

# Designing (& Planning) for Peds & Bikes

on KYTC Roadway Projects

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# Memorandum

U.S. Department of Transportation  
Federal Highway Administration

## **Subject:** ACTION: Bicycle and Pedestrian Design Guidance Language

**From:**

Kenneth R. Wykle  
Federal Highway Administrator

**Date:** February 28, 2000

**Reply to:** HEPH-30

**To:**

Division Administrators  
Federal Lands Highway Program Engineers

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This memorandum transmits the Federal Highway Administration's (FHWA) Design Guidance Language as called for by the Transportation Equity Act for the 21<sup>st</sup> 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.



U. S. Department  
of Transportation  
Federal Highway  
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June 19, 2000

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.

# **Pedestrian & Bicycle Travel Policy**

COMMONWEALTH OF KENTUCKY  
TRANSPORTATION CABINET

JULY 2002



*Michael L. Hill, P.E.*

Director  
Division of Multimodal Programs

*James C. Codell III*

Secretary of Transportation Cabinet  
Commissioner of Highways

Distributed by the Office of Policy and Budget, Policy and Procedures Development Branch

- 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

# KYTC Policy

- 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



# Purpose & Need



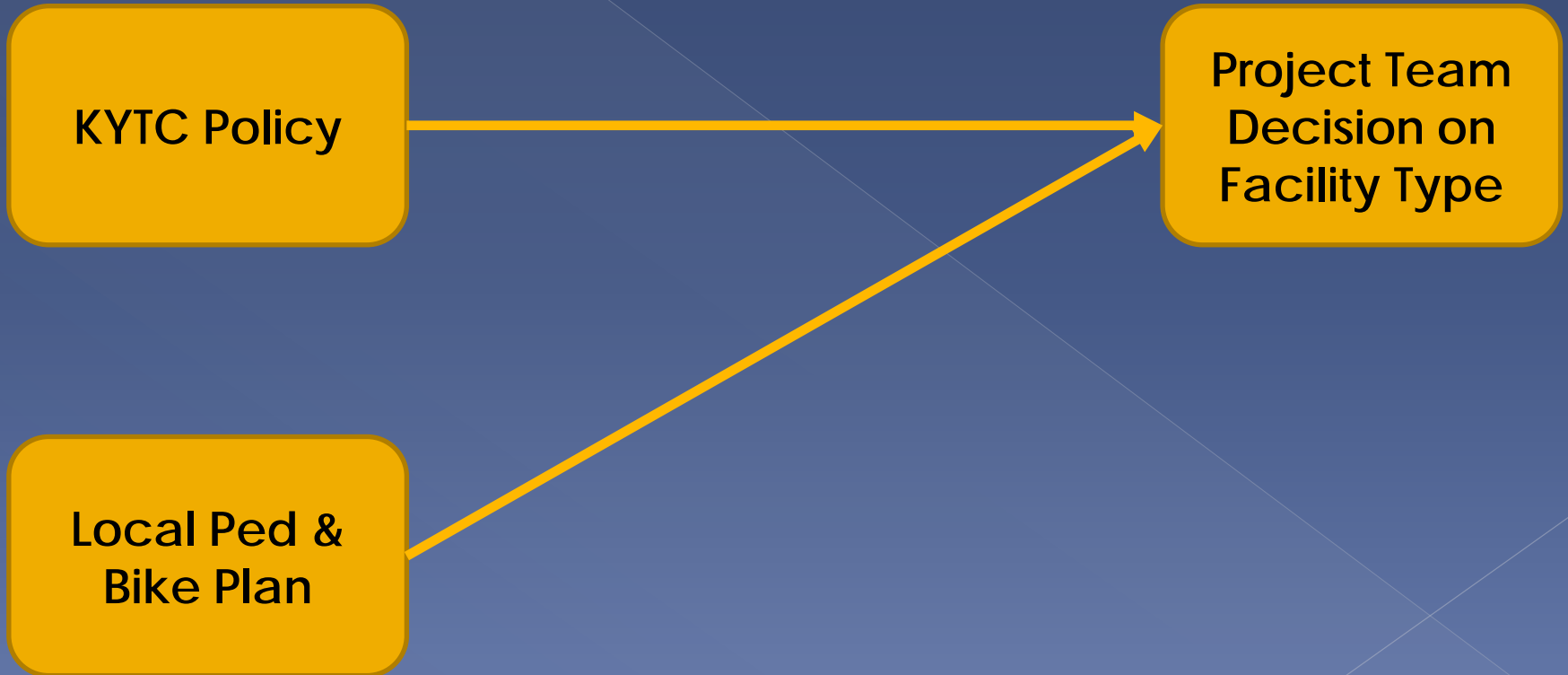
The roadway is being widened; what else needs to be done?

