Suzanne M. Schulz, AICP

- Grand Rapids' Managing Director of Design and Development
- Complete Streets Advisory Council, Chair

Support for Complete Streets

Endorsed and promoted by a wide range of organizations:

- Professional Associations
- Advocacy groups
- Business organizations
- Governmental commissions
- Federal, state and local governments and departments
- Safe Routes to School

Michigan Law

PA 135 OF 2010
(Amended 1951 PA 51)

- Requires interjurisdictional consultation on non-motorized projects and 5-year program
- Use of established best practices
- Establish an Advisory Council to educate/advise transportation stakeholders and the public on the development, implementation and coordination of CS policies
- MDOT may provide technical assistance and will share expertise on trunk line projects
- Enables interjurisdictional agreements for maintenance

PA 134 of 2010
(Amended 2008 PA 33):

- Definition of “streets” expanded to include all legal users
- Expands elements that may be included in a master plan to include all forms of transportation
- Specifies that transportation improvements be appropriate to their context
- Specifies cooperation with road commission and MDOT

Effective Aug. 2010

What's a Complete Street?

A system of streets…

planned, designed, operated and maintained so <u>all legal users</u> may safely, comfortably & conveniently move <u>along</u> & <u>across</u> streets

PA 135 of 2010

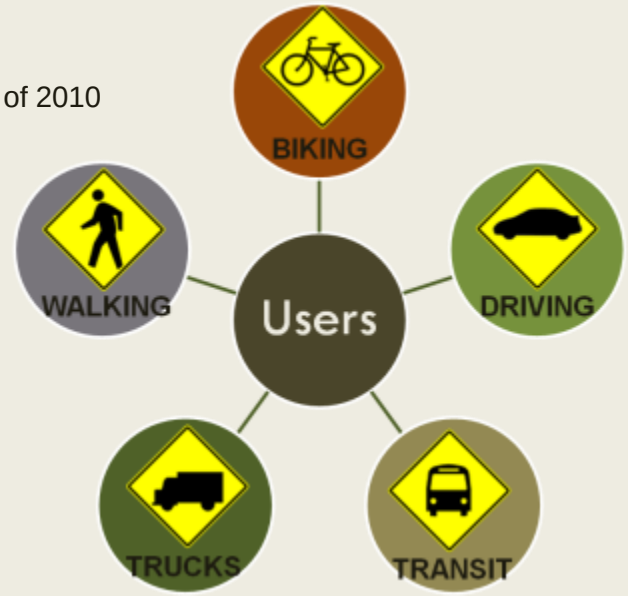



Photo: The Greenway Collaborative, Inc.

All users include:

- Pedestrians
- Bicyclists
- Transit users
- Motorists
- Trucks
- Children
- Elderly
- People of various abilities

Why Now?

Photo: The Greenway Collaborative, Inc.

There has been a concerted move towards Complete Streets in the USA since the early 1990's

- Unmet needs for mobility and access of PEOPLE
- # of households w/no vehicle +40,000; # of 2 or more vehicles -150,000 households in Michigan
- 77 million Baby Boomers
  78 million Millennials
- Rise in chronic diseases, obesity, health care
- Focus on sustainability and choice
- Place-making

How Did We Get Here?

