


Complete Streets Institute Webinar Series Module 4 – Planning and Regulations

Wednesday, September 21, 2011
12:00 to 1:30 PM





Complete Streets Institute:
Towards Complete Streets in Michigan

Webinar Series
September 7-September 28, 2011



Webinar Basics

- You should have this presentation in a window and a control panel next to it
- You can expand the display to full screen
- To show or hide the control panel, click on the double arrows
- Click on the hand icon to "Raise Your Hand"

Webinar Logistics

- Webinar is being recorded
- Webinar, PDFs of presentations, and associated exercises will be made available after today's webinar
- Type presentation-related questions to presenters in the chat box
- Questions will be pooled and held to end. We will try to get to as many as we can.
- Your phone line has been muted and will remain so for the duration of the webinar



Healthy Kids, Healthy Michigan



Mission:
Reduce childhood obesity in Michigan through strategic policy initiatives

www.healthykidshealthymich.com



Community Policy Action Team

- Crim Fitness Foundation
- Detroit Food & Fitness Initiative
- League of Michigan Bicyclists
- Michigan Association of Planning
- Michigan Department of Community Health
- Michigan Department of Transportation
- Michigan Environmental Council
- Michigan Fitness Foundation
- Michigan Recreation and Park Association
- Michigan State Housing Development Authority
- Michigan Trails and Greenways Alliance
- Washtenaw County Public Health
- AARP
- Michigan Association of Counties
- Michigan Municipal League
- Safe Routes to School National Partnership




Why Complete Streets?

Transportation networks that include amenities such as sidewalks and bike lanes can increase the number of people who walk or bike by 30% and schools can see a 15% increase in students who walk or bike to school.

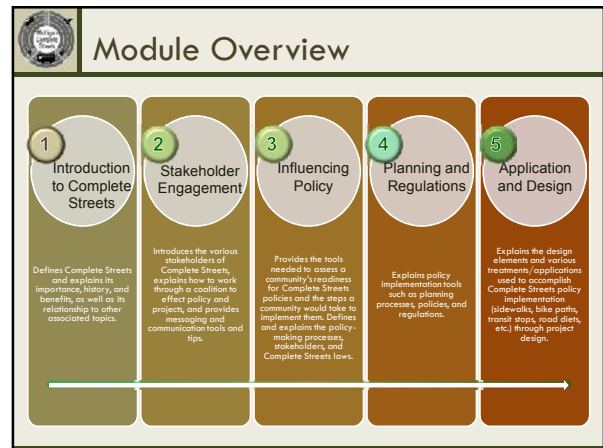
(Active Living Research, RWJF 2007)




Community design impacts physical activity levels

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Today's Speakers

Holly Madill
Complete Streets Project Coordinator
MI Department of Community Health

Brad Strader, AICP, PTP
President
LSL Planning, Inc.

Norman Cox, LL.A, ASLA
President
The Greenway Collaborative, Inc.





Please Tell Us About Yourself

- If you are viewing the presentation as a group, please pick the most representative answer
- We will share the results when the poll has closed
- How will you will be promoting complete streets?
- Your background
- Have you attended any other Complete Street trainings?

Module 4: Planning & Regulations

Complete Streets Institute Training Plan

1. An Overview
2. Influencing Policy
3. Stakeholder Engagement
- 4. Planning & Regulations**
5. Design & Applications



Photo: The Greenway Collaborative, Inc.

Updating community plans and regulations to support complete streets policy implementation

Presentation Overview

- Complete Streets and Community Readiness Overview
- Planning for Different Users
- Planning for Complete Streets
 - Types of plans and their content
- Regulations
 - Types of regulations and their content



Photo: The Greenway Collaborative, Inc.

Training Objective:
Provide a basic understanding of important planning and regulations used to implement Complete Streets

Complete Streets in a Nutshell

A system of streets...

“planned, designed, and constructed to provide appropriate access to all legal users in a manner that promotes safe and efficient movement of people, and goods whether by car, truck, transit, assistive device, foot or bicycle.”

PA 135 of 2010




Photo: The Greenway Collaborative, Inc.

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

Where are you now?



1 Beginner 2 Practicing 3 Modest 4 Advanced 5 Leader

Where do you want to be?

PLANNING

Getting Started-Who to Involve?

- Public
- Stakeholders
- Elected officials
- Road agencies
- Transit agency
- Municipal staff
- Fire/police
- Utility providers

Advocacy Groups

- Walk/bike groups
- Disability groups
- Public health officials
- School districts
- Environmental action councils
- AARP
- Youth



Photo: LSL Planning, Inc.

