and/or
    - The transportation network
      - Delete one or more roadway links
      - Change transit frequency on one or more routes
      - Change transit speeds on one or more routes
      - Delete one or more transit routes
- Balance creativity and analysis feasibility in defining your alternative!

Analysis assignments

- Generally due on Tuesdays before class.*
- These 10 assignments are collectively worth 40% of your final grade (so each assignment is worth 4%).
- They also form the basis of your final project, which is worth 10% of your final grade.
- Grading rubrics are available on Canvas
- Full credit is 80% – higher scores may be given for particularly interesting/impressive work
  - Always better to do an easy thing well than to do a difficult thing poorly

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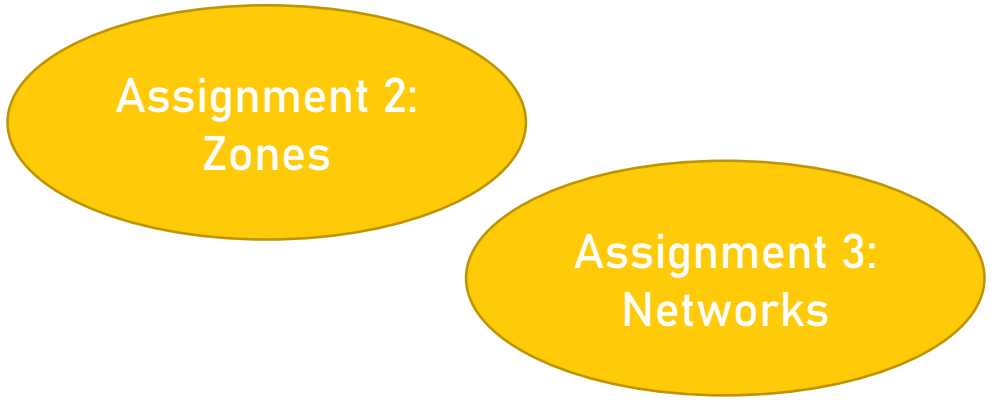
Subsequent analysis assignments

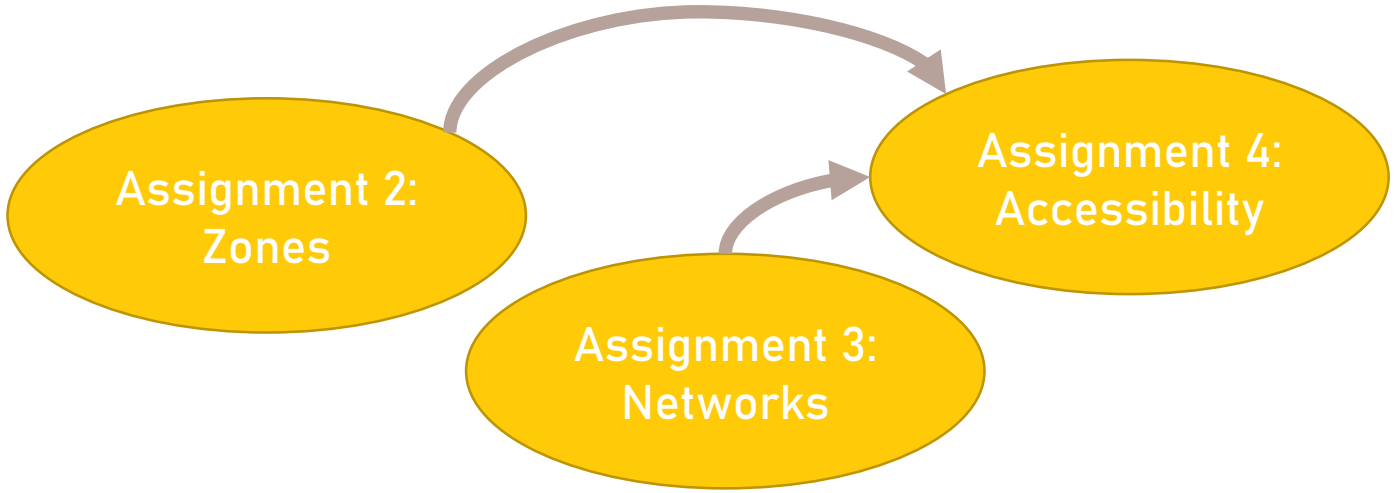
Generate population and employment estimates for each zone in each alternative, disaggregated by employment, car ownership, and income categories.

