



U.S. Department of Transportation
Federal Highway Administration

STRATEGIES FOR ACCELERATING MULTIMODAL PROJECT DELIVERY



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OCTOBER
2018

FHWA-HEP-19-006

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. FHWA-HEP-19-006	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Strategies for Accelerating Multimodal Project Delivery		5. Report Date October 2018	
		6. Performing Organization Code N/A	
7. Author(s) Mary Taylor Raulerson (KAI), Amanda Leahy (KAI), Conor Semler (KAI), Susan Mah (KAI), Dan Gelinne (HSRC), Kristen Brookshire (HSRC), Wes Kumfer (HSRC), Oana Leahu-Aluas (Cadmus), Mark Stout (Mark L. Stout Consulting), and Brian Smith		8. Performing Organization Report No. N/A	
9. Performing Organization Name and Address Cadmus, 7700 Old Georgetown Road, Bethesda, MD 20814 Kittelson (KAI), 851 SW 6th Avenue, Suite 600, Portland, OR 97204 University of North Carolina Highway Safety Research Center (HSRC), 730 Martin Luther King Jr. Blvd, Suite 300, Campus Box 3430 Chapel Hill, NC 27599-3430 Mark L. Stout Consulting, 144 Hillborn Drive, Newtown, PA 18940 Brian Smith, 701 E. Ballantre Drive, Shelton, WA 98584		10. Work Unit No. (TRAVIS) N/A	
		11. Contract or Grant No. DTFH6117D00007	
12. Sponsoring Agency Name and Address U.S. Department of Transportation 1200 New Jersey Ave. SE Washington, D.C.		13. Type of Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract Transportation agencies face growing demand for an integrated transportation network that safely and efficiently move people. Motorists, freight, transit passengers, bicyclists, and pedestrians, including individuals with disabilities, have unique needs, and infrastructure is being adapted to the multimodal nature of travel. The project development process for multimodal projects - those intended to serve bicyclists and pedestrians - can experience delays and challenges as projects move from one phase to the next. This Workbook is intended to help transportation agencies and practitioners identify top strategies for accelerating multimodal infrastructure delivery. This Workbook describes thirteen (13) key strategies that have been used effectively to accelerate multimodal projects and provides examples and case studies for each.			
17. Key Words Multimodal, bicycle, bike, pedestrian, sidewalk, walking, project delivery		18. Distribution Statement This document is available to the public on the FHWA website at: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 54	22. Price N/A

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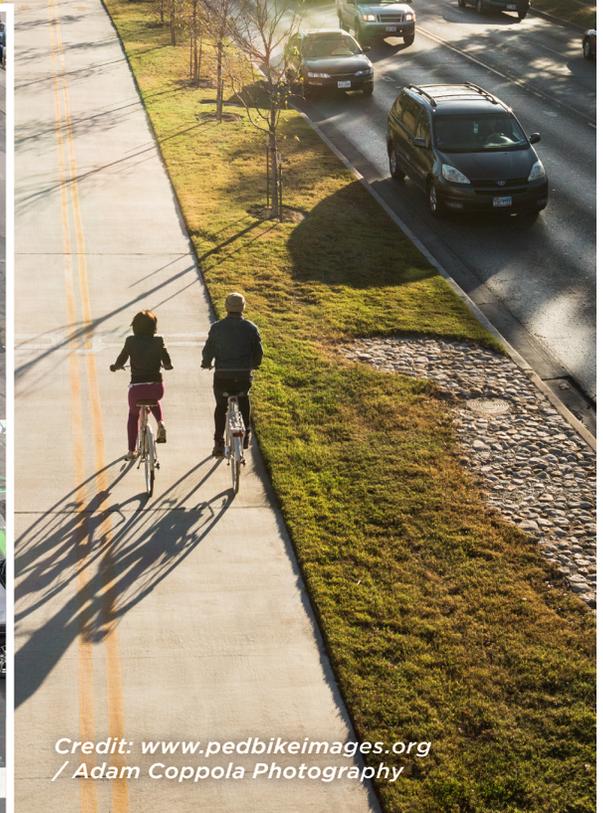
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ACKNOWLEDGMENTS

FHWA would like to express appreciation to the following organizations for providing information used in developing this study.

STAKEHOLDERS/PRACTITIONERS

Erin Aleman | Illinois Department of Transportation

Mike Amsden | Chicago Department of Transportation

Randall “Keith” Benjamin II | City of Charleston Department of Traffic and Transportation

Scott Boyer | Ohio Department of Transportation

Ken Brubaker | Colorado Department of Transportation

DeWayne Carver | Florida Department of Transportation

Richard Crossler-Laird | Oregon Department of Transportation

Charles H. Davies | Pennsylvania Department of Transportation

James P. Day | California Department of Transportation

Marlon Flournoy | California Department of Transportation

Jeff Harris | Utah Department of Transportation

Mary Hoy | Ohio Department of Transportation

Chris Kluth | San Diego Association of Governments

Kevin Kokes | North Central Texas Council of Governments

Kari Martin | Michigan Department of Transportation

Mary O’Brien | Florida Department of Transportation

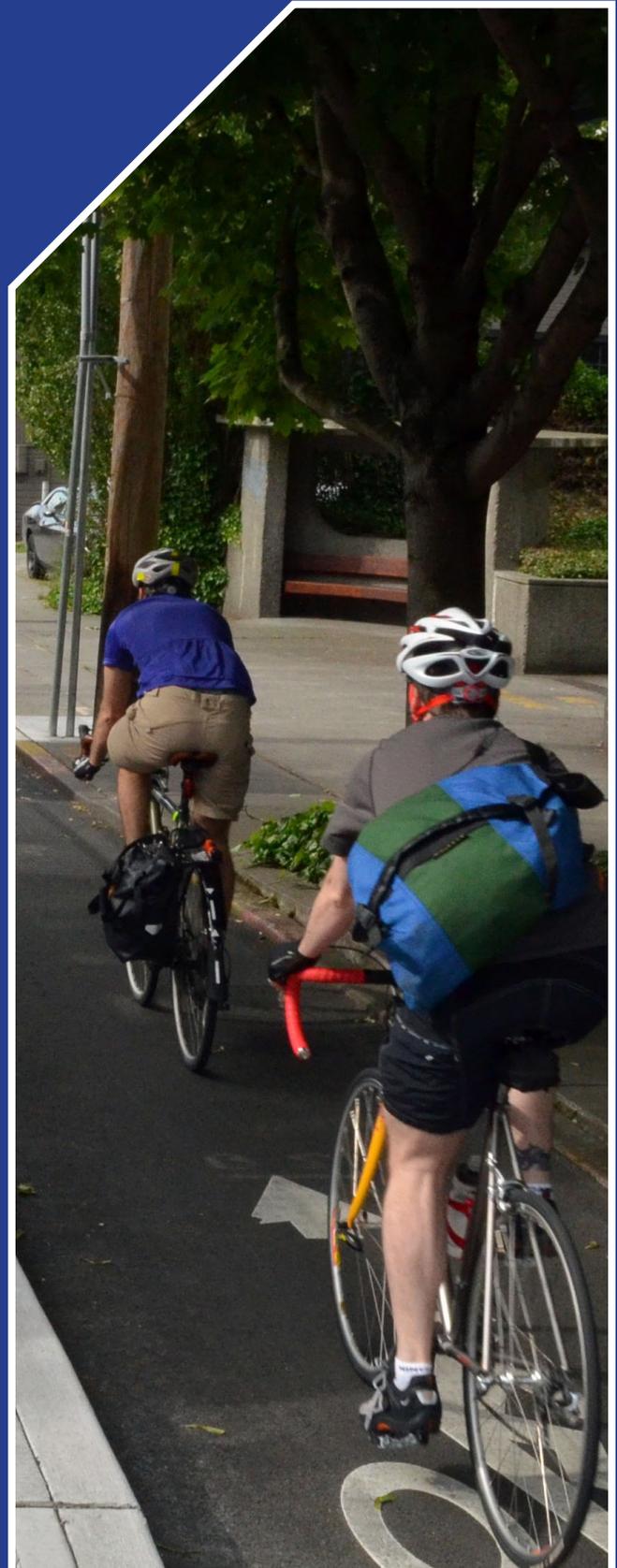
Beth Thomas | City of Berkeley

Karla Weaver | North Central Texas Council of Governments

Susan Wesch | North Central Texas Council of Governments

Amanda Woodall | Chicago Department of Transportation

Yves Zsutty | City of San Jose



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I. Executive Summary

Transportation agencies across the United States face growing demand for an integrated transportation network that safely and efficiently move people. Motorists, freight, transit passengers, bicyclists, and pedestrians, including individuals with disabilities, have unique needs, and infrastructure is being adapted to the multimodal nature of travel. The project development process for multimodal projects – those intended to serve bicyclists and pedestrians – can experience delays and challenges as projects move from one phase to the next. This Workbook is intended to help transportation agencies and practitioners to identify top strategies for accelerating multimodal project delivery.

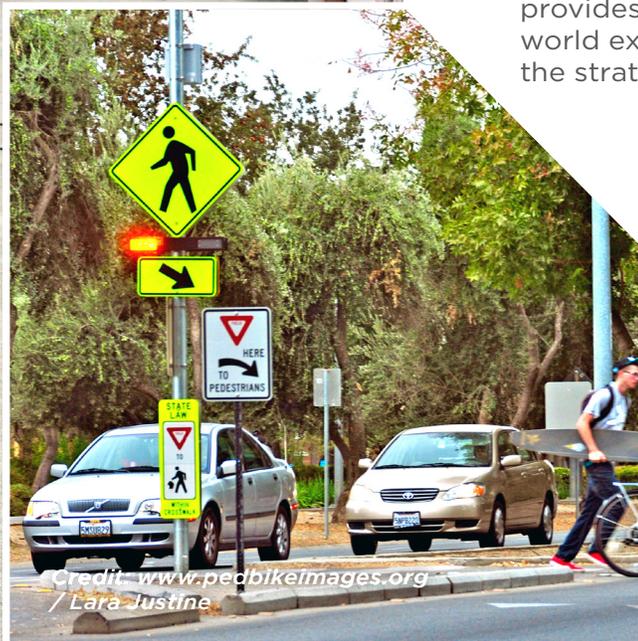
Practitioners working for State Departments of Transportation, local public agencies, regional agencies, and others provided input on the challenges that they typically face when implementing multimodal projects. Common challenges addressed in this Workbook include:

- Programming Delays and Funding Source Challenges;
- Difficulties Competing for Limited Funding;
- Inadequate Internal and External Coordination;
- Inadequate Community Input;
- Design Guidelines Insensitive to Context;
- Lengthy Environmental Reviews; and
- Insufficient Staff Capacity or Technical Knowledge.

The strategies highlighted address each project development phase of:

- Planning and Project Scoping;
- Environmental Review;
- Design; and
- Funding.

The Workbook is designed to be viewed electronically so that readers can quickly find and link to applicable strategies. The Workbook provides numerous relevant resources and real-world examples of projects that have applied the strategies featured in this document.



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II. Background and Purpose of the Workbook

Transportation agencies across the United States face growing demand for transportation networks that meet the needs of a wide range of users. Motorists, transit passengers, bicyclists, and pedestrians, including individuals with disabilities, have unique needs and infrastructure is being adapted to the multimodal nature of travel. These agencies must also address sometimes competing goals, including safety; environmental protection; citizens' connectivity to jobs, health care, and other critical destinations, particularly in rural communities; mobility; and economic competitiveness. The transportation project development process, from early planning stages to final design and construction, also needs to evolve to address and meet these goals.

While project development often results in high-quality constructed infrastructure, the process can experience delays and challenges as projects move from one phase to the next. This is true for multimodal projects — particularly those intended to serve bicyclists and pedestrians, but also including transit-supportive roadway projects. Even at the earliest stages of planning, projects can be delayed due to a wide range of issues. Timelines for multimodal infrastructure projects can cover several years while demand for the infrastructure continues to build.

The United States Department of Transportation (USDOT) Strategic Plan lays out four core goals: safety, infrastructure, accountability, and innovation. Each of these goals is supported by strategic objectives that emphasize the need to accelerate project delivery.

This Workbook is intended to help transportation agencies and practitioners identify top strategies for accelerating multimodal infrastructure delivery. Although each phase of the project development process presents unique challenges, numerous opportunities also exist to turn plans into projects more quickly, and this Workbook covers both topics.

HOW TO USE THIS WORKBOOK

This Workbook can be used by transportation agencies to assess their current project delivery practices, clarify misconceptions about specific USDOT requirements and policies relating to project delivery, and lay the groundwork for improving and accelerating the delivery of their multimodal projects. This Workbook has been organized to correspond to the different phases of a typical project development process. From planning and programming through design and construction, the strategies presented in this Workbook offer ideas and inspiration from agencies that have successfully implemented them. The Workbook is designed to be viewed electronically so that readers can quickly find and link to applicable strategies. The Workbook provides numerous relevant resources and real-world examples of projects that have applied the strategies featured in this document. References and hyperlinks are located in Section V.

This Workbook describes thirteen (13) key strategies that have been used effectively to accelerate multimodal projects. Each strategy is written as a standalone section. The following Workbook Navigation Guides point readers to the most useful strategies to overcome existing or potential challenges to delivering multimodal projects efficiently. The first guide lists the most relevant strategies within each phase of project development. The second guide lists the strategies that are most relevant to key challenges expressed by practitioners.

