



pennsylvania

DEPARTMENT OF TRANSPORTATION

Identifying Impediments and Solutions to Sidewalk Project Implementation in Pennsylvania

FINAL REPORT

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**Identifying Impediments and Solutions to Sidewalk Project Implementation in
Pennsylvania**

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16. Abstract The purpose of this research project was to evaluate the implementation issues of sidewalk projects that are funded through various federal programs administrated by the Pennsylvania Department of Transportation (PennDOT). This evaluation has identified specific problems through a review of past and current projects in the Safe Routes to School (SRTS), Transportation Enhancements (TE), Pennsylvania Community Transportation Initiative (PCTI) programs and the Transportation Alternatives Program (TAP) as well as surveys of other departments of transportation and case studies. Recommendations to address identified implementation issues to assist PennDOT and project sponsors with completion of sidewalks projects were made in the areas of project programming and funding applications; project implementation process improvements; and state and local government coordination.			
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Introduction

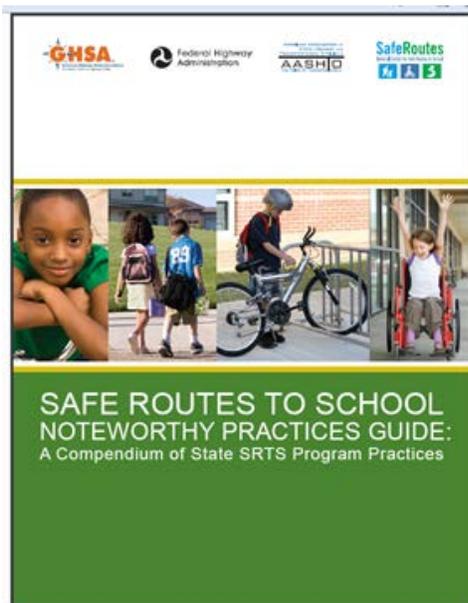
The purpose of this research project was to evaluate the implementation issues of sidewalk projects that are funded through various federal programs administrated by the Pennsylvania Department of Transportation (PennDOT). This evaluation has identified specific problems through a review of past and current projects in the Safe Routes to School (SRTS), Transportation Enhancements (TE), Pennsylvania Community Transportation Initiative (PCTI) programs and the Transportation Alternatives Program (TAP). Projects selected included those that were planned sidewalk installations but were not successful or were significantly delayed in the implementation of the project.

Once implementation issues were established by the researchers, the University of Pittsburgh (University) identified if and how other states have avoided or mitigated implementation issues. Additionally, SRTS, TE, PCTI and TAP projects successfully implemented in Pennsylvania were evaluated for best practices. The final outcome of this project was the recommendations to address identified implementation issues to assist PennDOT and project sponsors with completion of TAP sidewalk projects.

These research goals were accomplished by performing the following tasks:

- Literature Research on the Topic
- Conducting and Summarizing Surveys and Project Case Studies
- Review of Governing Laws in Pennsylvania
- Development of Recommendations

The following is a summary of how these tasks were performed and the final outcome recommendations of the research effort.



Literature Research Summary

The research effort began with a literature review to determine the current state of sidewalk project implementation research and policies that use federally funded programs intended to promote non-motorized facilities, including sidewalk construction. The researchers began their work by exploring current PennDOT programming and design policies with respect to sidewalk projects. The literature review was then expanded to establish current national research and other Departments of Transportation (DOTs) or city policies on sidewalk project implementation. This effort provided a baseline of both current Pennsylvania and United States research and policies in this area.

I. Current PennDOT Funding Programs

State and federally-funded sidewalk projects are designed and constructed as both stand-alone projects, that only construct sidewalks using specific funding programs, and in combination with other projects types, such as a highway or bridge. In either case, sidewalks are designed in accordance with the current PennDOT design manuals in Pennsylvania.



II. PennDOT Design Guidance and Implementation Process

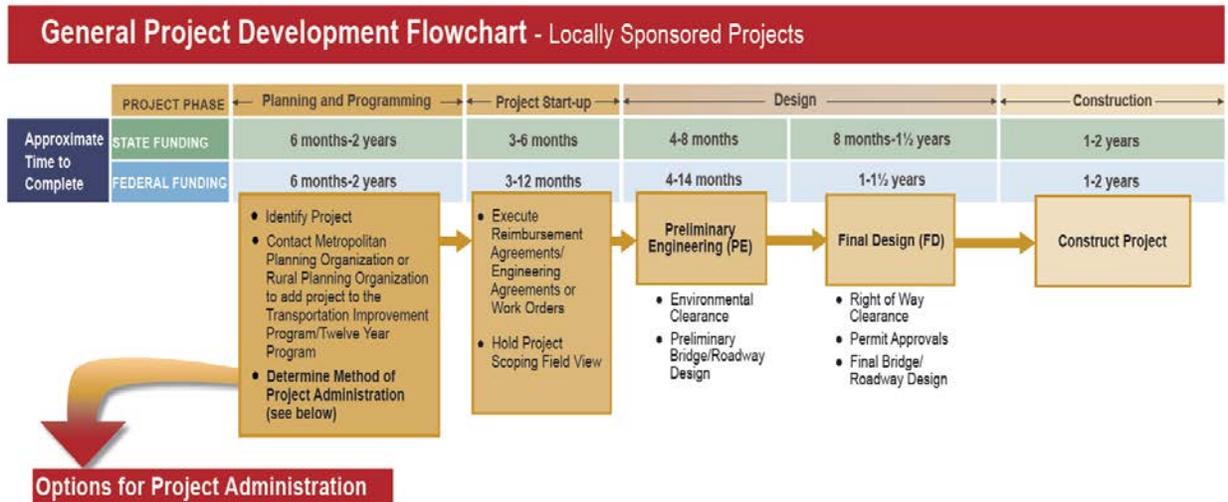
There is extensive guidance in terms of programs for funding, design and construction of sidewalks in Pennsylvania through published design guides and policies. There are also policies directing when and where to consider construction of sidewalks in Pennsylvania.

Related to the design and installation of sidewalk facilities, PennDOT Publication 13M, Design Manual 2 [PennDOT 2015] provides several chapters which set the criteria for sidewalk design. Based on the type of facility being proposed and the surrounding land use, PennDOT provides recommended sidewalk widths for a wide variety of roadway typologies and settings.

Within the PennDOT project development process, several steps tie into the decision making regarding sidewalks. These key steps occur throughout the planning, programming, and design phases of projects, both when sidewalks are individual projects and as part of roadway and bridge projects. A description of the process and key steps are shown in Figure 1 from PennDOT publication 740.

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Figure 1
General Project Development Flowchart



The programming, planning and design of sidewalks in Pennsylvania is addressed in the PennDOT design manuals. The process may vary significantly depending upon whether the sidewalk is being installed as part of a smaller project, intended to address pedestrian needs, or part of a larger more complex project than involves significant highway or bridge construction.

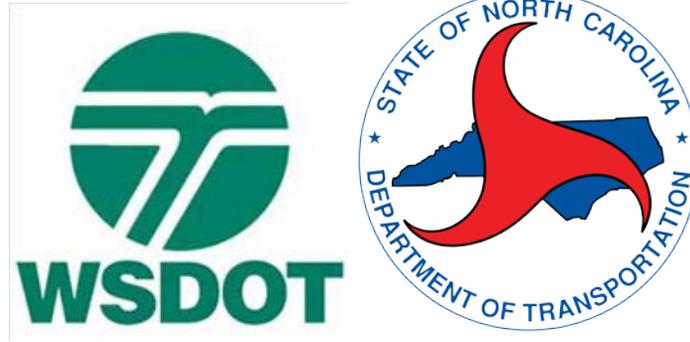
The principles for sidewalk development are the same as any other design feature, per the PennDOT procedures. The need, design and costs must be addressed during various steps in the process. Public involvement is also a critical step during which needs may be discussed. The manuals do not identify any specific design or process problem that should be considered during the implementation of sidewalk projects.

III. Current Research and other Jurisdictions' Practices, Programs, and Policies

A literature review was performed that identified current research on sidewalk implementation practices of other states and cities. The review did not identify any relevant information on implementation issues, but primarily yielded maintenance policies. Much of the current research on sidewalks relates to the selection of appropriate locations for construction. Program experience in Pennsylvania and other states was also examined. This evaluation of policies from states, cities, and nationwide organizations and other research has yielded some data on current policies relative to selection and maintenance of sidewalks.

The states of Washington and North Carolina were identified as having maintenance and construction policies that address the issue of coordination with local governments. These two state policies were examined in more detail and are summarized below. Local government coordination was identified early in the research project because of Pennsylvania laws that require local governments to maintain sidewalks along State highways.





Guidelines have been developed by the Washington State Department of Transportation (WSDOT) to allocate maintenance responsibilities between the states and cities when city streets function as State highways. Based on the guidelines, the basic cost, including replacement, is the responsibility of the State. The Washington cities have responsibility for any cost in addition to the state basic costs, and for snow and ice removal within their jurisdiction [WSDOT, 2013].

In North Carolina, the sidewalk construction, maintenance and financial responsibilities within the right-of-way of a state highway system street are borne by the municipality [NCDOT, 2001].

When sidewalks are replaced because of a State highway improvement project (e.g. the widening of a road), the DOT is responsible for the cost to replace an existing sidewalk. The municipality will be responsible for maintenance of sidewalks. In practice, a municipality may agree to share with the DOT the construction cost of the new sidewalks adjacent to a highway improvement. The matching share is based on the municipal population as shown in Table 1.

Table 1
North Carolina DOT Funding Participation Requirements
Construction of New Sidewalks on State Highways

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%

IV. Summary

The literature review identified the current PennDOT process used to fund and design sidewalks in Pennsylvania. No specific impediments were noted in this review. Other state DOT and local government policies were reviewed and some limited information was identified on how maintenance responsibility might be shared by state and local governments for sidewalks. This review concluded that additional information was needed, which was gathered through surveys of PennDOT, local municipalities in Pennsylvania and other DOTs to identify specific implementation issues and methods of resolution. Also, case studies were conducted to gather additional information on sidewalk funding, design, construction, ownership, and maintenance.

Current Practice Identified through Surveys and Case Studies

Three surveys were conducted using a web-based survey method to identify implementation issues, policies and methods of resolution for project delivery issues. The surveys were distributed to:

- PennDOT Districts
- Other State DOT Bike/Ped Coordinators
- Municipalities in Pennsylvania

PennDOT provided the contact lists for the PennDOT District survey. The researchers developed a list of other state bicycle and pedestrian coordinators for the DOT Survey. The researchers and PennDOT worked with the local government organizations in Pennsylvania to conduct the survey through their member organizations.

The surveys were distributed through email and follow up requests made twice after the initial request. The PennDOT District survey asked respondents to identify any sidewalk projects that were either delayed or stopped that could be used for case studies. The survey period was followed by a summarization and report period.

The following summarizes and analyzes the survey results to identify underlying issues on sidewalk implementation from the perspectives of PennDOT, Pennsylvania municipalities and other state DOTs.

I. Method of Surveys

The three web-based surveys were distributed for responses. The initial distribution occurred on 10/23/15 for the state DOT and PennDOT District surveys. The request to distribute the survey to the municipal organizations was sent on 10/26/15. All surveys were active until 12/4/15. The following paragraphs provide a summary of the completed surveys and how the results were summarized.



II. Survey Responses

Each of the surveys was structured to evaluate responses based upon specific screening questions. This section provides a summary of how the results were summarized. The response content is provided in the following sections of this report.

1. Survey Structure

The PennDOT District survey had screening questions that identified the respondent's position, their involvement with sidewalk projects, and the source of funding that was used to construct those projects. The problem identification question asked about specific issues that caused delay, cancellation or added

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additional cost to a sidewalk project. The responses were divided into projects with issues related to delay/cancellation and projects with inaccurate cost estimates. This division was necessary because the causation factors and proposed solutions were likely to vary, based upon the issue encountered.

The DOT survey was structured to categorize challenges that have been experienced in other states, share knowledge and solutions that have been in practice, and develop the future recommendations of the project. The responses were categorized by those states that require local governments to own and maintain sidewalks along State highways (like Pennsylvania) and those that own and maintain sidewalks along State highways.