Audit Your System

1. Define vision/expectations
2. Review current policies and procedures
3. Any inconsistencies in plans?
4. Do they support expectations?
5. Do decision makers support the vision?
6. Is funding supporting the plans?
7. What need to be changed?

MI Dept. Community Health Tools:



Others:

- Complete Streets Assessment Tool
- Walkability audits
- Biking audits

Who are we planning for?

- Cars
- Trucks
- Emergency Vehicles
- Pedestrians
- Bicyclists
- Transit users
- All ages/abilities
- Other (where legal):
 - Assistive devices (wheelchairs)
 - Snowmobiles
 - Golf carts




What are their needs?

Illustration: LSL Planning, Inc.

All Ages/Abilities

- Seniors
- People with disabilities
- Young professionals
- People who don't drive
- Bicyclists of varied skill levels:



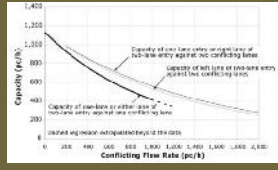
What do seniors fear most?

A. Death 50%

B. Giving up car keys 50%

Source: AARP

Traditional Level of Service




LOS	Average delay in seconds per vehicle	Description of motorist perception
A	< 10	Free-flow traffic: "Good" LOS
B	10.1 - 20	Reasonably free-flow
C	20.1 - 35	Subsaturated traffic: "Fair" LOS
D	35.1 - 55	Near saturation: "Fair" LOS
E	55.1 - 80	Highly congested: "Poor" LOS
F	> 80	Unacceptable: very high delay, congestion

Source: Highway Capacity Manual

- Efficient and safe flow for cars and trucks remains important too
- Highway/traffic engineers' focus has been on reducing delays and crashes
- Level of Service, a measurement of delay for autos at intersections:
 - A (little delay) to F (congestion)
 - Typical standard is C or D, some use E

Walkers Quality of Service



- Sidewalks
 - Location/width
 - Connected network
 - Pavement condition
- Separation from traffic, especially higher speed/volume (landscape, parking, or bike lane)
- Directness of route
- Crosswalk frequency and design
- Frequency of driveway conflicts

Bicyclists - Who are they?

- Children
 - Generally ride on sidewalks
- Commuters
 - Skill level varies
 - Novice may prefer sidewalks
 - Typical 9-12 MPH speed
- Recreation/Fitness/Elite
 - Generally road or trail
 - Recreation ~9 MPH
 - Fitness ~12 MPH
 - Elite 16+ MPH








Bike Quality of Service Factors




- Paved shoulder or bike lane
- Topography
- Pavement condition/edge
- Comfort zone from adjacent traffic/parked cars
- Auto/truck volume/speed in adjacent lane
- Pedestrian volume/potential conflicts
- Size, complexity, and delay at intersections
- Bike parking

Transit Quality of Service

Factors

- Hours of service/day
- Frequency of service
- Passenger loads/seating
- Travel time
- Reliability/Dependability
- Convenient to destinations
- Transit stop amenities
- Pedestrian access
- Bike accommodation



Transit-Oriented Should Have

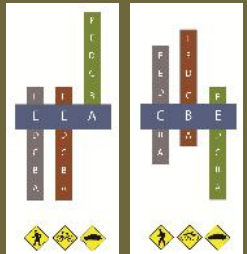
- 5-7+ Units per acre (bus)
- 25-40+ employees + residents per acre*
- Compact development
- Appropriate mix of uses
- Promote ped/bike travel

Transit-Oriented Should NOT have

- Low density residential
- Deep building setbacks
- Auto related uses

*Zupan and Pushkarev, 1977, Public Transportation and Land Use Policy.

Multi-modal Quality of Service



- Measurement of performance
- Evaluate for each "user" group
- Usually requires tradeoffs
- Can prioritize for certain types for certain streets
- Procedures in new 2010 Highway Capacity Manual




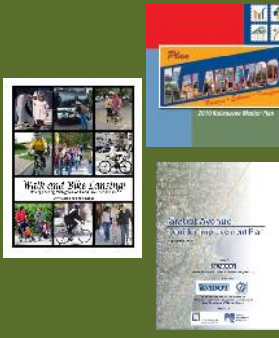
Illustration: LSL Planning, Inc.

