Complete Streets Policy Implementation

Leading the Way in Public Health Nutrition and Physical Activity: Blazing New Trails

Salt Lake City, Utah
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Produced by the Alabama Department of Public Health Video Communications and Distance Learning Division

Complete Streets Policy Implementation

Building a Budget-friendly Bikeway Network on Existing Roadways

Produced by the Alabama Department of Public Health Video Communications and Distance Learning Division

Faculty

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About Me

- **Association of Pedestrian and Bicycle Professionals (apbp.org)**
- **League of American Bicyclists – League Cycling Instructor #710**
- **Safe Routes to School**
- **Author of *"BikeSmart On-Bike Curriculum"***

About Me

- **Year-round bicycle commuter**
- **First bike lanes in Portland, Maine, and Montpelier, Vermont**
  - **Established in 2010: 10 lane miles**
  - **Established in 2011: 60 lane miles**

On-road Bicycle Facilities

- **Part of a "Complete Streets" approach**
  - **Bicycles, pedestrians, transit, ADA, motor vehicles**
- **Improve space/comfort for bicycling**
- **Increase motorists' awareness of bicyclists' right to the road**

On-road Bicycle Facilities

- However, not all bicyclists are comfortable with on-road facilities

On-road Bikeways vs. "Paths"

On-road bikeway

On-road Bikeways vs. "Paths"

On-road bikeway

On-road Bikeways vs. "Paths"

On-road bikeway

On-road Bikeways vs. "Paths"

Shared-use Path

On-road Bicycle Facilities

- Cost effective
  - Paint and signage
- Reprioritize existing space
- Relatively fast to implement/construct
- Maximize value and effectiveness by working with regular pavement management

Pavement Management

Mill and overlay = new asphalt

Pavement Management

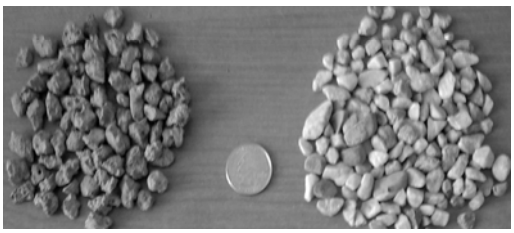
Opportunity for new striping design with any new surface

Surface Treatments

- Chip seal
- Slurry seal
- Cape seal
  - Chip + slurry

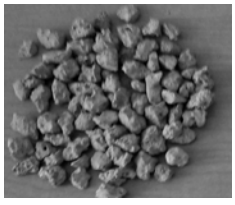
Chip Seals

- Controversial with bicyclists
- Chip quality matters!



Chip Seals

- Salt Lake County – slag
  - Provides better traction
  - Stays dark, looks like new asphalt
  - More durable
  - More expensive



Chip Seals

- Salt Lake City – stone
  - Lays flat on the road
  - Looks gray, not like new asphalt
  - Smoother for bikes
  - Less expensive

Chip Seals

Slurry Seals

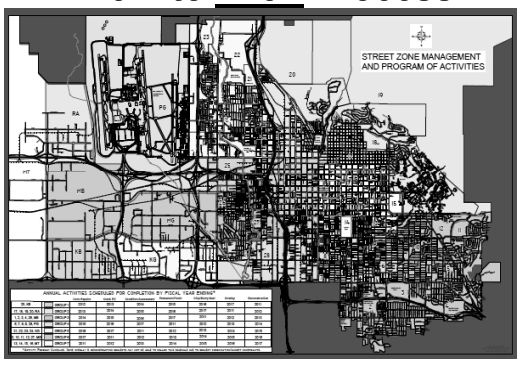
Funding Process

- **Maintenance**
  - **Chip seal, slurry seal**
    - **General fund**
    - **Manager decides**

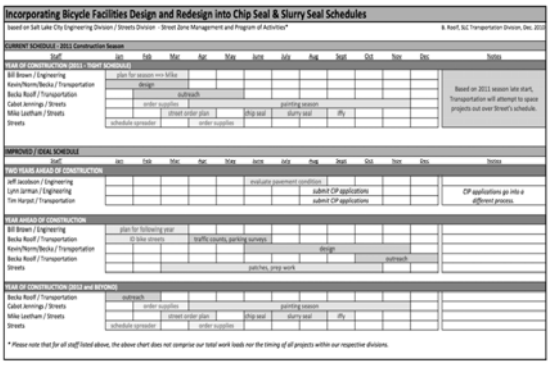
Funding Process

- **Capital costs**
  - **Overlays, reconstructions**
  - **Capital Improvement Program (CIP)**
  - **City Council decides**

Tie into Their Process



Determine Process Timing



Bikeways Cost (per Lane Mile)

- ~$40-60,000 or more as stand-alone project
  - Slurry seal to remove stripes
- $1,000-2,000 as "piggyback" project
- Make a deal to pay the "difference"
- Even small grants can help

