

An aerial photograph of a city street intersection. A person on a bicycle is crossing a crosswalk. Several pedestrians are walking on the sidewalks. A blue car is visible on the right side of the street. The scene is set in a sunny, urban environment with trees and buildings in the background.

# Mode Shift Revolution

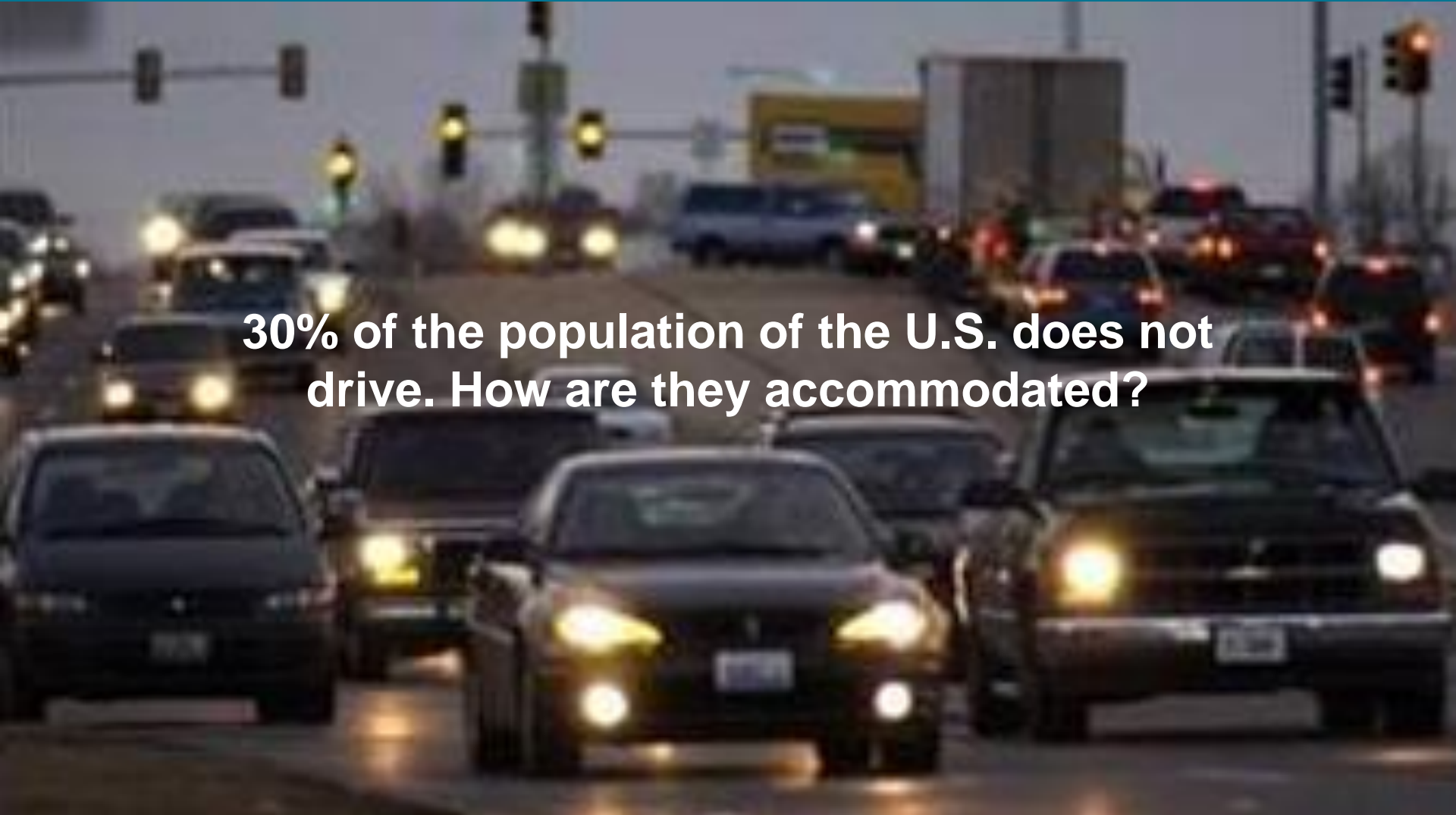
## How to Create Active Communities

Cynthia Hoyle, FAICP  
Alta Planning + Design, Inc.  
November 13, 2015



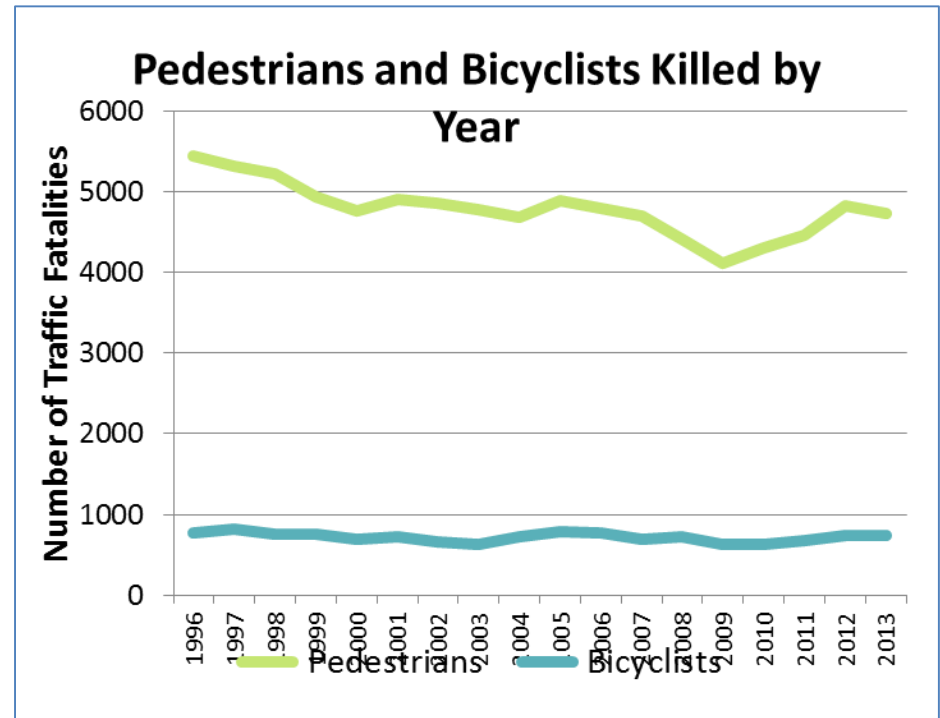
# Current Roadways/Bridges are UniModal

**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



*Pedestrian and Bicycle Information Center using NHTSA FARS data*



# 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

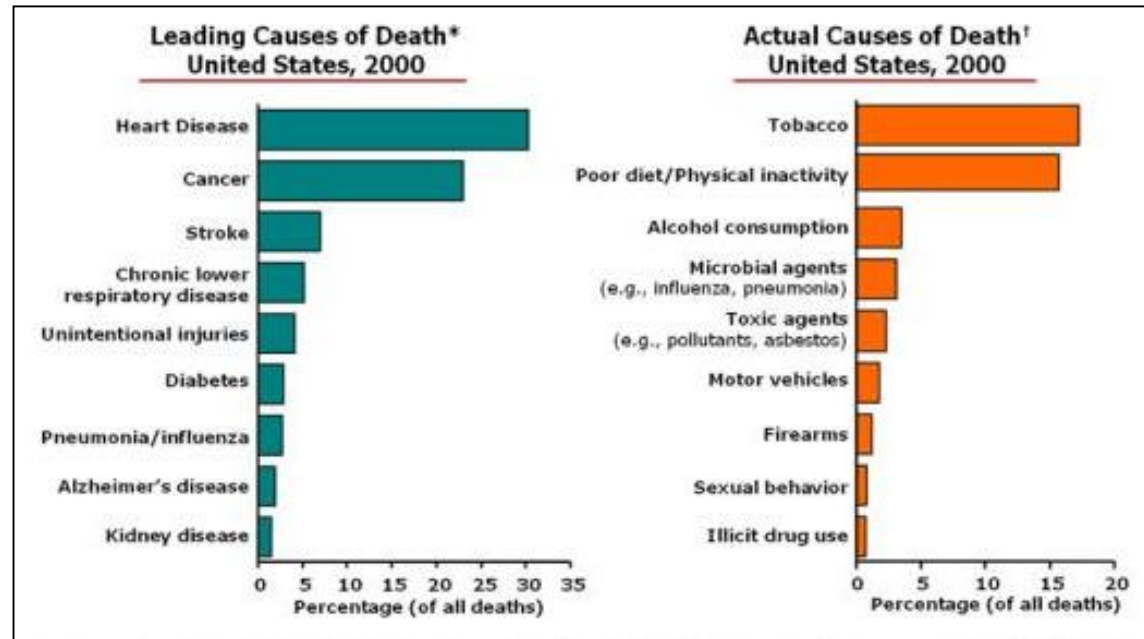




# Health Concerns

## Research:

- Links sedentary lifestyles to negative health outcomes
- Shows health benefits of providing ped/bike facilities