Increased auto mobility

1910's – 40's

Compact Development, grid pattern

Post - WW II

Suburbanization, low density, curvilinear streets, highways

Design for cars, conflicts with other users

Declining cities, urban renewal, suburban growth, complete highways

60's – 90's

Led to pollution, oil dependence, obesity

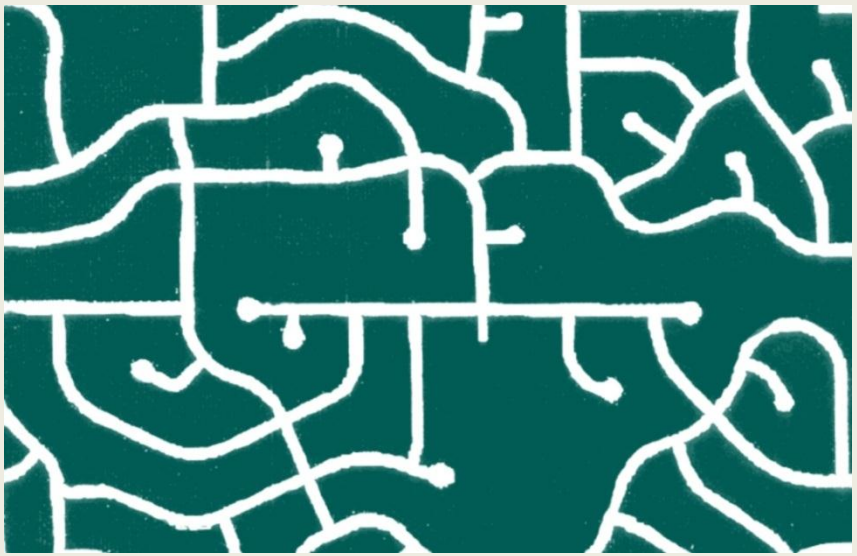
Today

Auto-dominated development

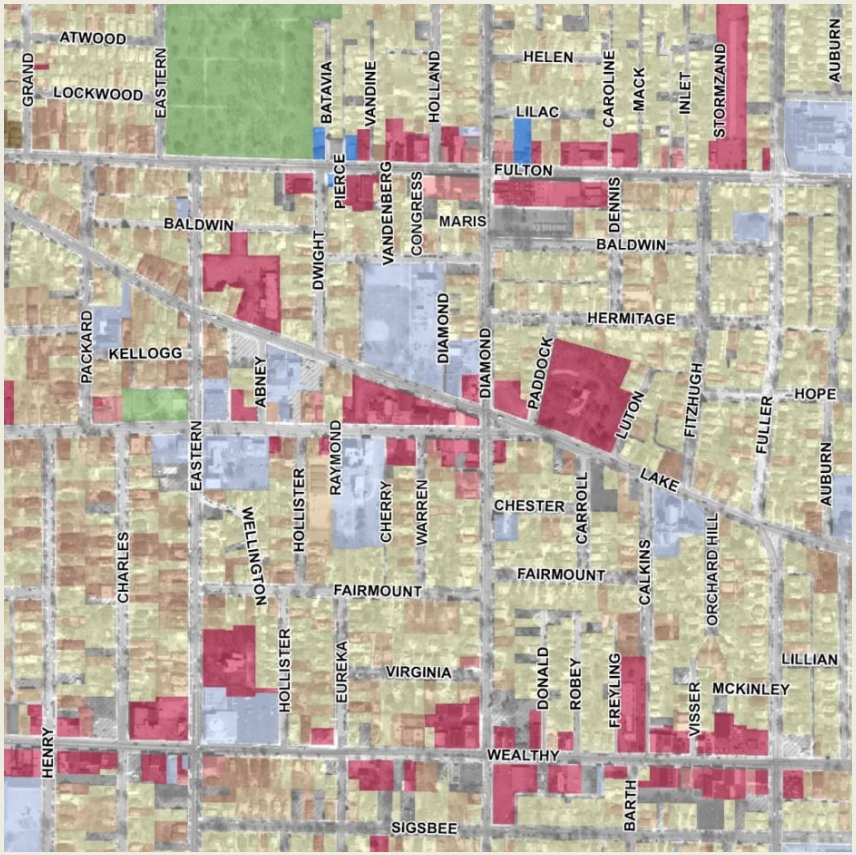
Renewed interest in walking and biking

Street Types

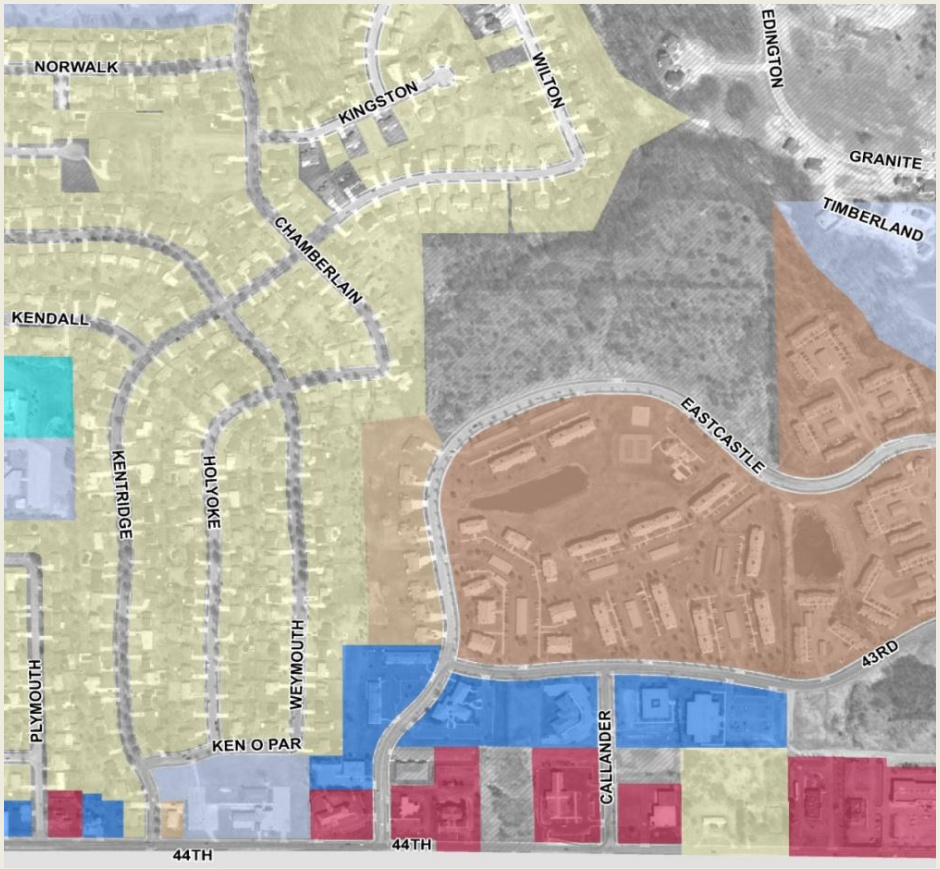
- Pre WWII: tight street grid, straight connected streets, sidewalks and alleys, block size 400’ or <
- Post WWII: curvilinear streets, cul-de-sacs, few sidewalks, large blocks at 600’ or > and super blocks at ½ - 1 mile



Land Use Patterns



- Traditional



- Modern

Traditional Transportation Planning

- Traditional functional classification
  - Expressways
  - Major/Minor Arterials
  - Collectors
  - Local Streets
- Focused on moving cars and trucks
- Similar to Act 51 funding maps (major & minor streets)

