20.11.2022

# Transportation Planning Overview

**EWCE 351**
**Transportation Engineering**

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# What do you want to learn?

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- How do you plan a road? Behind the scenes. Planning process?
- How cities grow, land use changes, context of Dhaka
- Many modes working together efficiently
- Travel demand forecasting, travel time optimization
- Encouraging active transportation
- Issue unique to Dhaka, Rickshaw, slow congested traffic

# Transportation Planning

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## What is transportation planning?

- the process of
  - looking at current state of transportation,
  - designing for future transportation needs,
  - with the elements of budgets, goals and policies.



https://cdn.pixabay.com/photo/2014/01/04/12/34/street-238458_1280.jpg

## Why plan?

- Anticipate/guide the future
- Inform decision making
- Moral obligation?

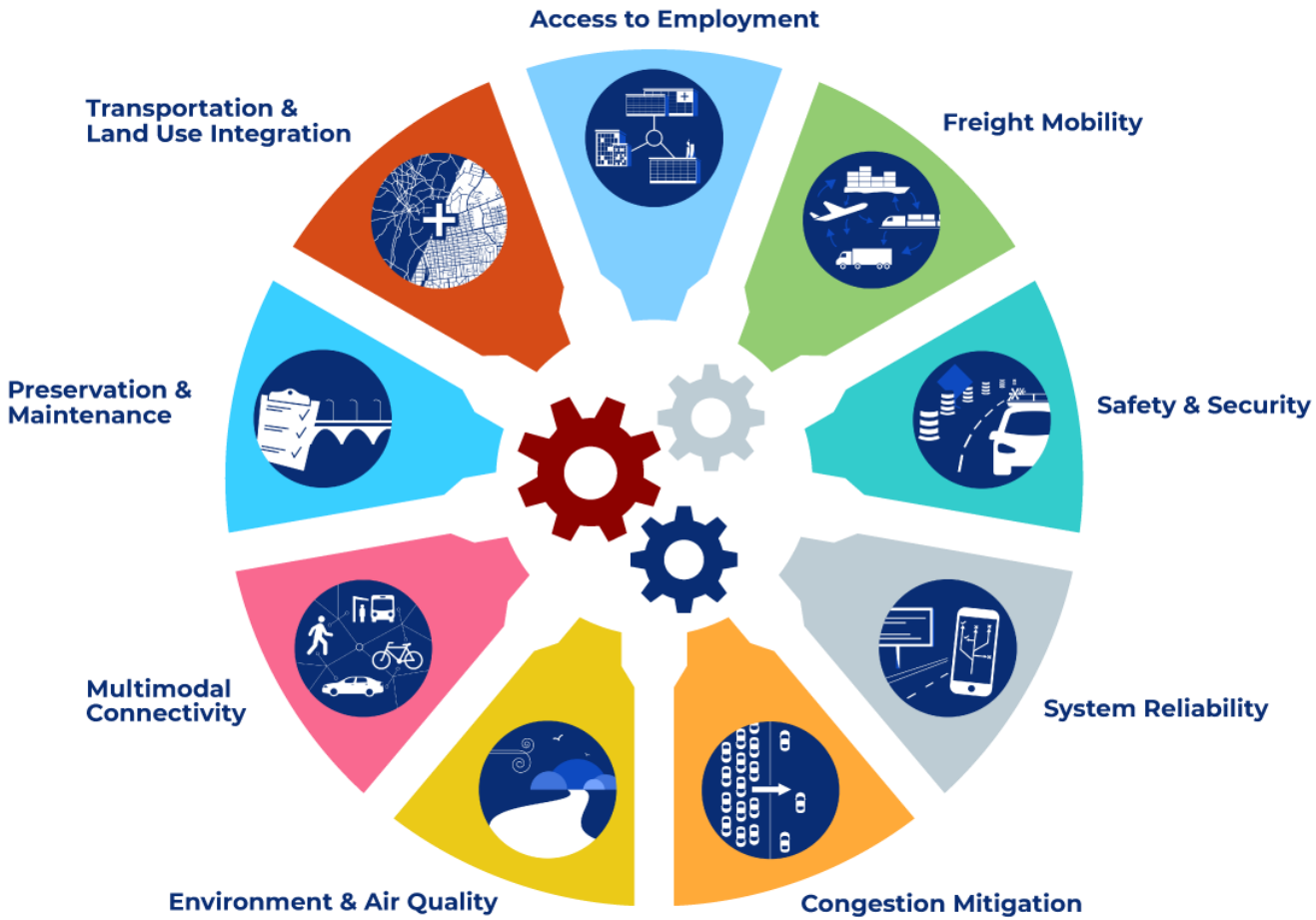
# Transportation planning process




*Source*: FHWA Briefing Book (2015), https://www.fhwa.dot.gov/planning/publications/briefing_book/

# Transportation planning goals

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Source: https://planrva.org/transportation/what-is-transportation-planning/

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# Efficiency

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https://www.shareable.net/10-ways-vancouver-created-a-greener-more-efficient-transportation-system/

# Equity

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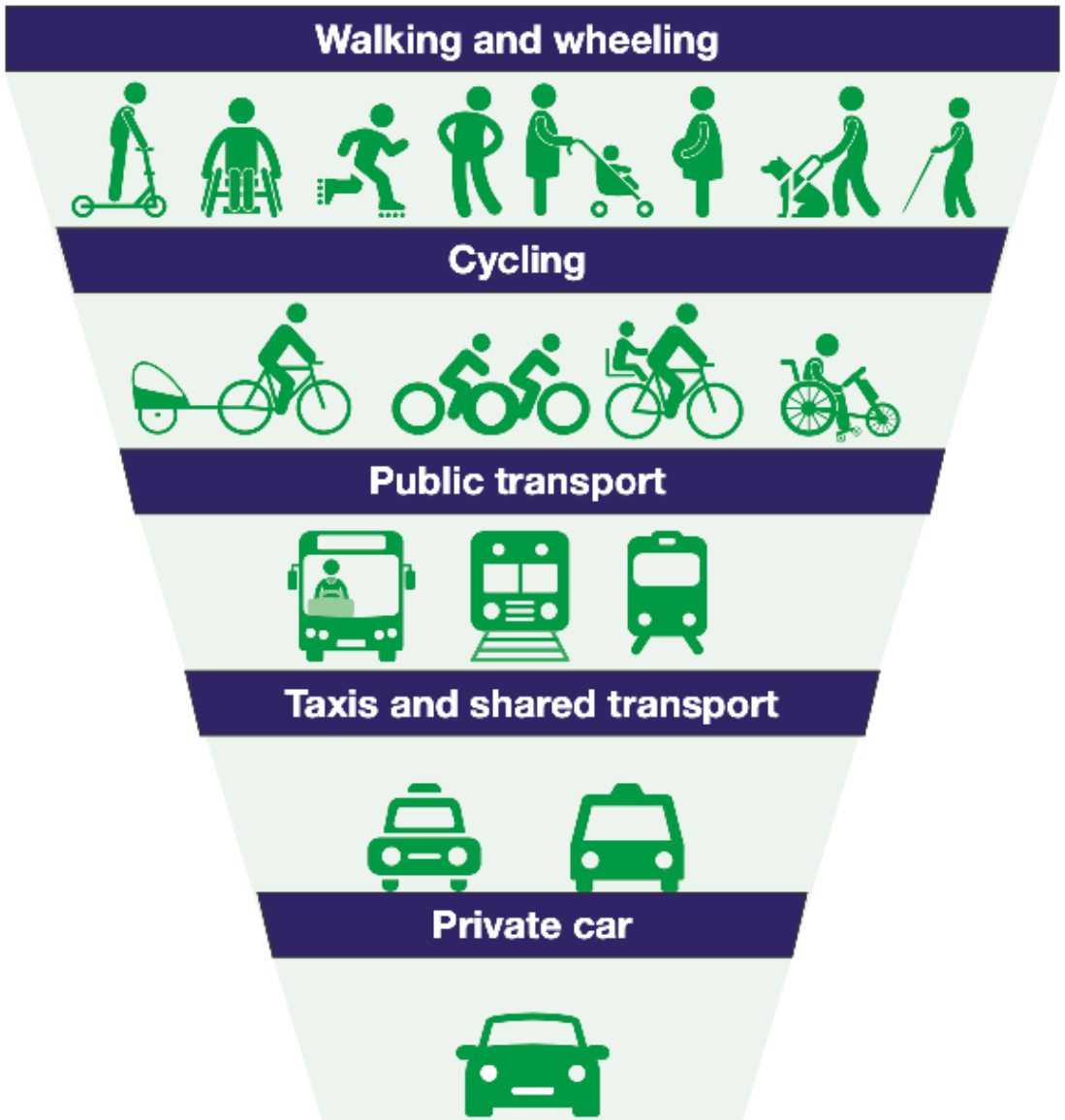
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# Better Environment

