

CHAPTER TWENTY-EIGHT

SIDEWALKS

PEDESTRIAN POLICY GUIDELINES

SIDEWALK LOCATIONS

ROADWAY POLICY ONE

POLICY STATEMENT:

"It is the policy of the Department of Transportation to replace existing sidewalks disturbed as a result of a highway improvement. In addition, the Department of Transportation is authorized to construct new sidewalks adjacent to State highway improvement projects at the request of the municipality provided the municipality agrees to reimburse the Department of Transportation for the actual construction cost of the sidewalks. Maintenance of sidewalks will be the responsibility of the municipality."

BACKGROUND:

General Update, 3/19/99.

Pedestrian Policy Guidelines, dated October 1, 2000.

General update, 4/16/01

PURPOSE:

To provide statewide uniformity in the construction of sidewalks on roadway projects.

RESPONSIBILITY AND PROCEDURES:**EXECUTIVE SUMMARY**

These guidelines provide an updated procedure for implementing the Pedestrian Policy adopted by the Board of Transportation in August 1993 and the Board of Transportation Resolution September 8, 2000. The resolution reaffirms the Department's commitment to improving conditions for bicycling and walking, and recognizes non-motorized modes of transportation as critical elements of the local, regional, and national transportation system. The resolution encourages North Carolina cities and towns to make bicycling and pedestrian improvements an integral part of their transportation planning and programming.

The Pedestrian Policy addresses TIP projects and makes an important distinction between “considering the needs of pedestrians to avoid creating hazards to pedestrian movements” and the concept of “facilitating pedestrian movements for other reasons.”

HAZARDS

A hazard in this context is defined as a situation when pedestrian movements are physically blocked in a manner which forces pedestrians to use another mode of transportation or walk in an automobile traffic lane (parallel with the automobile traffic) to pass a barrier. The concept of “not creating a hazard” is intended to allow municipalities to have the flexibility to add pedestrian facilities as a part of the project, or in the future after the TIP project is complete. Our current standard cross sections generally do not create barriers for pedestrian movements.

PREVENTING HAZARDS

If there is evidence that a TIP project would create a hazard to existing pedestrian movements, the DOT will take the initiative to not create the hazard. However, if there is not evidence that a TIP project would create a hazard to existing pedestrian movements, the municipality will need to prove there will be pedestrian movements which will be affected within five years by the hazard created by the TIP project.

QUALIFYING THE NEED FOR PEDESTRIAN FACILITIES

Planning studies should evaluate the need for pedestrian facilities based on the degree to which the following criteria are met.

1. Local Pedestrian Policy
2. Local Government Commitment
3. Continuity and Integration
4. Location
5. Generators
6. Safety
7. Existing or Projected Pedestrian Traffic

REQUIREMENTS FOR DOT FUNDING:

REPLACING EXISTING SIDEWALKS

The DOT will pay 100% of the cost to replace an existing sidewalk which is removed to facilitate the widening of a road.

TIP INCIDENTAL PROJECTS

DEFINED: Incidental pedestrian projects are defined as TIP projects where pedestrian facilities are included as part of the roadway project.

REQUIREMENTS:

The municipality and/or county notifies the Department in writing of its desire for the Department to incorporate pedestrian facilities into project planning and design. Notification states the party's commitment to participate in the cost of the facility as well as being responsible for all maintenance and liability. Responsibilities are defined by agreement. Execution is required prior to contract let.

The municipality is responsible for evaluating the need for the facility (ie: generators, safety, continuity, integration, existing or projected traffic) and public involvement.

Written notification must be received by the **Project Final Field Inspection (FFI) date**. Notification should be sent to the Deputy Highway Administrator–Preconstruction with a copy to the Project Engineer and the Agreements Section of the Program Development Branch. Requests received after the project FFI date will be incorporated into the TIP project, if feasible, and only if the requesting party commits by agreement to pay 100% of the cost of the facility.