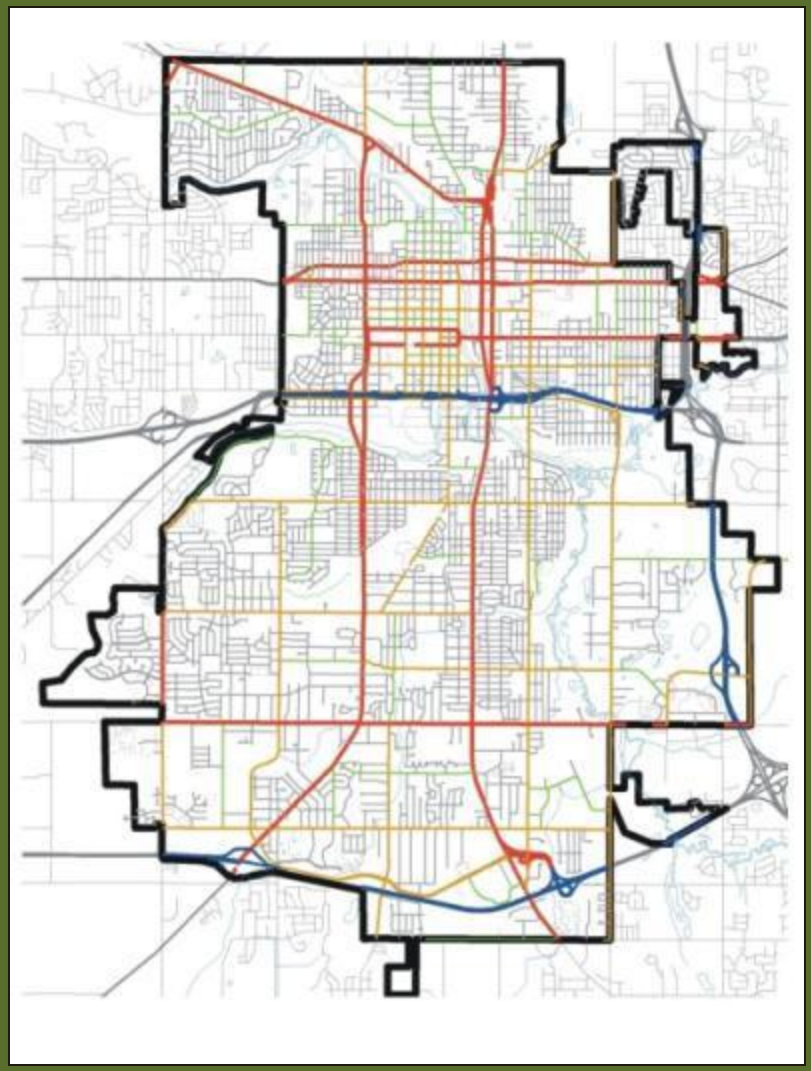


Illustration: LSL Planning, Inc.

Transportation Systems Thinking

- Multi-modal network
- Primary network for each user (not all cyclists have same needs)
- Not every street will accommodate each user equally
- Plan a system with a good “quality of service” for all users

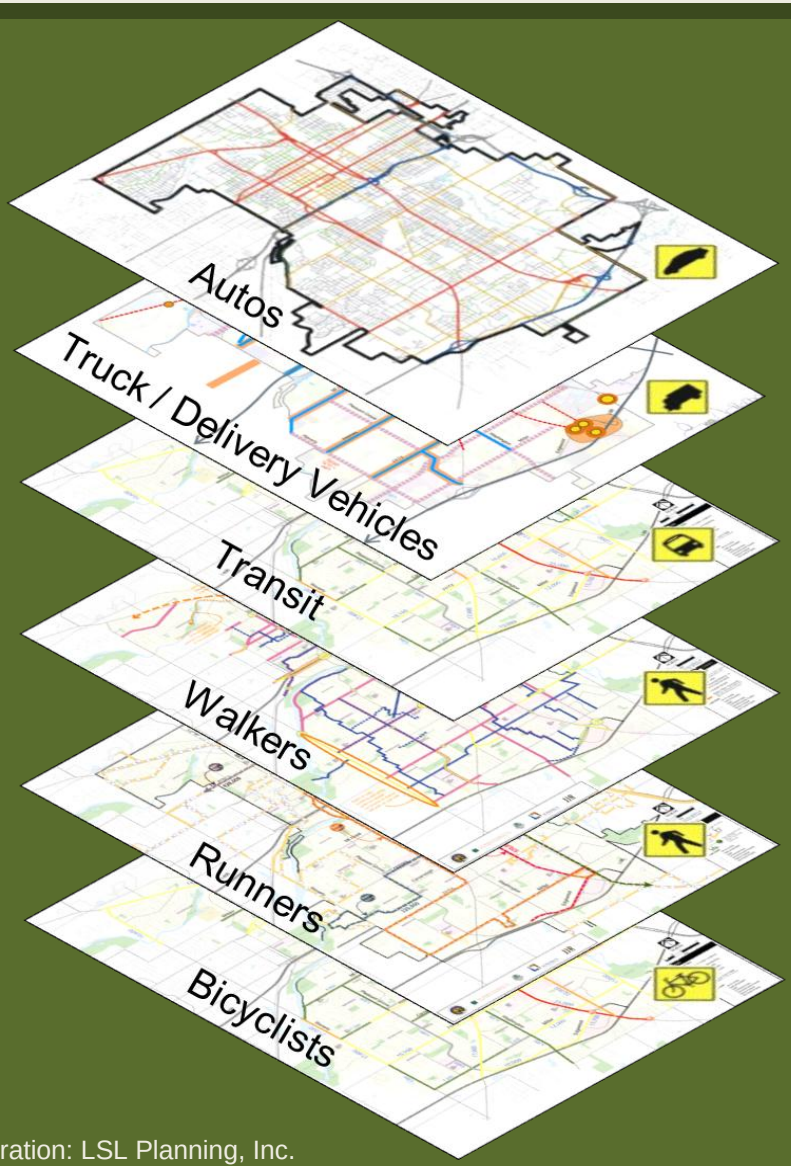


Illustration: LSL Planning, Inc.

Cultural Shift

- **ACCESS**
  - Interconnected networks (destinations linked by roads, sidewalks, trails and transit)
- **MOBILITY**
  - Full array of facilities (on-street bike lanes, sidewalks, pathways, trails, transit, etc.)
- **SAFETY**
  - Facilitate safe movement along and across streets (crosswalks, access management, traffic signals, etc.)
- **CHARACTER**
  - Match street design to user needs and context (includes everything in public right-of-way)

Vision Statement

Adopted by the Complete Streets Advisory Council April, 2012

• “A transportation network that is accessible, interconnected, and multimodal and that safely and efficiently moves goods and people of all ages and abilities throughout the State of Michigan.

