Current Roadways/Bridges are UniModal

30% of the population of the U.S. does not drive. How are they accommodated?
Safety Concerns

- Ped/bike crashes account for nearly 15% of motor-vehicle crashes
- Injury prevention is a top priority at the national, state, and local levels

Pedestrians and Bicyclists Killed by Year

Pedestrian and Bicycle Information Center using NHTSA FARS data

Slide source: Pedestrian and Bicycle Information Center
Liability

• 1990: Americans with Disabilities Act (ADA)
• Self evaluation and Transition Plan
• Some jurisdictions have been sued by disability advocates to bring them into compliance with the law

Slide source: Pedestrian and Bicycle Information Center
Health Concerns

Research:

• Links sedentary lifestyles to negative health outcomes

• Shows health benefits of providing ped/bike facilities

Centers for Disease Control and Prevention, 2004

Slide source: Pedestrian and Bicycle Information Center
Equity

• Enhancing the ability of traditionally underserved populations to travel by non-motorized modes can:
  – Improve outcomes in health, safety, and economic development
  – Promote resource efficiency
  – Strengthen inclusive neighborhood relations

*Slide source: Pedestrian and Bicycle Information Center*
Resilient Transportation Systems = Multiple Modes

• Resilience tends to increase if a system has **diversity, redundancy, efficiency, autonomy and strength.**

• The system continues functioning if a link is broken, if a particular resource becomes scarce, etc.

• It allows the system to accommodate a wide range of user needs and conditions.*

*Adapted from: “Evaluating Transportation Resilience: Evaluating The Transportation System’s Ability To Accommodate Diverse, Variable and Unexpected Demands With Minimal Risk”, TDM Encyclopedia, Victoria Transport Policy Institute, April 2014
<table>
<thead>
<tr>
<th>RANK</th>
<th>METROPOLITAN STATISTICAL AREA</th>
<th>% OF WORKERS WHO COMMUTED BY PRIVATE VEHICLE</th>
<th>MARGIN OF ERROR</th>
<th>ALTERNATIVE TRAVEL MODE W. HIGHEST COMMUTING SHARE</th>
<th>2nd MOST COMMON COMMUTE MODE (% OF WORKERS)</th>
<th>MARGIN OF ERROR</th>
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<tbody>
<tr>
<td>1</td>
<td>New York-Newark-Jersey City, NY-NJ-PA</td>
<td>56.9</td>
<td>0.3</td>
<td>Subway or elevated rail</td>
<td>18.9</td>
<td>0.2</td>
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<td>2</td>
<td>Ithaca, NY</td>
<td>68.7</td>
<td>3.6</td>
<td>Walked</td>
<td>17.5</td>
<td>2.4</td>
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<tr>
<td>3</td>
<td>San Francisco-Oakland-Hayward, CA</td>
<td>69.8</td>
<td>0.5</td>
<td>Bus or trolley bus</td>
<td>7.6</td>
<td>0.3</td>
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<td>4</td>
<td>Boulder, CO</td>
<td>71.9</td>
<td>1.8</td>
<td>Worked at home</td>
<td>11.1</td>
<td>1.3</td>
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<td>5</td>
<td>Corvallis, OR</td>
<td>72.6</td>
<td>3.9</td>
<td>Bicycle</td>
<td>8.8</td>
<td>2.5</td>
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<td>6</td>
<td>Iowa City, IA</td>
<td>73.4</td>
<td>2.8</td>
<td>Walked</td>
<td>11.1</td>
<td>2.0</td>
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<td>7</td>
<td>Boston-Cambridge-Newton, MA-NH</td>
<td>75.6</td>
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<td>0.3</td>
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<td>8</td>
<td>Washington-Arlington-Alexandria, DC-VA-MD-WV</td>
<td>75.7</td>
<td>0.4</td>
<td>Subway or elevated rail</td>
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<td>0.3</td>
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<td>Bremerton-Silverdale, WA</td>
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<td>Ferry</td>
<td>6.4</td>
<td>1.0</td>
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<td>Missoula, MT</td>
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<td>3.1</td>
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<td>11</td>
<td>Champaign-Urbana, IL</td>
<td>78.4</td>
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<td>1.3</td>
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<td>Bridgeport-Stamford-Norwalk, CT</td>
<td>78.5</td>
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<td>Urban Honolulu, HI</td>
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<td>0.7</td>
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<td>15</td>
<td>State College, PA</td>
<td>79.2</td>
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<td>Walked</td>
<td>9.9</td>
<td>1.9</td>
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<tr>
<td>Transport Mode</td>
<td>Public Transit</td>
<td>Bicycle</td>
<td>Walking</td>
<td></td>
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<tr>
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<tr>
<td>2000 Census</td>
<td>6.8%</td>
<td>2.5%</td>
<td>11.6%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2010 ACS</td>
<td>7.3%</td>
<td>3.6%</td>
<td>13.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011 ACS</td>
<td>9.1%</td>
<td>3.5%</td>
<td>13.0%</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

C-U Trips to Work Increasingly Active Modes (U.S. Census & ACS)
How Do Communities Create Mode Shift?

