Designing (& Planning) for Peds & Bikes

on KYTC Roadway Projects

Troy Hearn
Brent A. Sweger, PE
This memorandum transmits the Federal Highway Administration's (FHWA) Design Guidance Language as called for by the Transportation Equity Act for the 21st Century (TEA-21), and requests a progress report on action items listed in my memorandum of February 24, 1999.

Section 1202 (b) of TEA-21 calls upon the Secretary, "in cooperation with the American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), and other interested organizations to develop guidance on the various approaches to accommodating bicycles and pedestrian travel." This process was carried out and the resulting guidance document is attached for your use. As stated in my February 24, 1999 memorandum, TEA-21 calls for the mainstreaming of bicycling and pedestrian projects into the planning, design, and operation of our Nation’s transportation system. That memorandum also transmitted the Program Guidance which explained how bicycle and pedestrian improvements can be routinely included in federally-funded transportation projects and programs. The attached Design Guidance Language furthers that process.

This new Design Guidance Language, entitled "Accommodating Bicycle and Pedestrian Travel; A Recommended Approach - A US DOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure," states that bicycling and walking facilities will be incorporated into all transportation projects unless "exceptional circumstances" exist. These "exceptional circumstances" are clearly spelled out in the document. Each division office should pass along the Design Guidance Language to the State DOTs for their use, and work with them in its implementation.

I would like to commend you for efforts you have made to date and will make in the future to ensure that bicyclists and pedestrians (including those with disabilities) receive fair consideration in decisions which affect our Nation’s transportation system. That system must be balanced, accessible, and safe for all Americans. The FHWA must take a leadership role in working with States, localities, and our other partners to make it happen.
Mr. James C. Codell, III, Secretary  
Kentucky Transportation Cabinet  
Frankfort, Kentucky

Dear Mr. Codell:

Subject: USDOT Bicycle and Pedestrian Design Guidance

Enclosed for your reference is the new “Design Guidance for Accommodating Bicycle and Pedestrian Travel: A Recommended Approach.” Because the need to improve and encourage bicycle and pedestrian travel was recognized and directed in TEA-21, FHWA developed this guidance through a national, multi-organization and interdisciplinary task force.

The Design Guidance includes both, a recommended policy approach and a list of recommended actions for State and local DOTs. The Policy Statement in this guidance includes specific criteria of when to include bicycle and pedestrian travel ways, both in urban and rural locations. The policy also recommends that bicycle and pedestrian projects be built in conjunction with highway and bridge improvements where future connections on either end of the project may occur.

As KYTC works toward completing the Kentucky Bicycle and Pedestrian Plan, we hope that you include policy provisions as recommended in the Design Guidance. We also encourage the Divisions of Design and Planning to work together to develop bicycle and pedestrian design manuals that include criteria for what facilities will be required on Kentucky’s roadway projects.
Highway project types
- Appropriate locations
- Types of facilities
- Maintenance responsibilities
Why are we doing this?

- Public demand
- Attraction of people/business
- Transportation
- Quality of life
- Health
- Demographic change
The Project Development Team (PDT) will consider incorporating pedestrian or bicycle facilities on all new or reconstructed roadways in existing and planned urban and suburban areas if the roadway project involves one or more of the following factors:
Highway Project Types

- New roadways
- Reconstructed roadways
- Resurfacing
The roadway is being widened; what else needs to be done?

Project decision should be based on both P&N plus community goals.
The Missing Link:

KYTC Policy

Local Ped & Bike Plan

Project Team Decision on Facility Type
The Local Plan

- Shows the Community Vision for the next 20 to 50 years
- Shows connectivity of ped & bike facilities to current and future land uses
- Can be developed in several ways

KYTC Bike Walk webpage ➔ Statewide Information
The Users
Pedestrian Facility Types

Shared-Use Path

Wide Sidewalks

Standard 5’ Sidewalks

Shoulders
Ped Facility Design Elements
<table>
<thead>
<tr>
<th><strong>Urban Areas</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Standard Default</strong></td>
<td>5’ sidewalks with 2’ (minimum) buffer strip on both sides of the roadway</td>
</tr>
<tr>
<td><strong>Other Options</strong></td>
<td>10’ or wider sidewalks in heavily traveled pedestrian areas</td>
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<tr>
<td></td>
<td>10’ or wider shared use path (two-way directional travel)</td>
</tr>
<tr>
<td></td>
<td>Shoulders (for rural cross-section in urban areas): minimum width based on KYTC policy as stated in <strong>HD-700, “Geometric Design Guidelines”</strong></td>
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<td>10’ shared use path with 5’ sidewalk on opposite side</td>
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<th><strong>Rural Areas</strong></th>
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Bicycle Facility Types

- Bicycle Lanes
- Shoulders
- Buffered Bicycle Lanes
### RECOMMENDED BICYCLE FACILITY TYPES
#### RURAL CROSS SECTION

<table>
<thead>
<tr>
<th>POSTED SPEED LIMIT</th>
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<tr>
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<td>LESS THAN 2000</td>
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<tr>
<td>LESS THAN 30 MPH</td>
<td>12’ SL</td>
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<td>6’-SH</td>
</tr>
<tr>
<td>41 - 50 MPH</td>
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### RECOMMENDED BICYCLE FACILITY TYPES
#### URBAN CROSS SECTION (NO PARKING)

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Various Bicycle Lane Designs

Cherry Street
Between 6th and 7th Avenue
Protected bicycle lane

New two-stage left turn box
Cherry and 7th (bright green paint box)

New bicycle lane
7th Avenue Cherry to Columbia

7th Avenue
Between Columbia and Marion St
Protected bicycle lane

New bicycle lane
Marion St- 7th Ave to 8th Ave
How do you measure conditions?

- For cycling and walking, it is rarely based on volume counts.
- One way is to use the Bicycling LOS
  - It is not a measurement of delay
  - It is a measurement of safe & comfort conditions
    - ADT
    - Speed
    - Actual Crashes
    - Heavy Truck Percentages
    - Presence of paved shoulder or bicycle lane
    - Geometrics
The BLOS Standard Formula

- \[ \text{BLOS} = (\text{ADT} \times 0.25) + (\text{Speed} \times 0.25) + (\text{CACT} \times 0.25) + (\text{HV} \times 0.25) + \text{Shoulder (or BL)} \]

- 4.00-2.50 = A
- 2.49-2.00 = B
- 1.99-1.50 = C
- 1.49-1.00 = D
- 0.99 and below = E
transportation.ky.gov/bike-walk

Contacts
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