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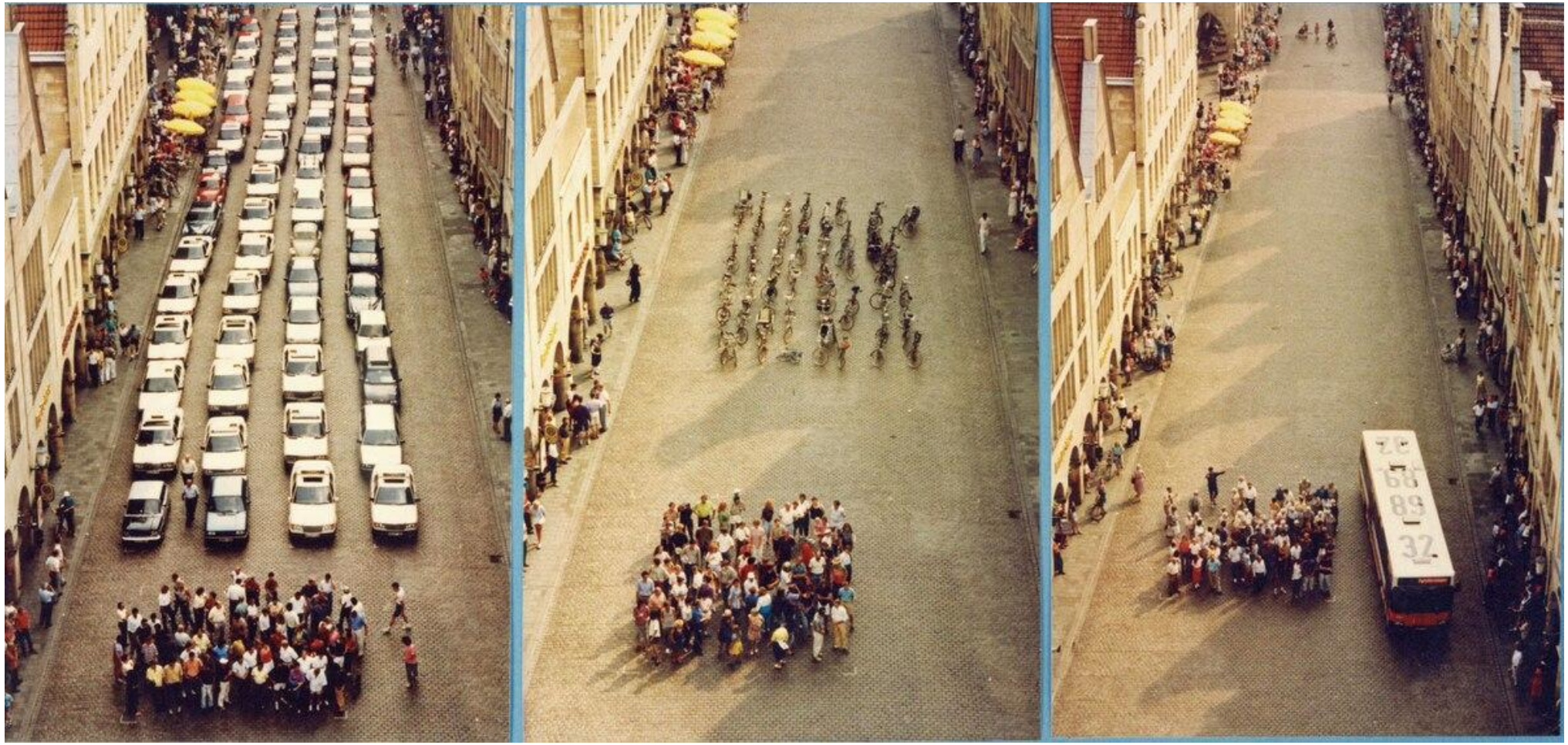
- air pollution and noises caused by automobiles should be minimized
  - by promoting public transport use and controlling the traffic demand.
  - by applying stricter vehicle emission standards.
- In addition, traffic safety should be enhanced and the number of accident victims should be minimized
  - through the enforcement of laws and regulations, intensive public campaigns, and training and education of drivers as well as general public.
  - Improvement of traffic facilities through engineering design would also contribute to the reduction of traffic accidents.