GUIDE 1 – STRATEGIES RELATED TO PROJECT DEVELOPMENT PHASE

PROJECT DEVELOPMENT PHASE

MOST RELEVANT STRATEGIES

Planning and Project Scoping

- 1 Develop Prioritization Methods for Multimodal Projects
- 2 Allow Flexibility in Funding Smaller, Low-Cost Projects and Project Elements
- 3 Identify Multimodal Needs Early in Project Development
- 4 Improve Public Involvement
- 11 Communicate Benefits of Multimodal Projects and Improve Performance Data for Evaluating Them
- 12 Increase Staff Capacity and Knowledge

Environmental Review

- 5 Make Appropriate and Effective Use of Categorical Exclusions (CEs)
- 6 Document Multimodal Elements in the Project's Purpose and Need Statement
- 12 Increase Staff Capacity and Knowledge
- 13 Provide Technical Assistance to Support Small and Rural Communities

Design

- 7 Incorporate Context-Based Design into State Design Processes and Manuals
- 8 Apply and Leverage the Innovative Multimodal Treatments in the MUTCD
- 12 Increase Staff Capacity and Knowledge
- 13 Provide Technical Assistance to Support Small and Rural Communities

Funding

- 1 Develop Prioritization Methods for Multimodal Projects
- 2 Allow Flexibility in Funding Smaller, Low-Cost Projects and Project Elements
- 9 Promote Flexibility in Existing Funding Sources
- 10 Allocate New Funding Sources to Implement Multimodal Infrastructure and Leverage Existing Programs
- 11 Communicate Benefits of Multimodal Projects and Improve Performance Data for Evaluating Them
- 13 Provide Technical Assistance to Support Small and Rural Communities

GUIDE 2 – STRATEGIES RELATED TO KEY CHALLENGES

KEY CHALLENGES

MOST RELEVANT STRATEGIES

Programming Delays and Funding Source Challenges

- 1 Develop Prioritization Methods for Multimodal Projects
- 2 Allow Flexibility in Funding Smaller, Low-Cost Projects and Project Elements
- 6 Document Multimodal Elements in the Project’s Purpose and Need Statement
- 9 Promote Flexibility in Existing Funding Sources
- 10 Allocate New Funding Sources to Implement Multimodal Infrastructure and Leverage Existing Programs
- 13 Provide Technical Assistance to Support Small and Rural Communities

Difficulties Competing for Limited Funding

- 1 Develop Prioritization Methods for Multimodal Projects
- 3 Identify Multimodal Needs Early in Project Development
- 9 Promote Flexibility in Existing Funding Sources
- 10 Allocate New Funding Sources to Implement Multimodal Infrastructure and Leverage Existing Programs
- 11 Communicate Benefits of Multimodal Projects and Improve Performance Data for Evaluating Them
- 13 Provide Technical Assistance to Support Small and Rural Communities

Inadequate Internal and External Coordination

- 3 Identify Multimodal Needs Early in Project Development
- 6 Document Multimodal Elements in the Project’s Purpose and Need Statement

Inadequate Community Input

- 4 Improve Public Involvement

Design Guidelines Insensitive to Context

- 4 Improve Public Involvement
- 7 Incorporate Context-Based Design into State Design Processes and Manuals
- 8 Apply and Leverage the Innovative Multimodal Treatments in the MUTCD

Lengthy Environmental Reviews

- 4 Improve Public Involvement
- 5 Make Appropriate and Effective Use of Categorical Exclusions (CEs)
- 6 Document Multimodal Elements in the Project’s Purpose and Need Statement

Insufficient Staff Capacity or Technical Knowledge

- 8 Apply and Leverage the Innovative Multimodal Treatments in the MUTCD
- 12 Increase Staff Capacity and Knowledge
- 13 Provide Technical Assistance to Support Small and Rural Communities

III. Key Challenges

Delays and challenges in project delivery are not unique to multimodal infrastructure projects. All transportation projects tend to encounter obstacles, but the process for planning and developing multimodal projects includes some unique challenges.

To develop this Workbook, practitioners working for State DOTs, local and regional transportation agencies, and others provided input on the challenges they typically face when implementing multimodal infrastructure projects. Small group interviews, interactive webinars, and one-on-one discussions were used to identify numerous challenges agencies encounter when delivering multimodal projects. The following challenges were shared across numerous agencies and can serve as a template for others to begin identifying areas where projects may encounter delays.

PROGRAMMING DELAYS AND FUNDING SOURCE CHALLENGES

The process used to add projects to a State's Transportation Improvement Program (STIP), Metropolitan Transportation Plan (MTP), and Transportation Improvement Program (TIP) can be difficult for a project sponsor to navigate. As a result, project sponsors can be reluctant to rely on these sources of funding when others are available. Some stakeholders perceive that projects relying on Federal funding sources experience delays compared to those using local or other State funds.

DIFFICULTIES COMPETING FOR LIMITED FUNDING

In many States, stakeholders reported that the transportation planning, programming, and prioritization process is geared primarily towards improving vehicle miles traveled (VMT). In cases where funding for safety improvements is being prioritized, the number of motor vehicle crashes tends to obscure the number of nonmotorized crashes. In addition, the lack of adequate multimodal infrastructure reduces the use of non-automobile modes. When

prioritizing projects using these types of criteria, it becomes difficult for agencies to justify spending funds on active transportation projects.

INADEQUATE INTERNAL AND EXTERNAL COORDINATION

Nearly every stakeholder interaction included a discussion about interdepartmental coordination and collaboration across disciplines. This issue is often discussed but seems to be rarely solved: agency staff remain in their respective silos, so that various departments within an agency, as well as across agencies, can struggle to coordinate on project delivery.

INADEQUATE COMMUNITY INPUT

Public involvement is an important part of project development process, and the agency and stakeholders may not desire to fast-track this part of the process. The timing of when community input occurs is important. Taking time to gather meaningful community input early on, especially on issues that the agency previously has struggled to achieve community buy-in, can result in higher-quality projects that meet less resistance from key constituencies during and after implementation. In addition, minimum State and Federal requirements for obtaining public input (e.g., public hearings or newspaper advertisements) are insufficiently proactive to allow agencies to effectively engage with project stakeholders at times during project development when changes are more easily incorporated.

DESIGN GUIDELINES INSENSITIVE TO CONTEXT

Although Federal guidance promotes a context-sensitive approach to project development, this approach does not always play out in practice. The guidance and standards provided in State and local transportation agency design manuals may differ, which can complicate projects with shared ownership. Design practices that are exclusively auto-oriented can clash with

more inclusive design approaches even when guidance promotes flexibility. The design exception process, when used, may be viewed as a difficult process that will delay the project.

LENGTHY ENVIRONMENTAL REVIEWS

While many of the projects discussed with practitioners during the development of this Workbook appeared to be eligible for categorical exclusions under the regulations implementing the National Environmental Policy Act (NEPA), many of the projects still underwent the types of lengthy environmental reviews typically reserved for larger roadway or “capital projects.” A one-size-fits-all approach to applying NEPA requirements may not be appropriate for multimodal projects with small environmental footprints, beneficial impacts, and relatively low costs, and which do not involve unusual circumstances as defined in the regulations (23 CFR 771.117 and 118).

INSUFFICIENT STAFF CAPACITY OR TECHNICAL KNOWLEDGE

An agency’s ability to accelerate project delivery can be constrained by the availability of staff to manage and move projects from one phase of development to the next. Several agencies mentioned challenges with accelerated delivery of local projects through Vision Zero programs: in some cases, more money was available for projects, but staff were stretched thin. Other agencies lack opportunities to bring their designers and planners up to speed on the latest research and best practices. The ability to travel for conferences and training is often limited at the State and local level, resulting in few opportunities for staff to meet with peers and share experiences. Bringing technical training to staff is an alternative approach, but funding for this type of activity is also limited.

IV. Top Strategies for Accelerating Multimodal Project Delivery

The strategies presented in this section are organized by the project development phase in which the strategy would be applied. The information provided includes the constraint or challenge addressed by the strategy; a description of the strategy; the likely effectiveness of the strategy in terms of time and cost savings; and the strategy’s applicability and transferability to other transportation agencies. This summary information is followed by examples and case studies of successful applications (including references and links to more information). Some case studies have been expanded to provide even more detail. These top strategies have been successfully applied by one or more transportation agencies and are not intended to be an exhaustive list of all the possible ways an agency could accelerate multimodal project delivery.

PLANNING AND PROJECT SCOPING AND SELECTION

1 DEVELOP PRIORITIZATION METHODS FOR MULTIMODAL PROJECTS

STRATEGY OVERVIEW

Multimodal projects compete for funding primarily

1. Through dedicated active transportation funding sources, as a standalone pedestrian or bicycle project or grouped listing (see Strategy 2), or
2. As part of a larger infrastructure project (integrated project).

In the former case, projects can be delayed when the project turns out to be ineligible for a particular grant funding source. Developing a process and criteria to examine eligible capital projects and review grant requirements helps determine the viability and appropriateness of opportunities and avoids time wasted seeking funding from inappropriate sources.

In the latter case, the sheer number of users of the auto mode can dominate the ratings when project prioritization criteria focus on a small number of factors, such as vehicle-miles traveled or vehicular level of service. Implementing a scoring process that includes pedestrian and bicycle-related prioritization criteria and/or that weights projects differently when they include multimodal elements or could help multimodal projects compete on a more level playing field with other infrastructure projects. The specific criteria, methods, and requirements used to compare projects should reflect both the funding program's goals and the goals of the communities in which the projects would be located. The project selection and prioritization process should identify the criteria and process for prioritizing implementation of transportation plan elements (including multimodal trade-offs) for inclusion in the Transportation Improvement Program (TIP) and any changes in priorities from previous TIPs.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Difficulties competing for limited funding.

EFFECTIVENESS

- Developing a process and criteria to examine eligible capital projects and review grant requirements can avoid time spent seeking funding from inappropriate sources.

This strategy is supported by Federal law on the funding of bicycle transportation and pedestrian walkways: "Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted" 23 U.S.C. 217 (g) (1). It is also supported by Federal law on National Highway System design criteria: "A design for new construction, reconstruction, resurfacing (except for maintenance resurfacing), restoration, or rehabilitation of a highway on the National Highway System (other than a highway also on the Interstate System) shall consider... access for other modes of transportation" 23 U.S.C. 109 (c)(1)(d).

APPLICABILITY & TRANSFERABILITY

- A project prioritization program that incorporates multimodal factors can be used by any transportation agency. When implemented, multimodal projects have a better chance of successfully obtaining funding and moving forward toward implementation.
- A project review process can be used by any transportation agency. When implemented, time is spent up front identifying the most appropriate funding source(s) for the project, avoiding substantially more wasted time later when a grant application is rejected because the project was ineligible for the funding source.

EXAMPLES AND CASE STUDIES

Case study examples are provided both for standalone pedestrian and bicycle projects and for integrated projects (projects which include multimodal elements).

Standalone Projects/Dedicated Funding for Active Transportation

A *City of San Jose Department of Transportation* created Grant Funding Prioritization Guidelines which outline a process and criteria to examine eligible capital projects and review grant requirements to determine the viability and appropriateness of a grant opportunity. This strategic approach examines each grant opportunity against the overall needs of its capital program. One specific criterion used in the City's grant funding prioritization process is connectivity to multimodal networks.

B *Arizona DOT's (ADOT) long-range transportation plan (LRTP), "What Moves You Arizona"* is structured as more of a policy document rather than a list of specific projects. Projects are assigned to three broad investment categories:

- Preservation – activities that preserve transportation infrastructure by sustaining asset life;
- Modernization – highway improvements that upgrade efficiency, functionality, and safety without adding capacity; and
- Expansion – improvements that add transportation capacity through the addition of new facilities and/or services.

Each of these categories has its own evaluation criteria and budget. Under this approach, low-cost multimodal projects do not have to compete with larger capital projects because they are funded with different pots of money.

C *Space Coast Transportation Planning Organization (SCTPO)* created their Complete Streets program to identify, prioritize and fund multimodal projects within their region. They apply a set of criteria that include both transportation and land use factors to foster successful multimodal projects. Some of the criteria include:

- Multimodal safety
- Land uses/generators of multimodal trips
- Permeability or number of pedestrian crossing opportunities of the existing roadway
- Posted and design speed of roadway
- Location within defined redevelopment areas

To be eligible for funding, local government applicants must have an adopted Complete Streets policy.



SPACE COAST TRANSPORTATION PLANNING ORGANIZATION
**COMPLETE STREETS
EVALUATION METHODOLOGY**
**DEVELOPMENT AND
PROJECT SCREENING**
FINAL REPORT | JANUARY 2014

EXAMPLES AND CASE STUDIES CONTINUED

Projects with Multimodal Elements

D *Maine DOT Batch Procurement and Dissemination of Rectangular Rapid Flashing Beacons (RRFB)* - MaineDOT is implementing a progressive program to improve pedestrian safety as part of its Strategic Highway Safety Plan (SHSP) and has made the selection of RRFBs one of their common pedestrian countermeasures during the past several years. In addition to installing RRFBs through their typical project development process, the agency has reached out to communities to become partners in the installation and maintenance of RRFBs. Maine DOT has created a single procurement-only contract for RRFBs where municipalities pay for installation outside the federal contract. This allows MaineDOT to support the countermeasure on smaller scale projects throughout the State avoiding the somewhat duplicative and sometimes lengthy process associated with multiple federal contracts.

The agency's selection process requires that projects: be site specific or systemic; consistent with the SHSP; correct or improve a hazardous road location; and/or address a highway safety problem. They have taken a data driven and systemic approach to rectangular rapid flashing beacons for crosswalks that uses crash data, information from the public, and expertise from local public works.

Under this program, there are three ways an RRFB can be installed at a location in accordance with MaineDOT's Crosswalk Policy as a part of this RRFB project.