Due to the technical difficulty of describing justification for pedestrian facilities, the committee chose a cost sharing approach to provide cost containment for the pedestrian facilities. The DOT may share the incremental cost of constructing the pedestrian facilities if the “intent of the criteria” are met. Only improvements that have a sidewalk adjacent to it will be included in the total project construction cost. Additionally, the cost of bridges will be funded entirely by the DOT. This total project construction cost does not include the construction cost of any incidental pedestrian facilities. A cost sharing approach is used to demonstrate the Department's and the municipality's/county's commitment to pedestrian transportation (sidewalks, multi-use trails and greenways). The matching share is a sliding scale based on population as follows:

MUNICIPAL POPULATION	PARTICIPATION	
	DOT	LOCAL
> 100,000	50%	50%
50,000 to 100,000	60%	40%
10,000 to 50,000	70%	30%
< 10,000	80%	20%

Note: The cost of bridges will not be included in the shared cost of the pedestrian installation if the Department is funding the installation under provision 6 – pedestrian facilities on bridges.

FUNDING CAPS

Funding caps are no longer applicable.

INDEPENDENT PROJECTS

DEFINED: The DOT has a separate category of funds for all independent pedestrian facility projects in North Carolina where installation is unrelated to a TIP roadway project. An independent pedestrian facility project will be administered in accordance with Enhancement Program Guidelines.

RIGHT-OF-WAY

The Department will review the feasibility of including the facility in our project and will try to accommodate all requests where the Department has acquired appropriate right of way on curb and gutter sections and the facility can be installed in the current project berm width. The standard project section is a 10-ft. (3.0-meter) that accommodates a 5-ft sidewalk. In accordance with AASHTO standards, the Department will construct 5-ft sidewalks with wheelchair ramps. Betterment cost (ie: decorative pavers) will be a Municipal responsibility.

If the facility is not contained within the project berm width, the Municipality is responsible for providing the right of way and/or construction easements as well as utility relocations, at no cost to the Department. This provision is applicable to all pedestrian facilities including multi-use trails and greenways.

MAINTENANCE

Local governments will be responsible for maintaining all pedestrian facilities.

INTRODUCTION

These guidelines provide a procedure for implementing the Pedestrian Policy adopted by the Board of Transportation in August 1993 and the Board of Transportation Resolution September 8, 2000. The Pedestrian Policy addresses TIP projects and makes an important distinction between “considering the needs of pedestrians to avoid creating hazards to pedestrian movements” and the concept of “facilitating pedestrian movements for other reasons.” Consequently, these guidelines are divided into three main sections:

- 1) Considering the needs of pedestrians to avoid creating hazards.
- 2) Quantifying the need for pedestrian facilities.
- 3) Requirements for DOT funding.

CONSIDERING THE NEEDS OF PEDESTRIANS TO AVOID CREATING HAZARDS

Section “d” of the Pedestrian Policy states: *“In the planning, design and construction of TIP transportation projects, the DOT shall consider the needs of pedestrians and will not create hazards to pedestrian movements.”* This means that during each phase of a project, a DOT employee should consider how the project will affect pedestrian movements. If the project will create a hazard to pedestrian movement, the DOT should use engineering judgment and find a way to remove the hazard. A hazard in this context is defined as a situation when pedestrian movements are physically blocked in a manner which forces pedestrians to use another mode of transportation, or walk in an automobile traffic lane (parallel with the automobile traffic) to pass as a barrier.

This does not mean that the DOT should build pedestrian facilities on all TIP projects. However, it does mean that the DOT should consider how projects will affect pedestrians and how projects can be designed to accommodate vehicular demands without creating barriers to pedestrians. Hazards can be divided into two categories, lateral barriers and perpendicular barriers. Lateral barriers prevent pedestrians from traveling parallel to the roadway. Perpendicular barriers prevent pedestrians from crossing a roadway.