MOBILITY INSTEAD OF DIRTY TRAFFIC
tion fields on the road to a smart and sustainable city
solar rooftops for local energy generation
battery research and production facility
demand-driven traffic control
attractive traffic route for bikes an pedestrian
tramways and electric buses
self-driving cars extended public transport
charging stations for individual vehicles


Walking and wheeling
Cycling
Public transport
Taxis and shared transport
Private car

# Road Space Requirement

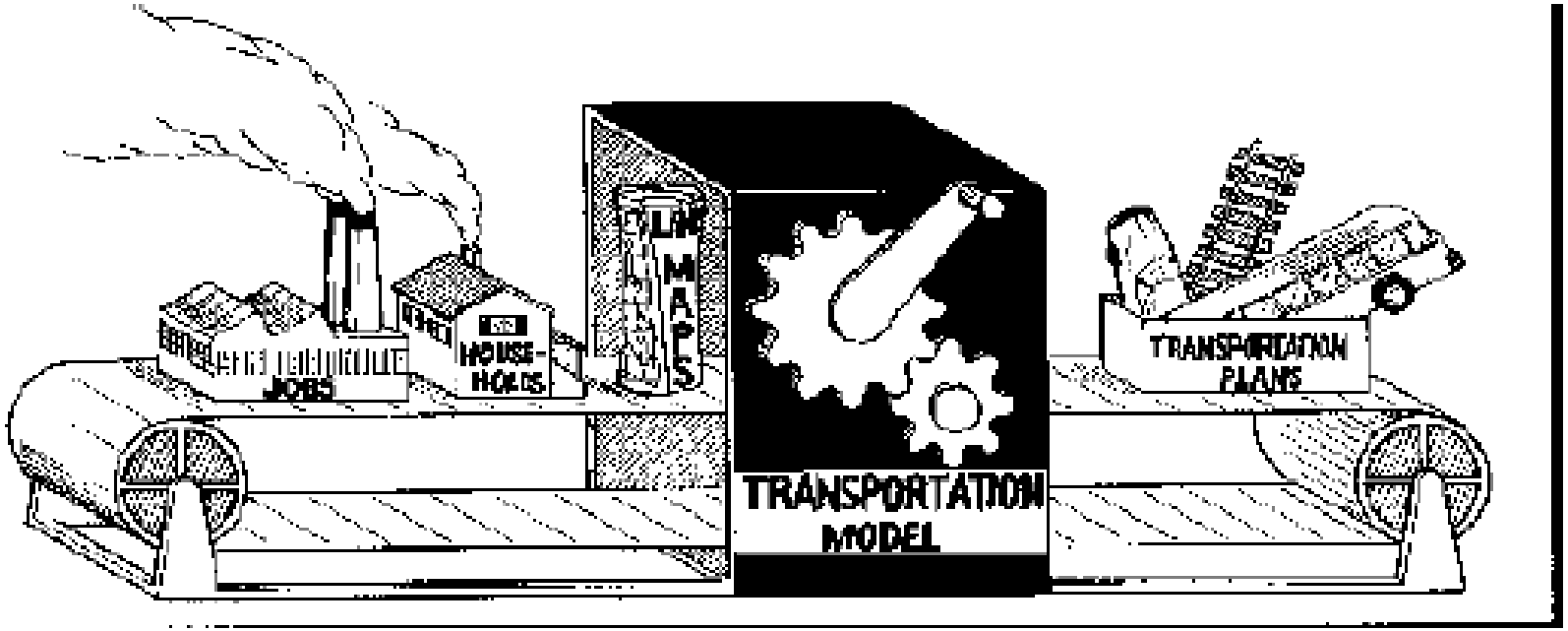
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# Transportation demand forecasting