1. Municipality participates in a crosswalks and sidewalks training course and leaves with a set of RRFBs to install at an appropriate location.
2. MaineDOT receives a specific request to install RRFB at a location deemed to be unsafe and after a site review/discussion it is determined to be an appropriate location.
3. MaineDOT Pedestrian Forums, held in cities and towns across the State with high numbers of pedestrian crashes, identify an unsafe location and a team of experts determine an RRFB is an appropriate countermeasure.

To encourage local agencies to be involved in the process, MaineDOT contracts for RRFBs have been exclusively for procurement. There is no construction phase included in the contract. RRFBs are installed outside

the federal contract with local forces using local funds. Communities are responsible for maintaining the RRFBs and a list of locations is kept by MaineDOT in accordance with the MUTCD Interim Approval (IA-21).

Tailoring the Project Development Process and Funding to the Project Size

Small projects should not be subject to the same processes required of large-scale transportation projects and should be delivered in much shorter timelines. USDOT and FHWA have developed numerous resources to offer guidance on ways to simplify the project development process and funding requirements for small scale projects. Some of the methods that are most relevant to multimodal projects include the use of Categorical Exclusions and Programmatic Agreements to accelerate the environmental review process (see Strategy 5) and the allocation of Federal funding for small projects (see Strategy 2).

E *Maryland DOT* is required by a 2017 law to develop a scoring system for major transportation projects.

Measure 1 (the degree to which the project is projected to increase the use of walking, biking, and transit) under Goal 5 (Community Vitality) provides points for:

- Treatments that encourage non-motorized transportation (including roadway design elements, wayfinding, and transit-oriented development),
- Improvements to existing bicycle, pedestrian, and transit facilities,
 - New bicycle, pedestrian, and transit facilities, and
 - Inclusion in a bicycle or pedestrian plan.

F

Virginia SMART SCALE

Virginia DOT (VDOT) developed SMART SCALE to guide project selection and ensure that resources are spread equitably across the State and among different types of projects.

The Commonwealth of Virginia uses a complex, quantitative scoring system to rank transportation projects. Mandated by a 2014 law, the SMART SCALE system is directed by the Commonwealth Transportation Board and implemented by the Office of the Secretary of Transportation. The State describes the system as “Virginia’s data-driven prioritization process to fund the right transportation projects that generate the greatest benefit for taxpayers.”

SMART SCALE uses 14 measures grouped into six factors. The factors are weighted differently by geographic type (urban, rural, etc.). Points are added to highway projects and standalone bicycle or pedestrian projects under Measure A.3, Access to Multimodal Choices, “for projects that enhance interconnections among modes, provide accessible and reliable transportation for all users, encourage travel demand management, and potential to support incident management.”

Although Measure A.3 includes transit, park-and-ride, and other components, specific bicycle and pedestrian scores are also included as follows:

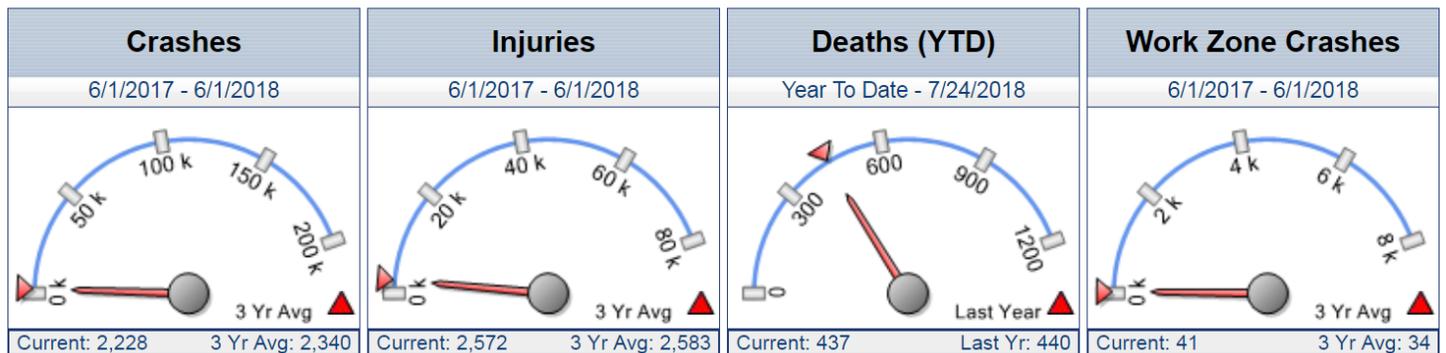
- When a project constructs or replaces on- or off-road bicycle facilities, buffered or clearly delineated facilities are required.
- When a project constructs or replaces pedestrian facilities, supporting infrastructure such as sidewalks, pedestrian signals, marked crosswalks, refuge islands, and other treatments are required as appropriate.

A “yes” for either of these components is rewarded with 1.5 points, out of a maximum 5 points possible for Measure A.3. The Virginia SMART SCALE system then applies a “scaling” process that multiplies the final score by the number of new peak-period non-single occupant vehicle users.

The SMART SCALE Dashboard tracks the progress of all projects in terms of schedule, project delivery and budget.

Safety

District: Counties Cities Focus Area: (not applied to YTD Deaths)



VDOT’s Smart Scale Dashboard Focused on Bicycle and Pedestrian Safety

STRATEGY OVERVIEW

To receive Federal funds, projects must be identified in the statewide transportation improvement program/transportation improvement program (STIP/TIP) and meet additional requirements for the specified funding program. Multimodal projects may be implemented as standalone projects (e.g., a trail project) or as multimodal elements within a larger project (e.g., sidewalk widening or pedestrian-friendly signal timing as part of a roadway new construction and reconstruction project). Because of the STIP/TIP review and approval process, it can take up to nine (9) months to add a project to this list. For smaller scale projects, it can take more time to add the project to the STIP/TIP than it would to construct the project. Standalone bicycle and pedestrian projects are often small in scale and cost and may not warrant the time and effort needed to be listed on the STIP/TIP. For a small project, the effort (staff time and cost) of programming a project can seem out of proportion with the amount of project funds allocated.

Grouped listings aggregate individual projects of a similar project type into one fundable package within the STIP/TIP, thus providing flexibility to fund small scale projects as they become ready for funding and does not require the additional time to gain an individual spot on the STIP/TIP. Projects may be grouped by function, work type, and/or geographic area using the applicable classifications under 23 CFR 771.117(c) and (d) and/or 40 CFR 93. For example, a multimodal project potentially could be grouped as a pedestrian and bicycle project (in air quality attainment areas), or as a safety project (e.g., railroad/highway crossings; projects that correct, improve, or eliminate a hazardous location or feature; pavement resurfacing and/or rehabilitation; median additions, etc.). In nonattainment and maintenance areas, project classifications must be consistent with the "exempt project" classifications contained in the Environmental Protection Agency (EPA) transportation conformity regulations (40 CFR 93, subpart A).

Bundled projects can also support acceleration of other phases of implementation, such as the procurement of batches of traffic control devices.

Early public involvement can identify community values and concerns proactively and avoid delays during later stages of project delivery.

According to FHWA's Fiscal Management Information System (FMIS), a total of \$970 million was obligated to projects coded as pedestrian or bicycle projects. About 42% of this funding came from the Transportation Alternatives Set-Aside, about 20% came from the Surface Transportation Block Grant Program, and about 17% came from Congestion Mitigation and Air Quality Improvement (CMAQ) program. The FMIS tracks data related to all highway projects financed with Federal-aid Highway Funds and uses information provided by State DOTs. While FMIS is the most comprehensive data source on the expenditure of Federal funds on bicycling and walking, it describes only the amount of money that is spent on a project, and not how it is spent.

**CONSTRAINTS/
CHALLENGES
ADDRESSED**

- Programming delays and funding source challenges

EFFECTIVENESS

- Allowing flexibility in funding smaller, low-cost project elements through grouped listings reduces the time needed to program projects and secure funding to deliver smaller scale multimodal infrastructure.

APPLICABILITY & TRANSFERABILITY

- The use of grouped listings has widespread applicability to STIPs and TIPs. However, this strategy would not apply for regionally significant projects or projects with potentially adverse emissions impacts and additional requirements pertaining to those located in air quality non-attainment and maintenance areas.

Pedestrian and bicycle projects are potentially eligible to receive funds through these surface transportation programs:

BUILD: Better Utilizing Investments to Leverage Development Transportation Discretionary Grant program

INFRA: Infrastructure for Rebuilding America

TIFIA: Transportation Infrastructure Finance and Innovation Act (loans)

FTA: Federal Transit Administration Capital Funds

ATI: Associated Transit Improvement (1% set-aside of FTA)

CMAQ: Congestion Mitigation and Air Quality Improvement Program

HSIP: Highway Safety Improvement Program

NHPP: National Highway Performance Program

STBG: Surface Transportation Block Grant Program

TA: Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program)

RTP: Recreational Trails Program

PLAN: Statewide Planning and Research (SPR) or Metropolitan Planning funds (PL)

NHTSA 402: State and Community Highway Safety Grant Program

NHTSA 405: National Priority Safety Programs (Nonmotorized safety)

FLTTP: Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)

EXAMPLES AND CASE STUDIES

A **Metropolitan Transportation Commission** (MTC) is the transportation planning, financing and coordinating agency for the nine-county San Francisco Bay Area. MTC allows Transportation Improvement Program Grouped Listings, which combine projects that are not of an appropriate scale for individual listing. Such projects may be grouped within a line item on the TIP by function, work type, or geographical area rather than be listed and tracked as individual projects. For a small project, the effort (staff time and cost) of programming a project can seem out of proportion with the amount of project funds allocated. One example is the Job Access and Reverse Commute Program which bundles projects for funding in the TIP.

B **Georgia DOT** (GDOT) Safe Routes to Schools (SRTS) Program was created in 2006 by and provides funds to communities throughout Georgia to improve the health and well-being of children in grades K-8—including those with disabilities—by making it safe, convenient and fun to walk or bike to school every day. The GDOT SRTS Resource Center partnered with educators across Georgia to implement programs in schools and communities that could make walking and biking to school a safe and routine activity for school-aged children. With a small group of school outreach coordinators, the team is reaching tens of thousands of students and their families. More than 400 elementary and secondary schools and 170 stakeholder “friends” are working with the GDOT SRTS Resource Center to offer programs and activities at their schools that support Safe Routes objectives. Benefits of this program are far-reaching. For example, as a result of the Metro Atlanta Safe Routes to School Project:

- Glennwood School in the Georgia city of Decatur saw a 229% increase in daily walking and biking to school over a two-year period.
- Mason Elementary in Duluth, Georgia saw a 26% reduction of morning car traffic congestion at the school over a one-year period.

3

IDENTIFY MULTIMODAL NEEDS EARLY IN PROJECT DEVELOPMENT

STRATEGY OVERVIEW

Identifying multimodal needs early in the project development process allows the early incorporation of project elements to address those needs. Identifying these needs during planning and project scoping can be critical to avoiding delays during design, right-of-way acquisition, and funding. Early incorporation of multimodal elements allows potential solutions to be more comprehensively evaluated as they are developed and can also help uncover right-of-way acquisition needs earlier in the project development process.

Multimodal projects or elements that require the purchase of ROW can be challenging to deliver in a timely manner.

While most States are legally able to purchase ROW for multimodal elements or projects, most typically avoid purchasing ROW for multimodal projects as standard practice. One exception is Massachusetts DOT, which routinely purchases ROW for sidewalks and bicycle facilities. They identify ROW needs during the corridor planning phase of a project.

Local plans (for example, comprehensive plans, local multimodal plans and capital programs, regional transportation plans and transit agency plans) can be good sources for understanding the multimodal needs of areas or projects.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Programming delays and funding sources
- Inadequate internal and external coordination

EFFECTIVENESS

- Understanding a project's multimodal needs early on can eliminate the need to look at new alternatives or new project elements during later phases of project development. As a result, the time needed to deliver a project and the potential for rework in the NEPA review and design phases can be reduced.

Innovations are needed to accelerate purchasing right-of-way (ROW) for multimodal projects. Some agencies are accelerating project delivery by purchasing easements for multimodal projects and others are working with property owners to donate land for multimodal elements or projects. One example of this was the Central Platte Valley Light Rail Project in Denver, CO. The Regional Transportation District (RTD) received \$1.4 M in land donations for the right-of-way needed for the expansion of the light rail Line C.

The ability to routinely purchase ROW for multimodal projects is critical to providing multimodal networks. While this Workbook represents a snapshot in time, FHWA encourages agencies to share existing and emerging best practices for purchasing ROW for multimodal projects.

APPLICABILITY & TRANSFERABILITY

- The use of context-based planning and design tools that inform planners and designers about the multimodal needs of project has widespread applicability.

EXAMPLES AND CASE STUDIES

A **Oregon DOT** developed an Active Transportation Plan that inventoried bicycle and pedestrian facilities on Region 1 (Portland-area) State highways and identified gaps and deficiencies in the active transportation network. Department staff worked with the public to develop a set of evaluation criteria and then applied the criteria in developing a prioritized pedestrian and bicycle network. This framework is being used by Region 1 as projects are implemented.

B **FDOT District 4 Multimodal Screening Checklist (MMSC)** – District 4 (serving five counties in southeast Florida) uses a Multimodal Screening Checklist (MMSC) to identify the full range of multimodal needs prior to developing the scope or budget for all projects on State roadways. The District coordinates with local governments, transit providers, and regional transportation planning organizations to identify and document the full range of multimodal needs for all projects, including capital projects, maintenance and resurfacing projects, traffic operations projects, and safety projects.