• A process that empowers partnerships to routinely plan, fund, design, construct, maintain and operate complete streets that respect context and community values.

• Outcomes that will improve economic prosperity, equity, accessibility, safety and environmental quality.”

Consequences and Benefits

Photo: Holly Madill

- Safety
- Public Health
- Mobility/Equity/ Access/Choice
- Environment
- Economic Development

Safety Consequences

Roads are engineered for high motor vehicle volumes and speeds

- Severe crashes/fatalities
- Signals timed for cars
- Congestion
- Auto emissions
- Discourages bicycling, walking, and transit use = rise in obesity rates
- Low income populations lack access to jobs and fresh food

Photo: Jake Bolitho/Central Michigan Life

What do seniors fear most?

A. Death 50%

B. Giving up car keys 50%

Source: AARP

Non-Motorized Accidents

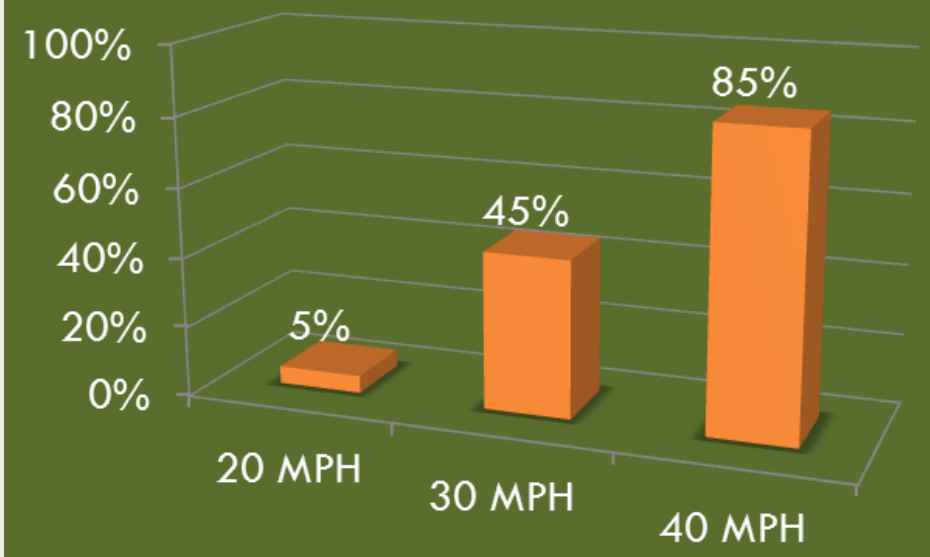
Pedestrian and Bicycle Crashes in Michigan

- **1.4%** of all crashes
- **12.5%** of all fatal and incapacitating injury crashes
- **12.8%** of the comprehensive cost of all crashes
- Pedestrian and bicycle crashes represent a comprehensive cost of ~ $921,000,000 each year in the State of Michigan

Based on an analysis of 2008 – 2012 MDOT data and Cost/Benefit Analysis

Benefits: Increased Safety

- Slower traffic speeds reduce crash severity
- Pedestrian signals at proper locations can reduce pedestrian crashes
- Four to Three Lane Conversions (Road Diet)
  - 29-34% crash reduction
  - 68% injury reduction
- Multi-modal design
  - 90% decrease in pedestrian fatalities
  - 75% decrease in bike fatalities



Source: *Killing Speed and Saving Lives*, UK Dept. of Transportation, London, England 1994.

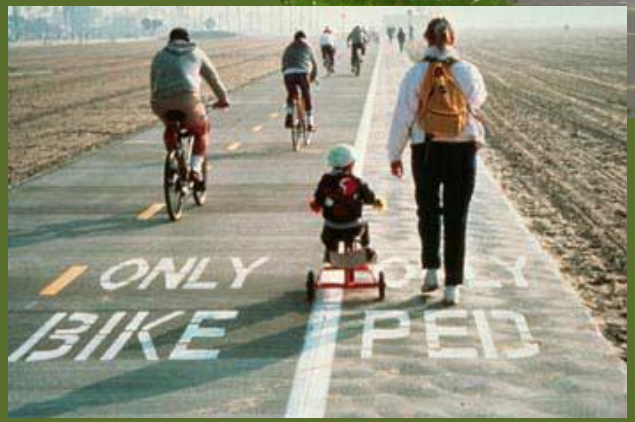
… installing pedestrian and bicycle facilities can reduce the risk of crashes by 28%.