Centers for Disease Control and Prevention, 2004

# 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



# METRO AREAS AMONG THOSE WITH THE LOWEST RATES OF AUTOMOBILE COMMUTING AND THEIR SECOND MOST COMMON COMMUTE MODE: 2013

RANK	METROPOLITAN STATISTICAL AREA	% OF WORKERS WHO COMMUTED BY PRIVATE VEHICLE	MARGIN OF ERROR	ALTERNATIVE TRAVEL MODE W. HIGHEST COMMUTING SHARE	2nd MOST COMMON COMMUTE MODE (% OF WORKERS)	MARGIN OF ERROR
1	New York-Newark-Jersey City, NY-NJ-PA	56.9	0.3	Subway or elevated rail	18.9	0.2
2	Ithaca, NY	68.7	3.6	Walked	17.5	2.4
3	San Francisco-Oakland-Hayward, CA	69.8	0.5	Bus or trolley bus	7.6	0.3
4	Boulder, CO	71.9	1.8	Worked at home	11.1	1.3
5	Corvallis, OR	72.6	3.9	Bicycle	8.8	2.5
6	Iowa City, IA	73.4	2.8	Walked	11.1	2.0
7	Boston-Cambridge-Newton, MA-NH	75.6	0.4	Subway or elevated rail	6.2	0.3
8	Washington-Arlington-Alexandria, DC-VA-MD-WV	75.7	0.4	Subway or elevated rail	8.0	0.3
9	Bremerton-Silverdale, WA	77.0	1.9	Ferry	6.4	1.0
10	Missoula, MT	77.2	4.3	Walked	8.5	3.1
11	Champaign-Urbana, IL	78.4	1.6	Walked	7.9	1.3
12	Bridgeport-Stamford-Norwalk, CT	78.5	1.0	Long distance or commuter rail	7.6	0.6
13	Chicago-Naperville-Elgin, IL-IN-WI	79.1	0.4	Bus or trolley bus	4.7	0.2
14	Urban Honolulu, HI	79.1	1.0	Bus or trolley bus	7.9	0.7
15	State College, PA	79.2	2.2	Walked	9.9	1.9

# C-U Trips to Work Increasingly Active Modes (U.S. Census & ACS)

Transport Mode	Public Transit	Bicycle	Walking
2000 Census	6.8%	2.5%	11.6%
2010 ACS	7.3%	3.6%	13.1%
2011 ACS	9.1%	3.5%	13.0%

# 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

# 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



# 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.



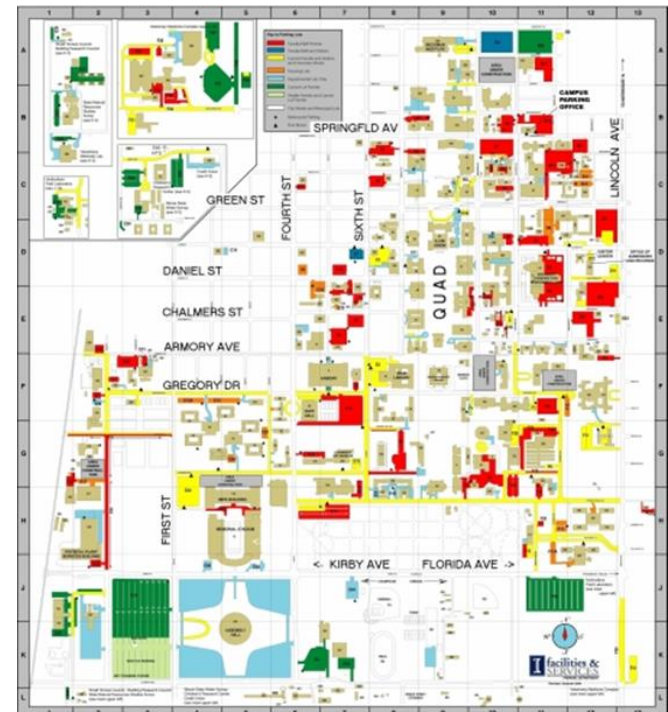
# Municipal and Regional Plans

- 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

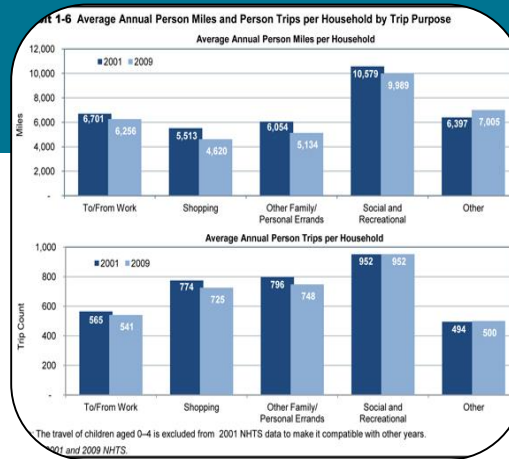
1. Pedestrian amenities integrated into landscape, including crosswalks, planters, bicycle lane and stop signs
2. Multi story mixed use buildings encourage diversity of users
3. Shared use between autos, bus, bicycles and pedestrians
4. Increased pedestrian and public transit users offer an additional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





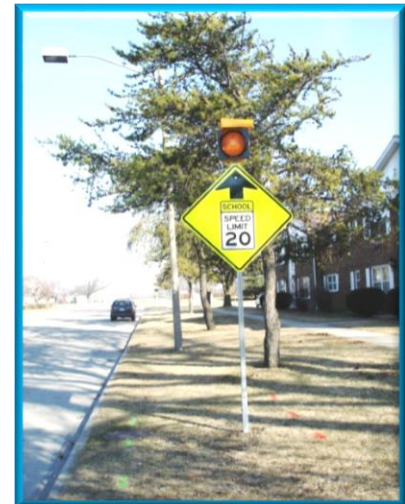
# The 5 E's

- Education
- Encouragement
- Enforcement
- Engineering
- Evaluation



# Engineering

- Safe and connected sidewalk system
- Crosswalks
- Bike lanes
- Road diets
- Traffic calming
- School zone signage
- Real-time speed signs
- Bike parking
- Trails





# AASHTO Greenbook

"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



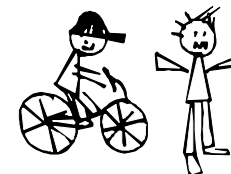
# Encouragement



## Car share - Zipcar



## Bicycle Friendly Community/ Businesses

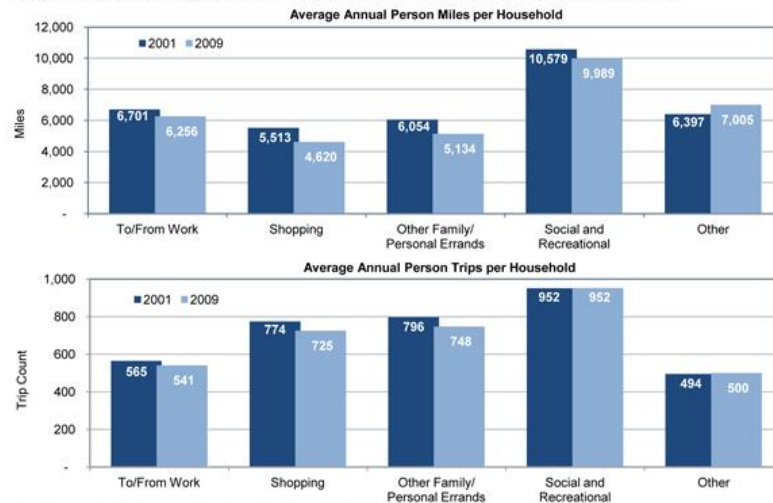


**C-U SAFE ROUTES  
TO SCHOOL  
PROJECT  
(C-U SRTS PROJECT)**  
[WWW.CU-SRTSPROJECT.COM](http://WWW.CU-SRTSPROJECT.COM)

# Evaluation

- Collecting data is key!
  - Crash data
  - Travel tallies
  - Walkability Checklists

**Exhibit 1-6 Average Annual Person Miles and Person Trips per Household by Trip Purpose**



Note: The travel of children aged 0-4 is excluded from 2001 NHTS data to make it compatible with other years.

Source: 2001 and 2009 NHTS.

## SAFE ROUTES TO SCHOOL STUDENT ARRIVAL AND DEPARTURE TALLY SHEET

School Name: \_\_\_\_\_ Grade: \_\_\_\_\_ # of students enrolled in class \_\_\_\_\_

Teacher: \_\_\_\_\_ Monday's Date: \_\_\_\_\_

School's Zip Code \_\_\_\_\_ (used to identify weather conditions)

Teachers, here are simple instructions for using this form:

- Please conduct these counts each of the five days of the assigned week.
- Before asking your students to raise their hands to indicate the one answer that is correct for them, read through all potential answers so they will know what the choices are.
- Ask your students as a group the question "How did you arrive at school today?"
- Read each answer and record the number of students that raised their hands for each.
- Follow the same procedure for the question "How do you plan to leave for home after school?"
- Please conduct this count regardless of weather conditions (i.e., ask these questions on rainy days, too).

Step 1. Fill in the weather conditions and number of students in class each day		Step 2. Ask students "How did you arrive at school today?" and "How do you plan to leave for home after school?" (record number of hands for each answer)						
Weather (S=sunny C=cloudy D=snow)	Number of Students (in class when count made)	Walk	Bike	School Bus	Family Vehicle (only with children from your family)	Carpool (riding with children from other families)	Transit (city bus, subway, etc.)	Other (skateboard, scooter, inline skates, etc.)
Mon AM								
Mon PM								
Tues AM								
Tues PM								
Wed AM								
Wed PM								
Thur AM								
Thur PM								
Fri AM								
Fri PM								

Comments (Please list any disruptions to these counts or any unusual travel conditions to/from the school on the days of the tally):

Thank you for helping gather this information!

