VTrans TA Program Fall 2015

By

Scott Robertson, P.E.

Please sign in

VTrans Working to Get You There
Vermont Agency of Transportation

NEW: Opportunities for Additional Stormwater Mitigation Funding!!

$1.1 million of TAP funding is reserved for applications addressing Environmental Mitigation efforts relating to stormwater and highways.

$50,000 cap on federal funding for salt/sand shed construction projects has been omitted. Potential project ideas may include, but not be limited to:

- Bank Stabilization
- Ditching
- Stormwater Systems Studies
- Stormwater Systems
- Phosphorous control plans
- Salt Sheds (within 50' of a water body)
- Culvert replacement
- Infiltration Basins
- Check Dams
- Swirl Separators
- Retaining walls

http://vtransengineering.vermont.gov/bureaus/mab/local-projects/transportation-alternatives

Today's Workshop will cover.....

- Federal Aid Essentials Website
- Eligible Applicants
- Eligible Projects
- Project Development Process Overview
- Typical Project Costs Exmaple
- Project Selection Timeline
- Project Development Timeline
- Some Technical Points
- Questions

U.S. Department of Transportation
Federal Highway Administration

Search FHWA

Federal-aid Essentials for Local Public Agencies

Federal-aid Simplified.

HOME | ABOUT | FEDERAL-AID ESSENTIALS VIDEO LIBRARY | STATE RESOURCES | OUTREACH MATERIALS

Federal-aid Simplified. Understanding the Essentials.

More and more, transportation agencies must pursue better, faster and smarter ways of doing business. Federal-aid Essentials offers a central online library of informational videos and resources, designed specifically for local public agencies. Each video addresses a single topic-condensing the complex regulations and requirements of the Federal-aid Highway Program into easy-to-understand concepts and illustrated examples.

To learn more, view the video to the left.

Continuing the Conversation

The FHWA launched Federal-aid Essentials on August 27, 2012 at the American Public Works Association (APWA) International Public Works Congress and Exposition. In a conversation with APWA host Emilie Barta, FHWA Resource Center Director Bernetta Collins tells us more about this program, Federal-aid Essentials. View the video, Continuing the Conversation.

I want to know more about...

the Federal-aid process

Go!

To view PDF files, you can use the Acrobat® Reader®.

http://www.fhwa.dot.gov/federal-aidessentials

Federal-aid Essentials for Local Public Agencies

Federal-aid Simplified.

Federal-aid Program Overview

Stewardship and Oversight

Federal-aid stewardship and oversight are vital to maintaining public trust of LPA-administered projects

FEDERAL-AID PROGRAM OVERVIEW

Although the videos in this section can be viewed in any sequence, the titles are arranged in a recommended or preferred order for your convenience.

Stewardship and Oversight

Project Delivery: **A Process from "Cradle to Grave"**

Project Delivery: **Key Actions in the Cradle to Grave Process**

Funding: **Funding Basics and Eligibility**

Funding: **Project Requirements**

Bridge Inspection: **National Bridge Inspection Standards**

Consultant Services: **Consultant Services Overview**

Consultant Services:

Companion Resource (PDF, 3,418 KB) : Includes the printable script for this video

Web Resources: Includes Web links to related Code of Federal Regulations and other links appropriate to this video module.

Federal-aid Essentials for Local Public Agencies

Federal-aid Simplified.

All Federal-aid Essentials Videos

CIVIL RIGHTS

Background and Purpose
Nondiscrimination Requirements on Construction Contracts
Foundations of the ADA/Section 504
Disability Protections
Transition Plans
Self-Evaluation Basics
Program Overview
Project Contract Administration
Prompt Payment and Return of Retainage
DBE Contract Goals
Evaluating Good Faith Efforts
Commercially Useful Function
Compliance and Enforcement
Nondiscrimination Assurances
Implementation Plans

PROJECT DEVELOPMENT

Projects and Statewide Planning Requirements
Cost-Effectiveness Determinations and Public-Interest Findings
Selecting the Method of Construction: Contract or Force Account
Project Advertisement, Bid Review, and Request for Concurrence in Award
Project Geometric Design Requirements
Environmental Requirements
Value Engineering Requirements for Federal-aid Projects
Bike and Pedestrian Accommodation
Pedestrian Accessible Design Requirements

FEDERAL-AID PROGRAM OVERVIEW

Stewardship and Oversight
A Process from "Cradle to Grave"
Key Actions in the Cradle to Grave Process
Funding Basics and Eligibility
Project Requirements
National Bridge Inspection Standards
Consultant Services Overview
Hiring a Consultant Using Competitive Negotiation Procedures
Organizational and Consultant Conflicts of Interest
Introduction to the Highway Safety Improvement Program **New!**
Roadway Safety Fundamentals **New!**
SHRP2: Tools for the Road Ahead
Moving Ahead for Progress in the 21st Century (MAP-21)