• Start with the plans!

• Engage the public:
  – 66% of American want more transportation options so they have the freedom to choose
  – 73% feel they currently have no choice
  – 57% want to spend less time in the car

• Must address land use, infrastructure, and design
To succeed:

- Engage the public
- Create working partnerships
- Create plans with vision
- Plan for implementation
- Be creative with funding options
Create Mode Shift

• Provide people with choices:
  – Invest in bicycle/pedestrian infrastructure
  – Calm traffic
  – Create Safe Routes to School
  – Build Transit Supportive development
  – Retrofit sprawling neighborhoods
  – Revitalize walkable neighborhoods
  – Education and Encouragement

*Measuring the Health Effects of Sprawl; Barbara McCann and Reid Ewing; Smart Growth America and Surface Transportation Policy Project, 2003*
Checklist of Essential Features

- Medium-to-high densities
- Fine-grained mix of land uses
- Short-to medium-length blocks
- Transit routes every half mile or closer
- Two- to four-lane streets
- Continuous sidewalks appropriately scaled
- Safe crossings
- Appropriate buffering from traffic
- Street-oriented buildings
- Comfortable and safe places to wait

Pedestrian & Transit-Oriented Design (Ewing, Bartholomew)
Champaign-Urbana Started with a Vision & Plan!

Champaign-Urbana LRTP Mission:
To provide a safe, efficient, and economical transportation system that makes the best use of existing infrastructure, optimizes mobility, promotes environmental sensitivity, accessibility, and economic development, and enhances quality of life for all users.
Municipal and Regional Plans

- Champaign Moving Forward Transportation Master Plan
- Long Range Transportation Plan 2035
- Urbana Bicycle Plan
Community Partnerships

• Campus Area Transportation Study - first transportation study that all agencies worked together on to address campus area transportation problems starting in 2000. Three phases to date.

http://www.ccrpc.org/CATS/index.php
Get Public Input
We Got Clear & Consistent Messages

- Improved bicycle infrastructure/routing
- Better street lights
- Additional sidewalks
- Later evening service
- Additional direct routes along major arterials
Visualizing How We Create Resilient Transportation Systems

These two examples demonstrate how a street can transform from one that is narrow in scope to one that is vibrant and encourages a mix of uses and activity.

---

**Phase 1**

1. Very little street activity
2. Single use buildings limit the opportunities for a combination of daytime & evening population

---

**Phase 2**

1. Signs of infill mixed use development
2. Buildings razed to open additional opportunities for green space and new mixed use development

---

**Phase 3**

1. Pedestrian amenities integrated into landscape, including crosswalks, planters, bicycle lane and stop signs
2. Multi story mixed use buildings encourage diversity of users
3. Shared use between autos, bus, bicycles and pedestrians
4. Increased pedestrian and public transit users offer an additional market to support current and potentially new retail
The 5 E’s

- Education
- Encouragement
- Enforcement
- Engineering
- Evaluation

Pictures: Cynthia Hoyle, FAICP, Hoyle Consulting
Engineering

- Safe and connected sidewalk system
- Crosswalks
- Bike lanes
- Road diets
- Traffic calming
- School zone signage
- Real-time speed signs
- Bike parking
- Trails
"Because of the demands of vehicular traffic . . . it is often extremely difficult to make adequate provisions for pedestrians. Yet this must be done, because pedestrians are the lifeblood of our urban areas . . . "
Successful Road Diets in Urbana

Four Lanes

Two Lanes w/ center turn lanes, bike lanes, ped refuge island at bus stop
Pedestrian and Transit Upgrades

Upgrading pedestrian infrastructure

Upgrading transit infrastructure
Bike and Pedestrian Improvements

Bike lanes – calm traffic

Pedestrian priority – ped scramble
Transit

- Ensure transit stops are convenient and accessible
- Ensure users can safely cross the street at transit stops
- Many pedestrian crashes are associated with transit
Encouragement