Subsequent analysis assignments



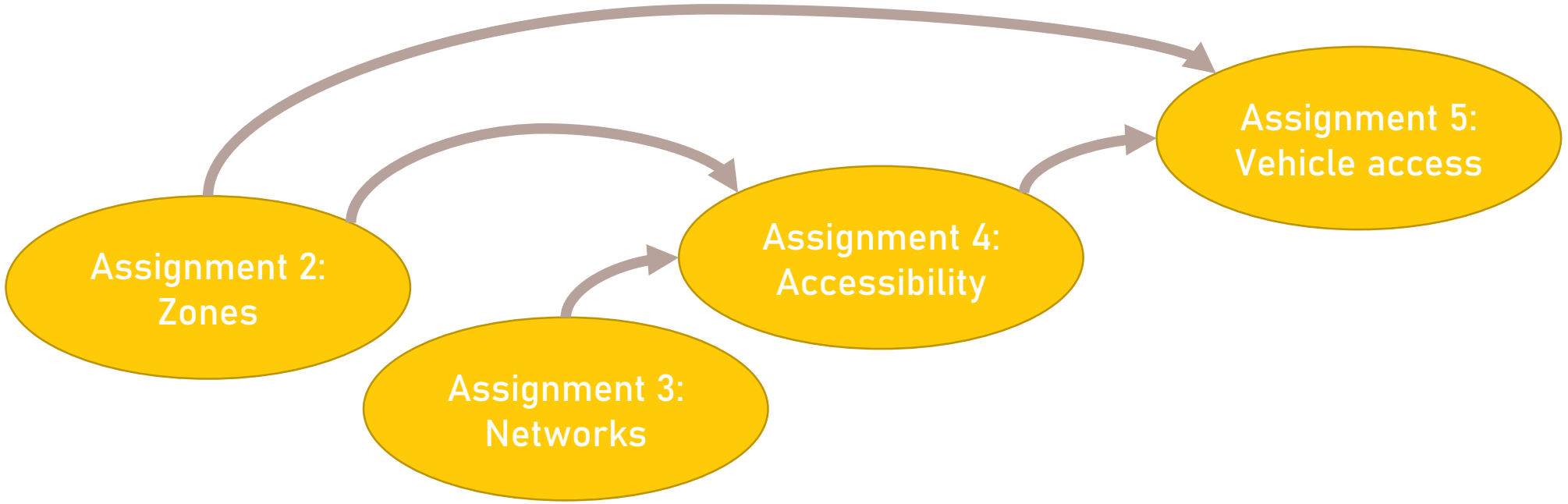
Generate a digital model of the street (OpenStreetMap) and transit (GTFS) networks for each alternative.