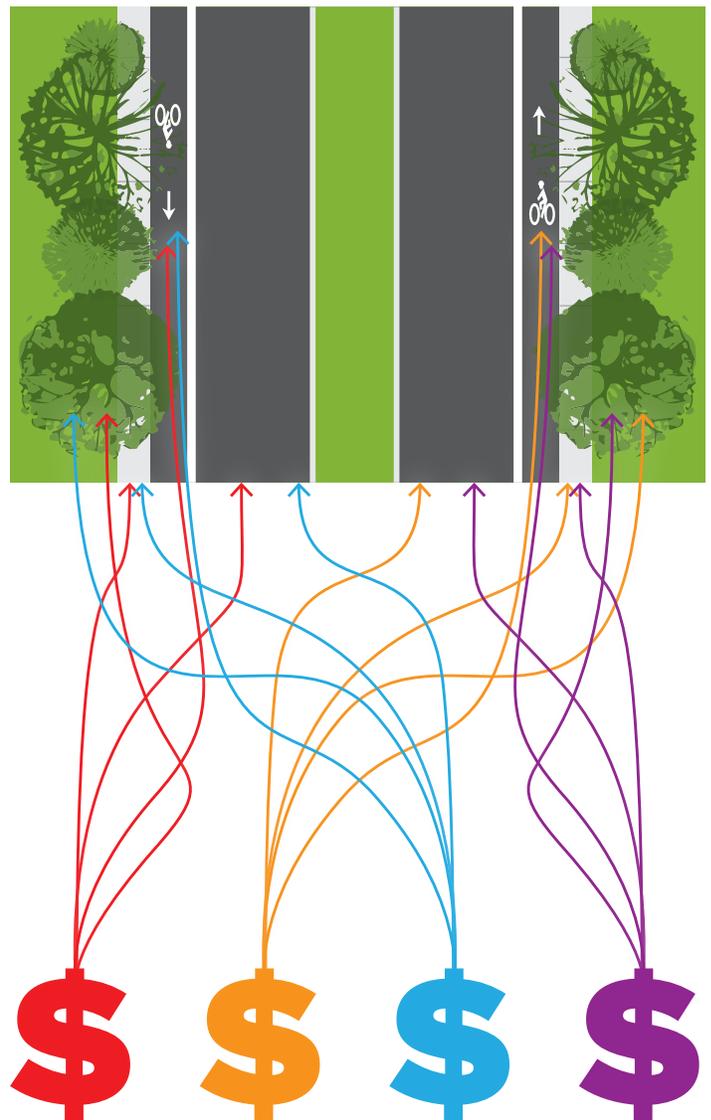
This approach helps the District avoid re-working the project design later in the project development process, which would typically require having to find additional funding for the project. The District uses this approach for all of its projects, including maintenance and resurfacing projects.

This checklist aims to implement FDOT's Complete Streets policy (<http://www.flcompletestreets.com/000-625-017-a.pdf>). This policy recognizes that complete streets require designs that consider local land development patterns, built form, and context-based roadway design speed. The policy's goal is to maintain safety and mobility while serving the transportation needs of users of all ages and abilities.

The MMSC gathers and documents information related to passenger access to transit and levels of transit service; corridor lighting;

accommodations for individuals with disabilities; local and regional pedestrian, bicycle, and greenways plans; multimodal safety problems; school zones and school access; railroad crossings; freight patterns; and airport access.

This graphic is used by FDOT to illustrate how different multimodal project elements can utilize different types of funding.



EXAMPLES AND CASE STUDIES CONTINUED

C **Florida DOT (FDOT)** developed a Context-Based Design Manual that uses a context-sensitive approach to identify the full range of users of a facility and to inform the facility's design speed and criteria to support the context and the identified users.

FDOT routinely plans, designs, constructs, and maintains State roadways in harmony with a roadway's surrounding land uses and intended users. To this end, the department adopted a Context Classification System comprising eight context classifications that represent the various community types found throughout Florida. The context classification of a roadway, together with its transportation characteristics, informs who the roadway's

users are and the appropriate roadway design speeds and design criteria to support these users. The design criteria provide a range of allowable design speeds, from 25 to 45 mph, suitable for lower-speed environments within urban areas, along with context-appropriate sidewalk widths and bicycle facilities. A unique classification, C2T Rural Town, was introduced with criteria that support the more urban, small-town fabric of many Florida communities.

FDOT Context Classifications



C1-Natural
Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.

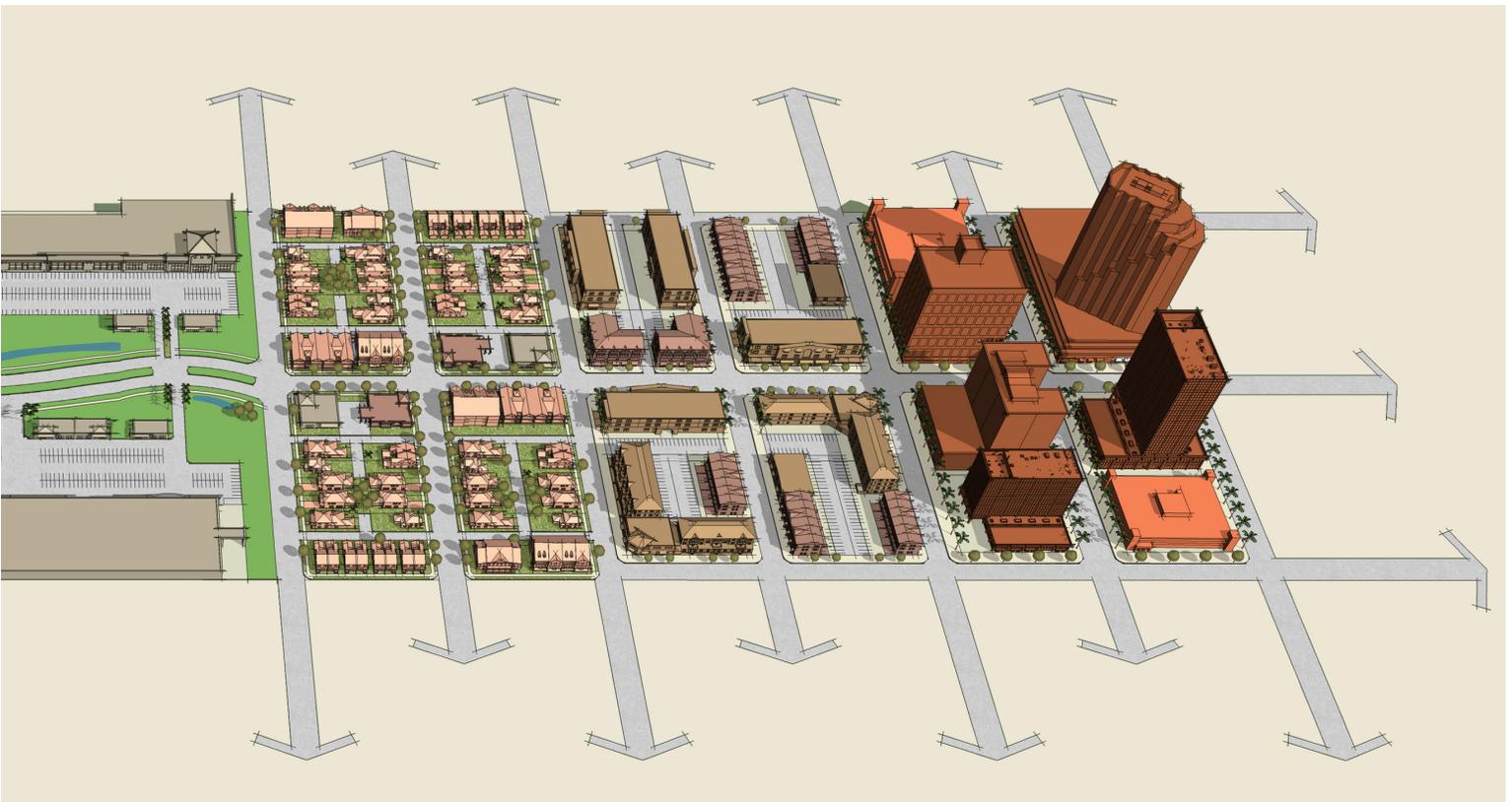
C2-Rural
Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.

C2T-Rural Town
Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.

C3R-Suburban Residential
Mostly residential uses within large blocks and a disconnected or sparse roadway network.

Proposed Design Speed Ranges by Context Classifications for Non-Limited-Access Facilities

Context Classification	Allowable Design Speed Range (mph)
C1-Natural	55-70
C2-Rural	55-70
C2T-Rural Town	25-45
C3-Suburban	35-55
C4-Urban General	30-45
C5-Urban Center	25-35
C6-Urban Core	25-30



C3C-Suburban Commercial
Mostly non-residential uses with large building footprints and large parking lots within large blocks and a disconnected or sparse roadway network.

C4-Urban General
Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor or behind the uses fronting the roadway.

C5-Urban Center
Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of a civic or economic center of a community, town, or city.

C6-Urban Core
Areas with the highest densities and building heights, and within FDOT classified Large Urbanized Areas (population >1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadway, and are within a well-connected roadway network.

STRATEGY OVERVIEW

Transportation projects are ultimately intended to reflect a community's vision and goals, however stakeholders may feel they have limited opportunities to guide projects. Transportation agencies may wonder why concerns were not raised earlier in the planning process; however, members of the public and other stakeholders may not have been involved in the initial public meetings used to develop the plan and gather input for a project. Early public involvement can identify community values and concerns proactively and avoid delays during later stages of project delivery.

One way to address these concerns and develop projects that are supported by community members is to perform meaningful public involvement early in the project's planning phase and prior to the conclusion of the preferred alternative during its NEPA phase. Often, the first opportunity for the public to understand a project and provide input on the options being considered is during the NEPA phase. While NEPA has specific public involvement requirements and review timeframes, transportation agencies can supplement the NEPA-required public involvement methods with more interactive techniques for engaging communities. Giving community members and stakeholders a role in shaping transportation decisions incorporates the community's goals and vision into the outcome, and early involvement allows public input before important details are set in stone.

The timing of involvement is important, as is the method used to gather input. Some State DOTs' public involvement guidance focuses on the formal NEPA-required techniques and do not include more innovative and interactive techniques. Potential supplemental techniques to improve public involvement include online meetings, pop-up meetings, interactive stakeholder engagement, attending events where community members will already be gathered, walking or riding tours of the project area, gaming exercises, visual imaging, and many others.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Inadequate community input
- Design guidelines insensitive to context
- Lengthy environmental reviews

EFFECTIVENESS

- Updating State and local public involvement procedures to incorporate more than the minimum NEPA requirements can allow a broader range of project stakeholders to be reached, heard from, and considered, thus minimizing the chance that concerns not previously considered will arise late in the project.
- Obtaining public input early in the project development process allows community input to be incorporated into the project prior to design, reducing the potential for rework later in the process and allowing project costs to be estimated more accurately.

APPLICABILITY & TRANSFERABILITY

- The use of innovative public involvement techniques that are tailored to the project and the communities served by the project has widespread applicability.
- States may have specific laws that dictate notification and format requirements.

EXAMPLES AND CASE STUDIES

A *Chicago, Illinois* is one of a growing number of US cities adopting goals to eliminate all road fatalities. Similar to programs in other cities, Chicago's Vision Zero initiative lays out an aggressive plan to identify and respond to road safety problems. This initiative started by examining crash and other safety data to hone in on priority areas in need of more attention. In addition to helping the City to identify priority locations where injuries and fatalities have occurred in the past, this analysis provided statistics about specific populations most affected by crash outcomes. According to the data, fatality rates were higher for black and Latino residents than for white residents, while individuals with high levels of economic hardship accounted for nearly half of the road fatalities in Chicago over the five-year period examined. The High Crash Areas identified by the City for improvements were in neighborhoods with different needs, populations, and characteristics. Conscious of the unique needs of these neighborhoods and resident concerns, the City decided to take a unique approach to rolling out its Vision Zero activities in five of its West Side neighborhoods, beginning with its public involvement strategy. This strategy, known as Vision Zero West Side, received funding from the national Road to Zero Coalition to ensure a community-driven approach to implementing road safety programs in neighborhoods with unique needs, interests, and challenges. Working directly with a local team of community organizers, residents, faith leaders, and others from the neighborhoods, the City used the following process to perform outreach related to road safety improvements:

- Developing neighborhood profiles through data collection
- Holding listening sessions to help develop plans driven by community input
- Conducting pilot tests of safety improvements
- Monitoring progress and outcomes and communicating results to local stakeholders

B *Florida DOT (FDOT) Public Involvement Handbook* - This handbook guides FDOT's public involvement activities for all State-funded projects. It provides four principles guiding public involvement:

- Process - integrating public involvement in all phases of project development
- Defining Context - emphasizing the inclusive nature of public involvement and ensuring that all stakeholders are at the table
- Tools and Techniques - selecting the best format and technique to gather input based on project and community characteristics
- Documentation - ensuring transparency by demonstrating that feedback has been heard and incorporated into the project

There is no one-size-fits-all solution. The handbook's options for public involvement are wide-ranging, from traditional methods such as public hearings to non-traditional strategies such as mobile public involvement teams. The handbook recommends that the outreach method(s) selected should be driven by the unique characteristics of both the project and the stakeholders being engaged. FDOT District 5 further illustrates innovative public involvement techniques in their Multimodal Planning Guidebook.

ENVIRONMENTAL REVIEW

5 MAKE APPROPRIATE AND EFFECTIVE USE OF CATEGORICAL EXCLUSIONS

STRATEGY OVERVIEW

Projects requiring approvals or funding from Federal agencies are subject to compliance with the National Environmental Policy Act (NEPA). Most bicycle and pedestrian projects may be processed as Categorical Exclusions (CE) under NEPA if they meet the regulatory criteria under 23 CFR 771.117.