The local government survey had several parts, including the survey email request, survey introduction, screening questions, policy and ordinance questions, and attitude questions. The screening questions identified the government structure of the municipality, the classification of the community, and whether or not the municipality has sidewalks along their roadways. The government structure and community type were used to screen the results.

The following is a summary of the survey results. The detailed results are provided in appendices A, B and C for the PennDOT District, DOT and Municipal Surveys, respectively. Also included is a summary of the causation factors identified from the survey.

2. PennDOT Survey Results

This survey was performed to obtain direct information from individuals involved in the execution of projects. The respondents included PennDOT District bike/ped coordinators, PennDOT District TAP coordinators, PennDOT District ADA coordinators and Municipal Engineers/Municipal Planners. As these individuals are involved in the design and construction of sidewalk projects in Pennsylvania, they were asked to provide specific information on common implementation issues and solutions.

The survey asked respondents if projects were delayed or stopped due to sidewalk implementation issues, what the issues were and how the issues were resolved. Also, respondents were asked to identify best practices and potential case studies.

The majority of the respondents to the PennDOT survey were the District bike/ped coordinators. The respondents confirmed that they were involved in the planning, design or construction of sidewalks. Only those that had such experience were able to complete the rest of the survey. The majority of the respondents (52%) stated that sidewalk projects were delayed or cancelled due to process implementation issues. Project cost increases were not as commonly encountered, at 29% of projects, as the implementation issue. Of survey respondents that reported no implementation issues in their experience the total was 19%.

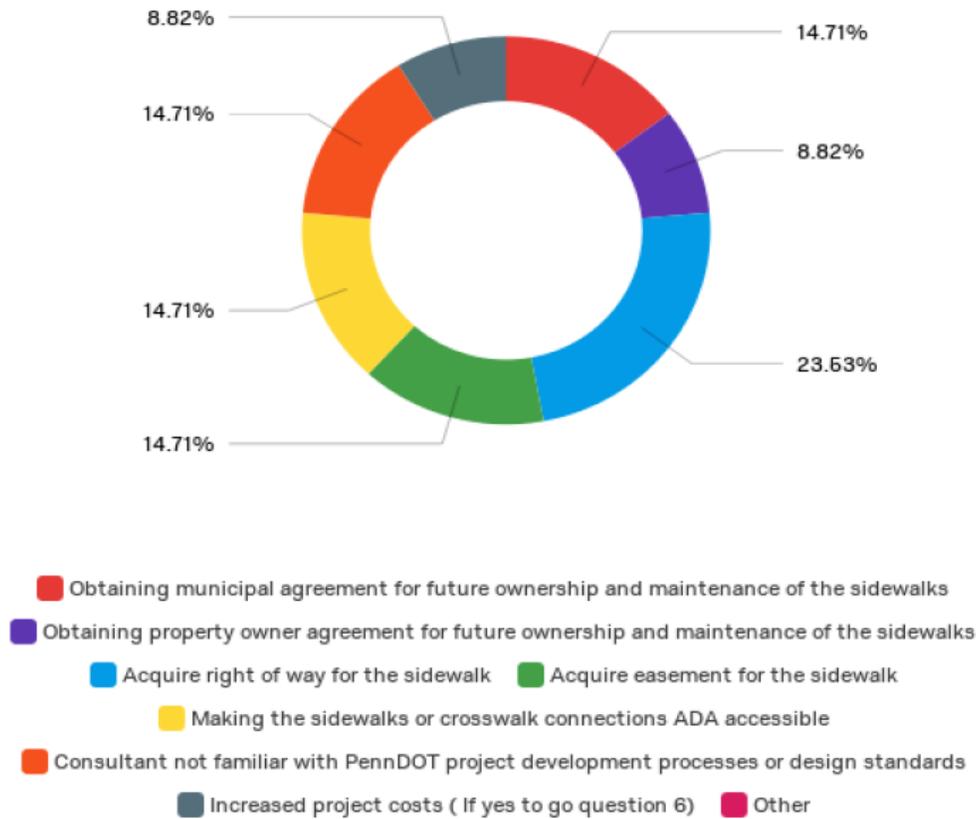
The specific issues encountered for the sidewalk portion of the project that delayed or cancelled the projects included ownership and maintenance agreements, obtaining right-of-way (ROW) and easements, Americans with Disabilities Act (ADA) compliance and consultants not being familiar with PennDOT design standards as shown in Figure 2. Respondents identified multiple issues. Acquiring sidewalk ROW was the most commonly-cited delay or cancellation issue, being reported by 80% of survey respondents.



Figure 2

PennDOT District Survey Question 5 Response Summary

Q5 - What specific issues did you encounter for the sidewalk portion of the project that delayed or cancelled the project?



For projects that were delayed due to cost, the major issues identified were construction costs being underestimated and engineering costs being greater than those estimated and budgeted.

The Districts and Central Office also provided information on 17 potential case studies for a more detailed evaluation.

Best practices recommended to overcome sidewalk implementation issues included using a consultant who has PennDOT experience, involving the public early in the process, avoiding right-of-way acquisition if possible, and working with a cooperative municipality on the maintenance agreement early in the project development process.

On the topic of maintenance agreements, one survey respondent noted that they needed to clarify, and simplify, what constitutes sidewalk maintenance. They defined maintenance as snow removal, but not the physical maintenance of concrete sidewalk.

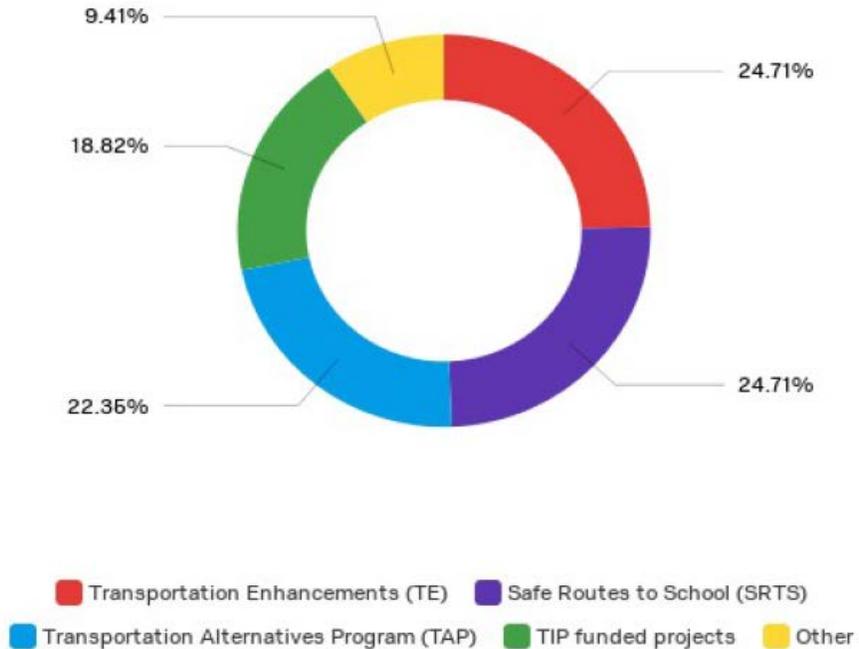
3. Other State DOT Survey Results

The main function of this survey was to obtain data on other state policies used to facilitate the installation of sidewalks under the TE, SRTS, TAP or similar federal programs. A key part of this survey was to identify which states have laws similar to Pennsylvania that require local municipalities or property owners to take ownership of sidewalks along State highways after they are constructed. This survey also identified information on the issues of sidewalk ownership and maintenance along State highways, along with common issues and best practices used by other states.

A total of 26 states responded to the survey. The respondents were primarily state DOT bike/ped or TAP coordinators. The respondents had experience implementing sidewalk projects through all of the federally funded programs such as TAP, SRTS, TE and Transportation Improvement Program (TIP). The respondents also identified other sources of funding for sidewalks, including Centers for Disease Control (CDC) mini grants, Congestion Mitigation and Air Quality (CMAQ), Surface Transportation Program (STP) and state or local funding. Figure 3 identifies the funding sources that DOTs reported for sidewalk projects.

Figure 3
DOT Survey Sidewalk Funding Sources Response

Q3 - Please identify all funding sources that have been used for local sidewalk projects.
(Select all that apply)



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In total, 17 source documents were provided that gave specific guidance for the implementation of sidewalks. These documents were reviewed for potential innovative methods to assist implementation.

For the respondents who indicated that their state does not maintain sidewalks along State highways, which put them in the same ownership category as PennDOT the total, was 63%. About half or 50% of the states that do not maintain sidewalks have specific source documents that specify the law that establishes that responsibility. Several of these were reviewed. For the states that do not have ownership responsibility, 56% require the municipality to take ownership and 44% require the property owner or others to assume ownership.

The majority of these states have no specific maintenance standards for the ownership of new sidewalks, although the agreements do have some general requirement for future maintenance responsibilities.

None of the states surveyed provided any incentives to assume ownership of the sidewalks constructed by the DOT.

Project cancellation or delay issues were identified by about 50% of the survey respondents. The issues associated with these delays or cancellations were also similar to Pennsylvania and included a variety of reasons, including establishing maintenance and ownership agreements, acquiring right-of-way/easements, unanticipated or increased costs, and designing to include appropriate ADA and stormwater management features.

One specific recommendation on how to improve the process was the following: *“Don't assume that sidewalk in-fill is simple. These projects can be very complex and costly if federally funded. Use state and local funds if the project is small enough. Otherwise, perform onsite scoping sufficient to gauge realistic cost of the project before starting”.*

4. Pennsylvania Municipal Survey Results

The municipal survey was developed to help identify municipal policies and attitudes towards federally-funded sidewalk construction, ownership and maintenance. Issues associated with construction of sidewalks using both local and state funds were also a subject of the survey.

This survey included policy and ordinance questions as well as attitude questions. The responses were summarized and classified based upon the government structure of the municipality, as specified by Pennsylvania law (i.e. cities, boroughs, townships and self-rule communities) and the character of the community (i.e. urban, village, suburban or rural). Questions related to ordinances and ownership were summarized for all government structures and characteristics for comparison purposes.

Government Structure Results

Over 90% of all townships and cities require property owners to maintain their sidewalks. Only 60-70% of boroughs and home rule communities require sidewalk maintenance. The majority of local governments do not perform inspections or enforce maintenance requirements for sidewalks.

A majority of the municipalities, 67%, require the construction of new sidewalks as part of their zoning, subdivision or land development ordinances. Less than 50% of all municipalities surveyed permit a waiver of the sidewalk construction requirements for new development. The exception to this result was that 58% of townships allow a waiver of their sidewalk requirements. A few municipalities use a sidewalk impact fee in lieu of construction of sidewalks.