Subsequent analysis assignments



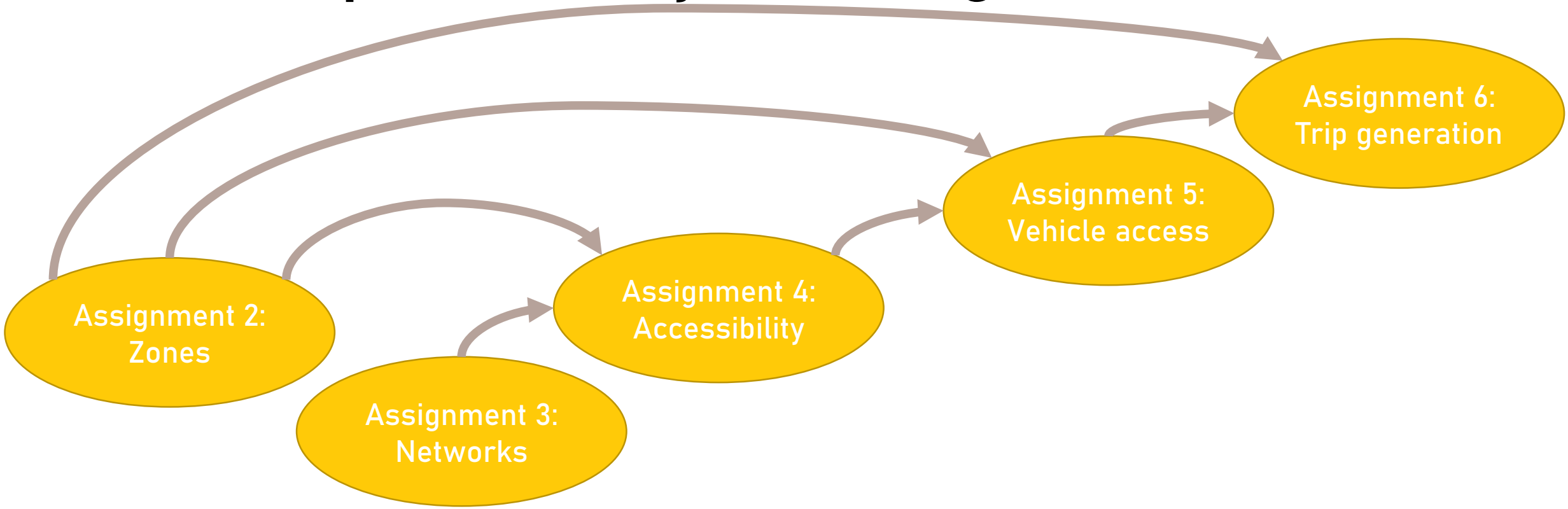
Calculate an accessibility metric for each zone, by each mode (e.g. car/transit) for each alternative.

Subsequent analysis assignments



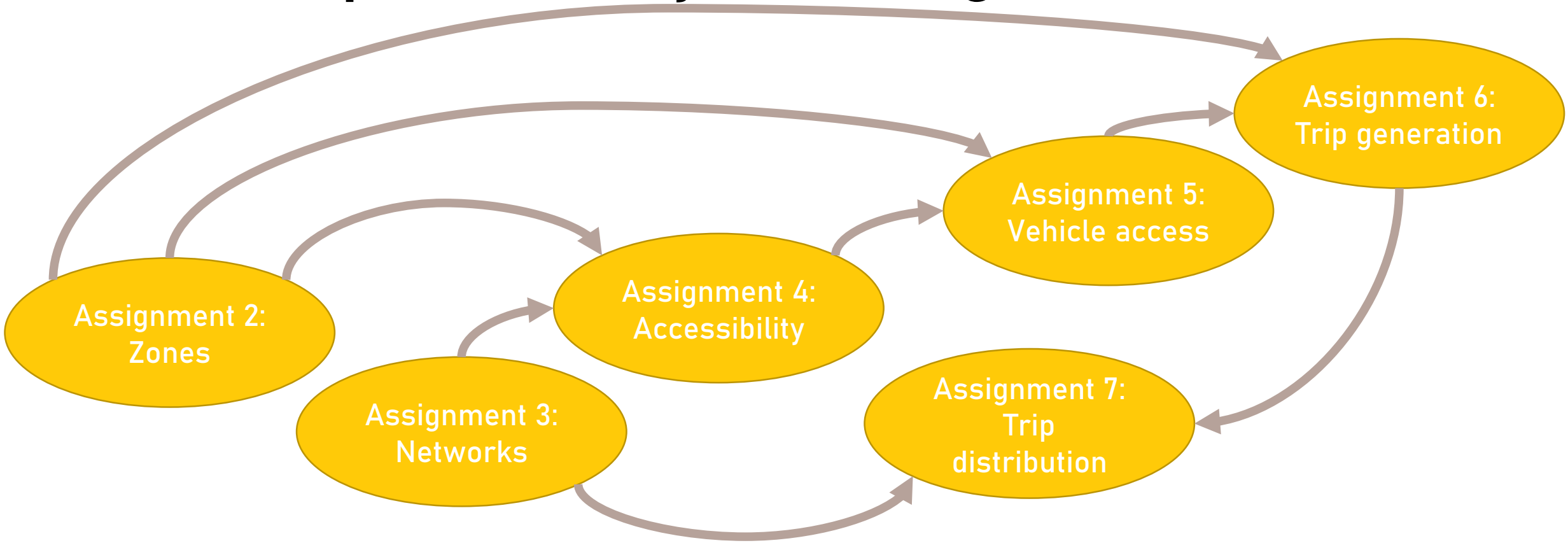
Estimate the likely levels of vehicle access in each zone for your proposed alternative, based on existing relationships with vehicle access.