USDOT has identified ways to accelerate the NEPA process for projects that have nonsignificant environmental footprints, minor impacts, beneficial impacts, and relatively low costs, as long as they do not involve unusual circumstances. Federal regulations define a categorical exclusion (CE) as “a category of actions which do not individually or cumulatively have a significant effect on the human environment ... and ... for which, therefore, neither an environmental assessment nor an environmental impact statement is required” (40 CFR 1508.4). Examples of project types eligible for a CE under FHWA processes are given in 23 CFR 771.117 (c) and (d). In general, the following types of pedestrian and bicycle projects may be eligible for a CE:

- Construction of bicycle and pedestrian lanes, paths, trails, and facilities (23 CFR 771.117 (c) (3));
- Acquisition, construction, maintenance, rehabilitation, and improvement or limited expansion of stand-alone recreation, pedestrian, or bicycle facilities, such as: a multiuse pathway, lane, trail, or pedestrian bridge; and transit plaza amenities (23 CFR 771.118 (c) (2));
- Projects that would take place entirely within the existing operational right-of-way (23 CFR 771.117 (c) (22), 23 CFR 771.118 (c) (12)); and
- Federally funded projects that: (i) receive less than \$5,000,000 of Federal funds; or (ii) with a total estimated cost of not more than \$30,000,000, with Federal funds comprising less than 15 percent of the total estimated project cost (23 CFR 771.117 (c) (23), 23 CFR 771.118 (c) (13)). These costs are adjusted annually to reflect any increases in the Consumer Price Index prepared by the Department of Labor, see www.fhwa.dot.gov or www.fta.dot.gov.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Lengthy environmental reviews

EFFECTIVENESS

- State DOTs that develop Programmatic Categorical Exclusion (PCE) Agreements with FHWA gain the authority to make NEPA CE determinations and approvals on FHWA's behalf, which can save time and effort.

Any project which normally would be classified as a CE could involve unusual circumstances, such as significant environmental impacts; substantial controversy on environmental grounds;

APPLICABILITY & TRANSFERABILITY

- Federal regulations provide the ability to obtain CEs for a variety of active transportation projects and selected types of transit projects, which can greatly simplify the environmental approval process for those projects.
- Multimodal elements of larger projects are subject to the environmental requirements for the larger project. However, those projects may still qualify for a CE if the other project elements are also eligible for a CE, the project is confined to the existing operational right-of-way, or the overall project cost and Federal funding share is low enough, and if no unusual circumstances exist.
- State DOTs with one-size-fits-all environmental review processes would need to revise those processes to allow increased use of CEs.

significant impacts to properties protected by Section 4(f) of the DOT Act or the National Historic Preservation Act; or inconsistencies with other Federal, State, or local laws. These site-specific factors cannot be ignored; just because a project falls into a project type eligible for a CE does not mean that the project will be granted a CE. In these cases, approving and implementing the project will require additional appropriate environmental studies to determine if the CE classification is still appropriate. If any of these unusual circumstances are likely, additional coordination with FHWA or FTA will be needed.

While this accelerated process has been available since the enactment of NEPA in 1969, some State DOTs have established requirements that require more engineering and environmental analyses than what may be necessary to comply with NEPA.

To provide even more efficient NEPA approvals for projects that qualify for CEs, State DOTs can use Programmatic CE (PCE) Agreements that provide State DOTs with the authority to make a NEPA CE determination and approval on FHWA's behalf. Several State DOTs have developed PCE Agreements, thereby saving even more time and effort to gain NEPA approvals for nonmotorized transportation projects.

EXAMPLES AND CASE STUDIES

A PCE Agreement between Washington State DOT and FHWA - In 2009, WSDOT and FHWA executed a Memorandum of Understanding for PCE approvals that delegates FHWA's responsibilities to process CEs to the State for project types listed in 23 CFR 771.117(c), such as the construction of bicycle and pedestrian lanes, paths, and facilities. WSDOT is required to document project type's applicability in the project file and determine that there are no unusual circumstances warranting further environmental analysis. This approach reduces the time needed to prepare project documentation, as well as the time needed to transmit and coordinate review and approvals at multiple agencies. WSDOT and FHWA have also partnered to provide training to local agencies on preparing CE documentation.

B Massachusetts DOT (MassDOT) Environmental Reviews - MassDOT is in the process of updating its environmental review documentation to facilitate reviews of pedestrian and bicycle projects. MassDOT currently considers any project that is put in place to meet pedestrian and bicycle standards as a "limited project" which qualifies as a categorical exclusion. For example, adding a five-foot shoulder to a street may not require an extensive environmental process, since it may qualify as a Categorical Exclusion under 23 CFR 771.117(c).

STRATEGY OVERVIEW

The first critical step in any transportation project is to understand and document the full range of needs from the perspective of all potential project users, so that stakeholders and the project sponsor will have a thorough understanding of the problems to be addressed by the project. Project needs are the basis for developing project alternatives. Without understanding and documenting these needs, critical project elements may be overlooked and may be difficult to implement at a later date.

Standalone multimodal projects tend to be focused on providing multimodal benefits and services. However, when multimodal elements are to be integrated into highway projects, the early inclusion and documentation of multimodal needs alongside the automobile-focused needs is critical to ensuring that project development activities include appropriate environmental analyses, public outreach, and funding source identification for the multimodal elements. The purpose and needs statement and the corresponding project goals and/or evaluation criteria create the framework for developing multimodal alternatives and for evaluating them from the perspective of all modes. For this reason, the purpose and need statement is in many ways the most important component of all NEPA documents.

It may be procedurally and politically difficult and costly to add multimodal elements to a project during later phases of project development, after technical analyses, interagency coordination and collaboration, and public involvement efforts have already been made. Including multimodal needs in the purpose and needs statement from the beginning can both accelerate the project development process and ensure these critical pieces are not precluded or eliminated during permitting, value engineering, final design, or construction.

Multimodal projects or elements that require the purchase of right-of-way (ROW) can be challenging to deliver in a timely manner. While a few States have legal obstacles to purchasing ROW for multimodal element or projects, many States are legally able to purchase ROW, but typically do not do so for multimodal projects or multimodal elements of projects.

**CONSTRAINTS/
CHALLENGES
ADDRESSED**

- Lengthy Environmental Reviews
- Programming Delays and Funding Source Challenges
- Inadequate Internal and External Coordination

EFFECTIVENESS

- Documenting multimodal elements of projects in the Purpose and Need statement will enable the allocation of the right level and type of funding necessary for the project which can save both time and money. Documenting multimodal needs early will ensure that multimodal elements are included in the design of the project and avoid design modification in later phases.

APPLICABILITY & TRANSFERABILITY

- This strategy is applicable to all projects with multimodal elements. Even if a project does not need Federal approvals, the inclusion of purpose and need statements for all reasonable modes can help to ensure that appropriate multimodal elements are included in the project as it is planned, funded and implemented.

EXAMPLES AND CASE STUDIES

A **Pennsylvania DOT (PennDOT) Interstate 95 (I-95)/Girard Avenue Interchange** is an example of identifying and documenting multimodal needs. The project involved the reconstruction of an existing interchange on I-95 near Philadelphia's Center City. Multimodal needs related to pedestrian and bicycle access, as well as better access to the Girard Avenue Trolley, were documented in the NEPA document and constructed as envisioned by the City of Philadelphia, SEPTA (the local transit agency), and neighboring communities.

I-95 was originally constructed through the city of Philadelphia in the 1950s and 1960s. The Girard Avenue interchange with I-95 had significant structural and operational deficiencies, demonstrated by high crash rates on I-95 near the interchange ramps. The neighborhoods near and underneath I-95 had experienced economic decline, lack of safe pedestrian or bicycle access to the waterfront and Center City, and unsafe access to the Girard Avenue Trolley, which provides access to the regional transit system.

In addition to the auto-focused capacity and safety needs, the following multimodal needs were identified in the NEPA document:

- Pedestrian facilities are substandard.
- Roadway and pedestrian lighting is inadequate.
- Turning movements on Richmond Street currently conflict with through traffic and SEPTA trolley operations.
- Truck and trolley clearance along Richmond Street at Conrail crossings is substandard.

The reconstruction of the Girard Avenue Interchange included:

- Multimodal access parallel to and underneath I-95 with appropriate pavement markings, bike lanes, full-width sidewalks, accessible curb ramps, and lighting.
- Relocation of Delaware Avenue and Richmond Street with lower design speeds, minimal lane widths, and green-colored bicycle lanes.
- Widened sidewalks and connections to a new trail system through the interchange.
- Reconstruction of the Route 15 Girard Avenue Trolley under an agreement with SEPTA.
- Innovative stormwater treatment and Green Streets in coordination with the Philadelphia Parks and Recreation Department. Many of the trees are in vaults that will also collect runoff from the street.



Credit: PennDOT Visualization

STRATEGY OVERVIEW

State-level design guidance can apply Federal recommendations for more context-based design practices. State roadway design manuals drive many design decisions and impact many projects. Some stakeholders reported rigid design requirements, such as requirements for bicycle lanes on roadways where shared-use paths were also present. Relaxing these types of requirements to allow agencies to use discretion and context-sensitive approaches can greatly accelerate project delivery. AASHTO, National Association of City Transportation Officials (NACTO) and FHWA have developed several manuals that provide innovative and context-sensitive design guidance that can be incorporated into or referenced in State design guidance to offer more examples to roadway designers; identifying these exceptions early in the project will accelerate project delivery.

In many States, design standards were created to address specific safety concerns related to vehicle travel. Traffic signal spacing requirements, for example, were encouraged on suburban arterials to minimize conflict points and maintain regular, predictable traffic flow. But as suburban arterials mature into places with many destinations, these spacing requirements can become an impediment to safety. Land uses that create multimodal travel demand in midblock locations cannot be served by signals even if they meet traditional signal warrants because of these design controls.

In recent years, State DOTs have recognized the importance of understanding land use context when making roadway design decisions. To provide this flexibility, States are modifying their design guidance in several ways.

First, context-based design controls offer look-up table references to inform planners and designers which controls are appropriate based on context. Design parameters are considered for land use types and street function (functional classification). This approach provides a balance of flexibility and direction to designers.

Second, context-sensitive designs recognize differing street design needs in different places. Some States have identified areas within their boundaries where pedestrian and bicycle demand is likely and where designs should promote slower speeds and frequent interruptions of traffic.

Third, design exception processes were created to provide designers with some flexibility when design controls were not appropriate for a given context. However, design exceptions may be avoided because they have lengthy approval processes or because they often have a negative stigma associated with them. Some States are encouraging their designers to use the design exception process to develop context-appropriate designs; identifying the need for exceptions early in the project can accelerate delivery.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Design Guidelines Insensitive to Context

EFFECTIVENESS

- The use of context-based design manuals will minimize re-work and the need to make changes in the later stages of project development. This can save significant time and money.

APPLICABILITY & TRANSFERABILITY

- Most of the key design controls affecting roadway design decisions are driven by State policy and design guidance, rather than Federal. To that end, all States have the autonomy to develop and apply context-based design guidance, which would provide flexibility in designs at all levels.

EXAMPLES AND CASE STUDIES

- A** **Washington State DOT Context-Based Design Manual** built flexibility and multimodal elements into its design manual.
- B** **Florida DOT (FDOT) Context-Based Design Manual** adopted a policy in 2014 calling for the planning, design, construction, and operation of a context-sensitive system of complete streets to serve users of all ages and abilities. Existing FDOT design manuals, however, limited the ability of planners and engineers to fully embrace and implement this policy. These design manuals focused on design standards for roadways with design speeds of 45 mph or higher and offered limited flexibility for planners and engineers looking to tailor innovative solutions to the diverse contexts, needs, and places served by Florida's State roadways. In response, FDOT created a context classification system to describe land use patterns throughout the State, which became part of FDOT policy. This classification system emphasizes the need to support all users within a complete network of streets, according to each street's existing and desired future context and transportation characteristics. Design criteria and standards in the new FDOT Context-Based Design Manual refer to roadway context classifications that designers and planners must fully consider when developing roadway solutions.

- C** **Maryland DOT** designated portions of the State as Pedestrian and Bicycle Priority Areas (BPPAs) to facilitate the coordinated planning of bicycle and pedestrian facilities in areas with a high potential for bicycling and walking. BPPAs were identified based on demographic and land use characteristics, rather than existing counts of people walking and bicycling. This distinction is important because it acknowledges an inherent demand for non-motorized travel in places where there is a higher intensity of trip generators such as housing, schools, shops, and transit facilities. BPPAs can receive a number of special considerations, including focused recommendations for roadway geometric and operational guidelines that align local and State bicycle and pedestrian planning with design.

- D** **Michigan DOT's Multimodal Development and Delivery Plan** adjusts design standards to incorporate active transportation.

- E** **Supporting a flexible approach to bicycle and pedestrian facility design** - California, WSDOT, MassDOT and many other State DOTs have endorsed or incorporated guidance from NACTO, AASHTO and FHWA as design guidance.

STRATEGY OVERVIEW

Although the Manual on Uniform Traffic Control Devices (MUTCD) has not been fully updated since 2009, new and innovative traffic control devices have been tested and given Interim Approvals under the MUTCD’s experimentation process. In many cases, these devices were already permitted under the language of the 2009 edition. The MUTCD acknowledges that technology, traffic control, and traffic operations are evolving and it provides ways for practitioners to keep pace with the state of the practice, while keeping the manual grounded in research and experience.

The FHWA welcomes official experimentation requests for new and innovative traffic control devices from State and local transportation agencies. Section 1A.10 of the MUTCD describes the experimentation process and lists the information required to be provided as part of the request. It also describes the actions the requesting agency is committing to if the request is approved; in particular, the agency will need to measure before-and-after conditions to evaluate the treatment’s safety and operational effects and will need to commit to removing the treatment if FHWA does not grant an Interim Approval or if significant safety concerns arise during the experiment. The timeline involved with FHWA review of a request to experiment, as well as for the experiment itself (if approved), is shown in the flowchart below.