The biggest challenges to taking ownership of PennDOT constructed sidewalks, as identified by all municipal government types, were limited municipal human resources and funding to perform maintenance activities, such as snow removal and repairs. It should be noted that limited municipal funding for sidewalk maintenance was the most commonly cited reason for not taking ownership in cities, boroughs, and townships in the survey. In fact, 72% of cities indicated that limited local funds for



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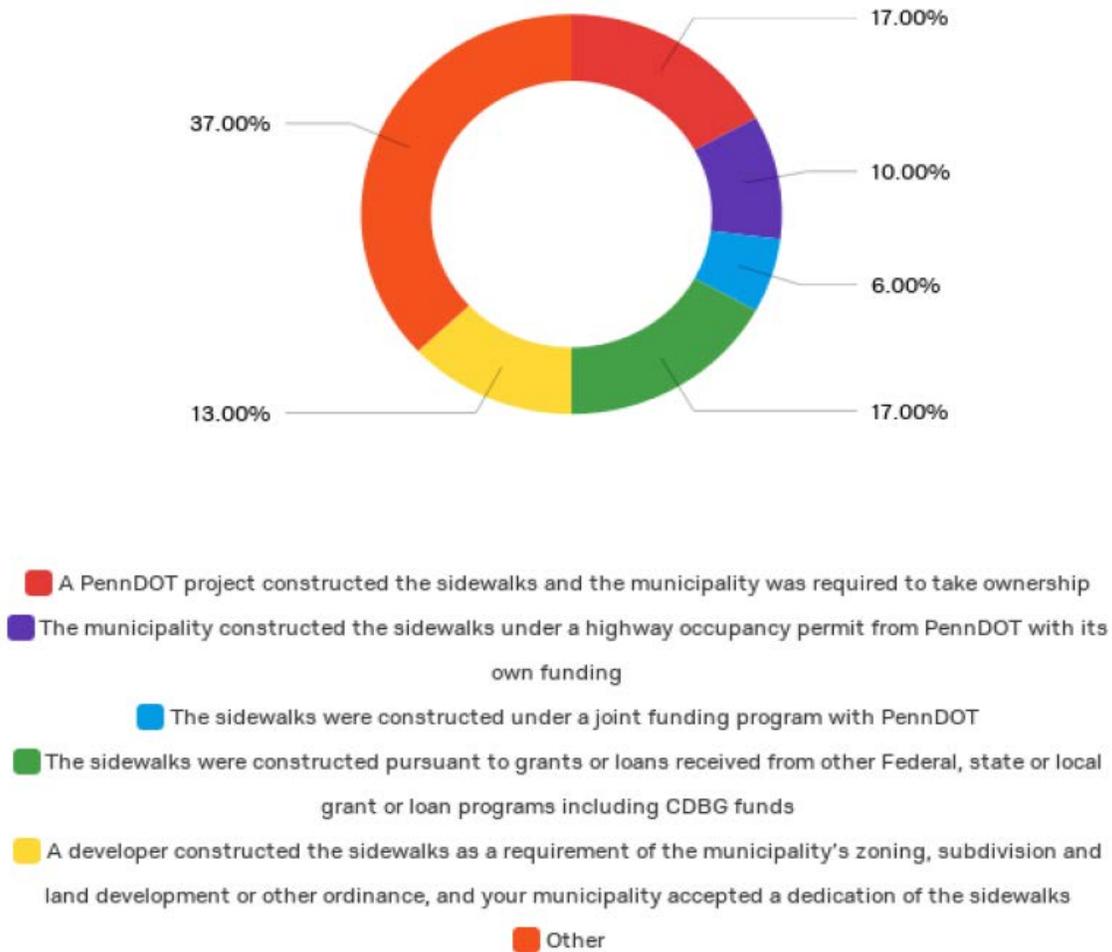
maintenance is their biggest challenge to accepting PennDOT funding for additional sidewalk construction and resulting ownership.

The survey showed that cities and boroughs are the type of municipal government most likely to own sidewalks along State highways. For municipalities that own sidewalks along State highways, the path to ownership of sidewalks varied. For the cities that own sidewalks along State highways, 27% had them constructed through a PennDOT funding program. For sidewalks constructed by boroughs that used other non-transportation funding sources such as Community Development Block Grants (CDBG) or municipal funds the total was 22%. When other funding sources are used, municipalities are still required to assume maintenance responsibilities, based upon the PennDOT requirements for the construction of the sidewalks under a highway occupancy permit. The following Figure 4 illustrates the path to ownership for all municipalities surveyed.

Figure 4

Municipal Survey Sidewalk Ownership Origins

Q10 - What prompted your municipality's ownership of sidewalks along a state highway?



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Townships were the type of government least likely to use municipal funds to construct sidewalks; only 10% of township survey respondents noted that they have used municipal funds. In contrast, over 50% of cities that responded to the survey do use municipal funds for installing sidewalks. The reasons for using municipal funds in lieu of state funds to construct sidewalks were varied, but answers included reasons such as no state funding available, sidewalks are a municipal priority, and (matching) funding was obtained from other sources. Cost information on construction costs for sidewalks was requested but limited information was provided.

Community Character Results – Most urban communities inspect and enforce maintenance of sidewalks. Suburban, rural, village and “other” communities do require maintenance of sidewalks, but few inspect them or enforce the requirements.

On the topic of ordinances that require new land development to include sidewalk construction, urban communities require sidewalks at the highest rate of all communities: 94% of survey respondents. The vast majority of all of the other community characters require the construction of sidewalks for new land development. Although the lowest percentage of all the communities surveyed, even 75% of rural communities require sidewalk construction for new development.

While sidewalk construction is “required” for new land developments, 35-55% of respondents from the various communities surveyed noted that sidewalk requirements could be waived by municipal officials.

All community types seem to be in relative agreement on how their sidewalk ordinance requirements were best interpreted. Respondents from most communities (except those with a rural character) agreed that “Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported”. Communities with a rural character more often (49%) cited that “Property owners must maintain sidewalks in acceptable condition”.

With regards to which challenge most often prevents municipalities from agreeing to own and maintain sidewalks constructed by PennDOT, all communities cited lack of maintenance funds as number one reason to not accept PennDOT constructed sidewalks. A lack of maintenance funds was overwhelmingly (63%) cited as the most significant challenge to owning and maintaining sidewalks for urban communities.

Some urban communities, 39%, have used municipal funding to construct sidewalks along State highways with villages following closely at 34%. Suburban communities reported using municipal funding less than 20% of the time for sidewalk construction, while rural communities used local funds only 8% of the time.

Suburban and rural communities are significantly less likely to require the construction of sidewalks as part of new developments when compared to urban and village communities. Communities that own sidewalks along State highways vary as follows: 53% urban, 48% village, 35% suburban and 16% rural. These results demonstrate that some communities, regardless of their character, own and maintain sidewalks along State highways.

III. Summary of Survey Results

The survey results identified major causation factors for sidewalk project implementation from a PennDOT, other state DOT and municipal viewpoint. The potential causation factors for sidewalk implementation issues identified by the PennDOT Districts, other state DOTs and municipalities were compared to each step of the project development process. This perspective provides another evaluation tool to consider potential solutions. Table 1 provides a summary of this comparison.



Identifying Impediments and Solutions to Sidewalk Projects

Table 1
Survey Summary Causation Factors

Project Development Phase	PennDOT Survey Causation Factors	DOT Survey Causation Factors	Municipal Survey Causation Factors
<u>Planning and Programing</u>	Construction costs underestimated	Unanticipated or increased costs	The majority of local governments do not perform inspections and enforce maintenance requirement for sidewalks.
	Engineering costs being greater than estimated		Used other funding sources from non-transportation sources such as CDBG grants or municipal funds
			Suburban and Rural communities are significantly less likely to require the construction of sidewalks as part of new developments when compared to Urban and Village communities
			Sidewalks requirements can be waived based upon the circumstances by elected officials, the planning commission or other appointed body, or municipal building or code enforcement personnel
<u>Project Start Up</u>	Ownership and maintenance	No specific maintenance standards for the ownership of new sidewalks	Limited municipal human resources and funding to perform maintenance activities
	Consultants not being familiar with PennDOT design standards	Establishing maintenance and ownership agreements	Suburban, rural, village and "other" communities do require maintenance of sidewalks but few inspect them or enforce the requirements
	Construction costs being underestimated	Unanticipated or increased costs	
	Engineering costs being greater than those estimated	Stricter interpretation of storm water treatment requirements drove up costs significantly	
<u>Preliminary Engineering</u>	ADA compliance	Acquiring right of way/easements	
	Obtaining right of way and easements	Designing to include appropriate ADA features	
		Designing to include appropriate storm water features	
		Stricter interpretation of the details needed for temporary and construction easements.	



IV. Project Case Studies

To supplement the survey results, 10 case studies of PennDOT projects that were either delayed or cancelled, as a result of sidewalk implementation issues, were identified as part of the survey and recommended for further investigation, as case studies.

Six different PennDOT Districts were represented in the case studies. For six of the ten projects, the interviewees were PennDOT Enhancements or TAP coordinators. In some instances, these individuals also served as District bicycle and pedestrian coordinators or local project coordinators. Two projects featured a private consultant project manager, one utilized an MPO project manager, and another project was coordinated by a PennDOT bridge unit manager. The following Table 2 displays the project case studies selected for evaluation:



Identifying Impediments and Solutions to Sidewalk Projects

**Table 2
Project Case Studies**

Selected Case Studies							
Project Number	District	Planning Partner	County	Project Sponsor	Project Title	Project Description	Comments
1	04	Scranton-Wilkes Barre MPO	Luzerne	Hazleton Area School District	Heights Terrace Safe Route to School	Comprehensive pedestrian safety improvements including curb and sidewalk installation and repair; traffic signals and signs including lights; speed feedback signs; standard crosswalks; and traffic calming devices.	SRTS
4	11	SPC MPO	Allegheny	Moon Area School District	Brooks and McCormick Elementary Sidewalk Projects	Sidewalks along Hassam Road to connect J.H. Brooks Elementary School to nearby residential areas, as well as sidewalks along Beaver Grade Road to connect McCormick Elementary School.	SRTS
6	11	SPC MPO	Allegheny	Borough of Munhall	Borough of Munhall Federal Safe Routes to School	Restoration of existing sidewalks, curbs, crosswalks that are in deteriorating condition and construction of sidewalks, curbs and handicap ramps along Main Street, Charles Street, Charles Street Extension and Lea Street.	SRTS
8	1	Northwest	Crawford	PennDOT	Route 6/322 Bridge replacement over Conneaut Lake Outlet	This project includes the replacement and a new composite concrete deck of the State Route 6 (Grand Army of the Republic Highway) State Route 322 Bridge over Conneaut Lake Outlet in Sadsbury Township. This bridge is 59 feet in length.	May be an interesting project to study as it is bridge replacement project with sidewalks, or so it appears. Not a TAP Project
11	6	DVRPC	Delaware	Upper Darby Borough	Township Line and State Roads Sidewalk Installation	Construction of sidewalk, curb cuts, guard rails, and retaining wall in the Pilgrim Garden & Aronimink sections of Upper Darby Township leading to the Aronimink Elementary School on Bond Avenue, in Upper Darby Township.	SRTS
12	5	NEPA	Schuylkill	Rush Township?	Rush Township Pathways	Create safe routes to school in Rush Township. The path is Phase I of a multi-phased plan to connect the community to the school, municipal building, businesses, river corridor and recreational facilities. The improvements include sidewalks, path, signage, bike racks, trash cans and painting to improve safety and provide alternate transportation methods.	TE
13	5	Lehigh Valley	Lehigh	Allentown	Old Allentown Streetscape	Streetscape Improvements in Old Allentown Historic District from 8th to 12th streets and Linden to Liberty streets.	Transportation Community and System Preservation Program award (SFX) and some TE funds.
15	1	Northwest RPO	Forest	Borough of Tionesta	Tionesta Curb Ramps	Elm Street (State Route 36 and State Route 62) from the intersection of Irwin Street to the intersection of German Hill Road. Project was awarded in May 2012 and is eligible under TAP Category #1 - Provision of facilities for pedestrian and bicycles since the project is for the construction of new and reconstructed sidewalks and curb ramps. The project will enhance the safety of the pedestrians and bicyclists by providing a buffer from the through lane traffic.	TAP
16	12	SPC MPO	Fayette	Uniontown Borough	General GC Marshall Plan Phase 2	Hometown Streets project for streetscape improvements along several blocks in the downtown business district in the City of Uniontown, Fayette County along Pittsburgh, Morgantown and Peter Streets. Planned improvements include relocating utilities underground, structural improvements to existing vaults under sidewalks, new sidewalks, curb ramps and pedestrian crosswalks, decorative lightpoles and an updated drainage system	I assume this project was cancelled as it was awarded now expired TE funds and is not on the current TIP. Assuming Josh is the PM on this one.
17	11	SPC MPO	Allegheny	Upper Saint Clair Township	Mayview Road Sidewalks	TAP project to connect recently installed sidewalk (installed as part of HOP) to the community center in this suburban township.	Issues with a retaining wall on a private property and subsequent ROW issues have slowed this down.



Identifying Impediments and Solutions to Sidewalk Projects

Several common causes were cited either as project-related or general issues in project delivery for sidewalks. The following is a summary of common causation factors identified:

1. Consultants

Several interviewees cited that they were working with consultants unfamiliar with PennDOT processes and requirements, mainly those acting on behalf of their local sponsor. In several cases, the issues in advancing the project were due to the consultants' unfamiliarity with the process, which led to implementation and delivery delays.