-National Complete Streets

Health Consequences

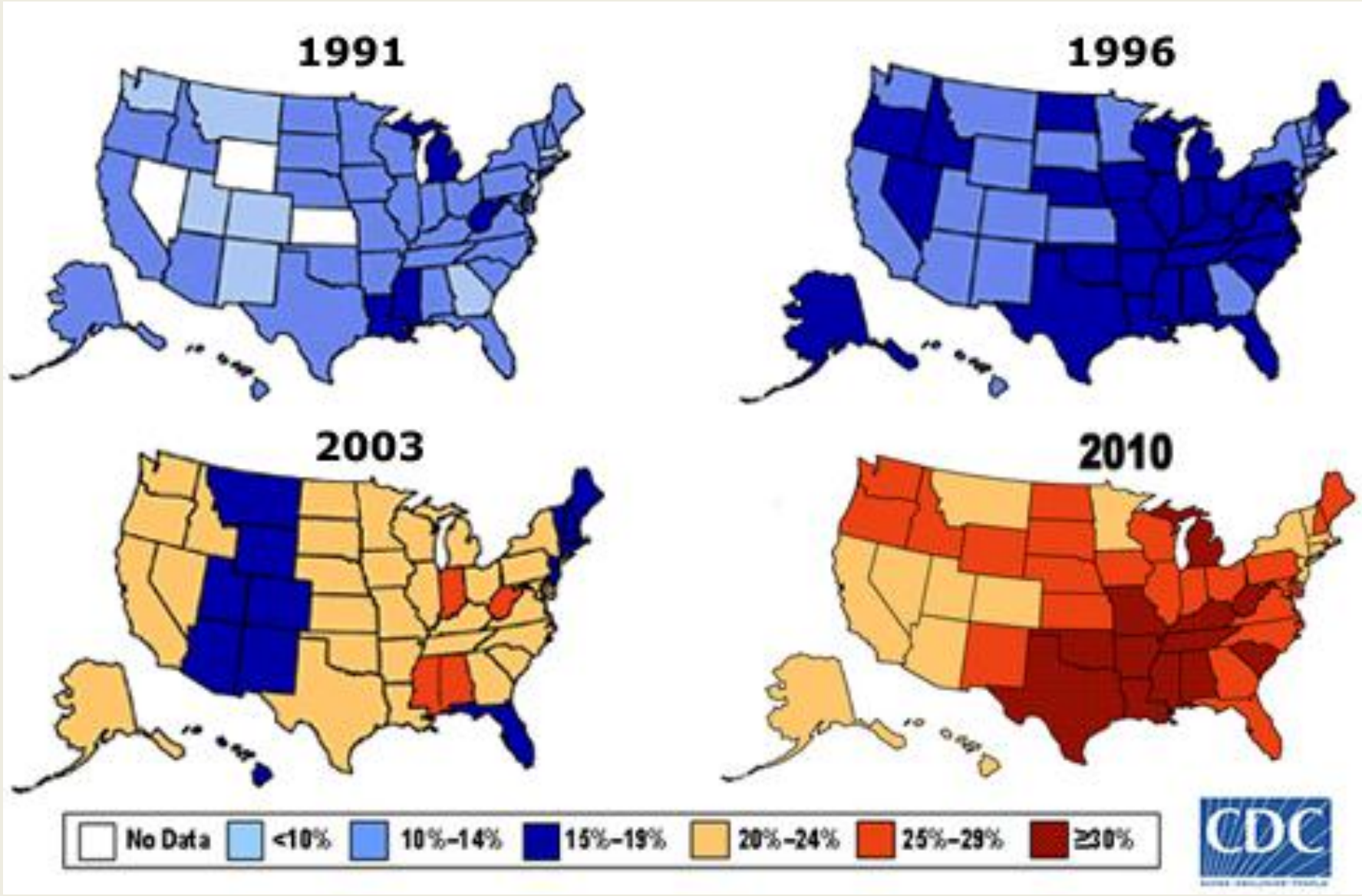
Lack of physical activity costs everyone.

- 31.7% of adults and 16% of children in Michigan are obese
- 1 in 3 people will be diagnosed as diabetic
- Managing diabetes costs insurance companies approximately $40,000 per year
- In 2008, Michigan spent $3.1 B in obesity related medical costs
- MDCH has estimated obesity medical costs at $12.5 B by 2018

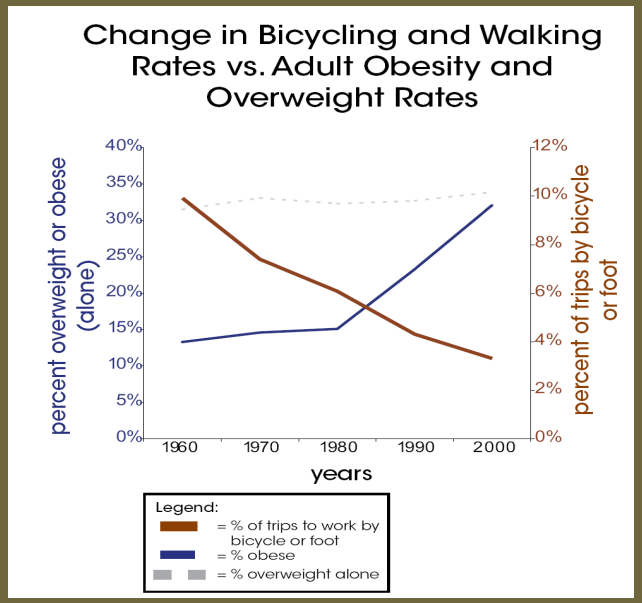


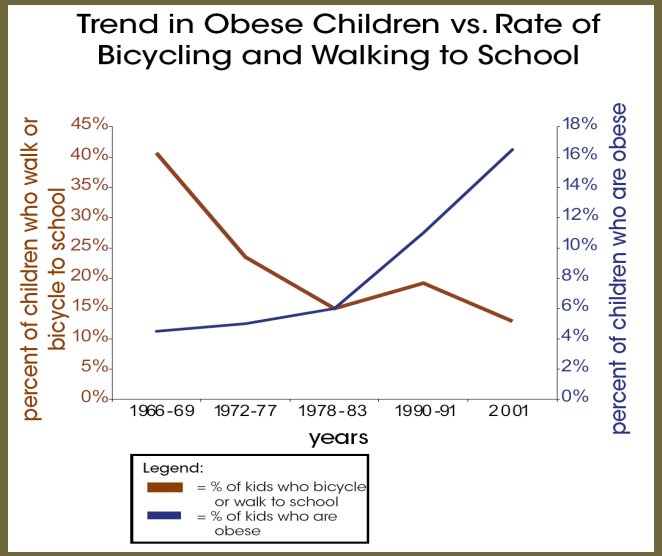
Photos: Dan Burden

Obesity Trends in the U.S.