Subsequent analysis assignments



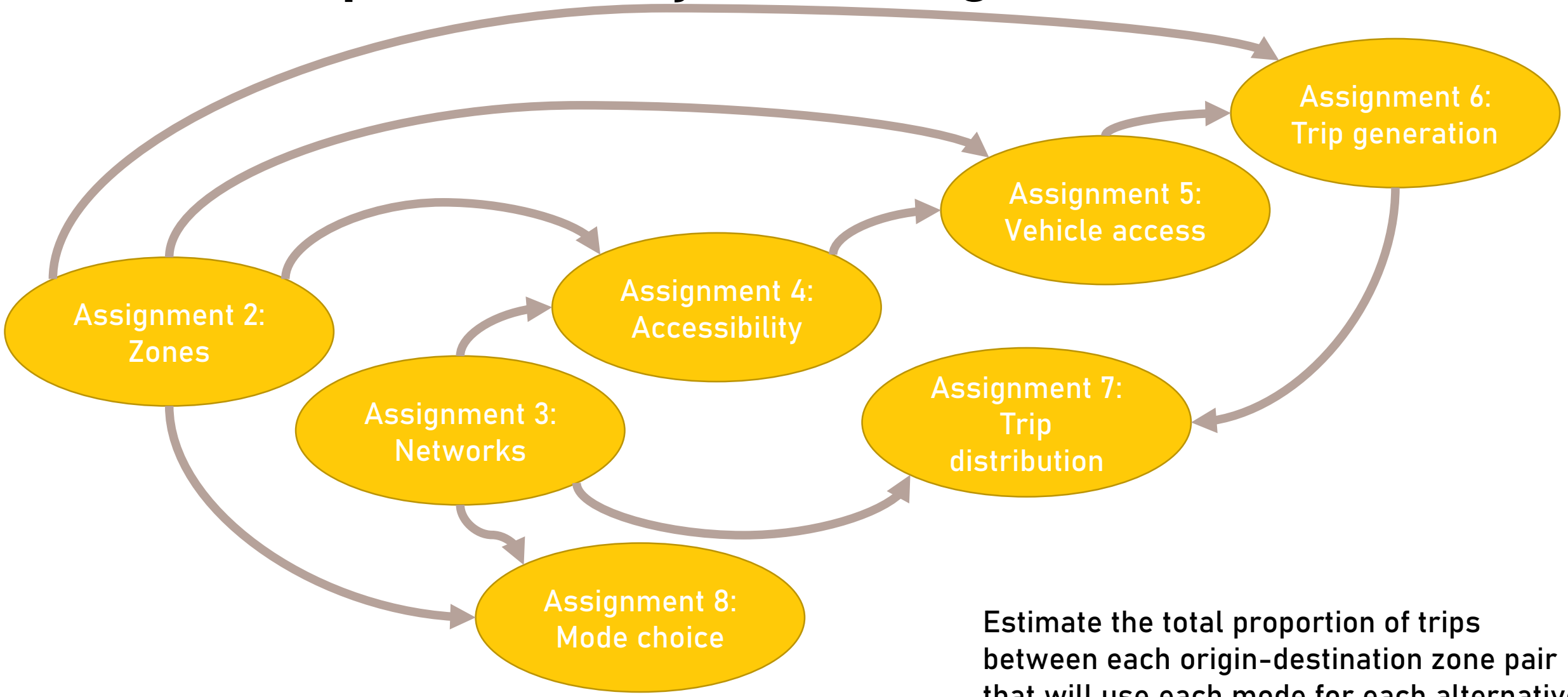
Estimate the total number of trips beginning and ending in each zone for each alternative.