# Transportation Facts by Mode

**33**



Accessible Pedestrian Signals  
(Urbanized Area)

**2.4 million**



Daily Vehicle Miles Traveled  
(Urbanized Area)

**86**



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

**172,000**



Amtrak rides at the Illinois  
Terminal

**11 million**



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



**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,  
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**Associate Planner**

**Alta Planning + Design**

**217.649.6505**

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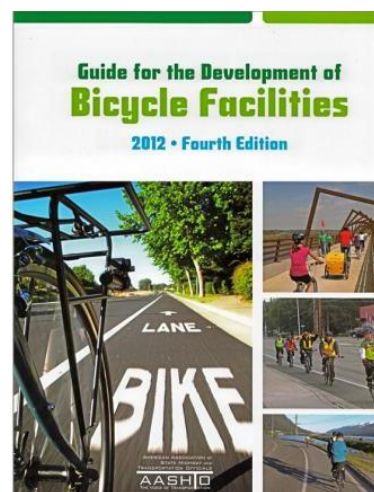
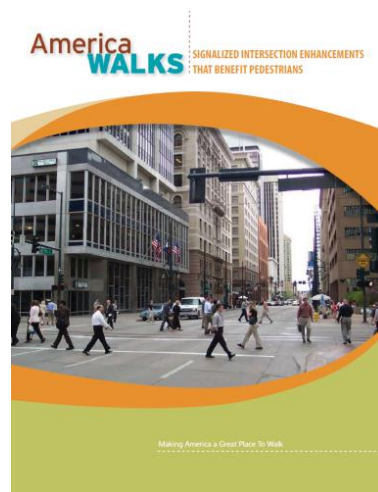
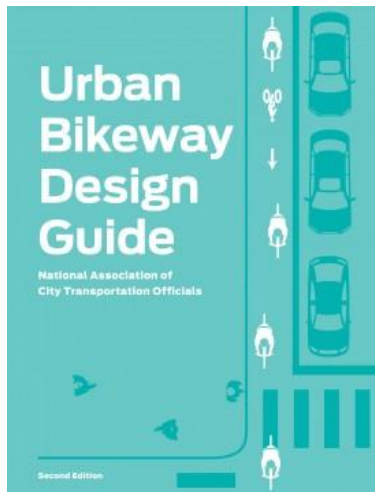
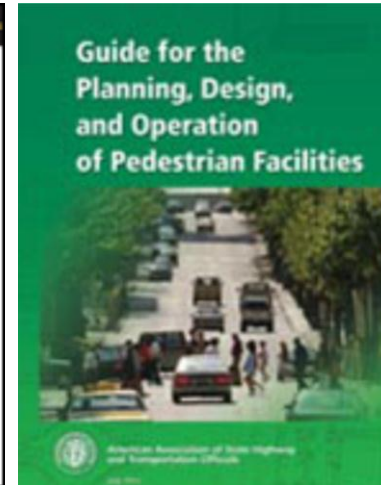
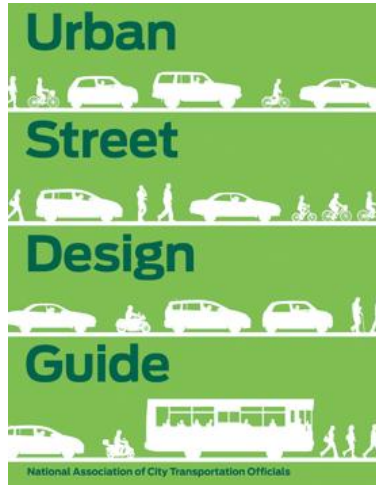
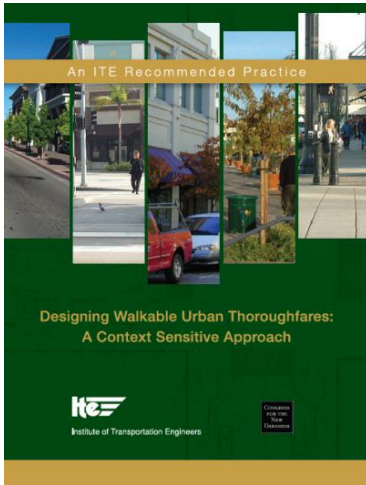


# Design Innovations

Design Standards & Guidelines  
Pedestrian Design Innovations  
Bicycle Design Innovations

# Standards vs guidance

## NEW, INNOVATIVE GUIDANCE





# who: pedestrians.

OF ALL AGES AND ABILITIES

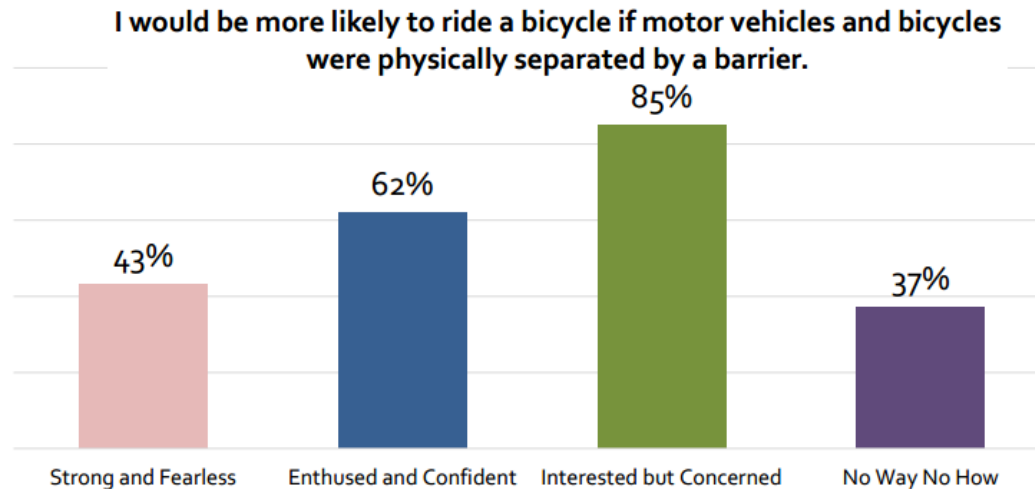
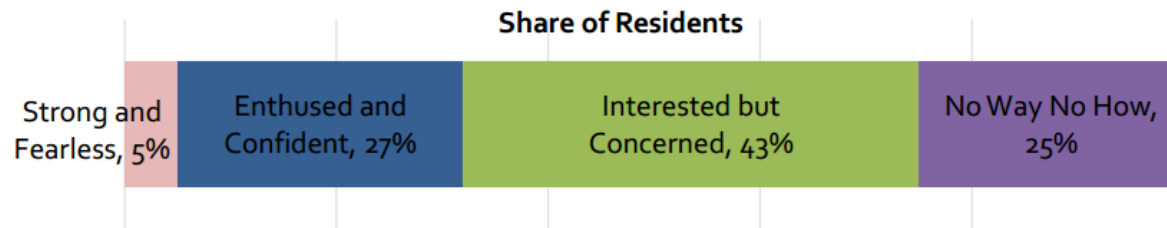


Photos (all): Dan Burden, Walkable and Livable Communities Institute

# who: bicyclists .

OF ALL AGES AND ABILITIES: POTENTIAL FOR MODE SHIFT

## Potential New Cyclists by the “Four Types”



Research by Jennifer Dill, PSU; Green Lane Project

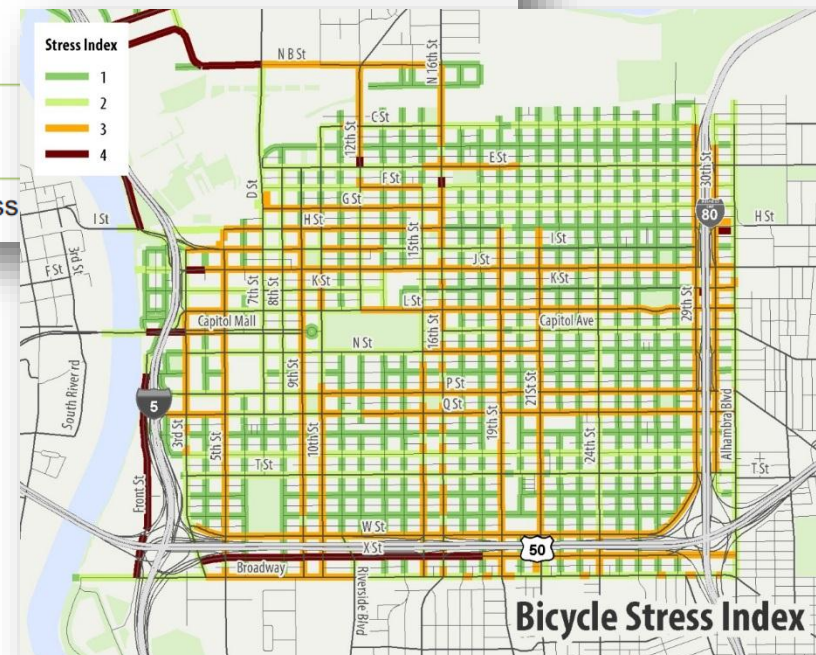
# who: bicyclists.