## Trip-based model sequence

1. Generation
2. Distribution
3. Mode choice
4. Assignment

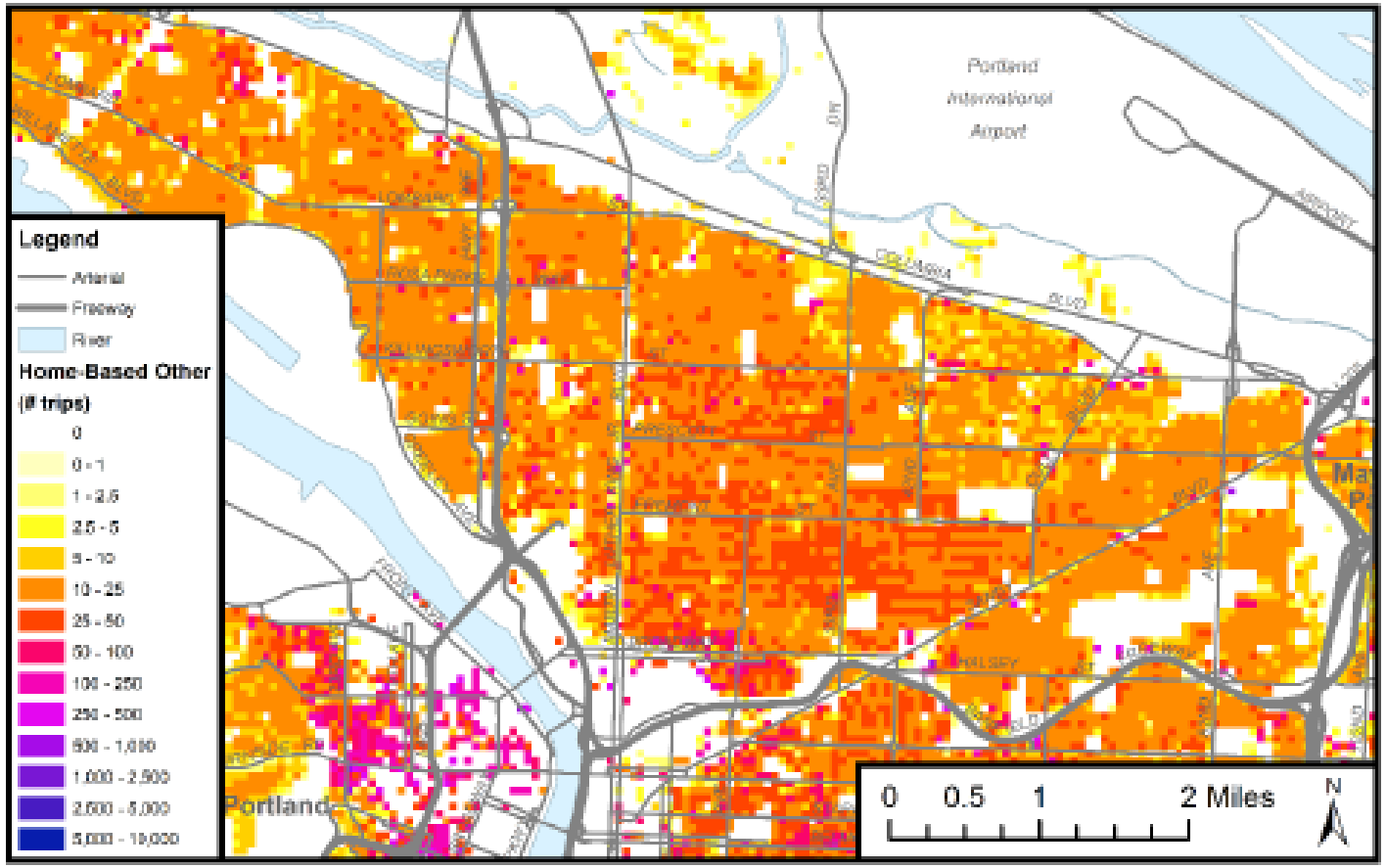



*Source*: Beimborn(1995), A Transportation Modeling Primer
https://www4.uwm.edu/cuts/primer.htm