The concept of “not creating a hazard” is intended to allow municipalities to have the flexibility to add pedestrian facilities as part of the project or in the future after the TIP

project is complete. Because bridges are so expensive and because they often have useful lives over fifty years, bridges should be given special consideration when pedestrian travel is anticipated.

BRIDGES

Current standard cross sections generally do not create barriers for pedestrian movements. For bridges on streets with shoulder approaches, a minimum shoulder may be sufficient to “not create a hazard for pedestrian movements” over or under the bridge. For bridges on streets with curb and gutter approaches, the Department will fund and construct sidewalks on both sides of the bridge facility if the bridge is less than 200 feet in length. If the bridge is greater than 200 feet in length, the Department will fund and construct a sidewalk on one side of the bridge structure. The bridge will also be studied to determine the costs and benefits of constructing sidewalks on both sides of the structure. If in the judgement of the Department, sidewalks on both sides are justified, then they will be funded and constructed. For dual bridges less than 200 feet in length with a curb and gutter approach, sidewalks will be constructed on the outside of each bridge structure. If the dual bridges are greater than 200 feet in length, then a sidewalk on the outside of one bridge will automatically be funded and constructed. The bridges will also be studied to determine the costs and benefits of constructing sidewalks on the outside of both bridges and if the judgements of the Department, sidewalks on both bridges are justified, then they will be funded and constructed.

SHOULDER CROSS SECTIONS

Currently, there is no typical cross section for a rural road with a shoulder, and a pedestrian facility which is outside the ditch. However, when a rural road with a shoulder section has a pedestrian facility outside of the ditch, the ditch will not be considered a perpendicular barrier. Similarly, as long as there is some space where pedestrians can walk which is not in an automobile travel lane, the ditch will not be considered a lateral barrier either.

WIDENING PROJECTS

If a TIP project widens a road from 2 lanes to 5 lanes, the new 5-lane road is not considered a perpendicular barrier. Similarly, as long as there is some space where pedestrian can walk which is not in an automobile travel lane, the new 5-lane road is not considered a lateral barrier either.

RELOCATING PEDESTRIAN MOVEMENTS

This policy is not intended to require a pedestrian bridge or tunnel at interchanges where sidewalks and crosswalks are not practical. In these cases, the DOT may consider relocating the pedestrian movement to avoid creating unsafe situations or making

unpracticed design modifications. Typically, relocated pedestrian movements should be no more than 800 meters (0.5 miles) away from the original path of the pedestrians. The 800 meter distance is a one way distance, not a round trip distance.

CONSTRUCTION PROCESS

During the construction phase of a project, there may be times when it is not possible to maintain all pedestrian movements through the entire construction process. When necessary, there may be temporary barriers to pedestrian movements in the work zone.

EXAMPLE

For example, the “XYZ” Expressway is a new controlled-access freeway through an established urban area. A major thoroughfare with sidewalks which will have a new interchange with the Expressway, connects a neighborhood on the north side of the Expressway with a hospital on the south side of the Expressway. Because the proposed interchange for the major thoroughfare is a Single-Point-Diamond design with free-flowing ramps in all four quadrants, there is no safe way for a pedestrian to cross the Expressway without conflicting with free-flowing traffic. Although there is a nearby railroad bridge over the Expressway, pedestrians are prohibited from that bridge because it was not designed to accommodate both trains and pedestrians. Consequently, residents who live in a neighborhood a few blocks from the hospital will now need to drive to the hospital or walk through a free-flowing traffic lane.

In this example the design engineer should make every reasonable effort to design this interchange to accommodate the automobile traffic, and not create a barrier for pedestrian movements. If the interchange design requires free-flow ramps as this Single-Point-Diamond design does, the engineer should determine if it is possible for pedestrians to cross the free-flow traffic lanes. If the peak hour traffic flow has acceptable gaps to allow pedestrians to cross safely, the ramps will not be considered a barrier. However, if traffic volumes or pedestrian volumes are too great, an alternative pedestrian facility should be considered. If accommodating pedestrians at the interchange will compromise safety or good engineering judgment, the engineer should consider if shifting the pedestrian movement away from the interchange is a feasible alternative.