2. Programmed Project Costs

In many cases, District personnel indicated that the estimates for the project were flawed from the onset, most likely due to non-qualified personnel making the estimate on behalf of the local sponsor. Using engineering consultants that were not selected using the qualification-based process often resulted in underfunded projects being approved and advanced, and then subsequently either being delayed, or having to be redesigned into a more realistic project scope.

3. Local Sponsors

Local project sponsors often contributed to project delays, either in a lack of will in pushing the project forward, lack of experience with PennDOT project requirements, or turnover resulting in lack of consistency through the project timeline. Some municipal partners have been reluctant or plainly refused to sign the Maintenance Agreement on non-TAP projects involving sidewalks.

4. PennDOT Coordination and Review

Since these projects (for the most part) are local projects, PennDOT has a limited availability to work on (and subsequently bill to) these projects during the design process. Given the lower priority of many of these projects and the limited personnel resources at many PennDOT Districts, this can also impact the ability to provide timely reviews, especially with the timeframe deadlines mandated under TAP. In one case, it was felt that PennDOT should solicit more input in sidewalk locations from local partners up front as compared to waiting until the public involvement phase.

5. Right-of-Way

In several instances, the right-of-way process contributed to the issues with sidewalk implementation. Issues such as inconsistency between consultant plans and local sponsor acquisition paperwork, the need to redesign a project to avoid unnecessary takes and the additional right-of-way requirements resulting from a sidewalk redesign all contributed to delays.

6. Funding Source Deadlines

In some of the pre-TAP funding sources, no deadline was set for use of the funding, leading to some of the projects sitting uncompleted for almost a decade, and the ability to continually roll over the funding without consequence. Conversely, new TAP guidelines set more stringent guidelines to use the funding or lose it for the current TIP cycle. Some respondents felt that for projects that were sufficiently complex, a two-year timeframe to move through the PennDOT project development process was not adequate. This could be related to limited District availability for review relative to project priority and the requirements of the PennDOT review process.



7. ADA Requirements

If not properly estimated during the programming phase, the additional requirements of ADA related to curb ramp installation and traffic signal adjustments can add significant costs to the programmed budgets for projects of this type, resulting in reduced funding available for sidewalks.

The 10 case studies identified seven general categories of implementation issues for sidewalks, which are listed below:

- Consultant Performance and Lack of Familiarity with PennDOT Requirements and Processes;
- Poor Cost Estimation at the Application and Planning and Programming Phases;
- Local Sponsor Turnover or Unfamiliarity with the Process;
- PennDOT's limited availability to work on projects for coordination;
- Right-of-Way Process and Coordination;
- Funding Source Deadlines and Schedules; and
- ADA-Related Issues.

A comparison of these issues with the survey results from PennDOT Districts and other DOTs revealed many similarities. The following Table 3 is highlighted with causation factors that were similar to those determined from the case studies and the surveys.



Identifying Impediments and Solutions to Sidewalk Projects

Table 3
Case Study and Surveys Common Causation Factors

Project Development Phase	PennDOT Survey Causation Factors	DOT Survey Causation Factors
<u>Planning and Programing</u>	Construction costs underestimated	Unanticipated or increased costs
	Engineering costs being greater than estimated	
<u>Project Start Up</u>	Ownership and maintenance	No specific maintenance standards for the ownership of new sidewalks
	Consultants not being familiar with PennDOT design standards	Establishing maintenance and ownership agreements
	Construction costs being underestimated	Unanticipated or increased costs
	Engineering costs being greater than those estimated	Stricter interpretation of storm water treatment requirements drove up costs significantly
<u>Preliminary Engineering</u>	ADA compliance	Acquiring right of way/easements
	Obtaining right of way and easements	Designing to include appropriate ADA features
		Designing to include appropriate storm water features
		Stricter interpretation of the details needed for temporary and construction easements.



Laws and Responsibilities in Pennsylvania

This report section summarizes Pennsylvania statutory authority and case law related to:

- responsibility for constructing sidewalks along State highways;
- responsibility for maintaining or repairing sidewalks along State highways; and
- liability for injuries or damages sustained while using sidewalks along State highways.

This information was investigated and evaluated because ownership, maintenance and responsibilities for sidewalks in Pennsylvania was identified in the research problem statement. Understanding the current is law is important to any recommendations to address issues identified.



V. Governing Laws

Specifically, this research investigation assessed the relative responsibilities and liabilities of PennDOT, the municipalities in which State highways are located, and the property owners abutting those highways.

State law is clear that PennDOT does not have the responsibility to construct sidewalks along a State highway; however, the law does permit PennDOT to accept such responsibility in a township if a safety issue is identified. Municipal laws permit cities to require property owners to construct sidewalks adjacent to their properties along State highways and may construct the sidewalks for them and assess the owners for the costs. Permission from PennDOT is required for either the property owner or a city to construct sidewalks along a State highway. Boroughs and townships have similar powers to require construction of sidewalks along State highways by property owners.

VI. Maintenance and Repair Responsibility

As a logical extension of the law with regard to construction responsibility, in most instances, state law does not place maintenance responsibility for sidewalks along a State highway on PennDOT. The law does permit PennDOT to accept maintenance responsibility in a township if a safety issue is identified. Municipal laws authorize first and third class cities to require property owners to maintain sidewalks adjacent to their property along State highways. These cities may maintain the sidewalks on behalf of property owners adjacent to State highways and then assess the owner for the costs. The second class

Identifying Impediments and Solutions to Sidewalk Projects

city code does not expressly state that maintenance is required, but it is implied through construction requirements. Boroughs and townships have similar powers to require maintenance of sidewalks along State highways by property owners.

VII. Tort Liability

“Primary” liability for injuries or accidents on sidewalks lies with the property owner. In most instances, “secondary” liability for injuries occurring on sidewalks along State highways lies with the municipality. Although there have been no on point rulings, recent case law hints that PennDOT may be secondarily liable where:

- 1) The sidewalk was constructed by or with funding from PennDOT for a road in a township where a safety issue was identified; and
- 2) PennDOT acquired the land via purchase or eminent domain

VIII. Summary

From this review, it is clear that PennDOT does not have the responsibility to construct or maintain sidewalks along State highways. The law is also clear that municipalities do have that responsibility and can delegate that responsibility to property owners. This division of ownership and responsibility for maintenance between PennDOT, local municipalities and property owners was identified as one of the impediments to sidewalk implementation in Pennsylvania.

Recommendations

This report provides specific recommendations to PennDOT to improve the implementation process for sidewalks. One of the primary methods of funding sidewalk construction is through the TAP and many of the recommendations focus on that program. However, additional opportunities are also recommended for consideration outside of the TAP to meet the general goal of increasing walking opportunities in Pennsylvania.

These recommendations are based upon the literature review, surveys, case studies and current legal framework to provide potential enhancements in three key areas to improve sidewalk project implementation in Pennsylvania. These key areas include:

- Project Programming and Funding Applications
- Project Implementation Process Improvements
- State and Local Government Coordination





IX. Project Programming and Funding Applications

Because most sidewalk projects begin through the application process for funding, the review of the application and screening process is critical to selecting projects that can be successfully implemented. It is anticipated that many of these projects will be funded through the TAP.

The TAP application process is currently detailed in PennDOT's 2016 Transportation Alternatives Program Guidance and Procedures (TAP guidance document) [PennDOT 2016]. This guide was reviewed along with the Local Project Delivery Manual (Publication 740, November 2013 Edition [PennDOT 2013]) to identify relevant, current requirements and application procedures for sidewalk funding through the TAP. Large Metropolitan Planning Organizations (MPOs), those with an urbanized population greater than 200,000, administer and review applications for their jurisdictions for TAP funding and have their own procedures.

It is recommended that better guidance be given on how to prepare a cost estimate. Additionally, the sponsor should be required to submit a conceptual level design plan, for which a description will be needed. Also, Publication 740 currently states that cost estimates should be prepared in accordance with Publication 352. This requirement may be too detailed for the applicant, so a separate cost estimating manual of TAP sidewalk projects is recommended to be developed. This manual should provide ranges of sidewalk unit costs based upon combined construction items. The combined item cost should estimate new sidewalk construction or reconstruction costs on a per square foot or yard basis.

The Publication 740 procedures should help project sponsors ensure that a design consultant that is qualified to perform the work is engaged. It is recommended that the TAP guidance document suggest using these types of procedures when engaging a design consultant for either preparing the application or designing the project. In particular, using a PennDOT open end engineering contract to obtain right-of-way might be beneficial to addressing the right-of-way acquisition issue that has been identified in this research.

Another consideration would be to provide an incentive to local sponsors to use these options for selection by providing assistance in conducting the selection process or a standard cooperation agreement to use a PennDOT open end contract consultant. One disincentive to using this process is the additional time necessary to complete it. Consideration should be given to starting the time constraint on project completion after consultant selection is complete.

The case studies revealed that the Districts are not always requested to review the applications in detail when MPOs conduct their own TAP application rounds. It is recommended that the Districts review all applications to the MPOs and provide an opinion as to the feasibility of project implementation, proposed schedule for implementation and cost estimates for the project.

Identifying Impediments and Solutions to Sidewalk Projects

Engineering costs for TAP projects, as a percentage of construction costs, often exceed what is typically anticipated by a project sponsor. Because there may be unknown factors such as right-of-way acquisition or environmental issues, these costs may increase during the project development process. It is recommended that PennDOT review the application budget, including the estimated engineering costs, and provide comments based upon their experience when directly engaging a consultant to do similar projects. The TAP guidance document should also provide guidance as to the typical engineering costs as a percentage of construction costs, which could be based upon historical data gathered from previous projects. Guidance is already provided on the anticipated engineering project inspection costs; therefore, similar information should be provided for pre-construction engineering activities.

X. Project Implementation Process

The PennDOT project implementation process is a complex series of steps that most project sponsors do not follow when designing and constructing sidewalks using other funding sources. While both Publication 740 and the TAP guidance document provide a description of this process, project sponsors and their engineers may not be familiar with the complexities of the process. The following steps in the process have been identified by the research as critical junctures in the process that have experienced issues during project implementation. Recommendations have been formulated for each of these steps.

It is recommended that PennDOT consider extending the time period for more complex projects to a four year funding cycle rather than the current two years. The complexity of the project should be determined at the time of the application. One of the most critical items that extends a project schedule is the acquisition of right-of-way. Applicants should be required to identify, on a preliminary basis, if right-of-way acquisition is required by submitting conceptual level plans with the application. PennDOT can then consider the complexity of the project and determine if a four year funding cycle is appropriate for that particular project. If a PennDOT model is used for the consultant selection process, this selection method should also be considered in the funding cycle selected.

As projects progress through the development process, updated construction and engineering cost estimates are critical to the successful completion of the project. Construction cost estimates are only required as part of the Design Field View (DFV) and final Plans, Specifications and Estimates (PS&E) submissions. The project development process for these types of projects may utilize a reduced PennDOT review process to expedite the delivery of the project. It is recommended that PennDOT require the submission of updated cost estimates with each plan submission, and require a minimum of two submissions during the process. These requirements could be specified in Publication 740.

The TAP guidance document provides a very general definition of each of PennDOT's District offices' responsibilities for project coordination. The document states "Work with sponsors to successfully deliver selected projects" is PennDOT's responsibility. Based on the case studies, different Districts have approached this responsibility by either assigning staff to coordinate or using a consultant to coordinate and review the project. Because local projects are different from typical PennDOT projects where the District is responsible for coordination of a consultant that is working for the District, additional guidance to the District personnel should be provided.

It is recommended that PennDOT develop a responsibility matrix for each step of the project development process that clearly identifies the PennDOT project manager's responsibility and the project sponsor's responsibility. Typical timeframes for preparation of submission and review periods should also be shown to identify expectations for the project schedule.

While acquisition of right-of-way is a project sponsor's responsibility, it is unfamiliar to most. The PennDOT and federally mandated processes differ from what municipalities are required to do under state law. The federal process must be complied with when federal funds, such as the TAP program, are used to construct sidewalks. When municipalities construct sidewalks using state or local funds they only need to comply with the state law.