FINANCE

Introduction to Cost Principles
Common Grant Rule
Transparency Act Sub Award Reporting
Internal Control Regulations and Requirements
Introduction to Internal Control
Single Audit (OMB Circular A-133)
Developing an Indirect Cost Allocation Plan
Matching or Cost Sharing Requirements
Advance Construction

RIGHT-OF-WAY (ROW)

MAP-21

- **Transportation Alternatives (TA)** are defined in the federal transportation legislation; Moving Ahead for Progress in the 21st Century (MAP-21)
- TA in part replaces the former **Transportation Enhancements Program** and incorporates activities that were eligible under the Safe Routes to School Program
- Approximately $2.2 million in federal dollars to be awarded.

Eligible Applicants

- Local Governments - City, Town, Village
- State Natural Resource or Public Land Agency
- Federal Natural Resource or Public Land Agency
- Regional Transportation Authority
- Transit Agencies
- A tribal government
- A school district, local education agency or school
- Regional Planning Commissions

Eligible Projects

A) Construction, planning, and design of on-road and off-road facilities for pedestrians, bicyclists, and other non-motorized forms of transportation:

- Sidewalks
- Bicycle infrastructure
- Pedestrian and bicycle signals
- Traffic calming techniques
- Lighting and other safety-related infrastructure
- Transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

Eligible Projects (continued)

B) Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.

C) Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other non-motorized transportation users.

D) Construction of turnouts, overlooks, and viewing areas.

Eligible Projects (continued)

E) Community improvement activities, including:

(i) Historic preservation and rehabilitation of historic transportation facilities.

(ii) Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control.

(iii) Archaeological activities relating to impacts from implementation of a transportation project eligible under this title.

Eligible Projects (continued)

- F) Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation. Potential project ideas may include, but not be limited to:

  (i) address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities described in sections 23 USC 133(b)(11), 328(a), and 329

  (ii) reduce *vehicle-caused* wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.

G) The Safe Routes to School Program under Section 1404 (SAFETEA-LU) (23 U.S.C. 402 note).

Eligible Projects (continued)

Examples of Environmental Mitigation Projects:

Bank Stabilization
Ditching
Stormwater Systems Studies
Stormwater Systems
Phosphorous control plans
*Salt Sheds

Culvert replacement
Infiltration Basins
Check Dams
Swirl Separators
Retaining walls

***The former $50,000 cap on federal funding for salt/sand shed construction projects has been omitted.**

Salt Sheds:

- Construction of **salt sheds** is potentially eligible under the environmental mitigation category.

  - Case by case basis
  - Based on proximity to a major water body (generally within 50 ft.)
  - Recommend reviewing with VTrans prior to application

Projects That Are No Longer Eligible

- Historic preservation of something not considered a historic *transportation* facility or structure.

- Operation of historic transportation facilities

- Stand-alone landscaping projects other than for vegetation management nor those considered "beautification"

- Archaeological activities not addressing impacts from a transportation project

Projects That Are No Longer Eligible

- Acquisition of scenic easements and scenic or historic sites

- Visitor and Welcome Centers

- Transportation Museums

- General safety and educational activities
  - (unless eligible as a Safe Routes to School)

Program Overview

- Can apply for either ***Scoping*** or ***Design & Construction***
- 50% local match required for scoping
- 20% local match required for design/construction
- Maximum award $300,000 federal dollars
- Award amount is capped
- If ***Design/Construction*** project does not advance, payback may be required
- Microsoft Word file of TA application available upon request

TA is a Reimbursement Program

- **NOT** a block grant
- Project sponsor pays contractor
- Project sponsor submits invoice to VTrans
- VTrans reimburses project sponsor federal portion of eligible costs

Program requires…

- Compliance with Federal Regulations
- Compliance with Agency and National Design Standards
- Compliance with State of Vermont Regulations
- Municipal Project Management (MPM)
- Maintenance of the Improvement

Project Development Process

Your project will be developed according to a specific development process which includes:

- A public involvement process
- Environmental resource considerations
- Development and selection of a *Preferred Alternative*
- Designing the facility
- Acquiring the necessary property rights
- Procuring and executing construction

Three Phases of a Federal-Aid Project

- PE - Preliminary Engineering
- ROW - Right of Way
- Construction

Preliminary Engineering (PE)

- Designate or procure a Municipal Project Manager (MPM)
- Procure a design consultant
- Identify and clear natural and historical resources. Obtain NEPA document.
- Design the project (including erosion and stormwater control if needed).