Once a traffic control device has been sufficiently vetted, it can be granted Interim Approval status following FHWA review of the final report on the experiment. Interim approvals allow for the interim use of a new traffic control device, or a modification to an existing device.

Any jurisdiction that wants to use a device that has received an interim approval can do so after submitting a written request to FHWA and receiving approval, as described in paragraph 18 of Section 1A.10 of the MUTCD. If a State DOT makes the request, they may choose whether to apply the request to all roads in the State, or just those owned and operated by the DOT itself. Jurisdictions within a State that has not yet requested to use the Interim Approval may do so on their own. Devices with Interim Approval can be used in the same way as devices in the 2009 edition of the Manual.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Design Guidelines Insensitive to Context
- Insufficient Staff Capacity or Technical Knowledge

EFFECTIVENESS

- Leveraging the use of Interim Approvals enables agencies and jurisdictions to implement vetted traffic control devices without delays associated with experimentation requests.



Credit: www.pedbikeimages.org / Carl Sundstrom

APPLICABILITY & TRANSFERABILITY

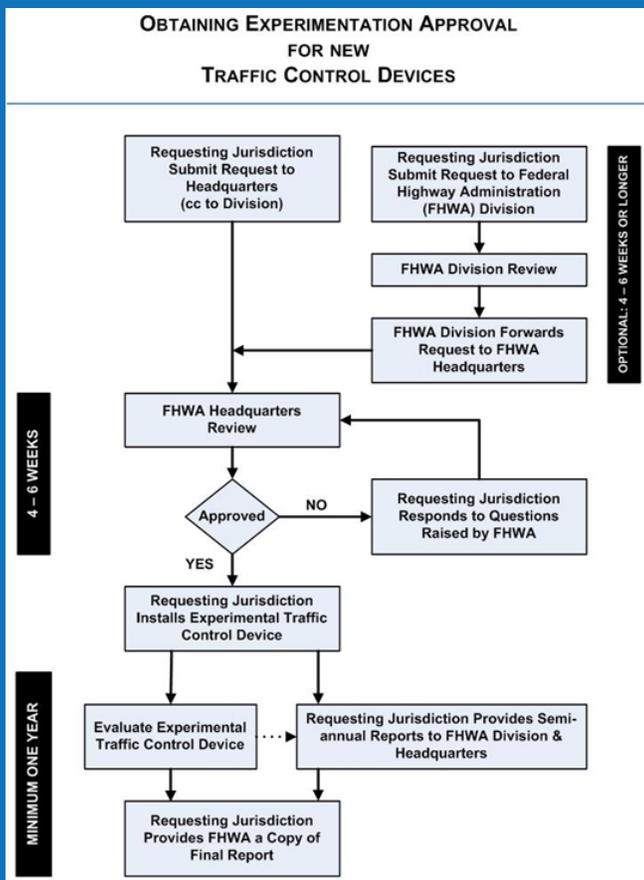
- The MUTCD experimentation process provides a mechanism to advance projects incorporating innovative and cutting-edge techniques.
- The MUTCD experimentation process is available to any roadway owner interested in leading an experiment.
- Once an Interim Approval for a device has been granted, any State or local jurisdiction can send a request to FHWA to use that device without having to repeat the experimentation process, allowing these agencies to place innovative traffic control devices with proven benefits into service more quickly.

EXAMPLES AND CASE STUDIES

A **City of Portland, Oregon** has developed innovative bicycle facilities to address the growing needs of cyclists in the city. Portland, in partnership with Portland State University, pioneered the bicycle box and helped to move it through the experimentation process. Portland led before and after data collection and analysis to help FHWA understand the operational and safety benefits of the bicycle box.



Credit: NACTO Visualization



Flowchart Describing FHWA's Experimentation Process for New Traffic Control Devices

9 PROMOTE FLEXIBILITY IN EXISTING FUNDING SOURCES

STRATEGY OVERVIEW

FHWA has been actively funding multimodal projects for decades. While there is tremendous flexibility in using Federal funds for multimodal projects, some State DOTs are not leveraging the use of these funds for these purposes. To dispel some misconceptions about the use of Federal funding for multimodal projects, FHWA has posted a set of clarifications on their website at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/misconceptions.cfm.

Pedestrian and bicycle projects can be funded through numerous FHWA and FTA funding programs. At FHWA, these projects are eligible for funding through the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, Surface Transportation Block Grant Program (STBG), Highway Safety Improvement Program (HSIP), National Highway Performance Program (NHPP), Federal Lands Access Programs (FLAP), and Transportation Alternatives Program (TAP). FTA funding may also be available for pedestrian and bicycle elements of transit projects through the Capital Investment Grant Program (Section 5309) and the associated transit improvements component of the Urbanized Area Formula Program (Section 5307).

Each program has different requirements and a given pedestrian or bicycle project must meet the particular program's requirements to receive funding. For example:

CONSTRAINTS/ CHALLENGES ADDRESSED

- Difficulties Competing for Limited Funding
- Programming Delays and Funding Source Challenges

EFFECTIVENESS

- Identifying the appropriate level and type of funding for a project will enable it to advance through the project development process without delays associated with identifying and programming new or different sources of funds.

- Transit funds may be used to improve bicycle lanes and sidewalks if they provide direct access to transit;
- CMAQ funds must be used for projects that benefit air quality;
- HSIP projects must be consistent with the State Strategic Highway Safety Plan and address a highway safety problem;
- NHPP-funded projects or activities must be associated with an NHS facility; and
- FLAP funds could be used for bicycle and pedestrian accommodations on, adjacent to, or within Federal lands.

Bicycle and pedestrian elements are often included in much larger roadway or station-area projects that are funded through one of these programs. Federal law requires that "Bicycle transportation facilities and pedestrian walkways shall

APPLICABILITY & TRANSFERABILITY

- Federal funding for multimodal projects is available through a variety of programs. Agencies that become familiar with the range of available programs may experience greater success finding funding to advance their multimodal projects.

be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted” (23 U.S.C. 217 (g) (1)). For example, pedestrian and bicycle facilities may be included on rehabilitated, reconstructed, or new bridge structures to improve the transportation network.

Funding is also available for non-infrastructure projects. For instance, the National Highway Traffic Safety Administration (NHTSA) provides funding for behavioral safety aspects, education, and enforcement, in coordination with a State’s highway safety office.

In addition, Federal funds can be used to plan and build separated bike lanes, which can include cycle tracks and protected bike lanes. FHWA recently published a Separated Bike Lane Planning and Design Guide, which includes planning considerations and design options for separated bike lanes.

Federal funds may also be used for road diets, which are generally described as removing vehicle lanes from a roadway and reallocating the extra space for other uses or travel modes, such as parking, sidewalks, bicycle lanes, transit use, turn lanes, medians, or pedestrian refuge islands. The FHWA supports consideration of road diets or rightsizing when applied at the proper location. Road diets can offer significant safety benefits to a community (20–60% reduction in crashes is common) and are one of FHWA’s Proven Safety Countermeasures being promoted through the Every Day Counts 3 Initiative. Additionally, in many applications, road diets are part of city- and regionally approved pedestrian and bicycle master plans as well as community comprehensive master plans. Communities across the nation are using this low-cost safety countermeasure to improve safety, operations, and livability.

Under 23 U.S.C. 126, funds can be transferred between certain FHWA programs when needed or appropriate, which could help advance some projects.

Funding for ROW for Multimodal Projects

It is important to note that Federal funding can be used to purchase ROW for multimodal projects and multimodal elements of larger projects.

In many non-Federal funding programs, projects are not eligible for funding until the ROW has been acquired. For example, representatives from the North Central Texas Council of Governments said that agencies are not allowed to apply for certain funds if ROW had not already been acquired. Additional funding flexibility and strategic use of more flexible funds can overcome this and accelerate multimodal project delivery.



Credit: www.pedbikeimages.org
/ Russ Roca

STRATEGY OVERVIEW

Transportation agencies are using public-private partnerships (P3s) to leverage Federal dollars for private investment, enabling projects to be delivered sooner and with less Federal investment. Transportation agencies across the country have developed specific funding programs to implement multimodal projects. Some of these programs were developed to allocate certain types of Federal dollars--for example, the portion of the Transportation Alternatives Set-Aside allocated to regional transportation planning agencies for competitive grants within the region. Other programs may be funded through dedicated sources of State, regional, or local funds that have been allocated for bicycle, pedestrian, and/or transit projects. For example, San Francisco's Livable Streets Program, which focuses on creating safe and inviting streets and sidewalks for all, includes enhancements to the bicycle and pedestrian environment, the deployment of nearly 190 school crossing guards, and traffic calming on neighborhood streets.

Many State DOTs are developing funding programs specifically to fund and implement multimodal infrastructure. An example of this is the Active Transportation Program (ATP) within the California Department of Transportation (Caltrans). The ATP consolidates existing Federal and State transportation programs, including the State share of the Transportation Alternatives Set-Aside, the Bicycle Transportation Account, and the State Safe Routes to School program, into a single program with a focus to make California a national leader in active transportation.

In addition to developing new programs, agencies can efficiently leverage existing programs to support multimodal projects in many ways. For example, some cities time and operate traffic signals in certain corridors to foster multimodal travel.

San Francisco, California has adopted policies that support short traffic signal cycles and Leading Pedestrian Intervals as a means of providing cost-effective and quick multimodal improvements.

Another example is improving bicycle and pedestrian infrastructure through routine resurfacing and maintenance programs. While funds for resurfacing projects may not be eligible to be used for non-resurfacing activities, other types of funding can be added to the budget to fund multimodal improvements. Leveraging maintenance activities enables lower-cost multimodal improvements to be implemented efficiently and systematically as part of a larger project that would happen anyway. Florida DOT is one example of a State DOT that leverages its maintenance program this way.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Difficulties Competing for Limited Funding
- Programming Delays and Funding Source Challenges

EFFECTIVENESS

- Establishing funding streams specific to bicycle and pedestrian projects can ensure that bicycle and pedestrian projects have the funding necessary to advance through project development efficiently.

APPLICABILITY & TRANSFERABILITY

- Identifying new funding sources and leveraging existing programs is applicable throughout the country.

EXAMPLES AND CASE STUDIES

A Denver Regional Transportation District (RTD) Eagle P3 was the first full design, build, partially finance, operate and maintain (DBFOM) transit public-private partnership (P3) in the United States. The project comprises the East Rail and Gold lines, the first segment of the Northwest Rail Line to Westminster, procurement of 54 commuter rail cars and a commuter rail maintenance facility. Funding for Eagle P3 comes from Federal grants and loans, RTD sales taxes and the contractor's financial contribution. The project received a \$1.03 billion Full Funding Grant Agreement from the Federal Transit Administration and \$450 million in private financing.

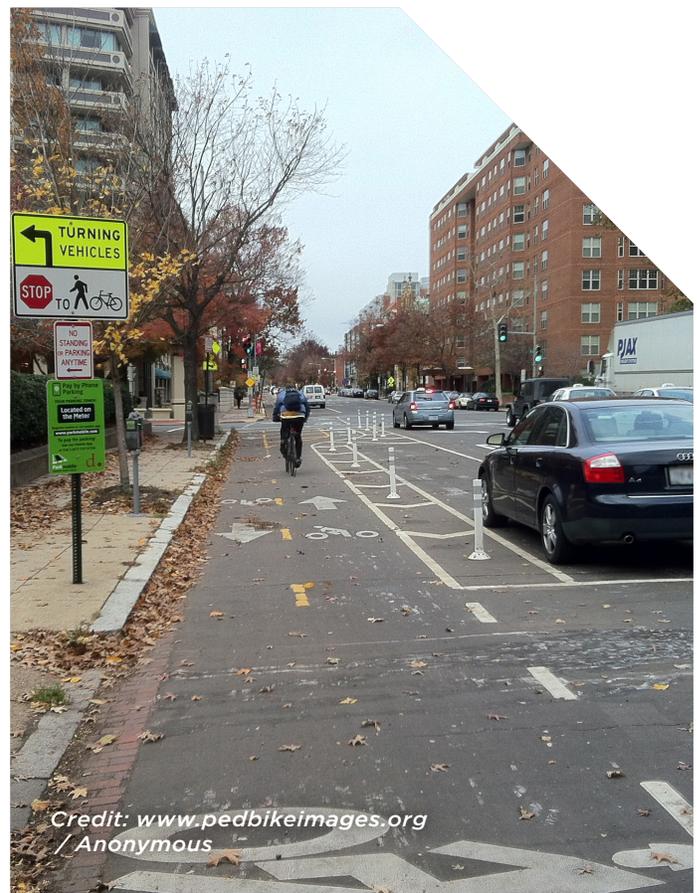
B Los Angeles County Metropolitan Transportation Authority (Metro) has been pursuing a series of public-private partnerships since 2007. The primary objective of Metro's Public-Private Partnership Program is:

“Creation of a permanent, programmatic approach to identifying, assessing, and implementing projects utilizing private sector participation, with the overall goal of accelerating Metro's delivery of transit and highway programs in Los Angeles County.”