Subsequent analysis assignments



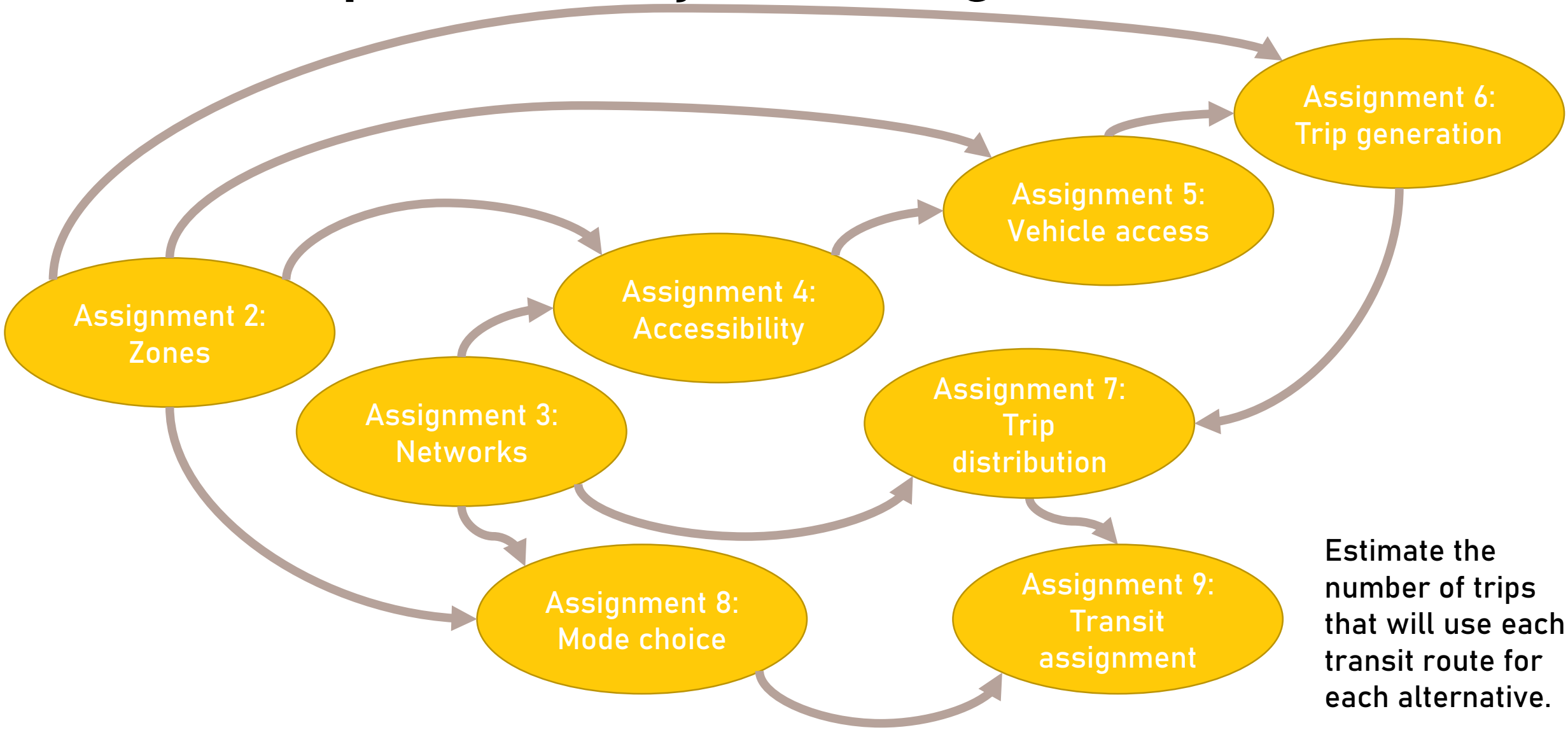
Estimate the total number of trips between each origin-destination zone pair for each alternative.

