

## TTP220 Transportation Policy and Planning

### Class 2: Impacts continued and History started

**Challenge** Meet NEEDS within CONSTRAINTS while minimizing IMPACTS

Needs = ? Accessibility vs. mobility, volume vs. demand

Constraints = ? Financial, spatial, temporal, political, behavioral

Impacts = ? Efficiency, environment, equity, safety

### Impacts

Individual vs. societal

Present vs. future

#### *Efficiency Recap*

Challenge: enough capacity for peaks vs. unused capacity during off peak

Congestion =  $\text{Volume/Capacity} > 0.77$

Speed < free flow

Delay > standards

LOS D, E, or F

Issues: recurring vs. non-recurring; perception vs. reality; subjective assessment of what is acceptable

#### *Environment Recap*

Energy: Fossil fuel dependence: economy, defense, environment

Contributing factors: low prices, fuel efficiency, driving styles

Air quality: National Ambient Air Quality Standards (NAAQs): health basis

Contributing factors: technology, operations, weather/topography

Others: water quality, solid waste, noise, aesthetics, barrier effect, road ecology

Sprawl: To what degree does road building lead to sprawl?

To what degree does sprawl lead to more driving?

#### *Equity*

Equity of benefits – services: transportation disadvantaged

Equity of costs – impacts:

Monetary: users pay, ability to pay

Non-monetary: externalities, environmental justice

#### *Safety*

Contributing factors: drivers, vehicles, roads, speed limits, conditions

#### *Unifying themes?*

*At what scale are these issues addressed?* Mandate vs. implementation

## History – Part 1

### *3 Rules that guide history of urban transportation*

1. Innovation – speed – sprawl: higher speeds mean greater distances in same time
2. Accessibility – development: development goes where accessibility is highest
3. Innovation - expansion: direction of causality not straight forward

*Eras* Rise of Transit: 1825 to 1900  
Rise of Automobile: 1900 to now  
Fall of Transit: 1920 to 1950s

*Transit innovations:* omnibus, steam train, horsecar, electric streetcar, cable car, mass transit, motor bus, trolley bus, rapid transit

### *Streetcar system characteristics*

1. Affordability for working class meant growth in mobility and outward expansion of city
2. Multiple private companies in each city, overseen by regulatory agencies, meant expansion to increase profits

### *Streetcar ironies*

- Irony 1: Great success was also the beginning of the demise
- Irony 2: Private industry but really a subsidy from investors to general public
- Irony 3: Poor management led to dramatic and lasting change in form of cities

### *Streetcar demise*

- GM conspiracy?
- Public choice?

### *Why public investments in roads but not transit?*

- Seen as quick and cheap in contrast to long-term investments in fixed-rail transit
- Highways served both public and private transportation
- More in American tradition of individualism
- Seemingly paid for by gas and tire taxes

*Next:* History of federal transportation policy

### *Readings:*

- Finish Chapters 1 and 3
- Check Website for additional sources on evolution of federal policy