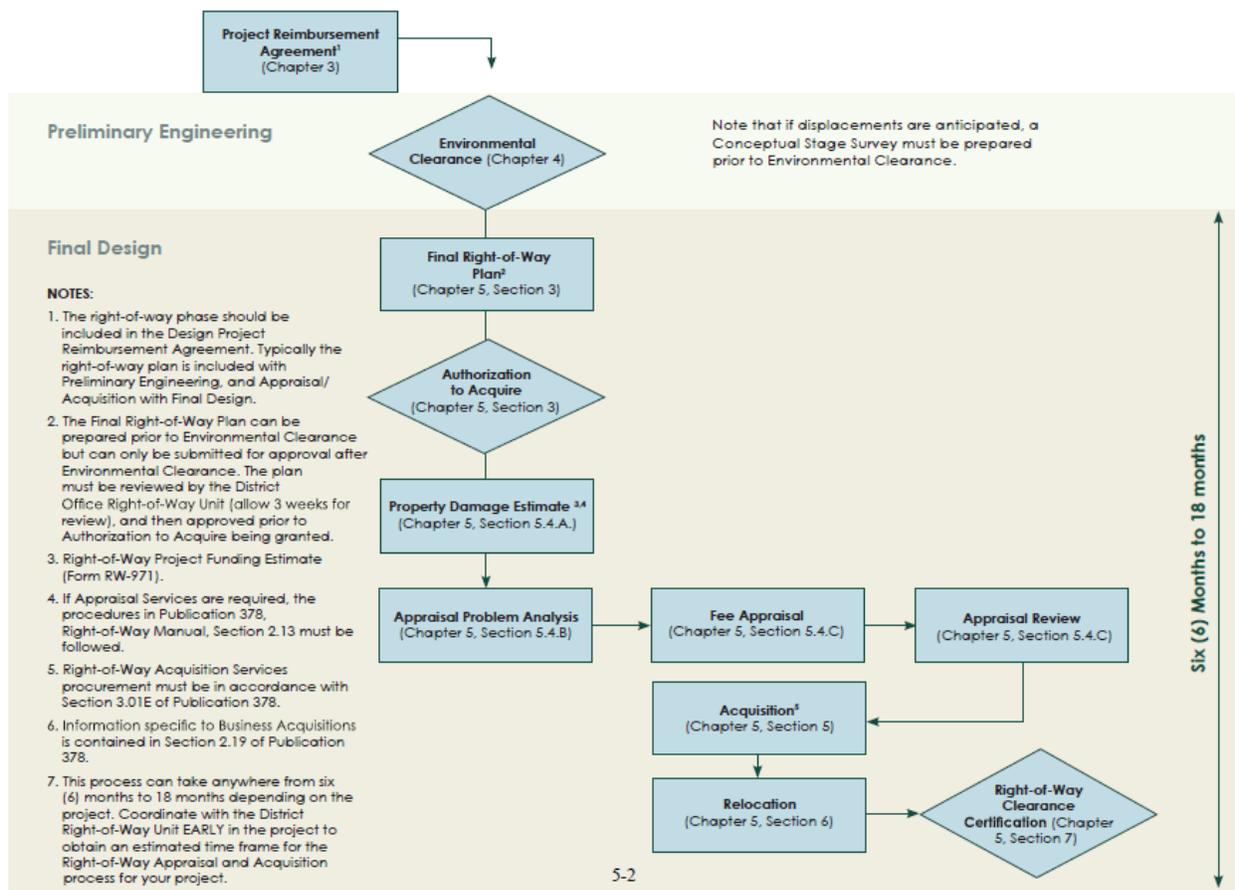


Identifying Impediments and Solutions to Sidewalk Projects

The federal process typically requires the project sponsor to engage a right-of-way acquisition firm that can provide this service, which includes coordination, appraisals and property owner negotiations. In contrast, the Pennsylvania Eminent Domain Code, 26 Pa. C.S.A § 101 *et seq.* does not impose appraisal and negotiation requirements on a condemnor prior to the filing of a declaration of taking. These services are coordinated with the design firm which prepares the right-of-way plan. This is a complex process, as shown in Figure 2 from Publication 740.

**Figure 5
Right-of-way Process Flow Chart**

Figure 5-1: Right-of-Way Process Representative Flowchart



Publication 740 provides the option for project sponsors to have PennDOT perform for them the acquisition of the right-of-way and have the project sponsor reimburse PennDOT for those pre-construction activities. It's recommended that PennDOT investigate performing the right-of-way acquisition for project sponsors, which will expedite sidewalk project implementation. Local partners do

Identifying Impediments and Solutions to Sidewalk Projects

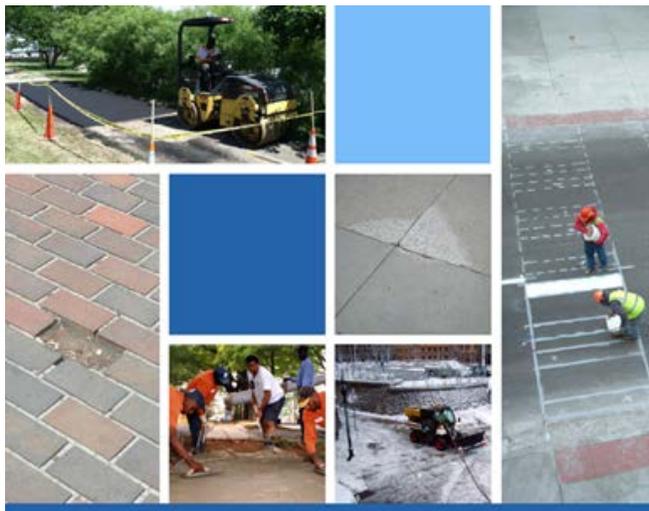
not have the expertise to either perform this function or direct a firm to perform the right-of-way acquisition.

During the application process, project sponsors may not be familiar with the types and extent of ADA improvements that may be needed as part of the project. Requiring the submission of a conceptual level plan could help the District, which is reviewing the application and cost estimates, identify the need for ADA accommodations. Also, during the project development process, as costs are updated, the inclusion of ADA costs should be highlighted. Both of these reviews should include the District ADA coordinator.

Sidewalk maintenance is not clearly defined in current PennDOT legal agreements for municipalities that accept ownership and maintenance responsibilities. According to the FHWA guide for maintaining pedestrian facilities, *A Guide for Maintaining Pedestrian Facilities for Enhanced Safety* [2013], maintenance responsibilities include removal of vegetation and snow and ice, as well as correcting surface defects and structural problems. But for many, sidewalk maintenance is simply considered as seasonal maintenance, not related to the sidewalk infrastructure itself. In order to avoid misunderstanding in the term “sidewalk maintenance”, it can be defined with the primary goal of increasing safety and comfort.

It is recommended that PennDOT add a definition of sidewalk maintenance to both the reimbursement agreement and the sidewalk maintenance agreement. The recommended definition in accordance with the FHWA manual is:

Sidewalk Maintenance – “the act of keeping clean and free of nuisance materials, and providing inspections, repairs and replacements, with the primary goal of increasing safety and comfort”



A Guide for Maintaining
Pedestrian Facilities
for Enhanced Safety



XI.State and Local Government Coordination

Because sidewalks on a State highway are in most instances the responsibility of local government, coordination between state and local government is essential to promote sidewalk construction. The issues of maintenance and funding for construction have been reviewed and recommendations provided.

In order to effectuate some of these options, it may be necessary to amend or at least clarify relevant sections of the State Highway Law. If changes, clarifications or other situations occur, it is recommended that PennDOT develop a model agreement to accept responsibility, in lieu of the municipality, and for PennDOT to receive some form of compensation from the municipality. Compensation should include an annual payment or services in lieu of payment that are performed through a program such as the agility program. An evaluation of the State highway law for sidewalk ownership along State highways should also be investigated to determine if changing the law to permit PennDOT ownership is feasible.

The survey of municipalities found that the biggest challenges, identified by all municipal government types, to taking ownership of PennDOT constructed sidewalks were limited municipal human resources and funding to perform maintenance activities, such as snow removal and repairs. However, the survey also showed that suburban, rural, village and “other” communities do require maintenance of sidewalks, but few inspect them or enforce the requirements. Many local communities appear to be reluctant to adopt or enforce their own ordinances even though it is the property owner’s responsibility to maintain the sidewalk.

PennDOT should also consider adding a provision to the agreements specifying that the municipality accepting funds and maintenance responsibility for the sidewalk project have in place an ordinance requiring the property owner to maintain the sidewalk. Requiring the ordinance also educates the municipality that they have don’t have to maintain the sidewalks and are permitted to delegate that responsibility to the property owner.

Additionally, municipalities should be encouraged to take on repair responsibility for property owners and then assess the owners for those costs. Typically, costs will be less when a municipality repairs sidewalks with a larger contract than what an individual property might pay. With respect to maintenance, to clear and make passable sidewalks, municipalities should educate property owners about the potential tort liability if the sidewalks are not maintained.

As written in federal law, the TAP program has no minimum project cost requirement for sidewalks or any other type of project; discretion is left to the entities to which funding is allocated: the state DOT and large MPOs with an urbanized population of greater than 200,000. Most large MPOs do not have a project minimum cost, although DVRPC has established a \$250,000 minimum for infrastructure projects. For the PennDOT administered, statewide program, the minimum cost for an infrastructure project is \$50,000. Separately administering many, small infrastructure projects is inefficient and time-consuming. Typically, projects of this size are grouped with other small projects so that pre-construction activities can be more efficient. Several recommendations are provided to address this issue:

- Increase the minimum sidewalk project cost to \$200,000 for all statewide TAP applications.
- Recommend a similar minimum project cost for TAP rounds administered by large MPOs.
- Consider offering pre-construction and construction inspection services to local partners for their TAP projects as group projects administered by PennDOT. The local partner will be required to pay for these costs and have an agreement to share in the supervision responsibilities with PennDOT.
- Identify alternative funding sources for sidewalk projects in Pennsylvania for projects less than \$200,000. Programs such as Community Development Block Grants and other state programs are currently used by municipalities to construct sidewalks. PennDOT could also consider using only state transportation funds for such a program.



Identifying Impediments and Solutions to Sidewalk Projects

Many municipalities do require the construction of new sidewalks as part of land development projects, which promotes new sidewalk installations. These sidewalks are constructed under a highway occupancy permit (HOP). When sidewalks are being constructed by a developer, PennDOT should consider adding a provision to the HOP application process to require that a maintenance agreement be signed by the municipality as part of the HOP application and that the municipality be a co-applicant for the HOP. Another option would be for the municipality to submit a separate HOP application just for the sidewalk portion of the development project. There should also be a requirement that the municipality have in place an ordinance specifying that the property owners maintain the sidewalks in the municipality.

These recommendations are provided to address issues on both a municipal and state level:

- Modify Section 503 of the Municipalities Planning Code to treat sidewalks as transportation facilities, similar to streets. Require that all new right-of-ways have sidewalks constructed within the street right-of-way in most situations.
- Permit municipalities to use liquid fuels funding to maintain sidewalks that are their responsibility, if the property owner will not maintain them. This change could help municipalities accept ownership and maintenance responsibilities for construction of new sidewalks being funded through the TAP program.
- Consider shared funding arrangements between PennDOT and municipalities to pay for the maintenance of sidewalks through a cooperative maintenance agreement. Such an agreement would be similar to what is used for State highways being maintained for snow and ice removal by municipalities.
- For sidewalks constructed as part of a land development HOP, PennDOT should require a separate HOP submission for the sidewalk construction with submission of the maintenance agreement and require an ordinance to be placed specifying that the property owner must maintain the sidewalk.

XII. Summary

Recommendations to improve the implementation and construction of sidewalks have been developed in several categories. The following is a summary of the recommendations for PennDOT in each category:

Project Programming and Funding Applications

- Provide better guidance to project sponsors on how to prepare a cost estimate and require a submission of a conceptual level plan.
- Add information in the TAP guidance document suggesting types of procedures that can be used when engaging a design consultant to ensure a local sponsor is using a qualified consultant.
- PennDOT should review the application budget, including the estimated engineering costs and provide comments based upon their experience for directly engaging a consultant to do similar projects.