Subsequent analysis assignments



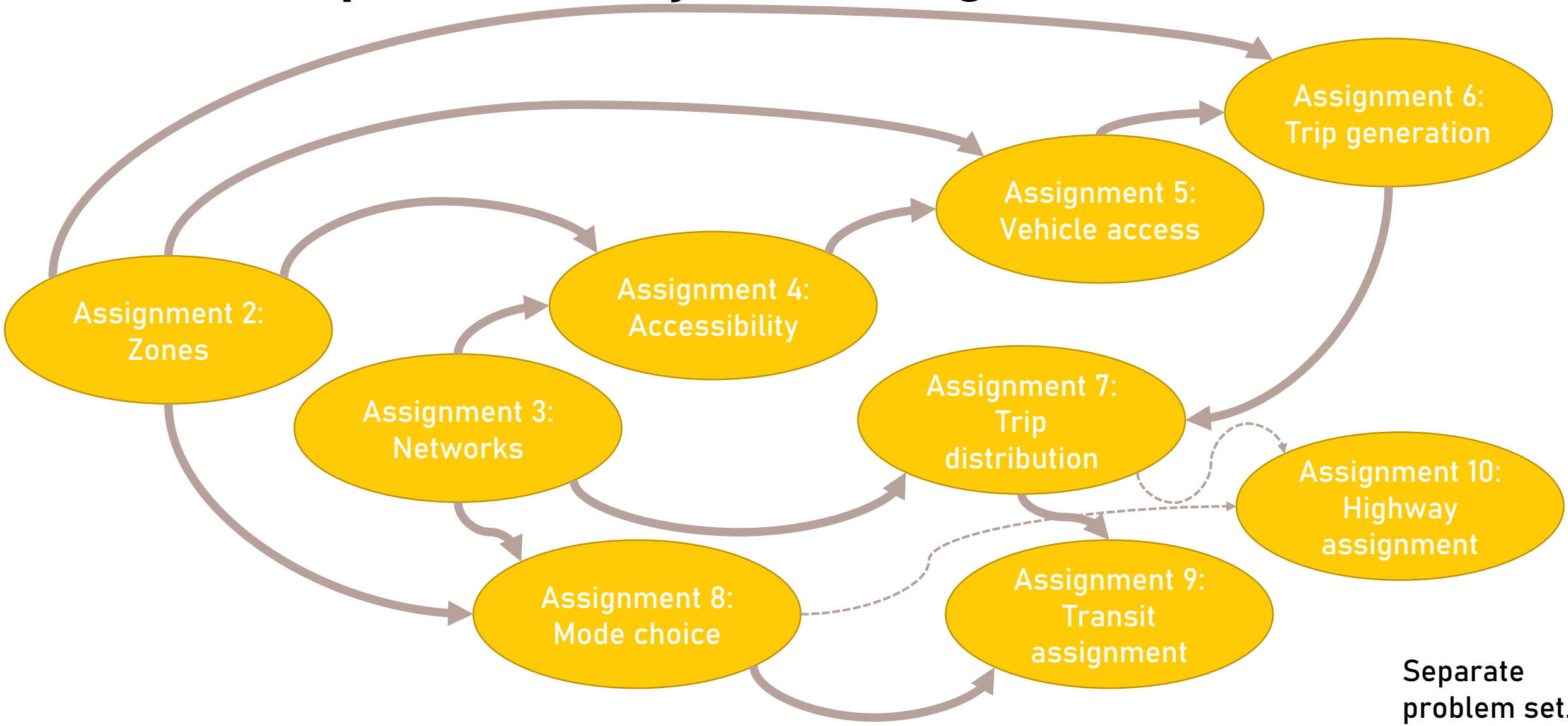
Estimate the total proportion of trips between each origin-destination zone pair that will use each mode for each alternative.