## OF ALL AGES AND ABILITIES: LEVEL OF TRAFFIC STRESS

**Table 3. Criteria for Bike Lanes Not Alongside a Parking Lane**

	LTS $\geq 1$	LTS $\geq 2$	LTS $\geq 3$	LTS $\geq 4$
Street width (through lanes per direction)	1	2, if directions are separated by a raised median	more than 2, or 2 without a separating median	(no effect)
Bike lane width (includes marked buffer and paved gutter)	6 ft. or more	5.5 ft. or less	(no effect)	(no effect)
Speed limit or prevailing speed	30 mph or less	(no effect)		
Bike lane blockage (may apply in commercial areas)	rare	(no effect)		

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





# Innovative design.

WHAT'S NEW IN BICYCLE & PEDESTRIAN PLANNING



# pedestrian tools.

## CROSSWALK ENHANCEMENTS: RECTANGULAR RAPID FLASHING BEACON



Two RRFBs per approach



Passive detection bollards

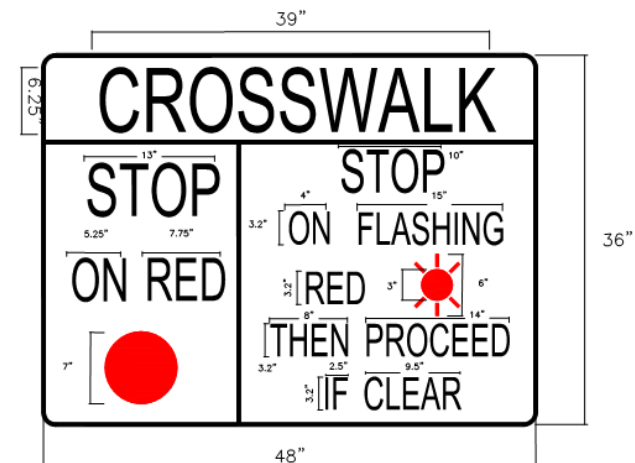


Pedestrian confirmation lights



# pedestrian tools.

## CROSSWALK ENHANCEMENTS: PEDESTRIAN HYBRID BEACONS





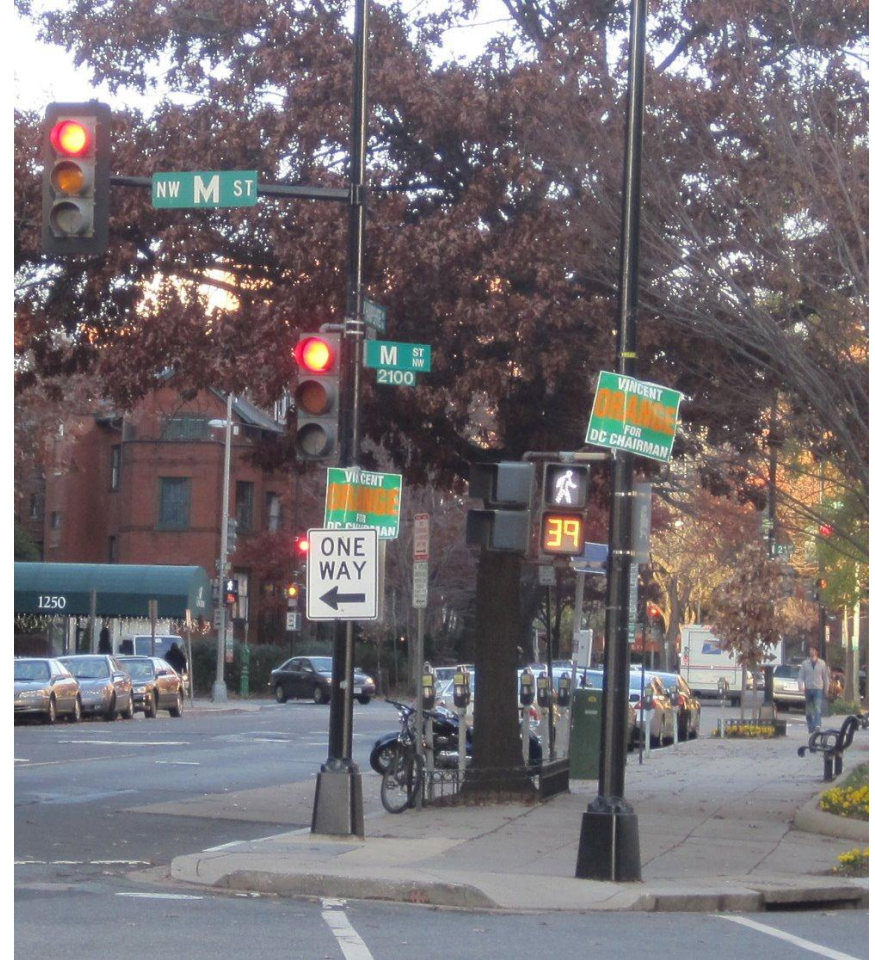
# pedestrian tools.

## CROSSWALK ENHANCEMENTS: LEADING PEDESTRIAN INTERVALS



# pedestrian tools.

## CROSSWALK ENHANCEMENTS: COUNTDOWN SIGNALS



*Washington DC. photo credit Peter Koonce*



# pedestrian tools.

## CROSSWALK ENHANCEMENTS: PEDESTRIAN SCRAMBLES



*Pedestrian Scramble, Oakland, CA. photo credit Peter Beeler*



# pedestrian tools.

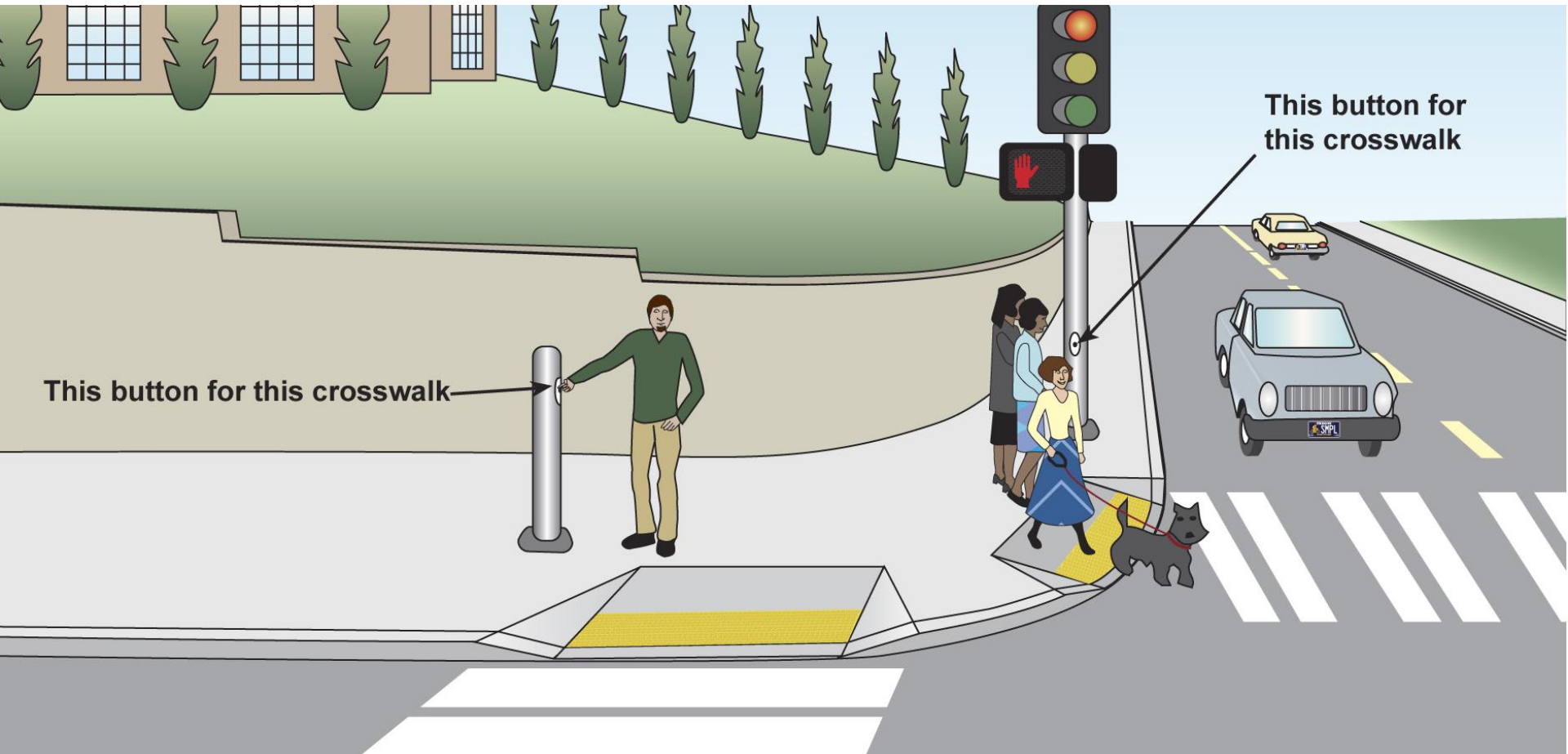
FUN & DECORATIVE CROSSWALKS



# pedestrian tools.

DIRECTIONAL CURB RAMPS

CORRECT PUSH BUTTON PLACEMENT





# pedestrian tools.

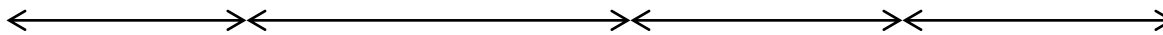
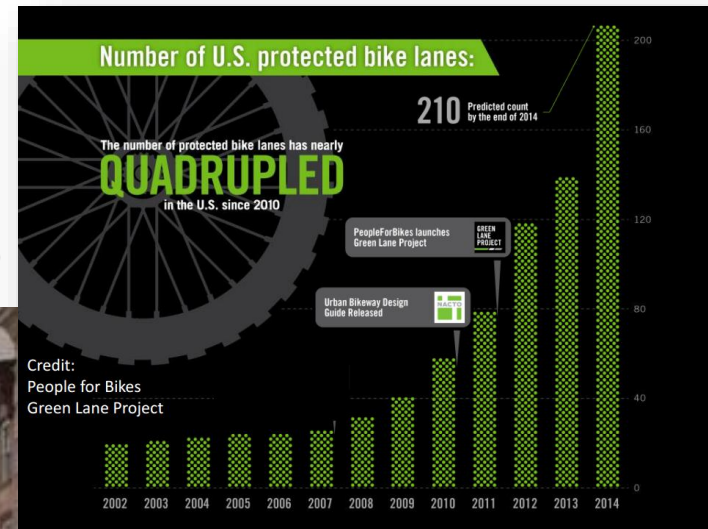
PAVEMENT TO PARKS OR “PARKLETS”