Project Implementation Process

- PennDOT should consider extending the time period for implementation of more complex projects to a four year funding cycle rather than two years.
- The TAP guidance document should develop a responsibility matrix for each step of the project development process that clearly identifies the PennDOT project manager's responsibility and the project sponsor's responsibility.
- PennDOT should investigate performing the right-of-way acquisition for TAP sidewalks projects to expedite the projects.
- During the project development process and in the application, ADA compliance costs should be included and updated with each submission.
- PennDOT should add a definition of sidewalk maintenance to both the reimbursement agreement and the sidewalk maintenance agreement.



State and Local Government Coordination

- PennDOT should consider taking maintenance responsibility for sidewalks in specific situations with compensation provided by the local municipality.
- A study should be completed to evaluate the impact of changing the current highway law to permit PennDOT to take maintenance responsibility of sidewalks in Pennsylvania from municipalities along State highways. This study should consider the potential funding sources for PennDOT to perform this maintenance.
- PennDOT should consider adding a provision to the reimbursement and maintenance agreements that the municipality accepting funds and maintenance responsibility for the sidewalk project must have in place an ordinance requiring the property owner to maintain the sidewalk.
- PennDOT should encourage municipalities to consider taking on repair responsibility for property owners and then assessing the owners for that cost.
- PennDOT should recommend that MPOs increase the minimum sidewalk TAP funding amount to \$200,000 and that they explore bundling smaller projects for design and construction with their local PennDOT District to reduce pre-construction activity costs.
- Make local partners and PennDOT Districts aware that pre-construction and construction inspection services for their TAP projects can be performed as group projects administered by PennDOT.
- Identify alternative funding sources for sidewalk projects less than \$200,000.
- Modify the Municipalities Planning Code to treat new sidewalks as transportation facilities similar to new streets and require their construction in most situations.
- Identify the legal issues to permit municipalities to use liquid fuels funding to maintain sidewalks. Also, consider shared funding arrangements between PennDOT and municipalities to pay for the maintenance of sidewalks, which could be similar to the agility program currently used by municipalities and PennDOT.

Implementation Plan

In order to implement the research findings, several documents and processes need to be modified, including:

- PennDOT's 2016 Transportation Alternatives Program Guidance and Procedures – Many of the recommendations in this report will require this document to be revised. Most of the recommendations in the project programming/funding application and the project implementation process sections apply to the TAP document procedures.
- PennDOT Policies – General policy procedures such as taking responsibility to acquire right-of-way, providing local partners engineering services and revised reimbursement agreements will require PennDOT to issue new policies and revise legal documents used for local projects.
- Municipal Planning Code (MPC) [State of Pennsylvania 1968] – This legislation details the powers and responsibilities of local governments. The recommendation to require the construction of sidewalks with all new sub-division street construction would require the amendment of this law.

Summary

The purpose of this research project was to evaluate the implementation issues of sidewalk projects that are funded through various federal programs administrated by PennDOT and provide recommendations to improve the process. Improving the implementation procedure will help PennDOT more expeditiously deliver sidewalks funded through federal programs.

These recommendations were based upon the literature review, surveys, case studies and current legal framework to provide potential enhancements in three key areas to improve sidewalk project implementation in Pennsylvania. These key areas include:

- Project Programming and Funding Applications
- Project Implementation Process Improvements
- State and Local Government Coordination



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Appendix A – Survey of PennDOT Districts Results

PennDOT Survey Results

1. What is your position?		
Answer	Response	%
PennDOT District bike/ped coordinator	11	46%
PennDOT District TAP program coordinator	5	21%
PennDOT District ADA coordinator	2	8%
Municipal Engineer/Municipal Planner	1	4%
Other	5	21%
Total	24	100%

Other

1. TMA TESTER
 2. PennDOT District Planning & Programming Manager
 3. Local Project Manager
-

2. Have you been involved in the planning, design or construction of sidewalks at your agency		
Answer	Response	%
Yes	21	91%
No (End survey)	2	9%
Total	23	100%



Identifying Impediments and Solutions to Sidewalk Projects

3. What types of funding sources have you been involved with that constructed sidewalks (select all that apply)?		
Answer	Response	%
Transportation Enhancements (TE)	16	76%
Safe Routes to School (SRTS)	13	62%
Transportation Alternatives Program (TAP)	16	76%
Pennsylvania Community Transportation Initiatives program (PCTI)	10	48%
Municipal funding	6	29%
TIP funded project	12	57%
Other	2	10%

Other

1. Multimodal

4. Have you encountered project delivery issues that resulted in the following outcomes?		
Answer	Response	%
A. Project delayed or cancelled	11	52%
B. Project delivered at additional cost	6	29%
No Significant Issues (End survey)	4	19%
Total	21	100%

5. What specific issues did you encounter for the sidewalk portion of the project that delayed or cancelled the project?			
Answer	Response	%	
Obtaining municipal agreement for future ownership and maintenance of the sidewalks	5	50%	
Obtaining property owner agreement for future ownership and maintenance of the sidewalks	3	30%	
Acquire right-of-way for the sidewalk	8	80%	
Acquire easement for the sidewalk	5	50%	
Making the sidewalks or crosswalk connections ADA accessible	5	50%	
Consultant not familiar with PennDOT project development processes or design standards	5	50%	
Increased project costs (If yes to go question 6)	3	30%	
Other	0	0%	



Identifying Impediments and Solutions to Sidewalk Projects

6. What specific issues did you encounter that added cost to the project? (can select one or several potential responses)

Answer	Response	%
Construction cost for sidewalk during programming phase underestimated or not included	5	56%
Construction cost during design field view phase underestimated or not included	4	44%
Right-of-way costs not included in project costs	2	22%
ADA accommodations not included in cost	1	11%
Engineering costs greater than anticipated for design	5	56%
Other	0	0%

7. Did you ever use the Force Account process to install/construct a project involves sidewalks?

Answer	Response	%
Yes	4	25%
No	12	75%
Total	16	100%

8. If a future maintenance agreement was drafted that differed from the standard PennDOT agreement, please describe the changes or provide a contact to obtain the document.

Text Response

1. LESS LEGAL
2. When dealing with a TIP project for a state-owned bridge with a sidewalk on it, we have been revising the standard agreement to clarify what is meant by "maintenance" (i.e. snow removal and not physical maintenance of the concrete sidewalk).
3. Maintenance Agreements go through Legal Counsel - Mike Kline 717-787-5079

9. Is there any additional information that you would like to provide that will assist in improving the process to implement sidewalk projects in Pennsylvania? (provide a link , please describe or attach the document in the next question)

Text Response

1. No
2. have a consultant the is familiar with PennDOT processes and design

10. Is there any additional information that you would like to provide that will assist in improving the process to implement sidewalk projects in Pennsylvania?

File Upload

1. F_w7SFTkrGJcrKe0p



Identifying Impediments and Solutions to Sidewalk Projects

11. In order to better understand the specific problems, please identify a sidewalk project that was delayed, cancelled, or constructed at an additional cost and provide a contact person that we can discuss more details about the project. This could include both projects that were not implemented due to these issues or a successful solution identified.

Text Response

1. MPMS 82915, Crawford SR 6-B14; Contact: Brian McNulty brmcnulty@pa.gov 814-678-7035
2. We have had projects where the municipality refused to sign a maintenance agreement for a sidewalk. Steve Moore, our District Highway Engineer would be the person to give details on those.
3. 87088 - Chalfont SRTS, 87120 - Upper Darby SRTS. Katrina Lawrence 215.238.2824
4. Rush Safe Route ECMS 92767; Orwigsburg Safe Routes ECMS86979; Old Allentown streetscape ECMS 86852 - Contact Laura Montgomery 717-540-6040
5. Water Works Park Public Access and Tionesta Curb Ramps. Lyndsie DeVito 814-678-7174 or ldevito@pa.gov
6. Uniontown Streetscape project was delayed because the sponsor hired a consultant that wasn't very familiar with PennDOT projects. This project was ECMS 73363.

12. Can you identify any examples or best practices that you have used to implement sidewalk projects?

Text Response

1. Use a consultant who is experienced working for PennDOT; Avoid right-of-way if possible; Work with a cooperative municipality
2. Early Public Involvement
3. Best practice starts with the municipality accepting maintenance agreements for sidewalk.
4. Hire a consultant that is familiar with PennDOT processes and able to complete work detailed in a design schedule.

Delay/Cancel

4. Have you encountered project delivery issues that resulted in the following outcomes?		
Answer	Response	%
A. Project delayed or cancelled	11	100%
B. Project delivered at additional cost	0	0%
No Significant Issues (End survey)	0	0%
Total	11	100%



Identifying Impediments and Solutions to Sidewalk Projects

5. What specific issues did you encounter for the sidewalk portion of the project that delayed or cancelled the project?		
Answer	Response	%
Obtaining municipal agreement for future ownership and maintenance of the sidewalks	5	50%
Obtaining property owner agreement for future ownership and maintenance of the sidewalks	3	30%
Acquire right-of-way for the sidewalk	8	80%
Acquire easement for the sidewalk	5	50%
Making the sidewalks or crosswalk connections ADA accessible	5	50%
Consultant not familiar with PennDOT project development processes or design standards	5	50%
Increased project costs (If yes to go question 6)	3	30%
Other	0	0%

Additional Cost

4. Have you encountered project delivery issues that resulted in the following outcomes?		
Answer	Response	%
A. Project delayed or cancelled	0	0%
B. Project delivered at additional cost	6	100%
No Significant Issues (End survey)	0	0%
Total	6	100%

6. What specific issues did you encounter that added cost to the project? (can select one or several potential responses)		
Answer	Response	%
Construction cost for sidewalk during programming phase underestimated or not included	3	50%
Construction cost during design field view phase underestimated or not included	3	50%
Right-of-way costs not included in project costs	2	33%
ADA accommodations not included in cost	0	0%
Engineering costs greater than anticipated for design	4	67%
Other	0	0%



Appendix B – Survey of DOT Bike/Ped Coordinators Results

DOT Survey Results

1. What is your position?		
Answer Choice	Response	%
DOT bike/ped coordinator	16	62%
DOT TAP program coordinator	6	23%
Other	4	15%
Total	26	100%

Other Answers

1. TMA TESTER
2. Both
3. Design Policy (Bike/Ped Coordinator position is currently vacant)
4. former bike/ped coordinator, former TE coordinator

2. Have you been involved in the administration of programs for the planning, design or construction of sidewalks at your DOT?		
Answer	Response	%
Yes	23	88%
No(End survey)	3	12%
Total	26	100%

3. Please identify all funding sources that have been used for local sidewalk projects. (Select all that apply)		
Answer	Response	%
Transportation Enhancements (TE)	21	91%
Safe Routes to School (SRTS)	21	91%
Transportation Alternatives Program (TAP)	19	83%
TIP funded projects	16	70%
Other	8	35%



Identifying Impediments and Solutions to Sidewalk Projects

Other Answers

1. Mini Grant with the State Health Dept through the CDC
2. State Bike-Ped grants (state gas tax \$\$)
3. CMAQ, STP
4. Local sources, state gas tax funding
5. CMAQ, Safety Funds, State transportation funds
6. Motor Fuel Tax, STP
7. CMAQ

4. Do you have a specific policy or manual that you provide to project managers for projects that involve the planning, design or construction of sidewalks?		
Answer	Responses	%
Yes (If yes please describe, provide a link or attach to the survey the document in the next question)	17	77%
No	5	23%
Total	22	100%

Yes (If yes please describe, provide a link or attach to the survey the document in the next question)

1. No
2. Yes; <http://transportation.ky.gov/Bike-Walk/Documents/KYTC%20Pedestrian%20and%20Bicycle%20Travel%20Policy%20%202002.pdf>
3. FDOT Plans Preparation Manual
4. Local Agency Guideline Manual (general guidance for all federal-aid projects) <http://www.oregon.gov/ODOT/TD/AT/Pages/LAG.aspx> and ODOT Bicycle and Pedestrian Design Guide 2011 ftp://ftp.odot.state.or.us/techserv/roadway/web_drawings/HDM/2011%20HDM%20Rewrite/2012%20Appendix%20L%20Bike%20Ped%20Design%20Guide.pdf
5. <http://itd.idaho.gov/manuals/Manual%20Production/TAPS/TAP%20Manual%20-%20May%2027%202015.pdf>
6. <http://www.dot.state.mn.us/bike/design-engineering.html>
7. FHWA Guide for the Development of Pedestrian Facilities
8. Chapter 14 of our Roadway Design Guide, as well as AASHTO
9. Roadway Design manual
10. <http://kart.ksdot.org/>
11. Information related to the planning, design and construction of sidewalks is integrated into multiple DOT documents. This includes Project Scoping Checklists, Design Manuals, and Standard Plans.
12. Bureau of Design & Environment Manual (Ch 5, 17, 48, 58) and Local Roads Manual
13. <https://docs.google.com/spreadsheets/d/1bhcv1Q0Ptoo6OHYC6fQqKE9pmozsBY9rTn237sOL7Mw/edit?usp=sharing>
14. State DOT uses Pedestrian Master Plan and Toolbox
15. Wisconsin Facilities Development Manual and WI Pedestrian Best Practices Guide. However there have also been recent state law changes that the Dept. is working through.
16. National publications