Subsequent analysis assignments



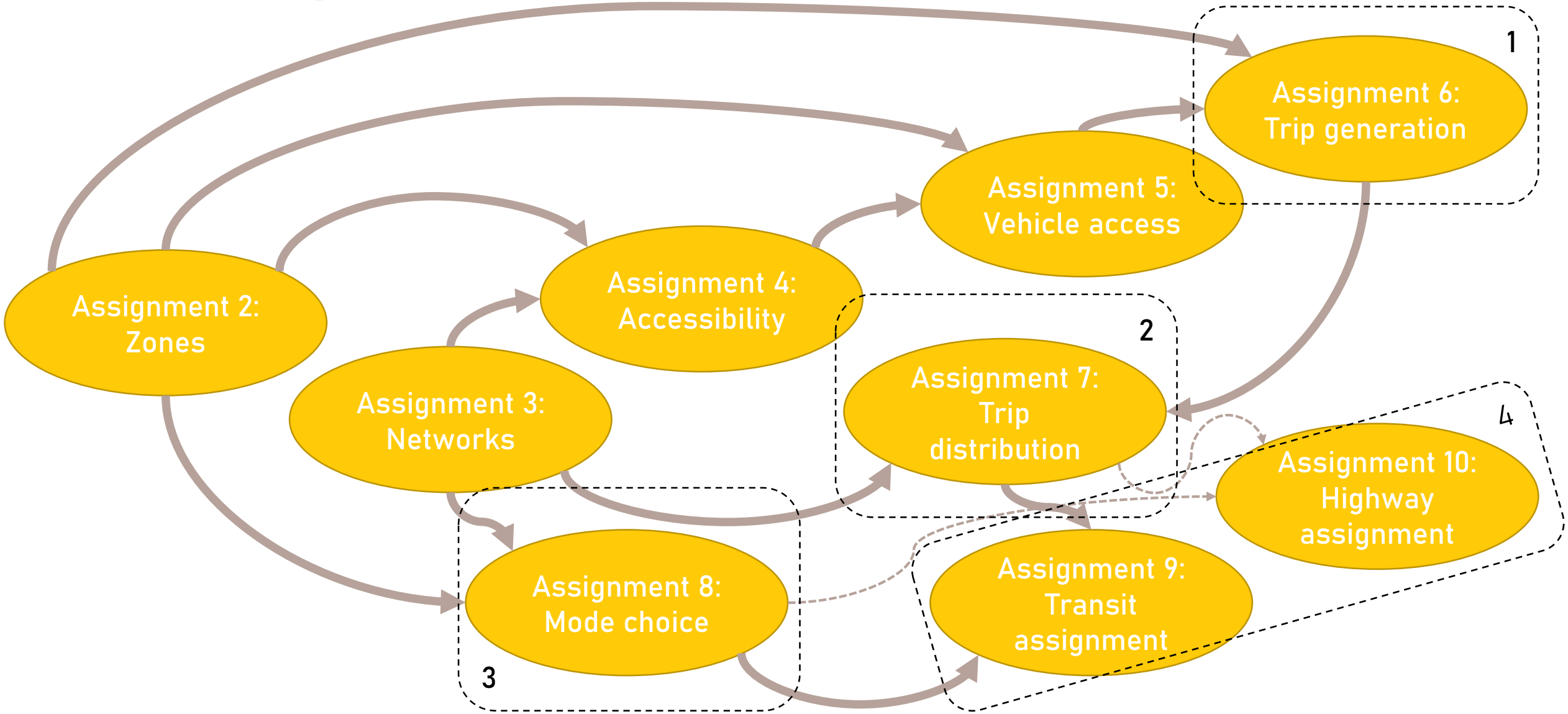
Estimate the number of trips that will use each transit route for each alternative.

Subsequent analysis assignments



Separate problem set.