COMPLETE STREETS PLANNING

- Types of Plans
- Context
- Process

Types of Plans

- MPO/Regional/County
- Comprehensive Plan
- Transportation Plan
- Non-motorized Plan
- Corridor Plan
- Subarea/District Plan
- Neighborhood Plan
- Safe Routes to School
- Transit Master Plan
- Downtown Plan
- Capital Improvement Plan
- Sustainability Plan



Scale of Plan	Focus/Scope
Regional/MPO/County	<ul style="list-style-type: none"> • Policy • Major Streets • Model alternatives/air quality • Funding
Comprehensive Plan	<ul style="list-style-type: none"> • Community-wide • Link with Land Use • Vision/Goals
Transportation/Non-Motorized Plan	<ul style="list-style-type: none"> • All Modes • Street Network
Corridor/District Plan/Neighborhood	<ul style="list-style-type: none"> • Specific Streets • Design Alternatives

Consider Context

Rural:	Suburban:	Urban:
<ul style="list-style-type: none"> • Wide shoulders • Off-road trails • Park and Ride 	<ul style="list-style-type: none"> • Sidewalks • Bike lanes • Bike boulevards • Pedestrian signals • Connectivity • Bus transit 	<ul style="list-style-type: none"> • Wider sidewalks • Frequent crossings • "Share the Road" • Array of bike route types • Signature transit

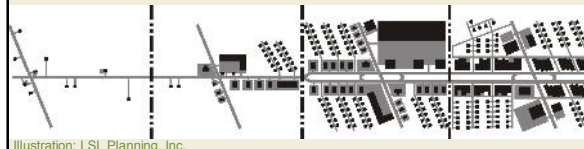



Illustration: LSL Planning, Inc.

Consider Jurisdiction

- State Trunklines – MDOT, New Act
- County Roads – Road Commission/Department
- City Streets
- Village Roads
- Private Roads
- Townships/Local Role
 - Sidewalks/pathways
 - Site plan standards
 - Stub roads/connections
 - Work with road agency
 - Master Plan policy



Master/Transportation Plan

- Land use arrangement/mix
- Form and density
- Multi-modal network
- Primary network for each user
- Not every street will accommodate each user equally
- Plan a system with a good "quality of service" for all users

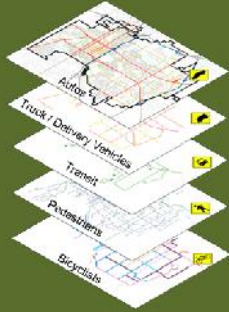
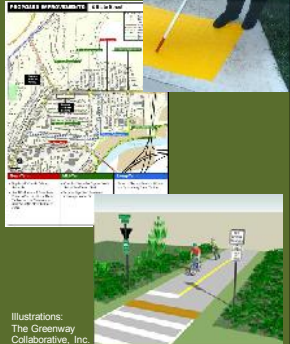


Illustration: LSL Planning, Inc.

Non-Motorized or Trail Plans

- Inventory & analysis
- Goal: link destinations
- Proposed improvements
 - Non-motorized network
 - Off-road trails
 - Implementation and funding plan
- Policies and programs
 - Complete streets
 - ADA (transition plan)
 - Safe routes to schools
 - Site design
 - Bike parking
 - Maintenance
- Education and marketing



Illustrations: The Greenway Collaborative, Inc.

Transit Plans



Complete Streets can encourage transit use:



- Sufficient density to support transit
- Complete sidewalks 1/4 mile around bus stops/stations
- Crosswalks near bus stops
- More bus stops closer to pedestrian signalized intersections
- Link bike and transit systems (bike parking/bus racks)



Images: LSL Planning

Bus Stop Planning

- Situation – bus stop between two signals along busy arterial
- Options:
 - Move bus stop
 - Add crosswalk
 - Add median
 - Larger waiting area

Corridor, Sub-area or District Plans

- Target auto speed to context
- Target ped/bike Quality of Service
- Access Management
- Intersection details
- Connections
- Streetscape
- Auto and bike parking




Images: LSL Planning, Inc.

Safe Routes to School Planning

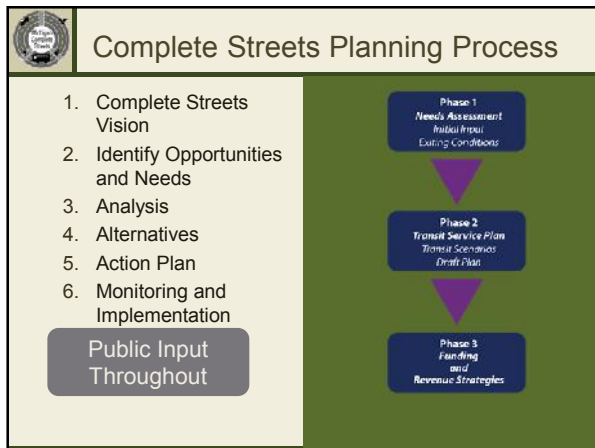


Photo: LSL Planning, Inc.