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# Trip generation

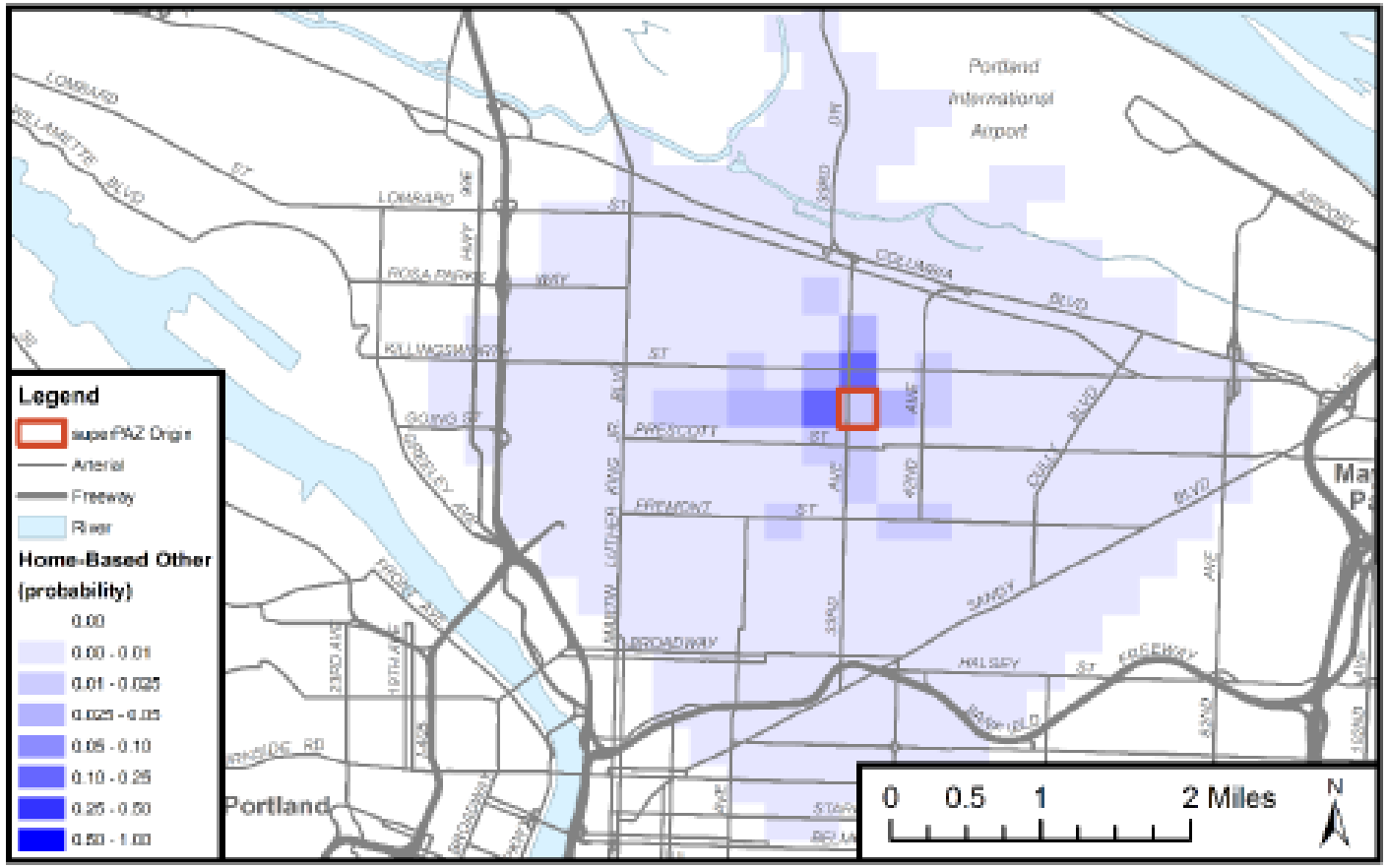
- How many trips
- Where do they start?