# biking tools.

## PROTECTED BIKE LANES (“CYCLE TRACKS”)



Parking

Travel Lane

Parking

FEHR & PEERS | APA Webcast November 2015

# biking tools.

## BUFFERED BIKE LANES





# biking tools.

## GREEN BIKE LANES IN CONFLICT ZONES/KEY AREAS



Greenback Sharrow  
Denver, Colorado



Henry Street, Brooklyn  
New York City



# biking tools.

## BICYCLE BOULEVARDS



# biking tools.

## BICYCLE BOULEVARDS INTERSECTION TREATMENTS





# biking tools.

## BIKE SIGNALS



Photos (all): Washington DC, City of Davis





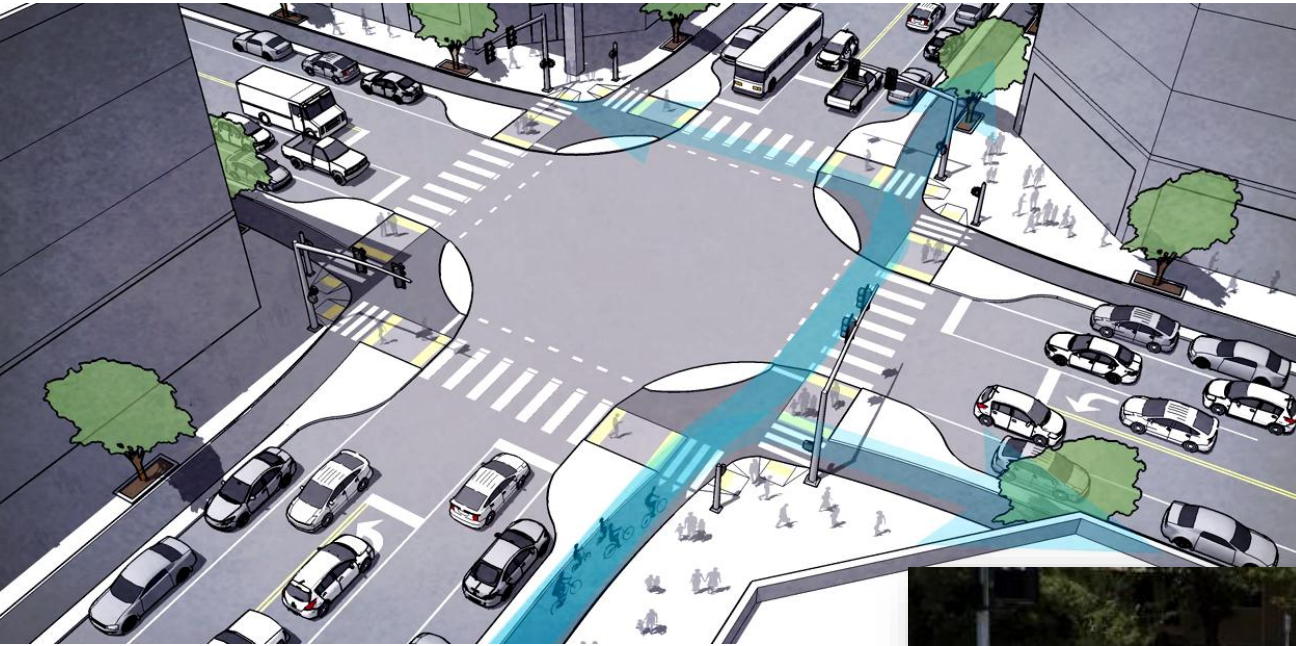
# biking tools.

## BIKE BOXES & TWO-STAGE TURN BOXES



# biking tools.

## PROTECTED INTERSECTIONS



Source: [protectedintersection.com](http://protectedintersection.com) (Alta Planning + Design)





# crossing tools.

TRAIL CROSSINGS: CREATE CLEAR MESSAGES





# 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

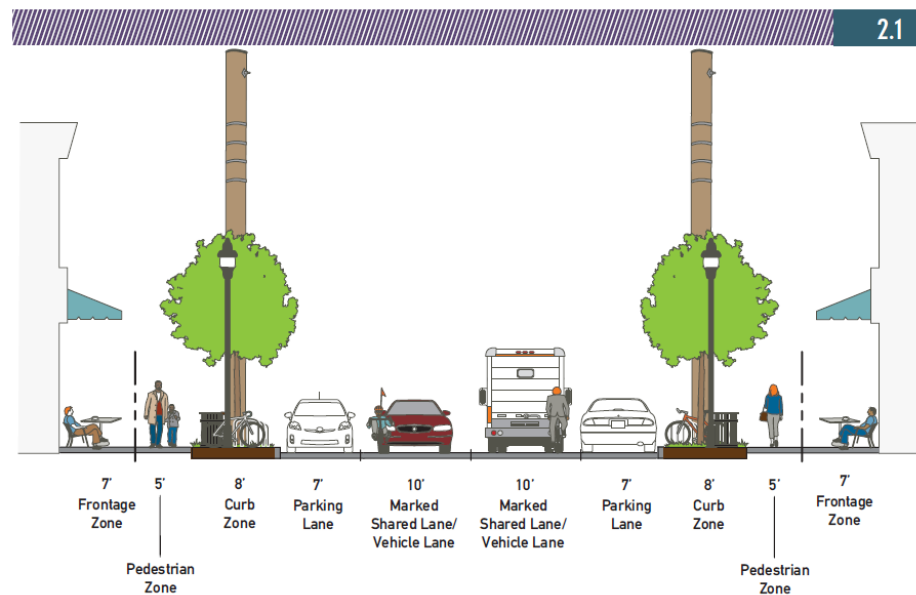




# Livable Memphis' Role



2.1



1.11

## City of Memphis Order of Considerations for Travel Modes

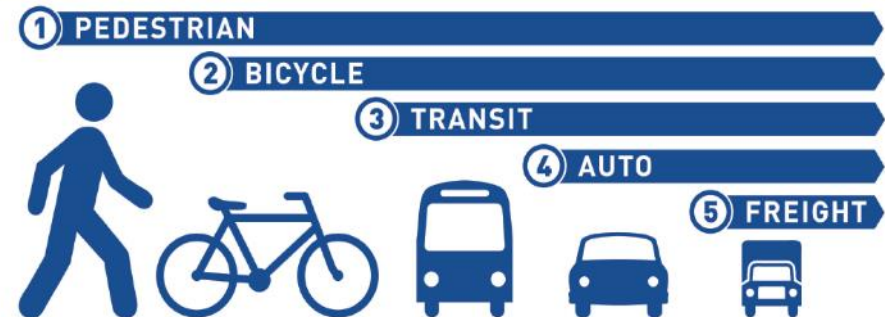
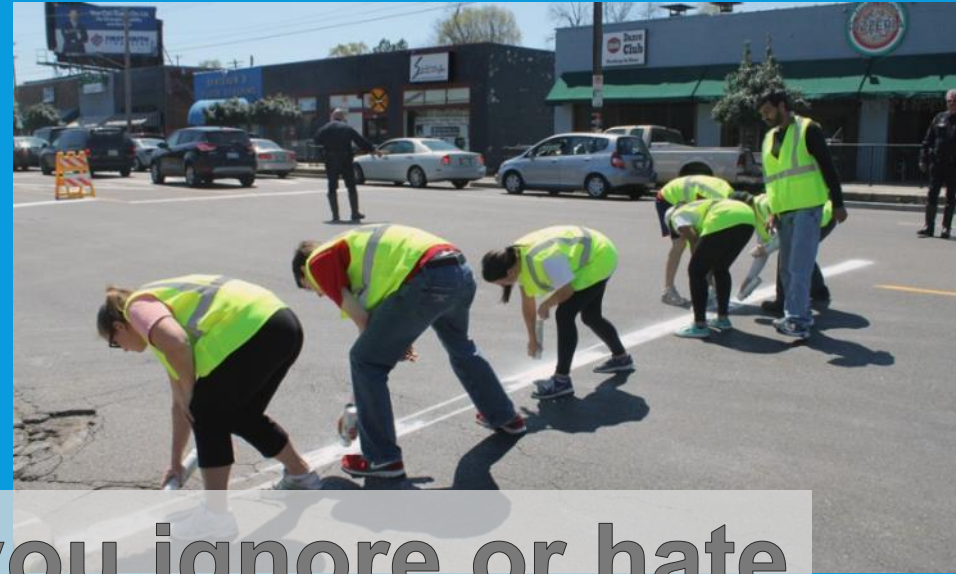
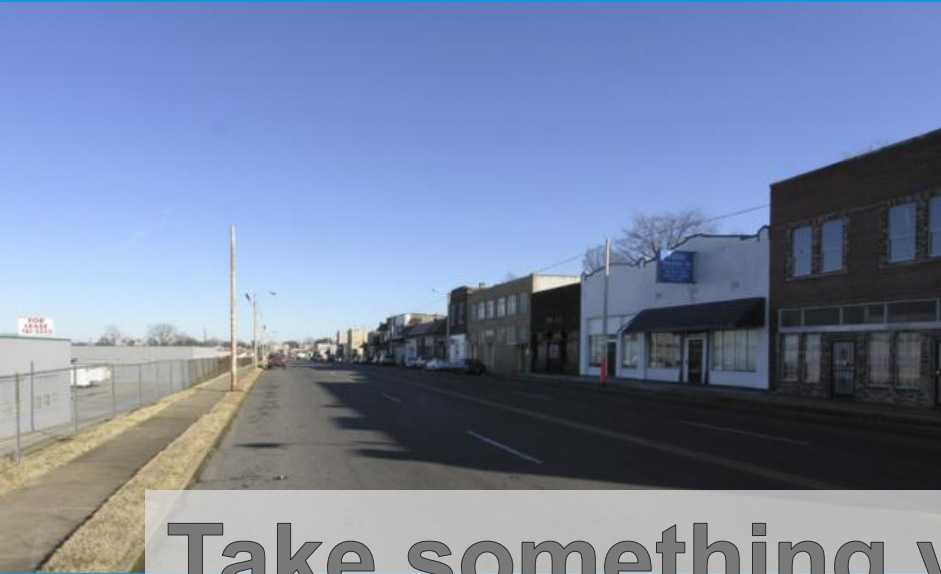