QUANTIFYING THE NEED FOR PEDESTRIAN FACILITIES

Section “e” of the Pedestrian Policy states: *“The Department recognizes there are certain situations in which pedestrian facilities provide significant benefits in the movement of pedestrian traffic...”*. If a municipality would like the DOT to consider a project for “significant benefits,” the municipality is responsible for collecting any necessary information and submitting a written request prior to the initiation of a planning study. The

DOT will review the request and, if necessary, verify the data from the municipality. If pedestrian facilities are not incorporated into a project during the planning phase, and if there are significant factors which change during the time between the project planning study and the project design phase, municipalities may resubmit a request for pedestrian facilities prior to or at the post hearing meeting for the Design Public Hearing or Combined Hearing (whichever is applicable). The costs of sidewalks added to a project after the post hearing meeting for the Design Public Hearing or Combined Hearing will be the responsibility of the municipality. The Manager of the Programming and TIP Branch may allow DOT participation and sidewalk construction cost after the post hearing meeting if there is sufficient justification.

Planning studies should evaluate the need for pedestrian facilities based on the degree which allow the following seven criteria to be met. Municipalities should address each of these criteria when submitting requests for pedestrian facilities. Subsequently, the DOT will make the final determination for pedestrian facility eligibility.

1. Local Pedestrian Policy. There is evidence that local policies on urban development are encouraging urban densities and residential developments to occur in a manner to facilitate pedestrian travel by reducing walking distances, and requiring sidewalk construction in development ordinances.

- Is a pedestrian plan included in local thoroughfare plan?
- Do subdivision ordinances require pedestrian facility construction?
- Do local zoning ordinances facilitate pedestrian travel?
(For example, do the zoning ordinances encourage mixed-use developments which are accessible to pedestrians or do the zoning ordinances encourage highway strip development which is not accessible to pedestrians?)

2. Local Government or Local Sponsor Commitment. There is a local government/sponsor plan and commitment to provide an integrated system of pedestrian facilities which will connect with pedestrian facilities provided by the project.

- Does the local Capital Improvement Program include local funds for providing pedestrian facilities which will connect with pedestrian facilities provided by the NC TIP project?
- How many pedestrian facilities currently connect with the pedestrian facilities provided by the project?
- How many subdivisions have provided pedestrian facilities which are or will be connected with pedestrian facilities provided by the project?
- Has a responsible local government agency agreed in writing to maintain the

pedestrian facility?

3. **Continuity and Integration.** The project provides a connection to an existing or a proposed pedestrian network and will provide a critical link in the network.

- Is the project a critical link in an existing network?
(For example, will this project provide a missing link in an existing network where there are pedestrian facilities extending beyond the length of this project?)
- Is the project a critical link in a proposed network?
(For example, will this project provide any link in a proposed network where there will be pedestrian facilities extending beyond the length of this project?)

4. **Location.** The project is located within a Census defined urban area or growth area where development is anticipated in the immediate future; a majority of the properties within walking distance of the project are developed, or projected to be developed within 5 years at urban type residential densities. This five year period will begin at the completion of the appropriate environmental document.

- Is the project located in a Census defined urban area?
- Is the project located in a growth area (Urbanized Area Boundary) where development is anticipated in the immediate future, but is not in a Census defined urban area?
- Are a majority of the properties within walking distance of the project developed, or projected to be developed within 5 years at urban type residential densities (a minimum of 1 dwelling unit per acre)?

5. **Generators.** The project serves as a primary access from one or more of the following to another:

- -day care, elementary or secondary school
- -college or university
- -community facility (such as a library or park)
- -public transportation
- -commercial, office, industry, or business centers
- -residential areas
- -Will any of these land-uses within two kilometers (1.2 miles) of the project use this project as a primary access?