Identifying Impediments and Solutions to Sidewalk Projects

5. Upload option for Q#4-we haven't received any file.

6. Does the DOT own and maintain new sidewalks along State highways after they are constructed?		
Answer	Response	%
Yes	6	38%
No(End survey)	10	63%
Total	16	100%

7. Is there specific law or policy that establishes that responsibility along State highways as noted in the previous question?		
Answer	Response	%
Yes (If yes please describe, provide a link or attach to the survey the document in the next question)	7	50%
No	7	50%
Total	14	100%

Yes (If yes please describe, provide a link or attach to the survey the document in the next question)

1. No
2. Yes -- ORS 366.514
3. State statute and CDOT Policy 1602. Can find on our website <https://www.codot.gov/programs/bikeped>
4. NJ Administrative Code Title 16:38-1.1
5. State law permits local agencies to use transportation monies on sidewalks in cities and villages. With respect to state owned highways state law permits sidewalks on State highways but suggests that those elements of projects that serve a local purpose (on street parking, and sidewalks) the costs should be born by the local agency.
6. ?
7. Wisconsin is experiences recent changes to state law, we are currently working though these changes at this time.

8. Upload option for Q#8-we haven't received any file



Identifying Impediments and Solutions to Sidewalk Projects

9. Who is responsible for the ownership or maintenance of the sidewalk after it is constructed along State highways?

Answer	Response	%
Property owner	2	22%
Local municipality	5	56%
Other	2	22%
Total	9	100%

Other

1. State DOT
2. We enter into agreements with the local agency who in turn can by local ordinance require the property owner to maintain the sidewalks.

10. Does your DOT have any specific policies or procedures for the maintenance or replacement of sidewalks after the construction by DOT for the owners of the sidewalk along State highways?

Answer	Response	%
Yes (If yes please describe, provide a link or attach to the survey the document in the next question)	4	44%
No	5	56%
Total	9	100%

Yes (If yes please describe, provide a link or attach to the survey the document in the next question)

1. <http://transportation.ky.gov/Bike-Walk/Documents/KYTC%20Pedestrian%20and%20Bicycle%20Travel%20Policy%20%202002.pdf>
2. It is standard practice that if sidewalks are removed during a construction project that the DOT replaces the sidewalks.
3. Maintenance is the responsibility of the municipality, which usually assigns to property owners.
4. The Department isn't prescriptive however there are state law for the removal of snow & ice and maintenance

11. Upload option for Q#10-we have received one pdf file.



Identifying Impediments and Solutions to Sidewalk Projects

12. Do you require the owner of the sidewalk to provide assurance that the sidewalk will be maintained in the future, if constructed along State highways?

Answer	Response	%
Yes – can you provide an example of such an agreement? (If yes please describe, provide a link or attach to the survey the document in the next question)	5	63%
No	3	38%
Total	8	100%

Yes – can you provide an example of such an agreement? (If yes please describe, provide a link or attach to the survey the document in the next question)

1. Some areas/projects we have provided a MUA or MOU
2. basic language but no specific assurances or standards for maintenance
3. A maintenance agreement is preferred, but if the muni has an ordinance in place placing maintenance on the property owner, that will suffice.
4. Maintenance agreements

13. Upload option for Q#12-we haven't received any file.

14. Do you provide any incentives to owners to take responsibilities for the sidewalk along State highways?

Answer	Response	%
Yes(If yes please describe, provide a link or attach to the survey the document in the next question)	0	0%
No	8	100%
Total	8	100%

15. Upload option for Q#14-we haven't received any file.

16. Have you encountered reoccurring problems that have delayed or added cost to the sidewalk portion of the projects?

Answer	Response	%
Yes(If yes continue)	5	42%
No(If no end survey)	7	58%
Total	12	100%



Identifying Impediments and Solutions to Sidewalk Projects

17. What specific issues did you encounter that delayed or cancelled the sidewalk projects?(respondent can select one or several of the Responses)

Answer	Response	%
Obtaining municipal agreement for future ownership and maintenance of the sidewalks	2	40%
Obtaining property owner agreement for future ownership and maintenance of the sidewalks	0	0%
Acquire right-of-way for the sidewalk	2	40%
Acquire easement for the sidewalk	2	40%
Making the sidewalks or crosswalk connections ADA accessible	1	20%
Increased project costs	2	40%
Other	3	60%

Other

1. Stricter interpretation of stormwater treatment requirements drove up costs significantly. Also stricter interpretation of the details needed for temporary and construction easements.
2. Obtaining agreement from adjacent property owners, even though nearly all sidewalk construction is on public right-of-way. DC has very wide ROW on most streets.
3. It depends on the project what applies. Most times it is the refusal to maintain.

18. Would you like to recommend any specific best practices to assist in the implementation of sidewalk projects? & If yes please describe, provide a link or attach to the survey the document in the next question)

Answer	Response	%
Yes	2	40%
No	3	60%
Total	5	100%

Yes

Xxxx

Don't assume that sidewalk in-fill is simple. These projects can be very complex and costly if federally funded. Use state and local funds if the project is small enough. Otherwise, perform onsite scoping sufficient to gauge realistic cost of the project before starting.

19. Upload option for Q#18-we haven't received any file.



DOT OWN OR MAINTAIN SIDEWALKES: NO

6. Does the DOT own and maintain new sidewalks along State highways after they are constructed?		
Answer	Response	%
Yes	0	0%
No(End survey)	10	100%
Total	10	100%

9. Who is responsible for the ownership or maintenance of the sidewalk after it is constructed along State highways?		
Answer	Response	%
Property owner	2	25%
Local municipality	5	63%
Other	1	13%
Total	8	100%

10. Does your DOT have any specific policies or procedures for the maintenance or replacement of sidewalks after the construction by DOT for the owners of the sidewalk along State highways?	
Answer	Response
Yes (If yes please describe, provide a link or attach to the survey the document in the next question)	3
No	4
Total	7

Yes (If yes please describe, provide a link or attach to the survey the document in the next question)

1. <http://transportation.ky.gov/Bike-Walk/Documents/KYTC%20Pedestrian%20and%20Bicycle%20Travel%20Policy%20%202002.pdf>
2. It is standard practice that if sidewalks are removed during a construction project that the DOT replaces the sidewalks.
3. The Department isn't prescriptive however there are state law for the removal of snow & ice and maintenance



Identifying Impediments and Solutions to Sidewalk Projects

12. Do you require the owner of the sidewalk to provide assurance that the sidewalk will be maintained in the future, if constructed along State highways?

Answer	Response	%
Yes – can you provide an example of such an agreement? (If yes please describe, provide a link or attach to the survey the document in the next question)	4	67%
No	2	33%
Total	6	100%

Yes – can you provide an example of such an agreement? (If yes please describe, provide a link or attach to the survey the document in the next question)

Some areas/projects we have provided a MUA or MOU
 basic language but no specific assurances or standards for maintenance
 Maintenance agreements

13. Do you require the owner of the sidewalk to provide assurance that the sidewalk will be maintained in the future, if constructed along State highways? Empty file

14. Do you provide any incentives to owners to take responsibilities for the sidewalk along State highways?

Answer	Response	%
Yes (If yes please describe, provide a link or attach to the survey the document in the next question)	0	0%
No	6	100%
Total	6	100%



DOT OWN OR MAINTAIN SIDEWALKES: YES

6. Does the DOT own and maintain new sidewalks along State highways after they are constructed?		
Answer	Response	%
Yes	6	100%
No(End survey)	0	0%
Total	6	100%

16. Have you encountered reoccurring problems that have delayed or added cost to the sidewalk portion of the projects?		
Answer	Response	%
Yes(If yes continue)	3	75%
No(If no end survey)	1	25%
Total	4	100%

17. What specific issues did you encounter that delayed or cancelled the sidewalk projects?(respondent can select one or several of the Reponses)		
Answer	Response	%
Obtaining municipal agreement for future ownership and maintenance of the sidewalks	1	33%
Obtaining property owner agreement for future ownership and maintenance of the sidewalks	0	0%
Acquire right-of-way for the sidewalk	0	0%
Acquire easement for the sidewalk	1	33%
Making the sidewalks or crosswalk connections ADA accessible	0	0%
Increased project costs	0	0%
Other	2	67%

Other

1. Stricter interpretation of stormwater treatment requirements drove up costs significantly. Also stricter interpretation of the details needed for temporary and construction easements.
 2. Obtaining agreement from adjacent property owners, even though nearly all sidewalk construction is on public right-of-way. DC has very wide ROW on most streets.
-



Identifying Impediments and Solutions to Sidewalk Projects

18. Would you like to recommend any specific best practices to assist in the implementation of sidewalk projects? (If yes please describe, provide a link or attach to the survey the document in the next question)

Answer	Response	%
Yes	2	67%
No	1	33%
Total	3	100%

Yes

1. Xxx
 2. Don't assume that sidewalk in-fill is simple. These projects can be very complex and costly if federally funded. Use state and local funds if the project is small enough. Otherwise, perform onsite scoping sufficient to gauge realistic cost of the project before starting.
-

19. Are there any specific best practices you would recommend to assist in the implementation of sidewalk projects? Empty



Appendix C - Survey of Municipalities in Pennsylvania Results

Municipal Survey Results by Structure

1. What is the government structure of your municipality?		
Answer Choice	Response	%
Township	411	72%
Borough	123	21%
City	20	3%
Home Rule	15	3%
Other	5	1%
Total	574	100%

Township Government Responses

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	38	37%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	58	57%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	3	3%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	3	3%
Total	102	100%



Identifying Impediments and Solutions to Sidewalk Projects

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	94	90%
No	10	10%
Total	104	100%

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	10	6%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	34	21%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	61	37%
Limited municipal funding for the local share costs for construction of sidewalks	23	14%
Other	37	22%
Total	165	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	16	10%
No	148	90%
Total	164	100%



Identifying Impediments and Solutions to Sidewalk Projects

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	1	6%
It was a municipal priority	7	44%
Funding obtained from other sources	2	12%
Other	6	38%
Total	16	100%

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	4	25%
No	12	75%
Total	16	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
W Carey Project Description.pdf, 94.5KB,	Response
Total	1



Borough Government Responses

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	30	28%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	45	42%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	6	6%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	25	24%
Total	106	100%

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	83	78%
No	24	22%
Total	107	100%



Identifying Impediments and Solutions to Sidewalk Projects

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	5	5%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	10	9%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	57	53%
Limited municipal funding for the local share costs for construction of sidewalks	22	21%
Other	13	12%
Total	107	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	28	26%
No	79	74%
Total	107	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	5	19%
It was a municipal priority	8	30%
Funding obtained from other sources	9	33%
Other	5	19%
Total	27	100%



Identifying Impediments and Solutions to Sidewalk Projects

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	6	22%
No	21	78%
Total	27	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
Sidewalk costs 2015.pdf, 479.1KB,	Response
Total	1

City Government Responses

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	2	11%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	15	79%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	1	5%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	1	5%
Total	19	100%



Identifying Impediments and Solutions to Sidewalk Projects

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	16	89%
No	2	11%
Total	18	100%

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	1	6%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	1	6%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	13	72%
Limited municipal funding for the local share costs for construction of sidewalks	2	11%
Other	1	6%
Total	18	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	10	56%
No	8	44%
Total	18	100%



Identifying Impediments and Solutions to Sidewalk Projects

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	0	0%
It was a municipal priority	2	22%
Funding obtained from other sources	5	56%
Other	2	22%
Total	9	100%