Project decision should be based on both P&N plus community goals





# The Missing Link:



# 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

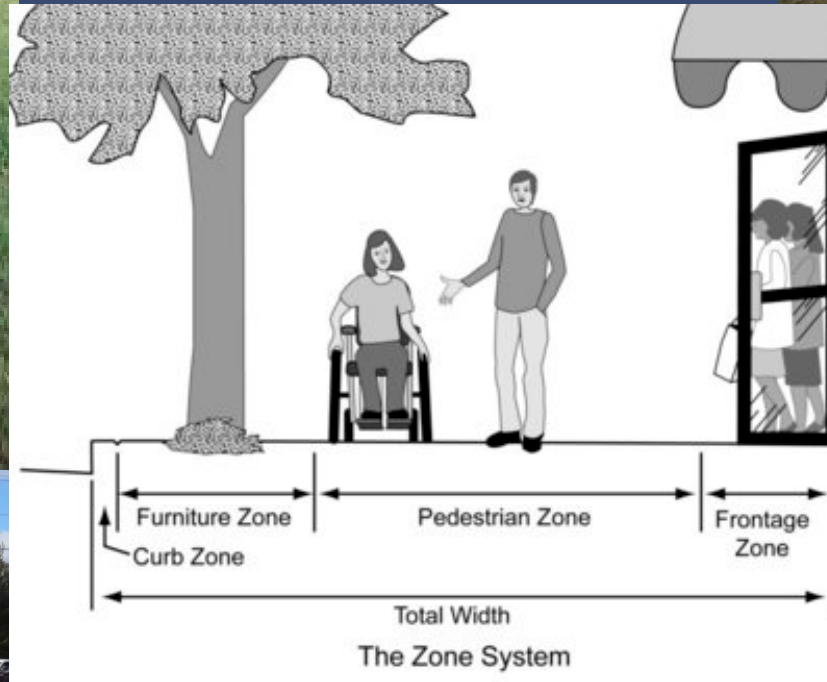
# The Users



# Pedestrian Facility Types



Shared-Use Path



Wide Sidewalks



Standard 5' Sidewalks



Shoulders

# Ped Facility Design Elements



# KYTC Design Manual

## Urban Areas

Standard Default	5' sidewalks with 2' (minimum) buffer strip on both sides of the roadway
Other Options	10' or wider sidewalks in heavily traveled pedestrian areas
	10' or wider shared use path (two-way directional travel)
	Shoulders (for rural cross-section in urban areas): minimum width based on KYTC policy as stated in <b>HD-700</b> , "Geometric Design Guidelines"
	10' shared use path with 5' sidewalk on opposite side

## Rural Areas

Standard Default	Shoulders: minimum width based on KYTC policy as stated in <i>Highway Design Manual</i> , <b>HD-700</b> , "Geometric Design Guidelines"
Other Options	10' or wider shared use path (two-way directional travel)
	5' sidewalk with 2' (minimum) buffer strip on both sides of the roadway (for urban cross-section in rural areas)

# Bicycle Facility Types



Shoulders



Bicycle Lanes



Buffered Bicycle Lanes

**Cycle Tracks**  
One-Way Protected Cycle Track with Planters and Parking Buffer

# KYTC Design Manual

## RECOMMENDED BICYCLE FACILITY TYPES RURAL CROSS SECTION

POSTED SPEED LIMIT	AVERAGE ANNUAL DAILY TRAFFIC (AADT) VOLUME (DESIGN YEAR)		
	LESS THAN 2000	2000 - 10,000	OVER 10,000
LESS THAN 30 MPH	12' SL	12' SL ①	6' SH
30 - 40 MPH	6'-SH	6'-SH	6'-SH
41 - 50 MPH	6'-SH	6'-SH	6'-SH
OVER 50 MPH	6'-SH	6'-SH	6'-SH

## RECOMMENDED BICYCLE FACILITY TYPES URBAN CROSS SECTION (NO PARKING)

POSTED SPEED LIMIT	AVERAGE ANNUAL DAILY TRAFFIC (AADT) VOLUME (DESIGN YEAR)		
	LESS THAN 2000	2000 - 10,000	OVER 10,000
LESS THAN 30 MPH	12' SL	14' WC	5' BL
30 - 40 MPH	5'-BL	5'-BL	5'-BL
41 - 50 MPH	5'-BL	6'-BL	6'-BL
OVER 50 MPH	6'-BL	6'-BL	6'-BL

## RECOMMENDED BICYCLE FACILITY TYPES URBAN CROSS SECTION (PARKING)

POSTED SPEED LIMIT	AVERAGE ANNUAL DAILY TRAFFIC (AADT) VOLUME (DESIGN YEAR)		
	LESS THAN 2000	2000 - 10,000	OVER 10,000
LESS THAN 30 MPH	14' WC	14' WC	5' BL
30 - 40 MPH	5'-BL	5'-BL	6'-BL
41 - 50 MPH	6'-BL	6'-BL	6'-BL
OVER 50 MPH	NA	NA	NA