6. **Safety.** The project provides demonstrable safety benefits for pedestrians.

- Will the pedestrian facility separate pedestrians from automobile traffic with a posted speed greater than 80 kilometers per hour (50 miles per hour)?
- Will the pedestrian facility be used by children (0-14), elderly (65+), handicapped, or low-income people?
- Will the pedestrian facility reduce potential pedestrian-vehicle conflicts?
- Will the pedestrian facility reduce potential identified safety needs of the area?

7. **Existing or Projected Traffic.** Continued, sustained pedestrian travel can be shown by any of the following:

- Evidence of existing usage such as well worn paths.
- Projected usage based on previous experience with similar facilities.
- Minimum of 150 pedestrians per 24 hour period along a corridor planned for the project.

REQUIREMENTS FOR DOT FUNDING

REPLACING EXISTING SIDEWALKS

Section “b” of the Pedestrian Policy states: *“When a highway construction project having to do with the widening of an existing street requires that an existing sidewalk be torn up to make room for the widening, it is the policy of the Department of Transportation to replace the sidewalk.”* This statement says the DOT will pay 100% of the cost to replace an existing sidewalk which is removed to make room for a widening project. There is no monetary cap for this category of funding pedestrian facilities.

PREVENTING HAZARDS

Section “d” of the Pedestrian Policy states: *“In the planning, design, and construction of TIP transportation projects, the DOT shall consider the needs of pedestrians and will not create hazards to pedestrian movements.”* If there is evidence that a TIP project would create a hazard to existing pedestrian movements, the DOT will take the initiative to not create the hazard. However, if there is evidence that a TIP project would create a hazard to existing pedestrian movements, the municipality will need to prove there will be pedestrian movements which will be affected within five years by the hazard created by the TIP project. The five year period will begin at the completion of the appropriate environmental document (Categorical Exclusion, Finding of No Significant Impact, or Environmental Impact Statement).

CERTAIN SITUATIONS

Section “e” of the Pedestrian Policy states: *“The Department recognizes there are certain situations in which pedestrian facilities provide significant benefits in the movement of pedestrian traffic. The Department of Transportation may participate in the provision of these facilities on a full or shared-cost basis.”* This statement says the DOT may participate in funding incidental projects, and independent projects as described below.

INCIDENTAL PROJECTS

Incidental pedestrian projects are defined as TIP projects where pedestrian facilities are included as part of the project. The DOT may share the incremental cost of constructing the pedestrian facilities if the “intent of the criteria” are met, and the request for DOT participation is made prior to or at the post hearing meeting for the Design Public Hearing. Only improvements that have a sidewalk adjacent to it will be included in the total project construction cost. Additionally, the cost of bridges will not be included in the total project construction cost since the provision of pedestrian facilities on bridges will be funded entirely by the DOT. This total project construction cost does not include the construction cost of any incidental pedestrian facilities. The matching share is a sliding scale based on population as follows:

MUNICIPAL POPULATION	PARTICIPATION	
	DOT	LOCAL
> 100,000	50%	50%
50,000 to 100,000	60%	40%
10,000 to 50,000	70%	30%
< 10,000	80%	20%

The local government share of the pedestrian facility construction funding may not be Federal or State money for the purposed of these guidelines. In addition, the right-of-way municipalities provided for pedestrian projects may not be counted toward the required local contribution.

EXAMPLE

A 10 mile project proposes to widen an existing two lane road to a five lane curb and gutter roadway. Four miles of the project is within the city limits and there are no existing sidewalks. The city requests that sidewalk be included on one side on 2 miles of the project that falls within the city boundaries. The DOT concurs that the sidewalk is warranted and it added to the project. The city population is 75,000.