Finding Space for Bike Lanes

- Striping and signing if there's already space
  - No parking in the bike lane!
- Reducing existing lane widths
  - Flexibility within the AASHTO green book
  - 9-10' travel lanes are possible

Finding Space for Bike Lanes

- Reduce number of lanes where volume allows

Bike Lane Basics

- Stripe defining a narrow lane (4-6')
- Pavement marking, arrow
- Sign

Bike Lane Basics

- For preferential use by bicycles
- Bicyclists are not required to use bike lanes
- * Bike lanes have been in U.S. traffic engineering manuals since at least 1988

Bike Lane Widths

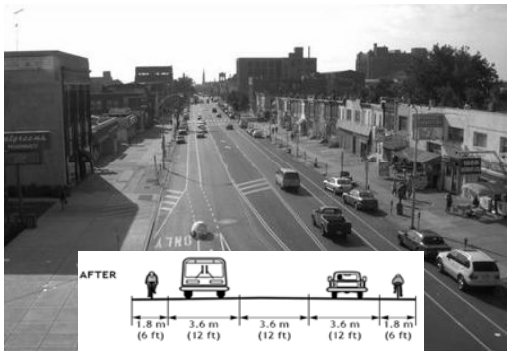
No curb or parking	4' bike lane (minimum)
Parallel parking	5-7' bike lane
Curbs and gutters	5-7' bike lane
Truck traffic	+1 foot to above

Finding Space for Bike Lanes

- Road diets
  - Safer for all modes
  - 3 lanes
    - Up to 20,000 vehicles per day

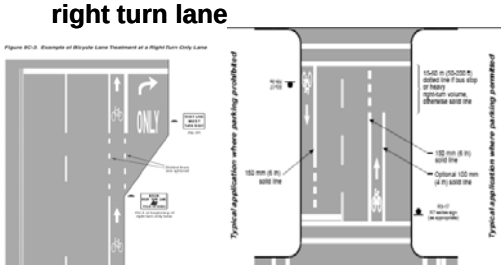
Finding Space for Bike Lanes

Finding Space for Bike Lanes



Intersections

- Continuing the bike lane
  - Bike lane must be to the left of right turn lane



Marking Shared Lanes in Intersections

- Continue the bikeway
- Improve bicyclist positioning
  - Typically help keep bicyclists further LEFT

Combined Bike/Turn Lane (Experimental)

Shared Lane Marked on Left of Right Turn Lane

Intersections

- Bicycle pavement marking for traffic signals

Intersections

- Colored pavements in conflict areas
  - Experimental
  - Green is the new color!

Shared Lane Markings

- Manual on Uniform Traffic Control Devices – December 2009
- Specifies minimum distance to curb (only)
- MANY progressive ideas for Shared Lane Markings
  - NACTO Urban Bikeways Design Guide (2011)

Shared Lane Markings

- Uphill bike lanes/downhill shared lane markings

Shared Lane Markings

Shared Lane Markings – Bikeway Gaps

Cycle Tracks: Expensive

- Improved separation from motor vehicles
- Common in:
  - Europe
  - New York City
  - Portland, Oregon
  - Montreal, Canada
- One-way-cycle tracks (safer)

Cycle Tracks: Expensive

- Two-way cycle-tracks
  - Caution with American intersections/driveways

Bicycle Boulevards

- Quiet streets with <1,500 vehicles per day up to 4,000
- Grid system
- Expensive
  - Crossing treatments

Bicycle Boulevards

Buffered Bike Lanes

- Buffered by parked cars
- Similar pros and cons to cycle tracks
  - Bicyclists hidden at intersections and driveways

Buffered Bike Lanes

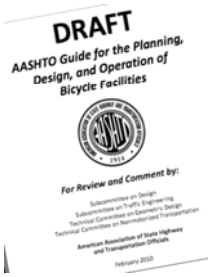
- Paint only treatments
  - Convert full lane into bike lane
    - Can be done without resurfacing

AASHTO – Bicycle Guide

- Bike lane basics
- Dated publication (1999)
- PDF on the web
- Still a good reference

AASHTO – Forthcoming Revision

- Draft released February 2010
- Final version release date unknown
- Bike boxes, contra-flow bike lanes, left-turn bike lanes, more intersection models



National Association of City Transportation Officials

- April 2011
- Progressive bikeways design guide
- Free online: www.NACTO.org
- Not all designs are recognized in the "official" U.S. manuals

MUTCD – 2009 Edition

- Shared lane markings
- Bicycle wayfaring signs
- Bicycles may use full lane sign

MUTCD – 2009 Edition

- Maintains bike lanes, bicycle signal pavement markings, etc.

Resources

- AASHTO Guide for Development of Bicycle Facilities
- Manual on Uniform Traffic Control Devices
- Streetsblog – www.streetsblog.org
- Bike Portland – bikeportland.org

Resources

- Association of Pedestrian and Bicycle Professionals
  - Webinars ($50-75)
  - Professional Development Seminars
  - Listserve

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