# Various Bicycle Lane Designs



Cherry Street  
Between 6<sup>th</sup> and 7<sup>th</sup> Avenue  
Protected bicycle lane



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



New bicycle lane  
7<sup>th</sup> Avenue Cherry to Columbia



7<sup>th</sup> Avenue  
Between Columbia and Marion St  
Protected bicycle lane



New bicycle lane  
Marion St- 7<sup>th</sup> Ave to 8<sup>th</sup> 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

●  $BLOS = (ADT * .25) + (Speed * .25) + (CACT * .25) + (HV * .25) + \text{Shoulder (or BL)}$

4.00-2.50 = A

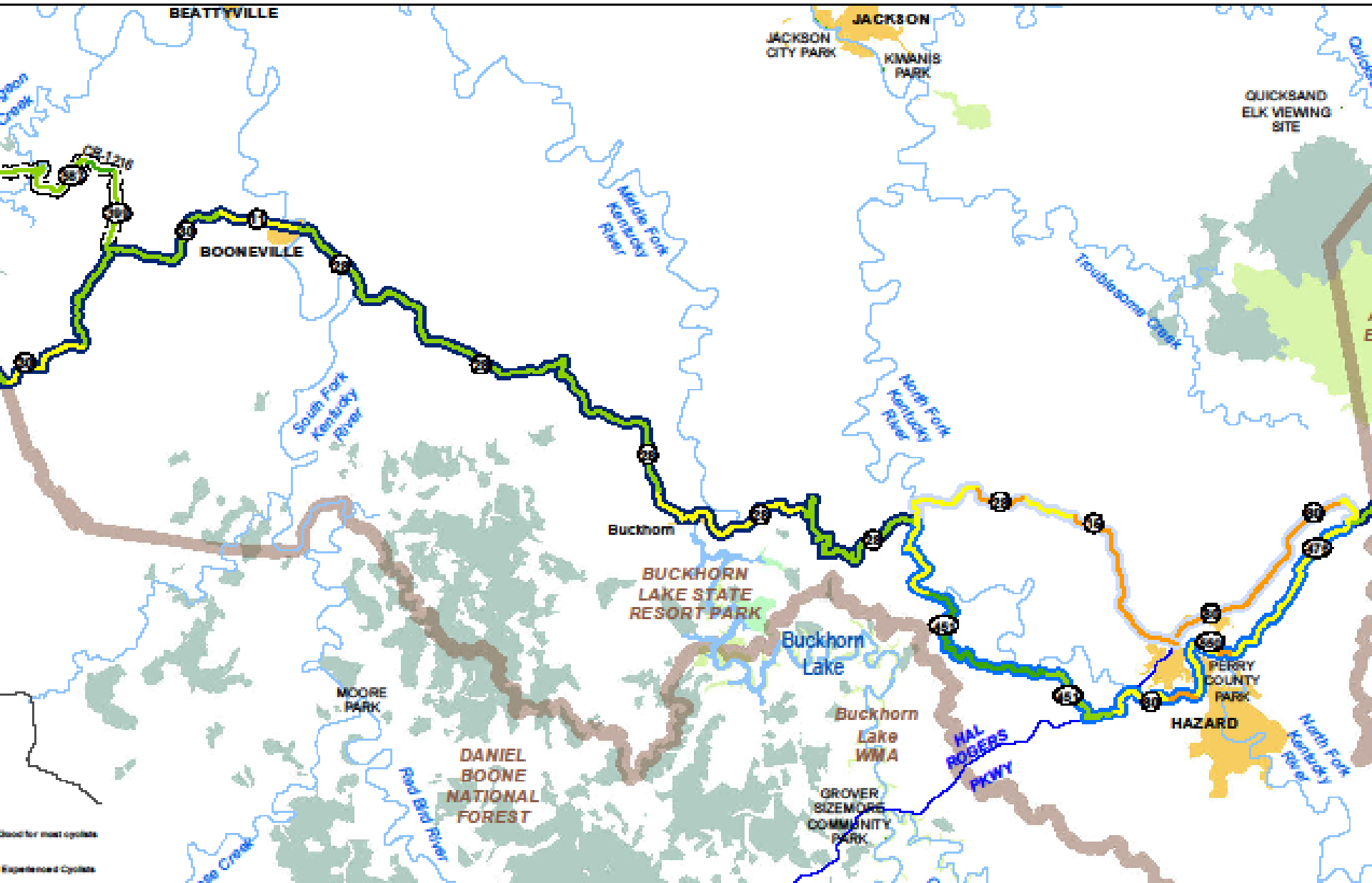
2.49-2.00 = B

1.99-1.50 = C

1.49-1.00 = D

0.99 and below = E

# US Bike Route 76 TransAmerica Trail in Kentucky, Highway District 10 Attachment A2 Level of Service





[transportation.ky.gov/bike-walk](https://transportation.ky.gov/bike-walk)

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