FIGURE 1.11  
CITY OF MEMPHIS ORDER OF  
CONSIDERATIONS FOR TRAVEL MODES



# Tactical Urbanism & Placemaking



Take something you ignore or hate  
or worry about.....*and change it.*





# Tactical Urbanism & Placemaking



## Summer Meadows Little Free Library

Let's create little free libraries in East Memphis!

SHARE THIS PROJECT



This Project Was Sponsored In Part By The People Of Memphis

[View the Campaign](#)

OVERVIEW BUDGET UPDATES DONORS

NEARBY PROJECTS

TOTAL FUNDING NEEDED: \$362

\$362

RAISED SO FAR

\$0

STILL NEEDED

**funded!**

This project has been fully funded and is no longer collecting donations.

volunteers needed!

This project's leader is looking for volunteers to help out.

I want to show that another neighborhood is possible!

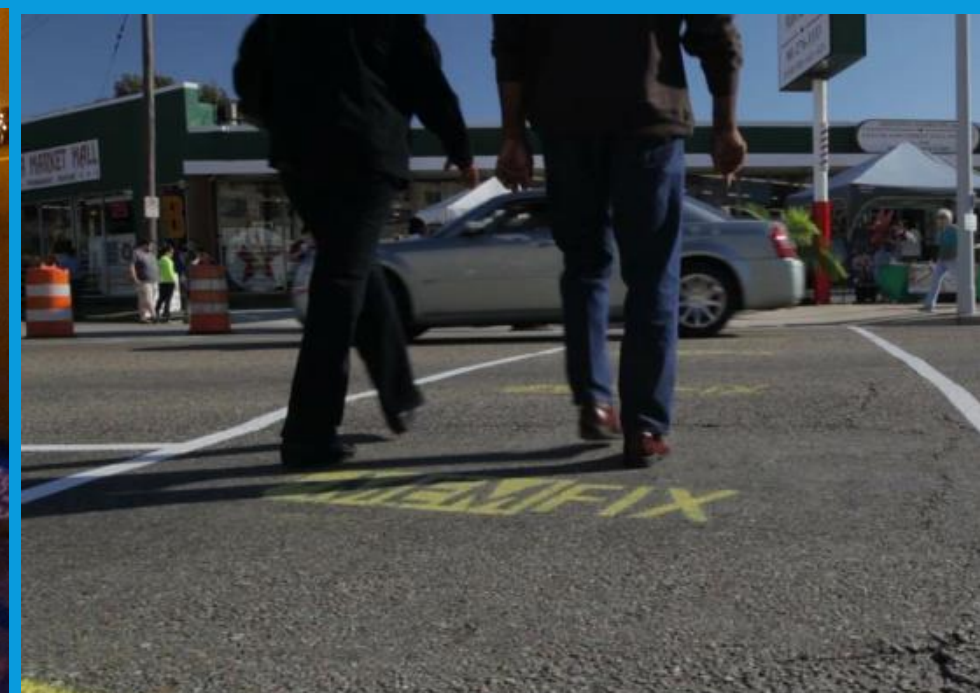


RAIN GARDEN



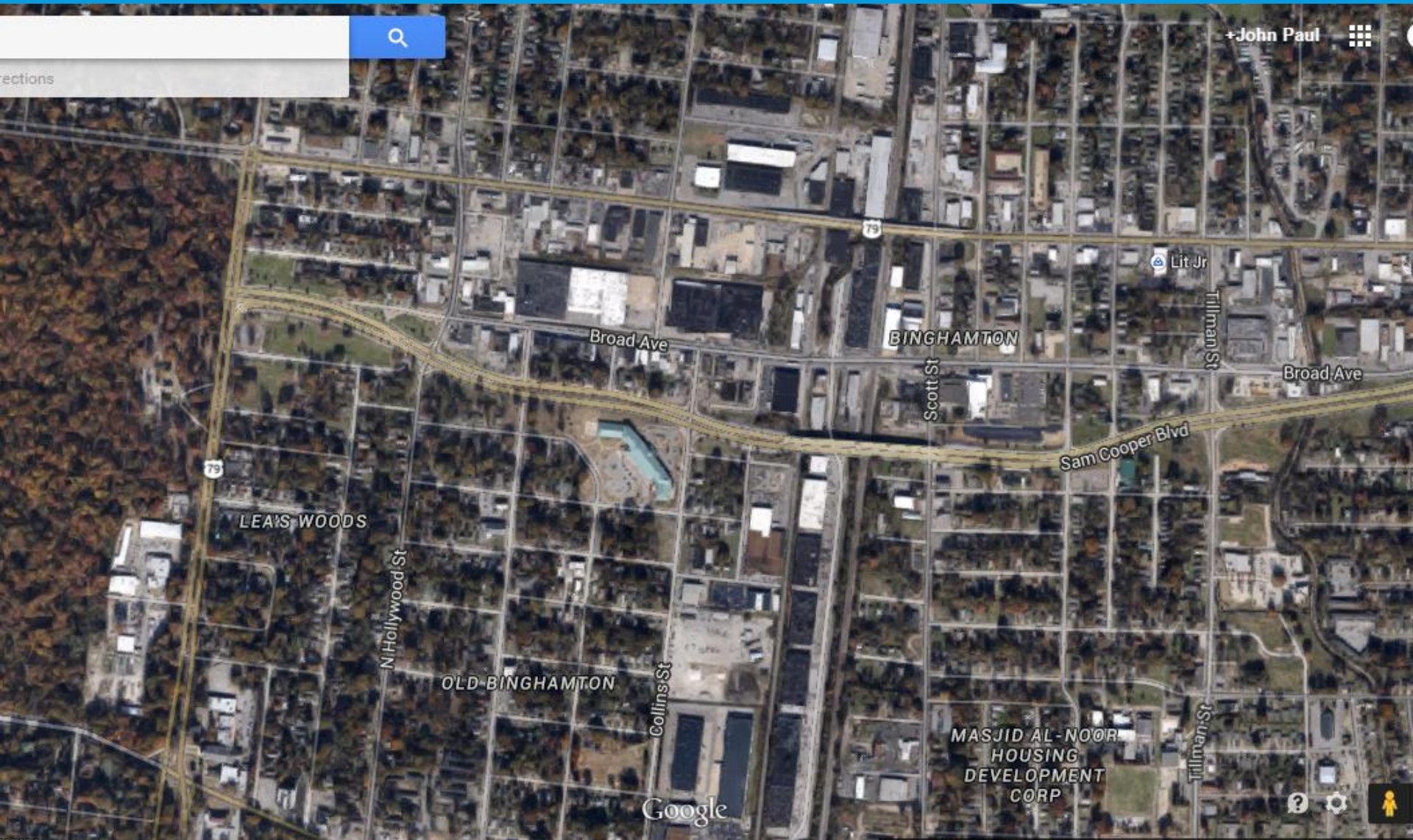


# MEMFix Case Studies





# Broad Avenue (2010)



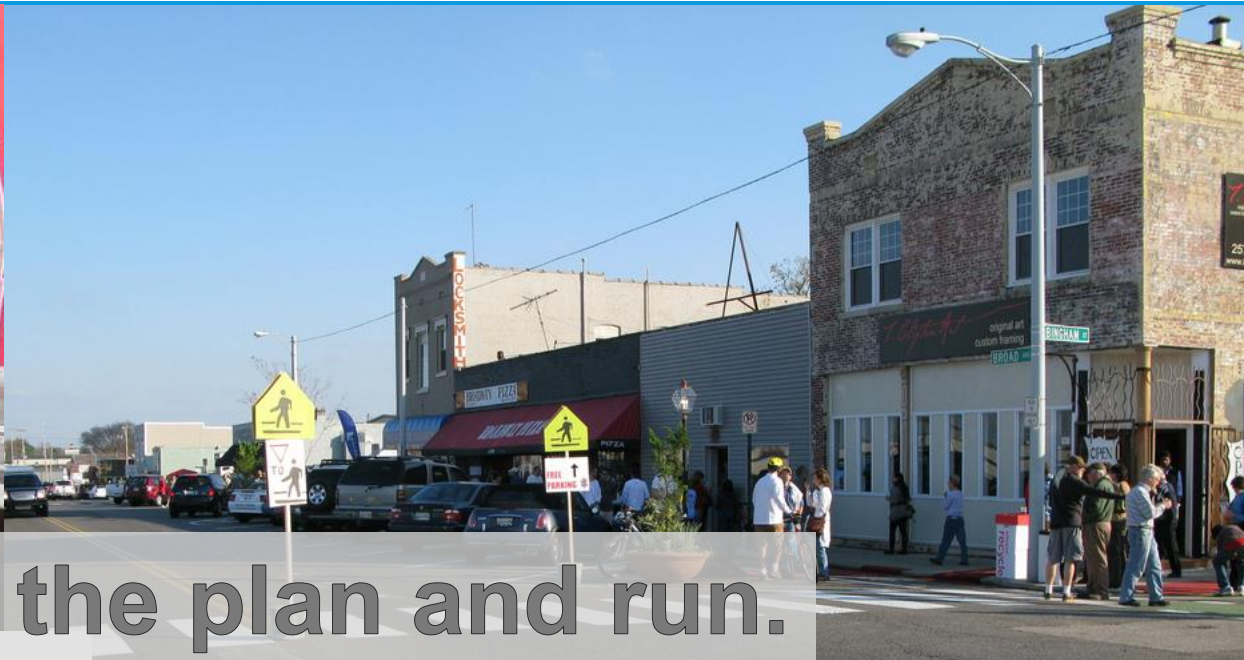