“4-step” travel demand model

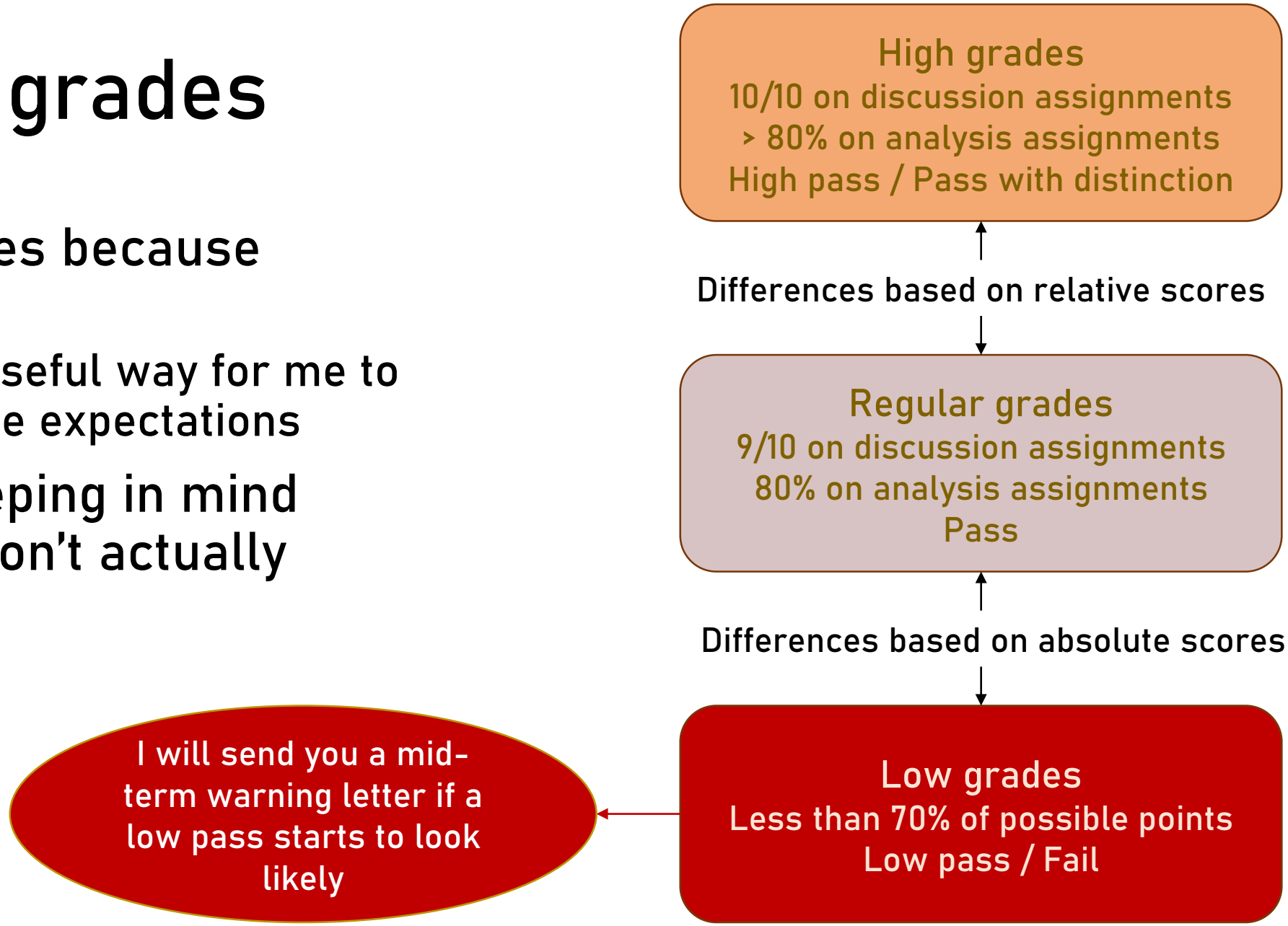


Final Exam

- There will be a final exam worth 15% of your final grade.
- It will be timed, multiple choice, and open book.
- It will test your knowledge/understanding of key terms and definitions in travel behavior and forecasting.
- Likely questions from today's lecture:
  - What are the four steps referenced in a traditional four-step travel demand model?
  - What inputs are needed for each of those four steps?
  - What are the outputs of each of those four steps?

Notes on grades

- I assign grades because
  - I have to
  - They are a useful way for me to communicate expectations
- It's worth keeping in mind that grades don't actually matter.



Questions?

Feel free to take the rest of class time to complete the discussion assignment for today,

And/or to coordinate with one another about forming teams.

I'll open some breakout rooms you can use for that purpose.