Bikes and Rail: Sharing the Same Street

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Sharing the Same Street

*Evolution of Street Use*

Early 1900’s – cars added to the mix
Sharing the Same Street

Evolution of Street Use

• Auto love affair
• “Alternative” modes – Old Fashioned

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**Evolution of Street Use**

- Automotive bias
- Other modes an afterthought
- Poor functionality and safety for everyone
Sharing the Same Street

Shifting the Balance

- Access for people not vehicle mobility
- Walking and bicycling as preferred modes near transit

There's more to life than LOS and v/c ratios
Sharing the Same Street

**Complete Streets**

- Streets are for people
- Three zones
  - Roadway
  - Sidewalk/pedestrian zone
  - Adjoining development
Sharing the Same Street

Understanding Each Mode

Multi-modal Planning and Design

Expanding the Design Toolkit

Working Together

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Understanding Each Mode

**Pedestrians**

- **Walking range:** generally ¼ to ½ mile
- **Speed:** 2 - 3 mph
- **Basic needs:**
  - Walkways free of obstacles and gaps
  - Connectivity
  - Limited conflicts with autos, bicycles and transit
  - Safe environments
  - Pleasant and stimulating surroundings

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Understanding Each Mode

**Pedestrians**

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Understanding Each Mode

**Bicyclists**

- **Riding range:** 1 - 5 miles
- **Speed:** 5 - 15 mph
- **Basic needs:**
  - Roadways free of hazards
  - Convenient and connected networks
  - Limited conflicts with autos, pedestrians and transit
  - Separation from high-speed traffic
  - Quality end-of-trip facilities

*Bicyclists are not another form of pedestrian or car.*

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Understanding Each Mode

Transit Users

- Basic needs: same as pedestrians and cyclists, plus:
  - Stations and stops that are welcoming
  - Comfortable places to wait
  - Secure bike parking

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Understanding Each Mode

**Transit Users**

- Transit extends walking range
- 20-minute walking range expanded with streetcar

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Distance one can walk in 20 minutes
Distance one can reach in 20 minutes by walking and riding streetcar

A 20-minute neighborhood is the area that can be reached in 20 minutes. This is approximately 1 mile walking. A streetcar can extend the pedestrian environment up approximately 3 to 4 miles.

*URS, Lloyd Lindley, 2008*
Understanding Each Mode

**Transit Users**

- Transit extends bicycling range
- TriMet survey of bikes on MAX
  - Average 2-mile trip at each end
  - 38% would drive otherwise

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Understanding Each Mode

**Motorists**

- **Range:** unlimited
- **Speed:** 15 – 50 mph
- Insulated from surroundings
- **Basic needs:**
  - Reasonable travel time
  - Parking close to destination
Multi-Modal Planning and Design

*Integrated Planning*

- Simultaneously consider needs of all modes
  - Destinations
  - Important connections
- Develop solid plan and policy foundation
  - Land use and community context
  - Address potential opportunities and trade-offs
- Translate policy to facility design
Multi-Modal Planning and Design

*Integrated Planning*

- Calm traffic
- Circulation
- Complete streets
- Cyclists and rail
Multi-Modal Planning and Design

**Calm Traffic**
- Signals and timing
- Reduce lane widths
- Tighter curb radii
- Well-defined crosswalks
Multi-Modal Planning and Design

Calm Traffic

- SW 6th Avenue
  - 30+ mph traffic
  - Streetcar and MAX
  - Signals and timing
  - Well-defined crosswalks

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Multi-Modal Planning and Design

**Circulation**

- Provide interconnected networks for all modes
  - To important destinations
  - Via direct connections
- Small blocks

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Multi-Modal Planning and Design

Circulation

- Intersections
- Crossings
- Facility continuity
- Turning movements
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Circulation
Portland Streetcar - Pearl District

Bike / Streetcar Conflict - Lovejoy

Bike Plan – Alternate Route

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Multi-Modal Planning and Design

Circulation
Streetcar Loop

LEGEND
- Potential Development Blocks
- Rehab Blocks
- Green Space
- Streetcar Stop
- Streetcar Route
- Proposed Pedestrian/Bike Connection
- Proposed Pedestrian Connections
- Streetscape Improvements
- Potential Development

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Multi-Modal Planning and Design

**Complete Streets**

- Cars occupy lots of space
- Focus on safe, efficient movement of people
Multi-Modal Planning and Design

Cyclists and Rails
Oil and Water

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Multi-Modal Planning and Design

**Cyclists and Rails**
- Sharing has inherent conflicts
- Rail hazards
- Pedestrian conflicts at platforms

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Multi-Modal Planning and Design

**Cyclists and Rails**
- Bicycles expected in right lane
- Sharing makes turns difficult
Multi-Modal Planning and Design

Cyclists and Rails

- Separation is key
- MAX
- Streetcar

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Expanding the Design Toolkit

Reallocating Space

- Creating separate bike facilities
  - SW 5th - Portland Transit Mall
  - NW 18th – near Portland Streetcar
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Reallocating Space

- Bike corrals
  - Removes bike parking from sidewalk
  - 2 car spaces = 20 bike spaces
  - Popular with businesses
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**Reallocating Space**
- Public spaces
- Pedestrian-friendly
- Integrated with transit

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Expanding the Design Toolkit

**Creative Solutions**
- Test and evaluate
- Examples:
  - Bike boxes
  - Cycle tracks
  - Bike corrals

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Working Together

Focus on Common Goals

- Building better communities
- Avoid ‘Us v. Them’ mentality
- Collaborative planning and design

Always Retain a Multi-modal Focus

- Movement of people not vehicles
- Look for opportunities not problems

Thoughtful Experimentation

- Learn from others
- Evaluate results

Give It Time

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