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# Trip distribution

- How many trips?
- Where do they go?




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# Mode choice

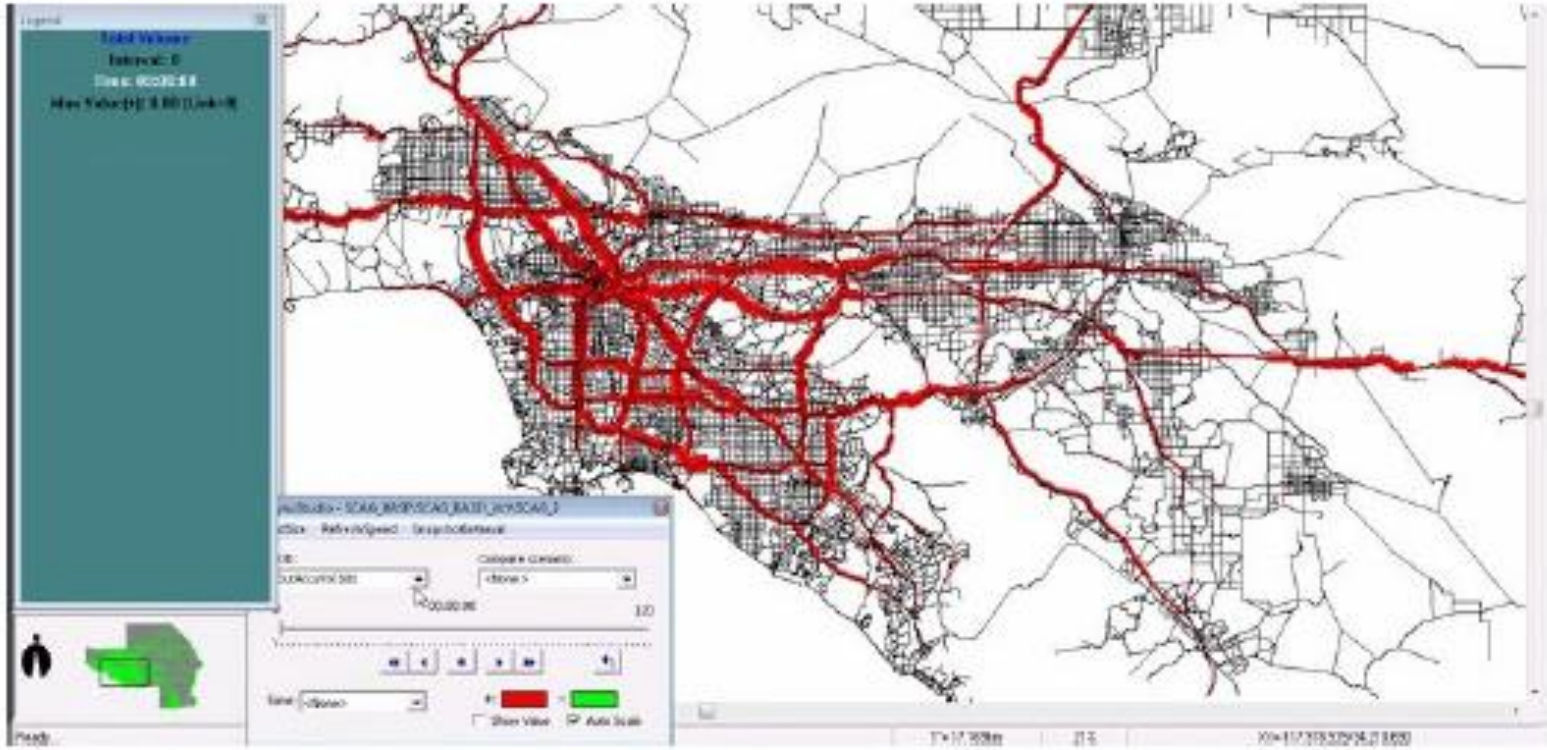
- How do they get there?
- What means of transportation?





# Traffic assignment

- How do they get there?
- By what route?



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# Questions?