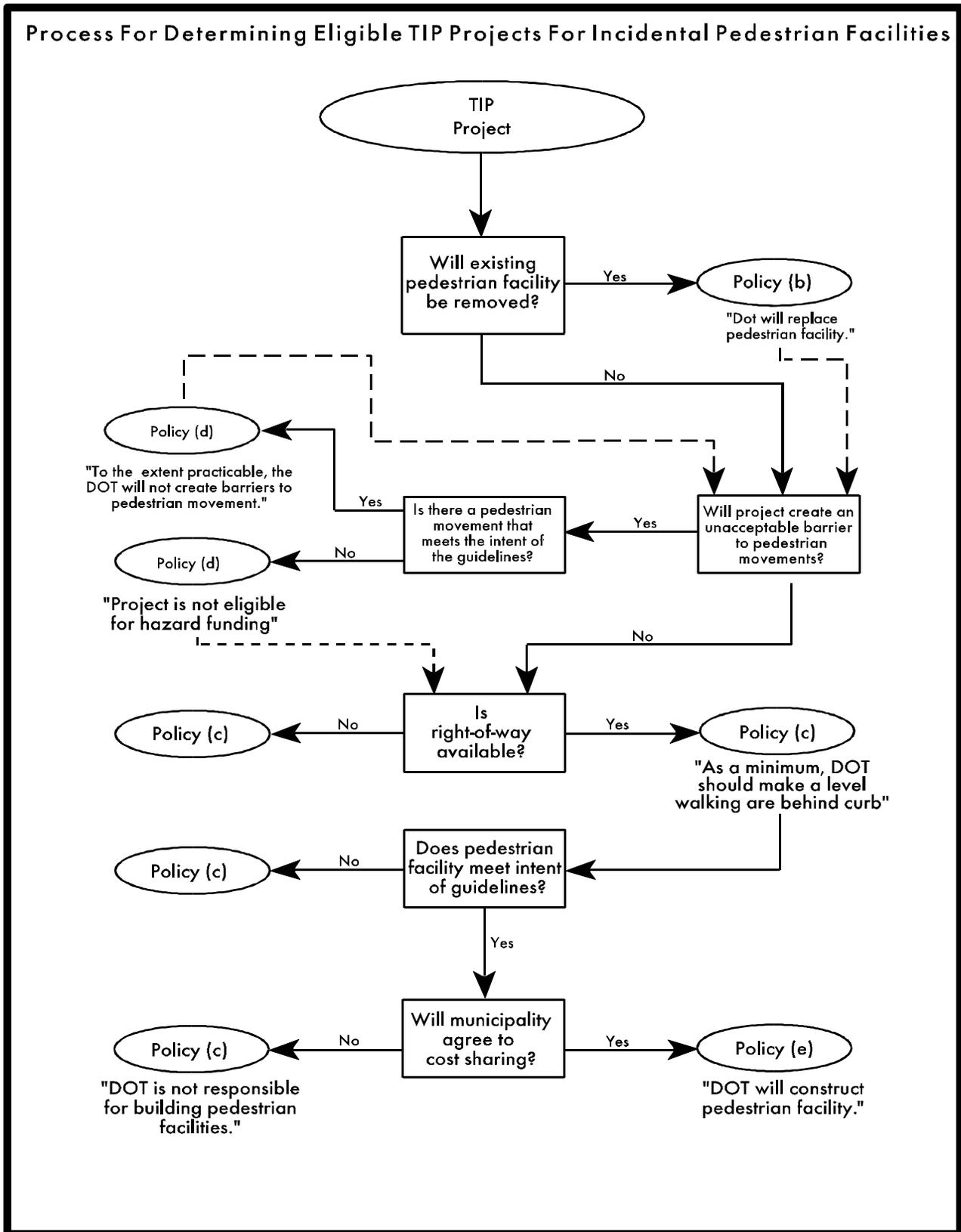
To determine the contribution by the DOT and by the city, the “total project construction cost”, for purposes of determining participation, must be calculated. Costs are included only if the construction occurs within municipal boundaries and a requested sidewalk is adjacent to the roadway. Additionally, the cost of bridges is excluded from the cost. Therefore, the “total project construction cost” will be the cost of improvements for 2 miles of the project. DOT estimates that it will cost \$5 million to construct the 2 miles of improvements, not including the cost of the sidewalks or bridges. It is estimated that the sidewalk will cost \$170,000 to construct. DOT’s share would be 60% of \$170,000 or \$102,000. The city’s share would be \$68,000.