Benefits: Health Care Savings





- Active Communities
  - Reduce obesity
  - Reduce heart disease
  - Reduce diabetes
- Increase in physical activity reduces stress
- Businesses that provide walk/bike opportunities for employees during the workday report a ~30% reduction in sick-leave absenteeism, health care use, and worker's comp and disability claims
- Reduction in healthcare costs and insurance premiums

Mobility/Access/Choice Consequences

- At least 1/3 of Americans don't drive
- 55% of Americans would rather drive less and walk more
- 72% of trips are 1 mile or less, in Michigan 90.5% are by car

Who doesn't drive?

- By necessity
  - Seniors
  - Persons with disabilities
  - Children
  - Those lacking means to afford a car
  - Court-ordered
- By choice
  - Many reasons – health, environment, enjoyment and costs

Benefits: Mobility Access/Equity/Choice

Photos: Dan Burden

- Meets the needs of various users of all ages and abilities
- Provides a choice for mobility 20% of Americans have a disability that limits their daily activities
- Increases access for persons with disabilities, low-income populations, and others to quality health care, jobs and education
- Allows seniors to “age in place”, which saves money and provides physical as well as mental health benefits

Environmental Consequences

- Vehicles create 30% of Michigan's ozone-forming pollutants
- Between 1960 and 2001, Michigan's CO2 emissions from fossil fuels increased by 46%—primarily as a result of oil combustion for transportation
- 40% of trips nationwide are 3 miles or less; ***72% of trips less than 1 mile are made by auto***
- In Michigan, 90.5% of trips were made by auto

Year	Commute miles/person
1945	5
1965	13
1985	20
2005	27


Photo: unlimitedchoice.org

Benefits: Cleaner Environment

- Reduce oil dependence
- May reduce greenhouse gas emissions: fewer and shorter car trips
- Reduce carbon footprint as people choose to walk or bike
  - 1 gallon of gas=19.4 lb CO_2
  - 1 VMT=1 lb CO_2
- 2006 studies show that the more walkable a community, the lower the vehicle emissions

…one pound of carbon gas is enough to fill an exercise ball…

Photo: lifehacker.com

Economic Development Consequences

- Walkability/bikeability and transportation options are key indicators among the creative class when choosing where to live
- Senior citizens and retirees, another demographic that communities hope to retain, also value transportation choice
- Michigan must be able to retain and attract young professionals and international talent to be competitive in the global marketplace

Photo: The Greenway Collaborative, Inc.

Forbes 1/24/14

Most Popular

Lists

Micheline Maynard, Contributor

I look at all the ways we get around

+ Follow (165) Follow 0

ON THE MOVE 1/24/2014 @ 2:15PM 4,563 views

Millennials in 2014: Take My Car, Not My Phone

2 comments, 1 called-out + Comment Now + Follow Comments

Anyone who knows someone born in the 1980s and beyond is used to seeing their heads bowed over their mobile devices. Now, a new study of attitudes among millennials makes it official: their phone means more than a car.

The study, commissioned by Zipcar ZIP 9.61%, the car-sharing company, and provided exclusively to *Forbes* on Friday, shows that nearly 40 percent of millennials believe that losing their phone would be a bigger hardship than losing their automobile. They also believe it would be a greater tragedy (so to speak) than losing access to a desktop or laptop computer, or a TV set.

That compares with only 16 percent of people age 35 and up who think losing their phones would be more difficult to take than losing access to those other things. In fact, more than 40 percent of people 35 and up believe losing their cars would be the hardest aspect of their lives to give up. Only one -quarter of the millennials surveyed agreed that a car comes first.

Millennials also say that that their use of phones and other mobile devices is allowing them to cut back on their driving. About 40 percent of them say they substitute texting, email, video chats such as Skype or Google GOOG 4.36% Hangout for meeting up

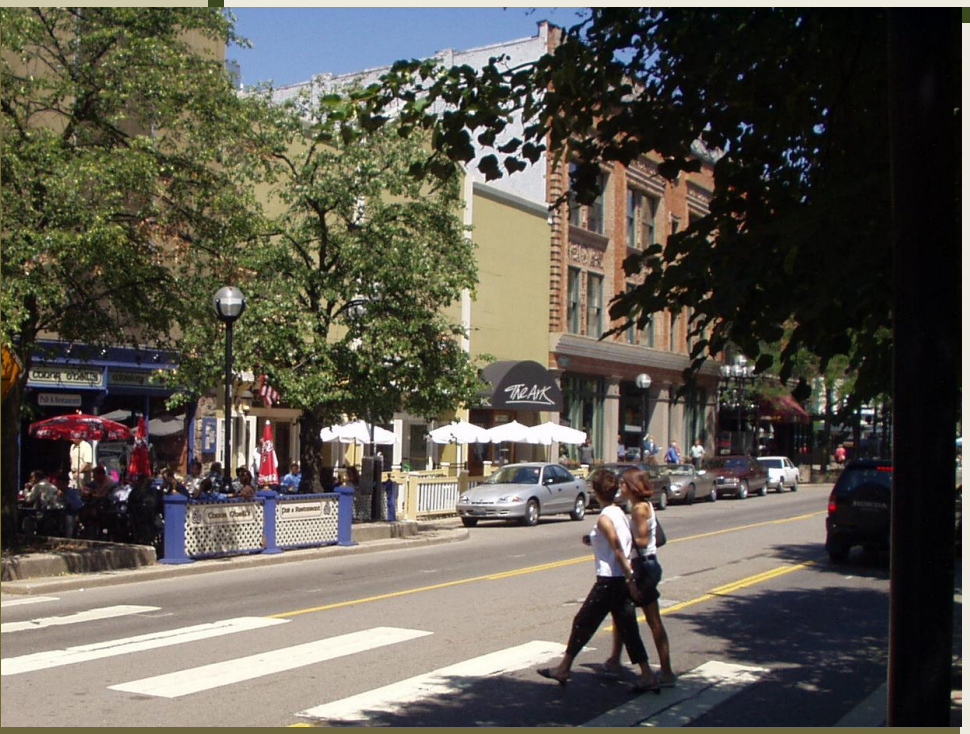
8 Images

Photos: What's On Millennials' Minds In 2014

Micheline Maynard

> *"In fact, more than 40 percent of people 35 and up believe losing their cars would be the hardest aspect of their lives to give up. Only one-quarter of the millennials surveyed agreed that a car comes first."*