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	2	22%
No	7	78%
Total	9	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0



Home Rule Government Responses

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	1	8%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	7	54%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	0	0%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	5	38%
Total	13	100%

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	12	92%
No	1	8%
Total	13	100%



Identifying Impediments and Solutions to Sidewalk Projects

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	0	0%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	1	8%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	5	38%
Limited municipal funding for the local share costs for construction of sidewalks	1	8%
Other	6	46%
Total	13	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	5	36%
No	9	64%
Total	14	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	1	20%
It was a municipal priority	0	0%
Funding obtained from other sources	1	20%
Other	3	60%
Total	5	100%



Identifying Impediments and Solutions to Sidewalk Projects

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	0	0%
No	5	100%
Total	5	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0

Other Government Responses

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	1	33%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	2	67%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	0	0%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	0	0%
Total	3	100%



Identifying Impediments and Solutions to Sidewalk Projects

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	2	67%
No	1	33%
Total	3	100%

7. How would you describe the ordinance?		
Answer Choice	Response	%
Sidewalks are required in all zoning districts	1	50%
Sidewalk are only required in commercial districts	0	0%
Sidewalks requirements can be waived based upon the circumstances by elected officials, the planning commission or other appointed body, or municipal building or code enforcement personnel	1	50%
A sidewalk impact fee can be paid in lieu of construction sidewalks	0	0%
Other	0	0%
Total	2	100%

8. Does the municipality own or maintain any sidewalks along State highways?		
Answer Choice	Response	%
Yes	1	20%
No	4	80%
Total	5	100%



Identifying Impediments and Solutions to Sidewalk Projects

9. What prompted your municipality's ownership of sidewalks along a State highway?		
Answer Choice	Response	%
A PennDOT project constructed the sidewalks and the municipality was required to take ownership	0	0%
The municipality constructed the sidewalks under a highway occupancy permit from PennDOT with its own funding	0	0%
The sidewalks were constructed under a joint funding program with PennDOT	0	0%
The sidewalks were constructed pursuant to grants or loans received from other Federal, state or local grant or loan programs including CDBG funds	1	100%
A developer constructed the sidewalks as a requirement of the municipality's zoning, subdivision and land development or other ordinance, and your municipality accepted a dedication of the sidewalks	0	0%
Other	0	0%
Total	1	100%

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	1	20%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	0	0%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	2	40%
Limited municipal funding for the local share costs for construction of sidewalks	0	0%
Other	2	40%
Total	5	100%



Identifying Impediments and Solutions to Sidewalk Projects

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	2	40%
No	3	60%
Total	5	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	0	0%
It was a municipal priority	1	50%
Funding obtained from other sources	1	50%
Other	0	0%
Total	2	100%

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	1	50%
No	1	50%
Total	2	100%



Identifying Impediments and Solutions to Sidewalk Projects

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0

Comparison

7. How would you describe the ordinance?	Township	Borough	City	Home Rule	Other
Answer Choice	92	81	16	12	2
Sidewalks are required in all zoning districts	11%	46%	50%	42%	50%
Sidewalk are only required in commercial districts	6%	1%	6%	8%	0%
Sidewalks requirements can be waived based upon the circumstances by elected officials, the planning commission or other appointed body, or municipal building or code enforcement personnel	58%	44%	31%	17%	50%
A sidewalk impact fee can be paid in lieu of construction sidewalks	4%	1%	0%	17%	0%
Other	21%	7%	13%	17%	0%



Identifying Impediments and Solutions to Sidewalk Projects

8. Does the municipality own or maintain any sidewalks along State highways?	Township		Borough		City		Home Rule		Other	
	#.	%	#.	%	#.	%	#.	%	#.	%
Answer Choice										
Yes	35	21%	54	49%	11	61%	4	29%	1	20%
No	135	79%	56	51%	7	39%	10	71%	4	80%
Total	170	100%	110	100%	18	100%	14	100%	5	100%

9. What prompted your municipality's ownership of sidewalks along a State highway?	Township		Borough		City		Home Rule		Other	
	#.	%	#.	%	#.	%	#.	%	#.	%
Answer Choice										
A PennDOT project constructed the sidewalks and the municipality was required to take ownership	4	12%	9	18%	3	27%	0	0%	0	0%
The municipality constructed the sidewalks under a highway occupancy permit from PennDOT with its own funding	3	9%	6	12%	0	0%	1	33%	0	0%
The sidewalks were constructed under a joint funding program with PennDOT	4	12%	1	2%	1	9%	0	0%	0	0%
The sidewalks were constructed pursuant to grants or loans received from other Federal, state or local grant or loan programs including CDBG funds	4	12%	11	22%	1	9%	0	0%	1	100%
A developer constructed the sidewalks as a requirement of the municipality's zoning, subdivision and land development or other ordinance, and your municipality accepted a dedication of the sidewalks	8	24%	4	8%	1	9%	0	0%	0	0%
Other	10	30%	20	39%	5	45%	2	67%	0	0%
Total	33		51		11		3		1	



Municipal Survey Results by Character

2. How would you classify the character of your community?		
Answer Choice	Response	%
Urban	59	10%
Village	47	8%
Suburban	126	22%
Rural	297	53%
Other	36	6%
Total	565	100%

Urban Character

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	8	17%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	30	63%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	1	2%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	9	19%
Total	48	100%

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	45	94%
No	3	6%
Total	48	100%



Identifying Impediments and Solutions to Sidewalk Projects

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	0	0%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	5	10%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	31	63%
Limited municipal funding for the local share costs for construction of sidewalks	9	18%
Other	4	8%
Total	49	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	19	39%
No	30	61%
Total	49	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	4	22%
It was a municipal priority	4	22%
Funding obtained from other sources	7	39%
Other	3	17%
Total	18	100%



Identifying Impediments and Solutions to Sidewalk Projects

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	5	28%
No	13	72%
Total	18	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
W Carey Project Description.pdf, 94.5KB,	Response
Total	1

Village Character

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	7	26%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	12	44%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	1	4%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	7	26%
Total	27	100%



Identifying Impediments and Solutions to Sidewalk Projects

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	20	74%
No	7	26%
Total	27	100%

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	3	10%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	1	3%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	15	50%
Limited municipal funding for the local share costs for construction of sidewalks	6	20%
Other	5	17%
Total	30	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	11	34%
No	21	66%
Total	32	100%



Identifying Impediments and Solutions to Sidewalk Projects

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	2	18%
It was a municipal priority	4	36%
Funding obtained from other sources	4	36%
Other	1	9%
Total	11	100%

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	3	27%
No	8	73%
Total	11	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
Response	
Sidewalk costs 2015.pdf, 479.1KB,	
Total	



Suburban Character

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	26	26%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	57	57%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	6	6%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	11	11%
Total	100	100%

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	85	87%
No	13	13%
Total	98	100%



Identifying Impediments and Solutions to Sidewalk Projects

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	4	4%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	23	21%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	46	42%
Limited municipal funding for the local share costs for construction of sidewalks	16	15%
Other	20	18%
Total	109	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	18	17%
No	90	83%
Total	108	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	1	6%
It was a municipal priority	6	33%
Funding obtained from other sources	3	17%
Other	8	44%
Total	18	100%



Identifying Impediments and Solutions to Sidewalk Projects

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	4	22%
No	14	78%
Total	18	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0

Rural Character

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	24	49%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	16	33%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	2	4%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	7	14%
Total	49	100%



Identifying Impediments and Solutions to Sidewalk Projects

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	39	75%
No	13	25%
Total	52	100%

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	7	8%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	14	15%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	38	41%
Limited municipal funding for the local share costs for construction of sidewalks	14	15%
Other	19	21%
Total	92	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	7	8%
No	84	92%
Total	91	100%



Identifying Impediments and Solutions to Sidewalk Projects

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	0	0%
It was a municipal priority	2	33%
Funding obtained from other sources	2	33%
Other	2	33%
Total	6	100%

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	0	0%
No	6	100%
Total	6	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0



Other

5. How would you describe the requirements of your ordinance?		
Answer Choice	Response	%
Property owners must maintain sidewalks in acceptable condition	7	37%
Property owners must maintain sidewalks in acceptable condition and they are notified that they must repair them if problems are reported	12	63%
Sidewalks are inspected on a regular basis and property owners are notified to make repairs if problems are detected	0	0%
Sidewalks are inspected on a regular basis, property owners are notified to make repairs, and if not repaired the municipality will repair and bill the owners and/or lien the properties	0	0%
Total	19	100%

6. Do you have a zoning ordinance, subdivision and land development ordinance or other ordinance that requires the construction of sidewalks?		
Answer Choice	Response	%
Yes	18	90%
No	2	10%
Total	20	100%



Identifying Impediments and Solutions to Sidewalk Projects

10. Currently in Pennsylvania, construction of sidewalks by PennDOT along State highways requires that the local municipality take ownership. What are the challenges your municipality faces that make you less likely to agree to take ownership?		
Answer Choice	Response	%
Lack of guidelines for maintenance requirements and estimating costs for sidewalk installations	3	10%
Limited municipal human resources to perform maintenance activities, snow removal, and repairs	4	14%
Limited municipal funding to perform maintenance activities, snow removal, and repairs	8	28%
Limited municipal funding for the local share costs for construction of sidewalks	3	10%
Other	11	38%
Total	29	100%

11. Have you used municipal funds to construct sidewalks on a State highway?		
Answer Choice	Response	%
Yes	6	21%
No	23	79%
Total	29	100%

12. Why did you use municipal funding?		
Answer Choice	Response	%
No state funding available	0	0%
It was a municipal priority	2	33%
Funding obtained from other sources	2	33%
Other	2	33%
Total	6	100%



Identifying Impediments and Solutions to Sidewalk Projects

13. Would you like to provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks?		
Answer Choice	Response	%
Yes	1	17%
No	5	83%
Total	6	100%

14. Please provide any cost information on what is spent by your municipality on replacing or constructing new sidewalks. Please provide the information in cost per square yard or square foot (attach the document)	
	Response
Total	0

Comparison

7. How would you describe the ordinance?	Urban	Village	Suburban	Rural	Other
Answer Choice	43	20	84	38	18
Sidewalks are required in all zoning districts	49%	45%	23%	24%	17%
Sidewalk are only required in commercial districts	0%	5%	7%	3%	6%
Sidewalks requirements can be waived based upon the circumstances by elected officials, the planning commission or other appointed body, or municipal building or code enforcement personnel	42%	35%	50%	55%	50%
A sidewalk impact fee can be paid in lieu of construction sidewalks	2%	0%	7%	0%	0%
Other	7%	15%	13%	18%	28%



Identifying Impediments and Solutions to Sidewalk Projects

8. Does the municipality own or maintain any sidewalks along State highways?	Urban		Village		Suburban		Rural		Other	
	#.	%	#.	%	#.	%	#.	%	#.	%
Answer Choice										
Yes	27	53%	16	48%	39	35%	15	16%	8	27%
No	24	47%	17	52%	71	65%	79	84%	22	73%
Total	51	100%	33	100%	110	100%	94	100%	30	100%

9. What prompted your municipality's ownership of sidewalks along a State highway?	Urban		Village		Suburban		Rural		Other	
	#.	%	#.	%	#.	%	#.	%	#.	%
Answer Choice										
A PennDOT project constructed the sidewalks and the municipality was required to take ownership	4	15%	3	21%	5	13%	2	15%	2	25%
The municipality constructed the sidewalks under a highway occupancy permit from PennDOT with its own funding	3	12%	0	0%	5	13%	1	8%	1	13%
The sidewalks were constructed under a joint funding program with PennDOT	1	4%	1	7%	4	11%	0	0%	0	0%
The sidewalks were constructed pursuant to grants or loans received from other Federal, state or local grant or loan programs including CDBG funds	4	15%	4	29%	4	11%	3	23%	2	25%
A developer constructed the sidewalks as a requirement of the municipality's zoning, subdivision and land development or other ordinance, and your municipality accepted a dedication of the sidewalks	3	12%	1	7%	7	18%	1	8%	1	13%
Other	11	42%	5	36%	13	34%	6	46%	2	25%
Total	26		14		38		13		1	