# Broad Avenue (2010)





# 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:

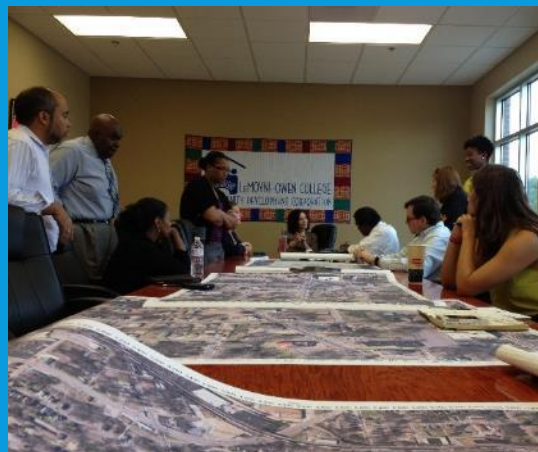
- Are these events replicable in different neighborhoods?
- Is there a role for government?
- Can we engage more community partners?
- Can we take the learnings and create a Memphis Toolkit?



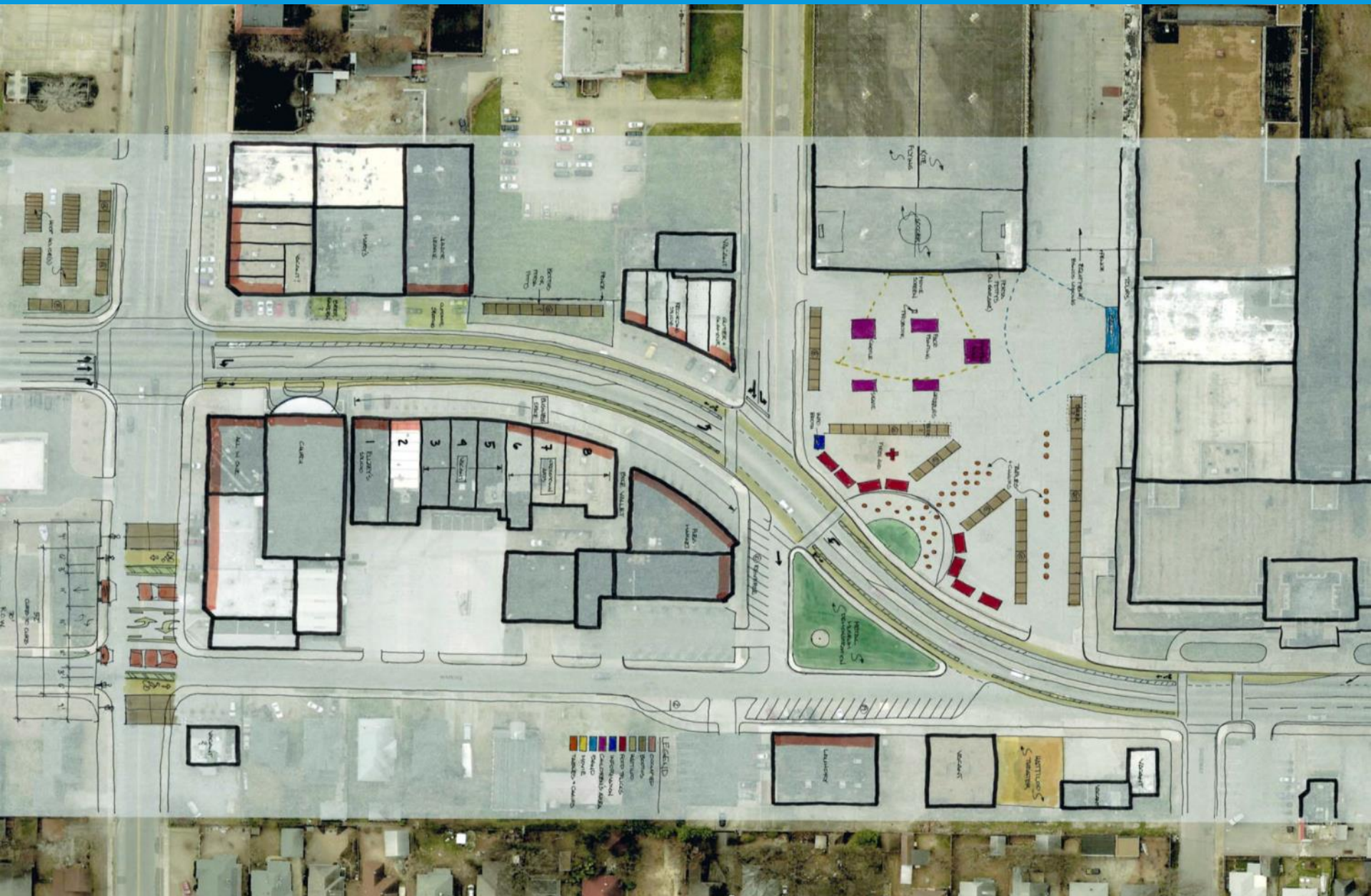
# MEMFix: Reorienting Revitalization



- Small + tactical + chaotic = innovation
- Experimental
- Community-driven
- Previtization & Prototyping









# MEMFix: Cleveland Street (2012)



HERE COMES THE NEIGHBORHOOD

NOV 10  
FROM 10<sup>AM</sup>  
TO 10<sup>PM</sup>

A COMMUNITY EVENT TO **RETHINK** THE STREET. **ACTIVATE** VACANT STOREFRONTS AND **TEST DRIVE** A NEW NEIGHBORHOOD.

**MEM FIX**

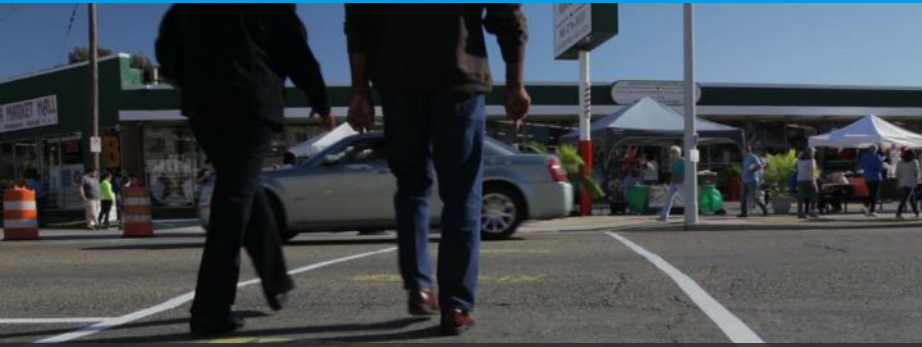
**CLEVELAND STREET**

WATKINS STREET

Logos and sponsors include: Memphis Regional Design Center, Memphis Flyer, The University of Memphis, Memphis Music, LRK, and others. A vertical text on the right says "find us on facebook" with a Facebook logo.