Currently, P3s are being pursued in order to deliver Measure M transportation projects faster and more efficiently. Partnerships are being created through a competitive bid process. Metro is issuing requests for proposals from contractors based on unsolicited pitches received for public-private partnerships to accelerate delivery of the Sepulveda Pass Transit Corridor project and West Santa Ana Branch Transit Corridor light rail line between Union Station and Artesia. A new streamlined unsolicited proposal policy launched in 2016 by Metro's Office of Extraordinary Innovation enables the agency to reach the RFP stage quickly – something that often takes years. The goal of the policy is to make it easier for private entities to submit ideas to Metro for building and, in some cases, operating projects. Unsolicited proposals for all three of the projects were submitted within the past year. While the contents of the proposals

are confidential, all of the approaches utilize P3 concepts. With a P3 in place, it has been predicted that the partnership would result in completion of the West Santa Ana Branch Transit Corridor 14 to 15 years ahead of schedule.

C Pennsylvania DOT (PennDOT) – Pennsylvania Community Transportation Initiative (PCTI) - PennDOT set aside \$60 Million for the specific implementation of projects that were supportive of their Smart Transportation Initiative; multimodal projects were strong candidates for this program. PennDOT collaborated with local governments, other State agencies, transit providers, developers and neighborhood residents to arrive at community-oriented transportation solutions and established this competitive funding program to support and incentivize these projects. More than \$400 M in applications were received to compete for \$60 M in the initial year; many of these were multimodal projects.



Credit: www.pedbikeimages.org
/ Anonymous

MULTIPLE PHASES OF PROJECT DEVELOPMENT

11 COMMUNICATE BENEFITS OF MULTIMODAL PROJECTS AND IMPROVE PERFORMANCE DATA FOR EVALUATING THEM

STRATEGY OVERVIEW

With limited resources and limited space within public rights-of-way, multimodal facilities or multimodal project elements are often competing for the same space as automobiles. Multimodal elements or projects are susceptible to elimination as a project progresses so that the remainder of the project will cost less or have a smaller footprint and can continue to move through the later phases of development. Providing information about the benefits provided by multimodal infrastructure to decision-makers and the public will help garner support to keep multimodal projects and project elements moving forward. When project elements are eliminated, it may be difficult and will likely cost more to implement them at a later date.

Multimodal infrastructure can support several agency policy objectives, including reducing congestion, expanding mobility options, addressing equity concerns, improving public health, improving the environment, and supporting desired land development. Members of the community who do not have access to a motor vehicle, whether due to age, ability, cost, or another factor, rely on transit, bicycling and walking to perform essential tasks. Improvements to multimodal infrastructure can enhance access to transit and improve access to services and destinations by foot or bike thereby reducing auto congestion. These infrastructure improvements complement expanded transit service or bicycle sharing programs to provide mobility options to those who cannot or choose not to drive. Multimodal infrastructure can also help a community meet its health and physical activity goals.

Documenting the benefits of multimodal infrastructure and connecting those benefits with community goals can make these projects more appealing to a wide range of stakeholders and decision makers. It is important to “make the case” and share the benefits of multimodal infrastructure projects. Effective communication can highlight the link between improved infrastructure and expanding transportation choices, reducing congestion, improving health, and other goals. By documenting and communicating these benefits, agencies can communicate the value

CONSTRAINTS/ CHALLENGES ADDRESSED

- Difficulties Competing for Limited Funding

EFFECTIVENESS

- Data and evaluation can be used to help secure the support of key decision-makers and stakeholders and promote efficient project delivery, avoiding challenges or delays. When data is gathered, tracked, and analyzed in a credible way over time, it becomes possible to measure progress and success. Budgets, policies, practices, processes, programming, services, and interventions can then be evaluated, modified, and improved to achieve greater effectiveness.

APPLICABILITY & TRANSFERABILITY

- Safety, travel times, and other factors or concerns related to walking and biking are often a barrier to the adoption of active transportation. Methods of measuring and communicating the overall benefits of active transportation networks can be applied across jurisdictions to gain project support and remove road blocks to implementation. The need for data and analysis that demonstrates and communicates the overall benefits of active transportation and the safety and suitability of the walking and biking networks for all age groups and abilities is widespread.
- The use of marketing campaigns dedicated to communicating and promoting the benefits of active transportation is widely applicable and transferable. However, marketing methods may need to be tailored to the community.

of multimodal infrastructure to a broad range of stakeholders. As these benefits are more broadly recognized, they may be more widely supported among community members and decision makers and face less resistance during the project planning and development process. Projects facing less resistance are more likely to move more quickly through the various steps of development and ultimately be implemented.



Credit: www.pedbikeimages.org
/ SDOT

EXAMPLES AND CASE STUDIES

A Southern California Association of Governments (SCAG), Alliance for a Healthy Orange County (AHOC) and Safe Routes to School National Partnership authored the Active Transportation Health and Economic Impact Study and initiated the Go Human campaign. The study provides an understanding of the public health and economic benefits of building and maintaining active transportation infrastructure. The Go Human campaign encourages Southern Californians to use human-powered transportation and change how one thinks about others on the road.

SCAG's Go Human campaign in Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties aims to "tackle the region's auto-centric reputation which discourages people from pursuing walking/bicycling in their communities and increase awareness of community-wide benefits of walking and bicycling." The Active Transportation Health and Economic Impact Study quantified the benefits of active transportation investments to help build a case for walking and biking.

FOR EVERY \$1 SPENT IN IMPLEMENTING THE ACTIVE TRANSPORTATION STRATEGY WITHIN THE 2016 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITY STRATEGY, THE REGIONAL ECONOMY WILL SEE AN ADDITIONAL \$8.41 IN SALES OUTPUT, \$2.65 IN PERSONAL INCOME, AND \$5.20 IN VALUE ADDED.

EXAMPLES AND CASE STUDIES CONTINUED

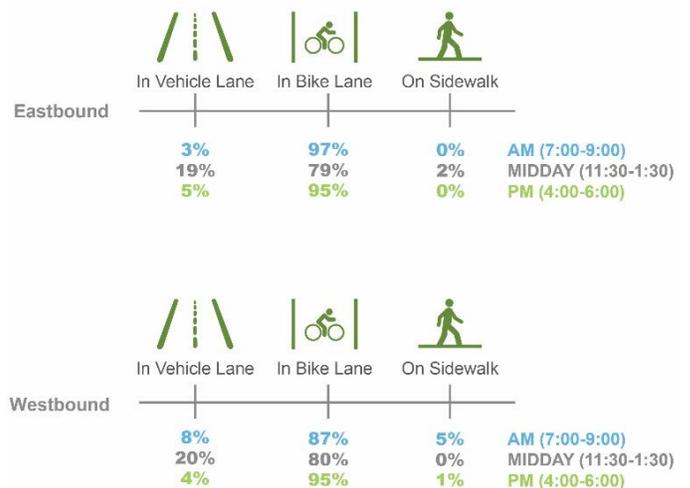
B San Francisco Municipal Transportation Agency (SFMTA) developed the Safe Streets Evaluation Handbook to track progress and measure project performance with respect to street safety. The Handbook is a step-by-step guide for SFMTA project managers to complete evaluations of projects that are being implemented.

SFMTA developed the Safe Streets Evaluation Handbook to track progress and measure project performance with respect to street safety. SFMTA is committed to understanding and reporting on how its projects affect neighborhoods, as part of its work toward through the Safe Streets Evaluation Program to achieve City and agency goals. This handbook is a step-by-step guide for SFMTA project managers to complete evaluations of projects that are being implemented. While the Handbook’s primary intended users are SFMTA staff and project consultants, the guidance presented can benefit other City agencies and agency partners. SFMTA is working towards achieving Vision Zero, an initiative to prioritize street safety and eliminate traffic deaths in San Francisco by 2024. To meet this goal, the City needs to track progress and measure project performance. Specifically, the safe streets evaluations seek to:

- Inform opportunities to refine a project’s design;
- Communicate the effects of a project to the public, decision-makers, and other transportation professionals;
- Support the use of design treatments at other locations, also referred to as “proof-of-concept”; and
- Streamline the design of future projects that incorporate similar elements.



Figure 2: Data Summary Example



Evaluation Plan Matrix (Sample)

Project Name	Polk Street Streetscape Project
Project Manager	Leng, Thalia
Project Scope	Streetscape project including bicycle facilities north and south bound on Polk Street, pedestrian safety upgrades at all intersections, signal improvements, transit stop changes, and public realm improvements.
Project Limits	Polk Street, from McAllister Street to Union Street
Project Timeline	Construction start: Fall 2017, Construction complete: Spring 2019

Intended Outcome		Metrics	Evaluation Tools	Data Collection Time Periods	Data Collection Timeframe		Resources
Goal	Objective/Question				Pre-Project	Post-Project	
Mobility	Has the number of cyclists increased?	Bike Volumes on Lower Polk Street	Video data collection with manual reduction	Weekday AM/ PM Peak Hours (8:00-10:00 AM; 4:00-6:00 PM)	2 months prior	6 months after	Contractor
Effective Design	Are the new merge zones effective at reducing conflict?	Right Hook Bike Conflicts at Polk Street/ Ellis Street	Manual data collection and reduction	Weekday AM/ PM Peak Hours (8:00-10:00 AM; 4:00-6:00 PM)	2 months prior	6 months after	Staff
Safe Behavior	Are vehicles traveling at safer speeds?	Vehicle Speeds	Pneumatic tubes with manual reduction	Weekday; 48 hrs.	2 months prior	6 months after	Contractor
Perceived Safety	Do people feel safer?	User Survey	Online survey with promotion in the field	Four 2-hr. promotion periods; survey online 2 weeks	2 months prior	6 months after	Contractor



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/ Dan Burden



Credit: www.pedbikeimages.org
/ Dan Burden

STRATEGY OVERVIEW

Multimodal design is advancing at a rapid pace, and ongoing professional development and knowledge exchange is crucial to advance the state of the practice and to implement high-quality transportation infrastructure. Capacity-building programs can provide staff with the necessary skills and knowledge to meet the challenges arising from increasing and competing demands on the transportation network and ensure that the transportation workforce is trained in the necessary tools, technologies, methodologies, and policies required to build and operate a safe multimodal system.

Jointly administered by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), with assistance from the U.S. DOT's Volpe National Transportation Systems Center, the Transportation Planning Capacity Building Program's (TPCB) products and services provide information, training, and technical assistance to the transportation professionals responsible for planning for the capital, operating, and maintenance needs of our nation's surface transportation system. FHWA, FTA, AASHTO, NACTO, the Institute of Transportation Engineers (ITE), and other organizations have developed volumes of practical planning, design and funding guidance that is accessible to everyone. This guidance also includes best practices and lessons learned from agencies and projects that have been implemented throughout the country.

ITE works with transportation professionals to improve mobility and safety for all transportation system users and help build livable communities. They promote professional development and support and encourage education, identify necessary research, develops technical resources including standards and recommended practices, develops public awareness programs, and serves as a conduit for the exchange of professional information. The State Smart Transportation Initiative works in partnership with governors, DOTs, and other transportation providers to improve safety, enhance economic opportunity, improve reliability, preserve system assets, accelerate project delivery, and help to create healthier, more livable neighborhoods. They provide free technical assistance designed to develop flexible ways to meet their users' needs with practical solutions that cost less to design, build and maintain. The Governors' Institute on Community Design® advises governors and State leaders as they seek to guide growth and development in their States. They bring together leading practitioners and academicians in the fields of government, design, development, and regional economics to help each state's executive team make informed choices as they shape the future of their States. Their Accelerating Practical Solutions Program works with DOTs to help them make cost-effective transportation investments.

CONSTRAINTS/ CHALLENGES ADDRESSED

- Insufficient Staff Capacity or Technical Knowledge

EFFECTIVENESS

- Increasing staff capacity and knowledge can result in increased productivity and staff retention, and can reduce agency reliance on consultant procurement, which often requires considerable time and budget.

APPLICABILITY & TRANSFERABILITY

- Capacity-building programs are widely applicable and often transferable. Providing targeted training and materials enables agencies to stay current with emerging treatments and anticipate future changes.
- One limitation to the transferability of such programs is the availability of funding or programming, along with the level of adoption of and attendance by target groups. While some training is offered without charge, it still requires a time commitment by participants and, in many cases, travel.
- Another limitation is differences in State and local policies and design standards, which may make some training programs context-based or location-specific and not directly transferable without modifications.

EXAMPLES AND CASE STUDIES

A California Active Transportation Research Center (ATRC) is funded by an Active Transportation Program grant to the California Department of Transportation (Caltrans). ATRC offers technical assistance and training on bicycle and pedestrian projects for designers, planners, and engineers; and serves as an information clearinghouse for safe streets design and Safe Routes to School traffic injury mapping systems, curricula, and materials. Caltrans and the ATRC have also partnered with the California Department of Public Health and the Sacramento State College of Continuing Education (CCE) to provide a range of training. These training programs include:

1. A free, day-long course in planning and design for bicycle transportation in various locations across the State.
2. A Local Technical Assistance Program training course open to professionals at all agency levels.
3. Tech Transfer courses through UC Berkeley to provide professional development and enable agencies to preserve staff capacity and knowledge for active transportation projects across a broad spectrum of disciplines.
4. Free courses through FHWA's Focus Cities and States Program that include:
 - Designing and planning for pedestrian and bicyclist safety
 - Developing a pedestrian Safety Action Plan
 - Implementing complete streets

B Southern California Association of Governments (SCAG) "Toolbox Tuesdays" provides a range of practical skills and knowledge for local government and planning practitioners. Topics include training in the use of technology and education for practical approaches to timely issues. All classes and webinars are free for government officials, planning practitioners, students, and others in the association's six-county area.

C Transportation Planning Capacity Building (TPCB) is a suite of capacity-building programs that work toward the goal of strengthening transportation agencies at all levels by fostering professional development and knowledge exchange. These programs cover topics that focus on resources for bicycle and pedestrian planning, and other non-motorized transportation modes, including guidelines and design standards, case studies and ideas for integrated planning, funding strategies, and other helpful tools.