Car share - Zipcar

Bicycle Friendly Community/Businesses

www.cu-srtsproject.com
Evaluation

• Collecting data is key!
  – Crash data
  – Travel tallies
  – Walkability Checklists
Transportation Facts by Mode

33
Accessible Pedestrian Signals (Urbanized Area)

86
Miles of bike lanes, sharrows, and paths (LRTP Planning Area)

11 million
Bus rides; 52 bus routes and 2,500 bus stops (CUMTD Service Area)

2.4 million
Daily Vehicle Miles Traveled (Urbanized Area)

172,000
Amtrak rides at the Illinois Terminal

83,000
Passenger arrivals (Willard Airport)

2012
Over 30% of Urbana Residents Walk, Bike, or Ride Bus for Trips to Work

American Community Survey 2008-2012 data
Thank you!

Cynthia Hoyle, FAICP
Associate Planner
Alta Planning + Design
217.649.6505
cynthiahoyle@altaplanning.com
Design Innovations
Design Standards & Guidelines
Pedestrian Design Innovations
Bicycle Design Innovations
Standards vs guidance

NEW, INNOVATIVE GUIDANCE
who: pedestrians
OF ALL AGES AND ABILITIES

Photos (all): Dan Burden, Walkable and Livable Communities Institute
who: bicyclists

OF ALL AGES AND ABILITIES: POTENTIAL FOR MODE SHIFT

Potential New Cyclists by the “Four Types”

- Strong and Fearless, 5%
- Enthused and Confident, 27%
- Interested but Concerned, 43%
- No Way No How, 25%

I would be more likely to ride a bicycle if motor vehicles and bicycles were physically separated by a barrier.

- Strong and Fearless: 43%
- Enthused and Confident: 62%
- Interested but Concerned: 85%
- No Way No How: 37%

Research by Jennifer Dill, PSU; Green Lane Project
who: bicyclists

OF ALL AGES AND ABILITIES: LEVEL OF TRAFFIC STRESS

<table>
<thead>
<tr>
<th>Table 3. Criteria for Bike Lanes Not Alongside a Parking Lane</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTS &gt; 1</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Street width (through lanes per direction)</td>
</tr>
<tr>
<td>Bike lane width (includes marked buffer and paved gutter)</td>
</tr>
<tr>
<td>Speed limit or prevailing speed</td>
</tr>
<tr>
<td>Bike lane blockage (may apply in commercial areas)</td>
</tr>
</tbody>
</table>

Note: (no effect) = factor does not trigger an increase to this level of traffic stress.

FEHR & PEERS | APA Webcast November 2015
Innovative design.

WHAT’S NEW IN BICYCLE & PEDESTRIAN PLANNING
CROSSWALK ENHANCEMENTS: RECTANGULAR RAPID FLASHING BEACON

- Passive detection bollards
- Pedestrian confirmation lights
- Two RRFBs per approach
CROSSWALK ENHANCEMENTS: PEDESTRIAN HYBRID BEACONS

pedestrian tools.
CROSSWALK ENHANCEMENTS: LEADING PEDESTRIAN INTERVALS
CROSSWALK ENHANCEMENTS: COUNTDOWN SIGNALS

Washington DC. photo credit Peter Koonce
CROSSWALK ENHANCEMENTS: PEDESTRIAN SCRAMBLES

Pedestrian Scramble, Oakland, CA. photo credit Peter Beeler
pedestrian tools.

FUN & DECORATIVE CROSSWALKS
DIRECTIONAL CURB RAMPS
CORRECT PUSH BUTTON PLACEMENT

This button for this crosswalk

This button for this crosswalk
pedestrian tools.

PAVEMENT TO PARKS OR “PARKLETS”
PROTECTED BIKE LANEs ("CYCLE TRACKS")
biking tools

BUFFERED BIKE LANES
GREEN BIKE LANES IN CONFLICT ZONES/KEY AREAS

Greenback Sharrow
Denver, Colorado

Henry Street, Brooklyn
New York City
biking tools.

BICYCLE BOULEVARDS

FEHR & PEERS | APA Webcast November 2015
biking tools

BICYCLE BOULEVARDS INTERSECTION TREATMENTS
biking tools

BIKE SIGNALS

Photos (all): Washington DC, City of Davis
biking tools

BIKE BOXES & TWO-STAGE TURN BOXES

Photos: SFMTA, Inhabit.com
PROTECTED INTERSECTIONS

Source: protectedintersection.com (Alta Planning + Design)
biking tools

BIKE STATIONS & BIKE CORRALS
tactical urbanism

VERY TEMPORARY, TEST IDEAS, BUILD SUPPORT
interim design.