INDEPENDENT PROJECTS

Independent pedestrian projects are defined as projects where pedestrian facilities are the entire project. The DOT will have a separate category of money for all independent pedestrian facility projects in North Carolina. The independent pedestrian facility funds will be administered similar to the Bicycle Program. Municipalities will prioritize their requests under the enhancements section of the local request list, and the DOT will fund as many projects as funding will allow.

GENERAL INFORMATION

The attached flow chart illustrates the decision process for a project engineer. In addition, the funding caps, right-of-way and maintenance requirements described below must also be met.



FUNDING CAPS

Funding caps are no longer applicable.

RIGHT-OF-WAY

In general, municipalities are responsible for providing any right-of-way needed to construct pedestrian facilities. The DOT will allow pedestrian facilities on DOT right-of-way only if the pedestrian facility will not compromise the safety of vehicles or pedestrians. For preventing hazards, the DOT may buy the necessary right-of-way. For incidental and independent projects the DOT shall not pay extra right-of-way cost for pedestrian facilities.

Since the DOT's typical curb and gutter cross-section generally has a 3.0 meter (10 foot) berm, a 1.5 meter (5 foot) pedestrian facility may fit within this standard right-of-way.

Applicable AASHTO standards for right-of-way and design must be met. The DOT will not narrow automobile travel lanes to accommodate incidental pedestrian facilities. For example, if a project specifies five 3.6 meter (12 foot) lanes on a section of road, the DOT will not reduce the width of the travel lanes to 3.0 meters (10 feet) to create room for pedestrian facilities. In addition, if right-of-way is restricted, and there is insufficient room for pedestrian facilities and a utility strip, the utility strip will take precedence.

Applicable Federal and State regulations must also be met. For example, if right-of-way for a particular project is restricted by historic property, federal regulations on historic preservation may prohibit the DOT from using additional right-of-way for pedestrian facilities.

MAINTENANCE

Local governments are responsible for maintaining all pedestrian facilities. The Municipal Agreement will formally specify that the DOT is not responsible for maintaining pedestrian facilities.

APPENDIX

POLICY ADOPTED BY THE NC BOARD OF TRANSPORTATION

**.0406 CONSTRUCTION AND MAINTENANCE OF SIDEWALKS AND OTHER
PEDESTRIAN FACILITIES**

- a) It is the policy of the Board of Transportation that highway funds are for the purpose of constructing and improving streets and highways for the movement of people and goods. Generally, within municipalities, the construction of a sidewalk on a state highway system street is considered a municipal responsibility.
- b) When a highway construction project having to do with the widening of an existing street requires that an existing sidewalk be torn up to make room for the widening, it is the policy of the Department of Transportation to replace the sidewalk.
- c) For construction and widening projects where sidewalks do not already exist, it is the policy of the Department of Transportation that it will not participate in the construction of sidewalks except as in subsections (d) and (e). If adequate right of way is available, the Department of Transportation will grade out a level walking area back of the curb in the utility strip. The municipality may, at its own discretion, construct sidewalks. If the municipality desires sidewalks as a part of the construction project, they will be constructed and the city will reimburse the Department of Transportation for the cost of the sidewalks by appropriate municipal agreement.
- d) In the planning, design, and construction of TIP transportation projects, the Department of Transportation shall consider the needs of pedestrians and will not create hazards to pedestrian movements.
- e) The Department recognizes there are certain situations in which pedestrian facilities provide significant benefits in the movement of pedestrian traffic. The Department of Transportation may participate in the provision of these facilities on a full or shared cost basis.