# 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



## MEMSHOP HOLIDAY POP-UP @ OVERTON SQUARE

December 6th-23rd

- Over 40 local creatives, makers, artists and artisans
- Community Cafe with an array of classes and tasty treats
- Innovative local retailers designing shops and experiences
- Live music daily and performances

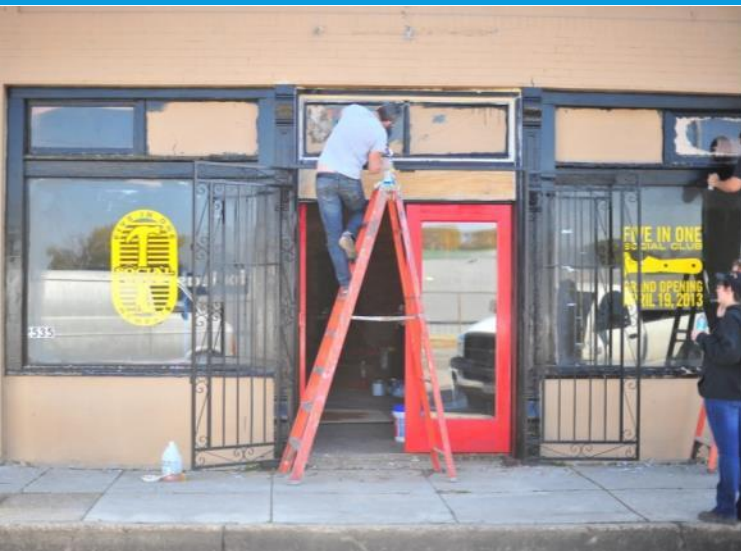
Market Days:  
Thursday (4 pm - 8 pm)  
Friday (10 am - 8 pm)  
Saturday (10 am - 8 pm)  
Sunday (10 am - 6 pm)



- Pre-vitalization – days or months
- Coordination w/ MEMFix: Retail as key point of demonstration
- Retail Business Incubator: measure permanent leases signed & program graduates.









# FIVE IN ONE SOCIAL





# MEMFix: The Edge (2014)





# MEMFix: The Edge (2014)





# MEMFix: The Edge (2014)

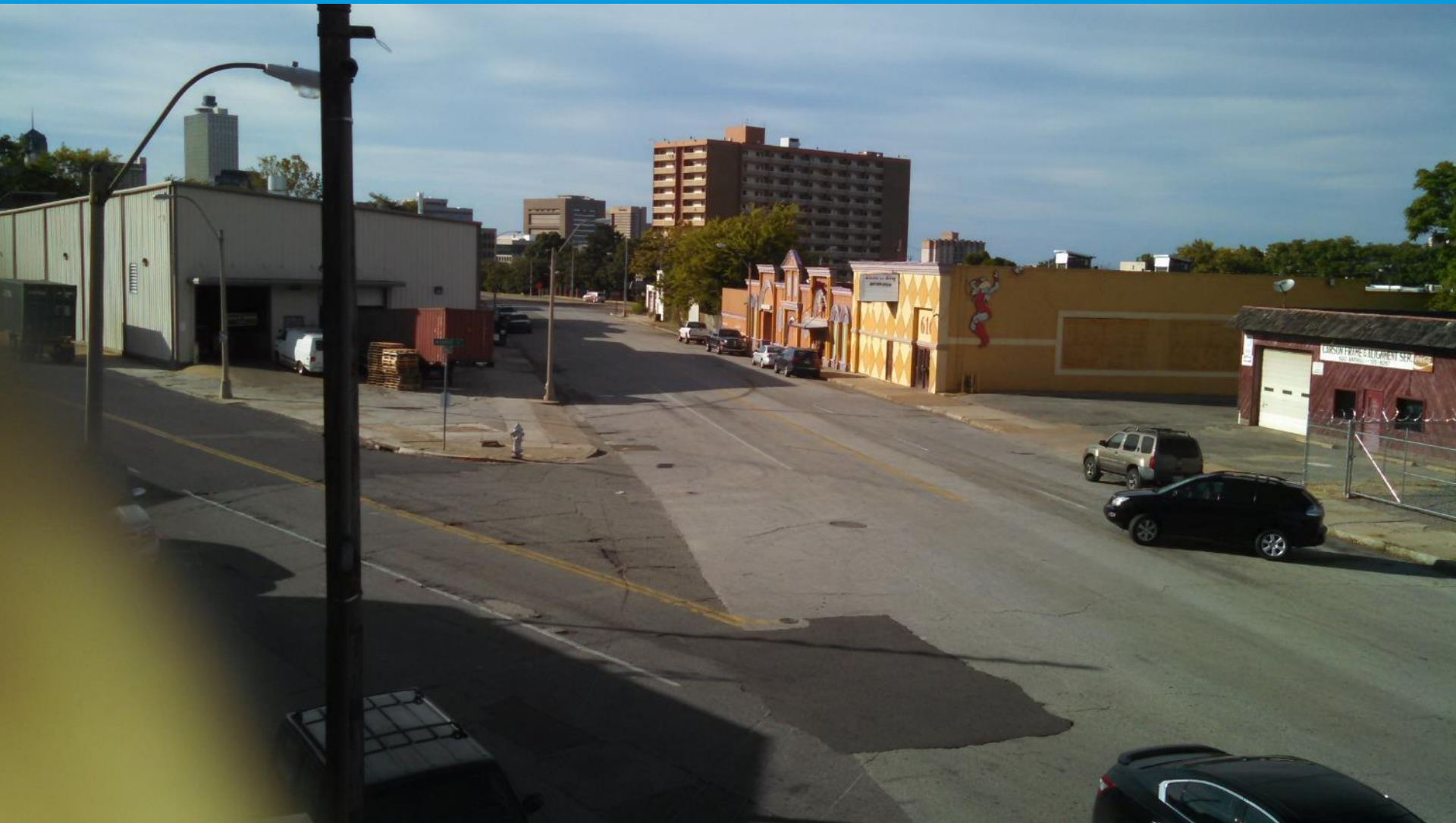


# MEMFix: The Edge (2014)





# MEMFix: The Edge (2014)



# MEMFix: The Edge (2014)

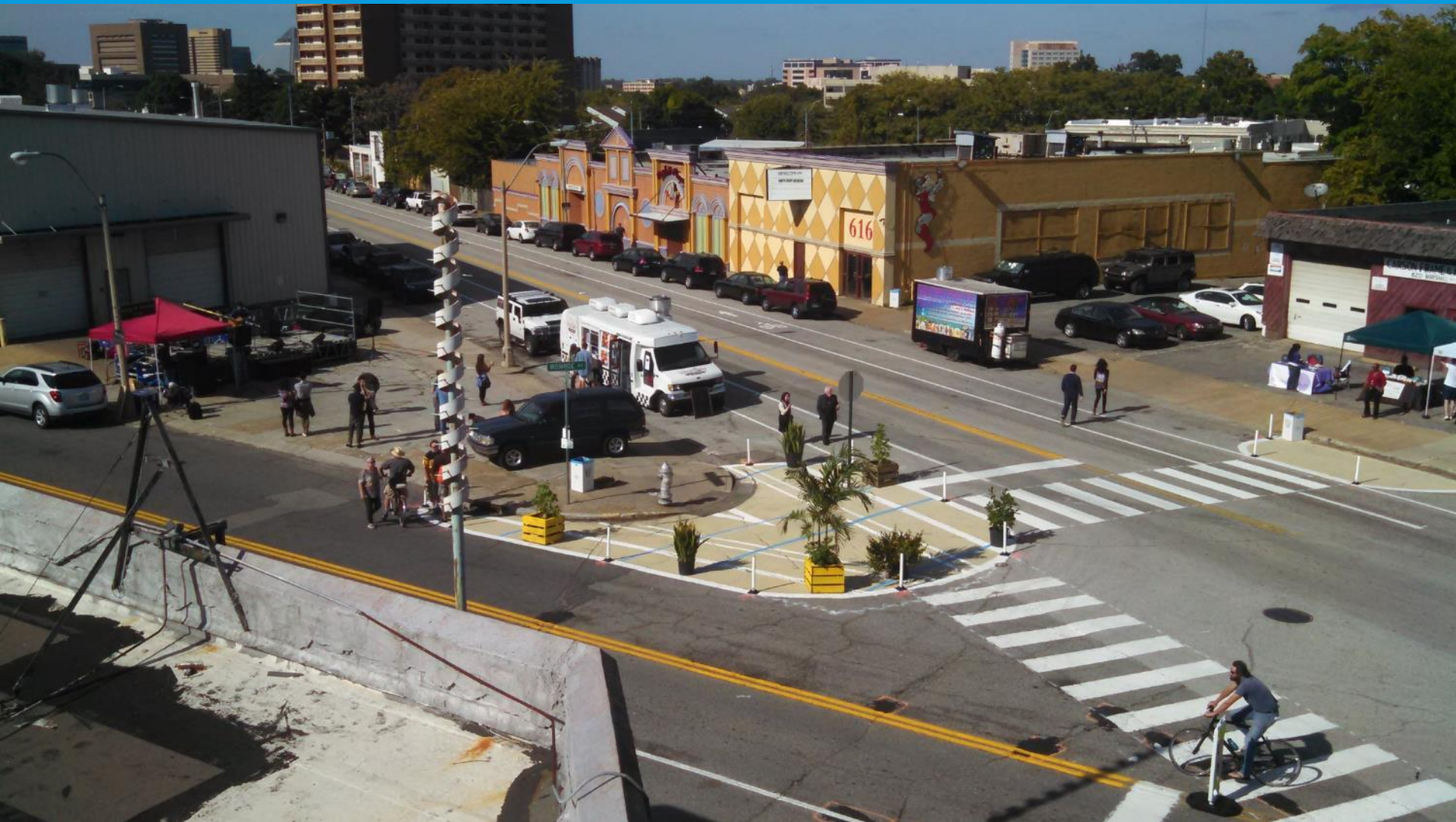




# MEMFix: The Edge (2014)











# How to DIY your neighborhood



**MEMFIX**  
THE MEMFIX MANUAL

A Practical Guide  
to Reimagining 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.**



# Ask the tough questions...



## 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*





# Questions?

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