- Michigan's Safe Routes to School program is a national model
 - Website: www.saferoutesmichigan.org has many resources
- Percent Walking to School:
 - 1969: 42% walked
 - 2001: 16% walked
- Child obesity has tripled since 1980
- Solutions are physical improvements, policy and education based

20% of morning congestion is school-related

Sources: NHTSA 2003; Dept. of Environment CDC, 2005



1. Complete Streets Vision

- What is the general goal of the complete streets policy?
- What is driving the initiative:
 - Safety concerns?
 - Concern for community health?
 - Need for alternative travel options?
 - Desire to minimize environmental impacts?
 - Catalyst for economic development?

Transportation Vision
"Kalamazoo will boast an attractive transportation network that balances the needs for all users (motorists, commercial trucks, walkers, bicyclists, and transit users) with a design that fits with the character or context of particular districts."
 —from Kalamazoo Master Plan

2. Identify Opportunities and Needs

- Counts/crashes
- ROW/lane width
- Jurisdiction
- Truck routes
- Vehicle speeds
- Key pedestrian routes
- Connections to destinations
- Future development zones
- Planned infrastructure

Lansing Master Plan

Data Sources:
 Traffic data=MDOT/county/city
 Crashes=police
 Ped/Bike=usually little available

3. Analysis

- Key routes/destinations
- Degree of connectivity/gaps
- Facility conditions
- Traffic volumes vs. number of lanes
- Inappropriate speeds (over target/posted speed)
- Ped/bike crashes
- Driveway conflicts
- Intersection problems
- Ped/bike quality of service
- Major transit corridors
- Land use form/density
- Character/context

Illustration: The Greenway Collaborative, Inc.

4. Evaluation of Alternatives

- Public input
- Agree on performance measures
- Identify range of alternatives
- Use criteria to evaluate
- May have phased implementation
- SMART Objectives
 - Specific
 - Measurable
 - Achievable
 - Realistic
 - Time

A performance measure describes the desired outcome usually defined through public process:

"a 35% reduction in ped/bike crashes, or noticeable increase in walking by 2015"

"Goal is quality of service 'C' or better for pedestrians and bikes downtown"

Alternatives: One-way vs. Two-way

Existing: One-way

One-Way

- More capacity
- Fewer crashes
- Higher speed
- Complicates wayfinding

Two-way Converting

Two-Way

- Less capacity
- More crashes
- Lower speed
- Better wayfinding
- Converting expensive (signals)

Illustration: LSL Planning, Inc.

Alternatives: One-way vs. Two-way

Existing: One-way

One-way Road Diet

Two-way Conversion

One-way Road Diet

- Some benefits of both
- Lowers speed
- More room for bikes/parking/green

Illustration: LSL Planning, Inc.

Alternatives: 4 Lanes Conversion for Bike Lanes

Existing: 4 Lanes

3 Lanes

Candidates

- 4/5 lanes under 20,000 vehicles/day
- Volumes not expected to increase
- Where many driveways exist
- Where ped/bike improvements needed
- Intersection analysis is important

Results

- Little drop in capacity
- Fewer crashes
- Usually lower speed 3-5 mph
- Room for bikes or wider sidewalk

Illustration: LSL Planning, Inc.

Alternatives to 5 Lanes

Existing: 5 Lanes

4 Lanes + median

3 Lanes + bike lanes

Illustration: LSL Planning, Inc.

2 Lanes: Conversion for Bike Lanes

Existing: 14'

10' lanes + bike lanes

Candidates

- Pavement width 30'+

Results

- No increase in crashes
- Traffic speeds lower
- Room for bikes

Illustration: LSL Planning, Inc.

5. Action Plan

- Determine priorities
- Timeline
- Potential costs
- Identify funding
- Responsibility

Sample Action:

"Prioritize civic investment on those projects that do the most to support pedestrian mobility (trails, walks, bike lanes)."

—from Kalamazoo Master Plan

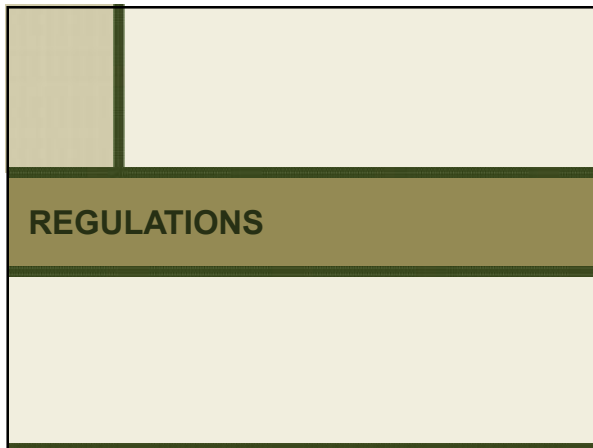
Look for opportunities to integrate with other projects