PILOT PROJECTS & LOW-COST SOLUTIONS
questions? ideas?

Brooke DuBose AICP
Associate
Fehr & Peers
Oakland, California

APBP Board of Directors
The MEMFix Model: creative tools for reimagining streets & neighborhoods

American Planning Association – Nov. 2015

@LivableMemphis - A Program of the Community Development Council of Greater Memphis
Livable Memphis’ Role

• Our mission
  • Neighborhood revitalization
  • Transportation access
  • Placemaking

• Advocacy, policy, and outreach
  • Education & engagement around planning, law, & innovative design
  • Transit & active transportation

• Citizen engagement in public space
  • Parks, streets, & neighborhood spaces
Livable Memphis’ Role
Tactical Urbanism & Placemaking

Take something you ignore or hate or worry about......and change it.
I want to show that another neighborhood is possible!
MEMFix Case Studies
Broad Avenue (2010)
A New Face for an Old Broad (2010)

Take the plan and run.
A New Face for an Old Broad (2010)

Sorry,
Had to close we sold all the food we had—yes, all of it.
Closed Monday (as usual) and Thu. for Thanksgiving.

Closed
Broad Avenue (2011)
Broad Avenue & The Hampline (2015)
How do we replicate Broad’s success?

What we learned:

- Budget and Assets
- Plan and Planning Committee
- Timeline: Date/Time
- Engage stakeholders
- Wayfinding and Signage
- Marketing and Promotion
- Permits and Logistics
- Programming and Amenities

Exploring next steps:

- Are these events replicable in different neighborhoods?
- Is there a role for government?
- Can we engage more community partners?
- Can we take the learnings and create a Memphis Toolkit?
MEMFix: Reorienting Revitalization

- Small + tactical + chaotic = innovation
- Experimental
- Community-driven
- Previtalization & Prototyping
MEMFix: Cleveland Street (2012)

Here Comes the Neighborhood

Nov 10
From 10 AM to 10 PM

A community event to rethink, activate, and test drive a new neighborhood.

Memphis Fix

Cleveland Street
MEMFix: Cleveland Street (2012)

- 50+ retailer marketplace
- 9 vacant retail bays activated with retailers
- Increased broker activity in neighborhood
- 7 Government Divisions coordinating and prototyping new ideas.
South MEMFix (2013)
South MEMFix (2013)

- Launched a larger neighborhood planning effort
- New infrastructure prototyped with City Engineering
- Retail activation kicked-off MEMShop program
MEMShop

- Pre-vitalization – days or months
- Coordination w/ MEMFix: Retail as key point of demonstration
- Retail Business Incubator: measure permanent leases signed & program graduates.
MEMFix: The Edge (2014)
MEMFix: The Edge (2014)
MEMFix: The Edge (2014)
MEMFix: The Edge (2014)
MEMFix: The Edge (2014)
How to DIY your neighborhood
Essential Elements

- Scale and goals are determined from the start and serve as the galvanizing point of stakeholders;
- Be flexible and willing to change as the process evolved with the neighborhood;
- Engage and work with anyone whose interested, even skeptics can become champions;
- It is possible to work with local government – systems are being oriented for these types of events – find out what you can do up front;
- A huge amount of $ is not needed – approach can be calibrated to resources available;
- Don’t let planning get in the way of doing;
- Each neighborhood’s approach will and should be different.
Are you ready for MEMFix?

The two most important factors in a successful MEMFix are:

1. **THE TIME, ENERGY, AND WILLINGNESS OF THE RESIDENTS/PARTNERS/ACTIVISTS WHO WILL BE PLANNING THE EVENT**: a unified spirit combined with the vision and desire to change or a sense of potential must be present.

2. **THE POTENTIAL OF THE LOCATION TO BE A VIBRANT PUBLIC SPACE**: neighborhoods that have the potential to be walkable, with buildings built to the sidewalk and that historically have had a mix of uses. Most important is that the location you choose is loveable (or has the potential to be).
Evaluating a Location

- Neighborhood Leaders
  - Readiness
  - Vision
  - Ability to sustain

- Resources
  - Financial
  - Human

- Sponsor/Partner Opportunities

- Urban Form
  - Available Retail Space
  - Other available space for activation
  - Foot Traffic
  - Accessibility & community interest
  - Spaces for public art, performance, etc.
  - Spaces centered on 2-3 blocks
Documentation & Feedback
Questions?

Cynthia Hoyle, FAICP, LCI
[link to email]

Brooke DuBose, AICP
[link to email]

John Paul Shaffer, AICP
[link to email]