D Federal Transit Administration (FTA) sponsors several organizations created to provide technical assistance to Federal, State, and local jurisdictions, along with public transit providers and operators. The National Transit Institute and the Transportation Research Board's Transit Cooperative Research Program were designed to provide technical training and promote the exchange of valuable information related to the planning, design, operation, and management of transportation resources between industry professionals, agency leaders and their staffs, and other organizations.

STRATEGY OVERVIEW

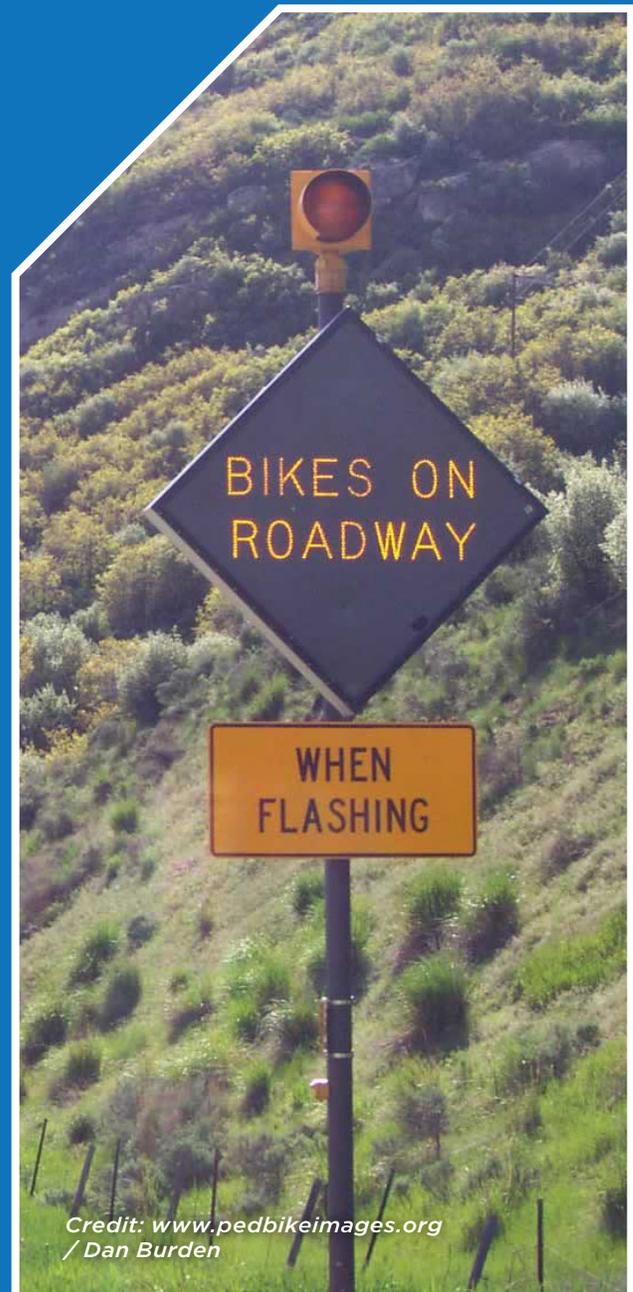
Many small-scale multimodal projects are implemented by local governments under Local Aid Programs (LAP) agreements with State DOTs. Direct management of a multimodal project entails many constraints and challenges. Supervising the management of these projects by others comes with additional constraints and challenges. Bicycle and pedestrian projects are typically local and small-scale and often attract the interest of local sponsors who want to advance them. However, local governments – especially smaller jurisdictions that may have limited planning and engineering resources – are often inexperienced in this field. Providing technical assistance and/or technical partnerships could help local jurisdictions advance multimodal projects more efficiently.

CHALLENGES ADDRESSED

- Insufficient Staff Capacity or Technical knowledge
- Programming Delays and Funding Source Challenges
- Difficulties Competing for Limited Funding

EFFECTIVENESS

- Early and ongoing technical assistance can improve the percentage of project concepts that receive funding and advance to implementation and can minimize the duration of the project development process from concept to open-to-traffic.



Credit: www.pedbikeimages.org
/ Dan Burden

APPLICABILITY & TRANSFERABILITY

- These strategies are widely applicable and transferable.

EXAMPLES AND CASE STUDIES

A **New Jersey DOT's Local Technical Assistance Program** - New Jersey DOT's Bureau of Commuter Mobility manages a Local Technical Assistance program that helps municipalities develop bicycle and pedestrian projects. NJDOT uses on-call consultants to provide technical services to six to eight municipalities per year. The consultant works with local officials and stakeholders to convert their ideas into an actionable project, with this work done at no cost to the municipality. The municipality must agree to manage the public outreach process and to make a good-faith effort to implement the resulting project. The consultant's work is summarized in a report to the municipality that includes specific recommendations, including available funding sources. The report is typically followed by a municipal application for project funding. Potentially eligible activities for this funding include Municipal Local Aid, Local Bikeways, and Safe Routes to Transit (State funded), as well as Transportation Alternatives and Safe Routes to Schools. NJDOT's costs vary but are normally less than \$100,000 per project. Recent sample reports can be found in Rutgers University's database.

B **Portland MPO "Hands On" Support** - Metro is the metropolitan planning organization for the Oregon portion of the Portland region and takes on significant regional government responsibilities. Metro's Regional Flexible Funding program combines resources from several Federal sources to fund transit, bicycle, pedestrian, and other projects throughout the region. When funds are awarded to a local sponsor, Metro assigns an engineer and other support staff to work with the sponsor throughout the project development process, providing oversight as well as advice and encouragement. Metro believes that this hands-on approach significantly improves the success rate for locally sponsored projects. Portland's experience is highlighted in Transportation for America's *Building Healthy and Prosperous Communities: How Metro Areas are Implementing More and Better Bicycling and Walking Projects*.



Credit: www.pedbikeimages.org
/ Jim Hash



Credit: www.pedbikeimages.org
/ Adam Coppola Photography

V. Relevant Federal Policies and Resources

There are numerous relevant resources and Federal policies that offer guidance and real-world examples of projects that have applied this guidance. These policies and resources are listed and described below.

Annotated Resources/Policies

Project Development Phase: Planning and Project Scoping

Federal Highway Administration (FHWA) - Use of Federal Funds for Bicycle and Pedestrian Efforts

<https://www.transportation.gov/mission/health/use-Federal-funds-bicycle-pedestrian-efforts>

Measures the percentage of Federal transportation dollars that go to bicycle and pedestrian infrastructure projects

FHWA - Bicycle and Pedestrian Program

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/

Identifies transportation funding programs with flexibility to fund pedestrian and bicycle projects and activities from several transportation funding programs.

FWHA - Fiscal Management Information System. Federal-Aid Highway Program Funding for Pedestrian and Bicycle Facilities and Programs

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/bipedfund.cfm

Summarizes Federal-Aid Highway Program funding for pedestrian and bicycle facilities and programs by year and by State.

FHWA - Guidebook for Measuring Multimodal Network Connectivity

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_connectivity/

The Guidebook for Measuring Multimodal Network Connectivity provides methods and measures to support transportation planning and programming decisions. It includes references and illustrations of current practices, including materials from five case studies conducted as part of the research process.

FHWA - Transportation Alternatives Set-Aside Implementation Guidance

https://www.fhwa.dot.gov/environment/transportation_alternatives/guidance/guidance_2016.cfm

Overview of Fixing America's Surface Transportation (FAST) Act and Surface Transportation Block Grant Program funding for transportation alternatives, including program purpose, funding, project eligibility, and competitive selection process.

FHWA - Incorporating On-Road Bicycle Networks into Resurfacing Projects

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/

Identifies least cost strategies to capture multimodal network improvements, specifically by incorporating them into other ongoing and routine activities.

FHWA - Bike Network Mapping Idea Book

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/bikemap_book/

Identifies how a transportation agency can better integrate existing and proposed pedestrian and bicycle network maps into their planning process, to reduce project delay and capture both proactive and reactive opportunities.

Federally Funded Early Acquisition Project FAQ

https://www.fhwa.dot.gov/real_estate/policy_guidance/fedfunddeap.cfm

Addresses the acquisition of real property—including a specific parcel, a portion of a transportation corridor, or an entire corridor—in advance of the completion of the environmental review process under the National Environmental Policy Act.

Project Development Phase: Environmental Review

Moving Ahead for Progress in the 21st Century Act, P.L. 112-141, 126 Stat. 405, Sec. 1318(d)

40 CFR parts 1500 - 1508

DOT Order 5610.1C

23 CFR 771.117

FHWA - Additional Flexibilities in Categorical Exclusions Memorandum. May 22, 2017.

https://www.environment.fhwa.dot.gov/legislation/nepa/memo_additional-flex.aspx

Memorandum including a compiled list of activities that may be undergoing more detailed NEPA processing than required by law, which should qualify as categorical exclusions under 23 CFR 771.117(c)

American Association of State Highway and Transportation Officials Programmatic Agreement Toolkit

The toolkit presents information, guidance, and recommendations on developing and implementing programmatic agreements among State DOTs, the FHWA, and agencies responsible for the protection of environmental resources. Programmatic agreements are intended to “reduce unnecessary project delays, including delays caused by staffing constraints, and to amend rules and policies where needed without compromising environmental quality”.

https://environment.transportation.org/documents/programmatic_agreement_toolkit/

Project Development Phase: Design

FHWA - Manual on Uniform Traffic Control Devices (MUTCD)

<https://mutcd.fhwa.dot.gov>

Defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel

FHWA - Revisions to the Controlling Criteria for Design and Documentation for Design Exceptions Memorandum. May 5, 2016.

<https://www.fhwa.dot.gov/design/standards/160505.cfm>

Reduced the number of controlling criteria on low speed roadways

Pedestrian and Bicycle Information Center - Design Resource Index

www.pedbikeinfo.org/planning/facilities_designresourceindex.cfm

Defines the specific location of information in key national design manuals for various pedestrian and bicycle design treatments

Project Development Phase: Design (continued)

FHWA - Small Town and Rural Multimodal Networks.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/

Resource for transportation practitioners in small towns and rural communities. It applies existing national design guidelines in a rural setting and highlights small town and rural case studies, provides information on maintaining accessibility and MUTCD compliance, while at the same time encouraging innovation

FHWA - Achieving Multimodal Networks

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/multimodal_networks/

Highlights ways that planners and designers can apply the design flexibility found in current national design guidance to address common roadway design challenges and barriers

FHWA - Guide for Maintaining Pedestrian Facilities for Enhanced Safety

https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/

This document provides guidance for maintaining pedestrian facilities with the primary goal of increasing safety and mobility. The Guide addresses the needs for pedestrian facility maintenance; common maintenance issues; inspection, accessibility, and compliance; maintenance measurers; funding; and construction techniques to reduce future maintenance.

Project Development Phase: Funding

FHWA - Bicycle and Pedestrian Funding Opportunities

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm

Identifies potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs

FTA - Bicycles and Transit

<https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/livable-sustainable-communities/bicycles-transit>

Webpage providing examples of integrating bicycles with transit, funding opportunities, and additional resources related to linking bicycles and transit.

FHWA - Separated Bike Lane Planning and Design Guide

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/separated_bikelane_pdg/page00.cfm

Outlines planning considerations for separated bike lanes and provides a menu of design options covering multiple scenarios. Provides detailed intersection design information covering topics such as turning movement operations, signalization, signage, and on-road markings.

FTA - Final Policy Statement on Eligibility of Pedestrian and Bicycle Improvements under Federal Transit Law

<https://www.Federalregister.gov/articles/2011/08/19/2011-21273/final-policy-statement-onthe-eligibility-of-pedestrian-and-bicycle-improvements-under-Federal>

Formal policy on the eligibility of pedestrian and bicycle improvements for FTA funding and defines the catchment area for pedestrians and bicyclists in relation to public transportation stops and stations.

Project Development Phase: Design (continued)

FHWA - Office of Safety - Road Diets (Roadway Reconfiguration) and Road Diet Informational Guide

https://safety.fhwa.dot.gov/road_diets

https://safety.fhwa.dot.gov/road_diets/guidance/info_guide/

Informational Guide provides an overview and definition of a road diet (or roadway reconfiguration) and highlights the benefits, trade-offs, discusses feasibility and operational and design considerations.

Multiple Phases of Project Development

FHWA - PlanWorks - Pedestrian and Bicycle Application

<https://fhwaapps.fhwa.dot.gov/planworks/>

<https://fhwaapps.fhwa.dot.gov/planworks/Application/Show/17>

<https://fhwaapps.fhwa.dot.gov/planworks/Assessment>

The PlanWorks Decision Guide is intended to help Metropolitan Planning Organizations, State Departments of Transportation, and other partners fully integrate pedestrian and bicycle planning and design into the formal transportation planning process. It provides detailed information on how multimodal transportation can be incorporated into specific steps in the planning process.

NACTO - Green Light for Great Streets: Accelerating Change

<https://nacto.org/2018/09/24/green-light-for-great-streets-2/>

Identifies structural challenges faced by city transportation agencies and effective practices, including defined and clear processes for implementation, reliable funding sources, and standardized designs.

USDOT - Noteworthy Local Policies That Support Safe and Complete Pedestrian and Bicycle Networks (November 2016)

https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa17006-Final.pdf

This policy guidebook and accompanying case studies showcase opportunities to make street networks more complete, more livable, and safer for all users.

FHWA - Planning and Environmental Linkages

<https://www.environment.fhwa.dot.gov/integ/index.asp>

Represents a collaborative and integrated approach to transportation decision-making that 1) considers environmental, community, and economic goals early in the transportation planning process, and 2) uses the information, analysis, and products developed during planning to inform the environmental review process.

The references and resources related to each strategy and case study is listed below.

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