6. Monitoring Progress

- Annual report to elected body
- Track implementation
- Pre-/Post-implementation data collection
- Adjust to funding and other opportunities

TYPES OF EVALUATION CRITERIA:

- Miles of New Non-motorized
- Quality of Service (for all modes)
- Crash Rates
- Traffic Volumes & Congestion
- Transit Ridership
- Public Surveys



Zoning Regulations

- Building setbacks
- Promote compact, walkable site design
- Parking lot size/design
- Internal connection for peds/bikes
- Bike parking
- Landscaping
- Lighting
- Community-wide or overlay districts

Credit: Conservation Design Forum

Form-Based Codes

- Combines zoning regulations and street design in 1 code
- Defines streetscape, building : street relationship
- Regulates physical form, less focus on use

Birmingham Triangle District Code

Form-Based vs. Traditional Codes

Traditional Code

Form-Based Codes

Grandville Zoning Ordinance, LSL Planning

Transportation Connectivity

Disconnected, Separate Uses

- Overall less capacity
- More congestion
- Higher number of crashes
- Longer emergency response times*

Connected, Mixed Uses

- Overall more capacity
- Multiple options/direct travel routes
- Fewer/shorter auto trips
- 1/4 to 1/2 mile walk zones
- Generally slower speeds
- Fewer, less severe crashes
- Faster emergency response*
- Easements for future connections

Illustrations: LSL Planning, Inc.

Sources: research in 24 cities, 130,000 crashes
*City of Charlotte, NC

Traffic Impact Studies


- When to require
 - 100 new peak hour trips
 - Rezoning
 - 15% change in trips
- Trip generation/distribution
- Establish LOS standard
- Identify deficiencies
- Mitigation
 - Improvements
 - Change project

Illustration: LSL Planning, Inc.

Source: Summarized from the MDOT "Evaluating Traffic Impact Studies, A Recommended Practice"

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Transportation Traffic Impact Studies

- Evaluate all modes (autos, biking, walking, transit)
- Set minimum LOS standards for each (e.g. LOS C for pedestrians, LOS E for vehicles)
- Adjust development to mitigate impacts & improve performance
- Incentives for other modes
- Refer to new Highway Capacity Manual





Illustration: LSL Planning, Inc.

Sources: LSL Planning; ITE Site Impact Development, A Recommended Practice




Regulations vs. Incentives

Regulation:
"5 foot sidewalks are required"

Incentive:
"The amount of parking required may be reduced by the Planning Commission if bike parking is required or the operator provides a program to encourage transit use"

Offer **incentives** to improve the system per the plan

- Reduce parking required
- Accept non-motorized improvements to offset impacts
- Density bonus for improvements
- Expedite approval process
- Self-imposed



Moving Forward

1

2

3

4

5

Beginner

- Holding seminars for officials
- Soliciting public input
- Building support

Practicing

- Developing a vision
- Adopting policies and resolutions
- Plans modified or underway

Modest

- Policy in place
- Adopting ordinance
- Adopting new design standards
- Re-designing key projects

Advanced

- Ordinance & design standards in place
- Money allocated
- Actively retrofitting projects

Leader

- Represents the model community
- Presenting seminars on success
- Implementing in all projects

Where do you want to be?



Moving Forward

- Build broad support
- Audit your plan and regulations
- Consider complete streets resolution or ordinance
- Look for opportunities with upcoming capital improvements
- Talk to your road agency
- Add a Complete Streets chapter to your master plan

Photo: The Greenway Collaborative, Inc.





CSI Webinar Series


Date	Time	Topic
9/7, Wed	12-1:30	Module 1: Introduction to Complete Streets
9/9, Friday	12-1:30	Module 2: Stakeholder Engagement
9/14, Wed	12-1:30	Module 3: Influencing Policy
9/21, Wed	12-1:30	Module 4: Planning and Regulations
9/28, Wed	12-1:30	Module 5: Application and Design



Thank you!

Questions:
Holly Madill
Complete Streets Project Coordinator
MI Department of Community Health
madillh@michigan.gov
(517) 335-8372

Webinar, PDFs, Exercises:
www.greenwaycollab.com/completestreets.htm




Questions

For more information on the content of the presentation please contact:

LSL Planning, Inc.
306 S. Washington, Suite 400
Royal Oak, MI 48067
Brad Strader, AICP, PTP
strader@lsplanning.com

Photo: The Greenway Collaborative, Inc.



Thank you!