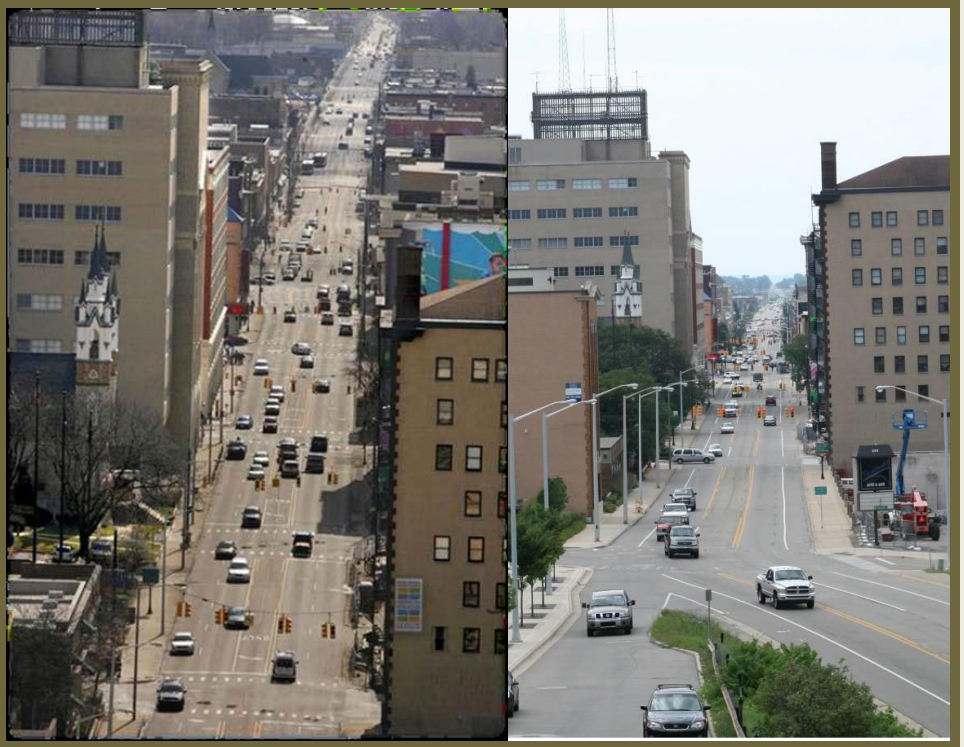
Benefits: Economic Development



"Houses with above-average levels of walkability command a premium of about $4,000 to $34,000 over houses with just average levels of walkability."
CEOs for Cities, 2009

- Provides access to opportunity for all populations (jobs, education, health care, personal services, places of worship, healthy food)
- Attraction and retention strategy for talent and businesses in a competitive marketplace
- Transportation is ~1/5 of a household's income; lower costs means more for consumer spending
- Reduced transportation costs increases ability to support housing choice

Benefits: Economic Development



"The Division Avenue road diet allowed me to attract high-quality tenants and transform this block."

Bob Dykstra, Harris Building owner in Grand Rapids

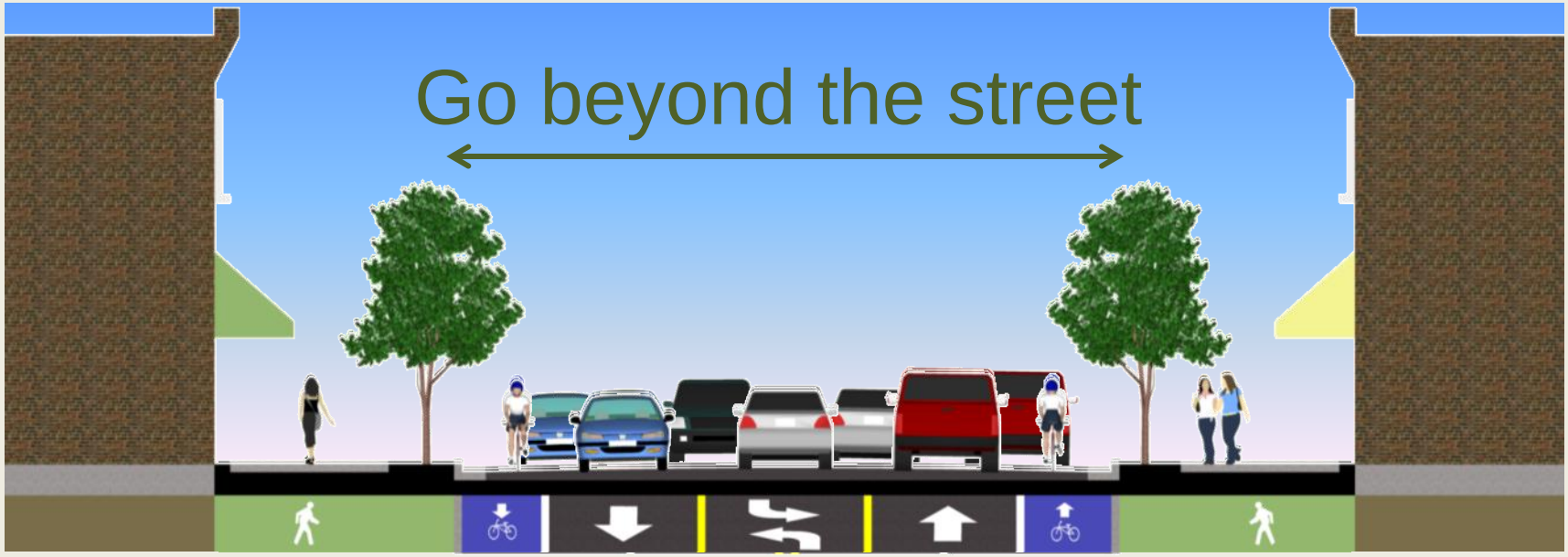
- Catalyst for new and re-development
- Placemaking creates new investment
- Defines character of an area
- Every 1 point improvement in walkscore equates to $500 to $3,000 increase in housing value
- Every 400 feet closer to bicycle facility equates to $510 additional home value

Benefits: Economic Development

East Hills construction value, 2009-2013:

2009	$1,780,000
2010	$1,640,000
2011	$1,410,000
2012	$2,220,000
2013	$6,490,000

An Expanded View of Streets



Use ***all*** of the public right-of-way

to relate to private development

Illustration: LSL Planning, Inc.

An Expanded View of Streets

- A community's streets are a defining characteristic of place, and may include many elements:
  - The roadway or street itself
  - Landscaping/LID
  - Sidewalks and bike lanes
  - Relationship of buildings and sites to the street

Photo: The Greenway Collaborative, Inc.

Streets constitute a community's single most important public space in terms of size, visibility and use

Context

Street Design varies based on character of area

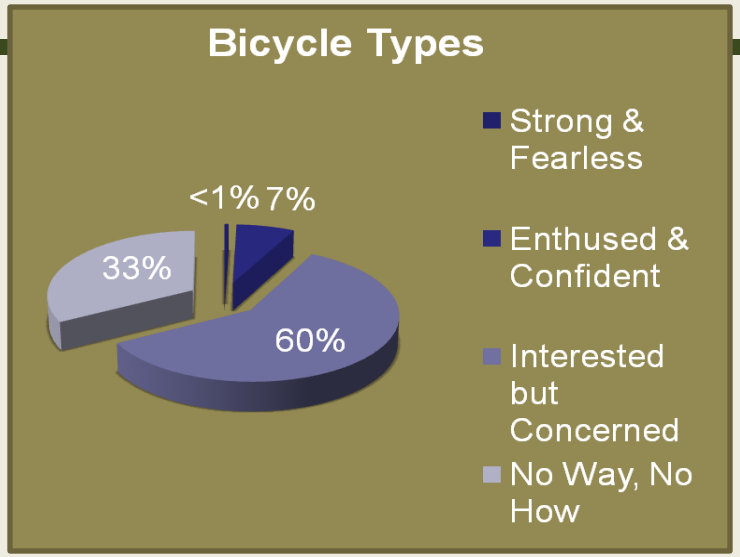
Photos: www.pedbikeimages.org/Dan Burden

Different treatments at different locations

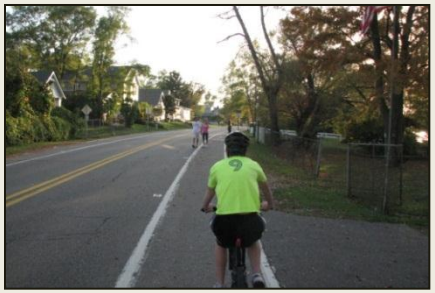
Illustrations: LSL Planning, Inc.

Bike Facility Example

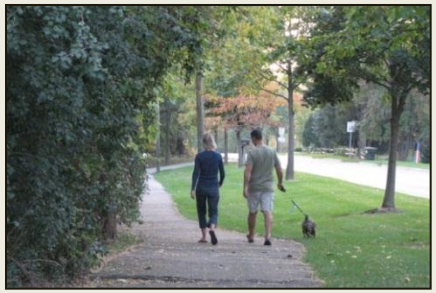
- Facilities are designed to accommodate various users



Paved Shoulders



Roadside Pathways



Bike Lanes & Sidewalks

Shared Roadways

Rural Applications ← → Urban Applications

Multi-Modal Quality of Service

Priorities are not the same on every street

	Automobile Level of Service	Transit Quality of Service	Bicycle Quality of Service	Pedestrian Quality of Service
A	+No delay at intersections.	+More frequent service, stops, and amenities. +Attracts riders who choose transit over other modes.	+Complete system for all types of users. +Good condition, few stops, and conflicts with autos	+Complete system +Easier to cross +Improved Comfort
C/D	+Drivers wait no more than 1 red light	+Good bus service +Basic stops and amenities	Cyclists of various skill levels are able to bike comfortably to key destinations	An adequately complete network of decent sidewalks
F	-Longer delays at intersections.	-Limited or no service. -Fewer stops and amenities	-More gaps in system -More stops and auto conflicts -Poor pavement	-Gaps in system. -Poor pavement -Less inviting.

Illustration: LSL Planning, Inc.

Balance and prioritize design to meet street's purpose

Beyond The Physical Roadway

Photo: The Greenway Collaborative, Inc.

Complete Streets is a cultural change and a shift in our understanding of the value of streets beyond moving vehicles to ensure mobility, access, and choice for all.

- Complete Streets go beyond physical design and infrastructure
- It is about creating culture and policies that provide safe and efficient transportation choices
- Like any cultural shift, this will not happen overnight

Resource Clearinghouses

- **Michigan Department of Community Health:** mihealthtools.org/mihc/CompleteStreets.asp
- **Michigan Complete Streets Coalition:** michigancompletestreets.org
- **MDOT Complete Streets Advisory Council:** http://tinyurl.com/3glwcnv or http://www.michigan.gov/mdot/0,1607,7-151-9623_31969_57564---,00.html
- **N-Plan:** www.nplanonline.org
- **National Complete Streets Coalition:** www.completestreets.org

Questions?