Right of Way (ROW)

1. All ROW activities and acquisitions must conform with federal requirements (the Uniform Act).
2. Identify construction limits of project to determine property ownership.
3. Establish fair market value for property.
4. Negotiate price for easement, lease or fee acquisition with landowner.
5. Purchase, lease, or obtain by donation.
6. Obtain ROW Certification from VTrans.

Construction

- Construction projects require open competitive bidding through an Invitation For Bid (IFB) process. Lowest responsive bid by responsible bidder must be accepted.

- Erosion Control (NPDES) and Stormwater Plans Required.

- Materials testing and certifications are required.

Construction Inspection

- The project sponsor is responsible for the ***continuous*** inspection of the construction.
- Typically, this is done by a hired construction inspection engineering consultant/firm.
- Be sure that your project budget includes this service.

Some Words on MPM

- Project sponsors are required to identify a Municipal Project Manager (MPM)
  - Small projects are not always priorities for Town Managers and Administrators
  - Designating an RPC or hiring a private consultant can be well worth the money
  - Budget for MPM should be 10% of the total of all other project costs

Environmental Resources and Permitting

- Documentation of environmental issues is a federal requirement.
  - for most projects like these, it is a Categorical Exclusion (CE)

- Will need Historic resource (above ground) and Archaeological resource (below ground) clearances.

- If wetlands/waterways are involved, the Corps of Engineers may have jurisdiction.

- Erosion Prevention and Sediment Control (during construction) and Stormwater Plans (post-construction) may be required.

Typical Project Costs

- Use the 2014 VTrans Bike/Ped Facility Unit Cost Report (http://vtransengineering.vermont.gov/sites/aot_program_development/files/documents/ltf/Cost_Report_2014.pdf) to cross-check construction costs.

- Total budget should include the cost of:
  - Engineering (20% of construction)
  - Project Management (10% of overall)
  - Right of Way (highly variable)
  - Construction Inspection (10 – 20% of Constr.)
  - Construction

Project Cost Example

Project Activity	Cost
Preliminary Engineering(PE) (Costs associated with planning, engineering/design, survey, permitting, public input and coordination) – Typically between 10% and 30% of the Construction Cost	**$25,000**
Right-of-Way (ROW) (Includes cost of appraisal, land acquisition and associated legal fees.)	**$5,000**
Construction (Construction costs including a reasonable contingency)	**$250,000**
Construction Inspection (Cost to provide oversight during construction – typically 10% to 20% of Construction cost)	**$30,000**
Administration (Cost associated with municipal oversight of the project, estimated to be a minimum of 10% of total PE, ROW and Construction phases.)	**$30,000**
Other *(Please explain)*	
Total	**$340,000**
Federal Dollars requested in Application (0.8 * $340,000)	**$272,000**
Local Match (0.2 * $340,000)	**$68,000**

Scoping Study Costs

- Scoping studies typically cost between $20,000 and $50,000 (total).

- Cost depends on the number of alternatives to be evaluated and/or the extent of the geographic area covered by the study.

- Expected to follow the outline developed by VTrans and to use professional engineers/planners.

Eligible Local Match

- Cash (preferred)
- Donated materials or services *(but must be pre-approved)*. Must be found to be necessary for the project. Cannot be "discounted".
- The value of donated Right-of-way
- Volunteer labor *(must be pre-approved) - generally at $15/ hour*

Non-Eligible Local Match

- Cannot be other FHWA funds. Any federal funds from other grant sources need to be approved.
- Costs incurred prior to having an executed agreement with the Agency
- Pre-application costs are not eligible

Regional Planning Commission Support

- A letter of support is required from the Regional Planning Commission for each application.
- All projects must conform with the Regional Transportation Plan.

District Transportation Administrator (DTA)

If your project is within or directly adjacent to a State maintained Highway…

- You must document notifying your VTrans District Transportation Administrator about your project and include any comments in your application.

All Projects Treated as if on Fed Aid System

- Davis Bacon wage rates and certified payrolls
- Low bid
- Sealed bid for construction

Davis Bacon Wage Rates

- MAP-21 requires that Davis Bacon wage rates are certified on all TA projects.
  - even if outside the ROW of a federal-aid highway.
  - This is a change from the requirements previously in place for ***Transportation Enhancement*** projects.

Patented/ Proprietary Products

Patented or proprietary items not allowed unless:

- A Public Interest Finding (PIF) warrants it.
  - generally if only one product exists or if needed for synchronization.

- Towns provide information to support their request.

- If not found warranted, towns have the option of funding these items themselves.

Buy America

- Buy America – all steel and iron must be made in America (the entire manufacturing process including painting, assembly, etc.)
- Towns are responsible for ensuring that ***Material Certifications*** are received from fabricators/ suppliers
- Failure to do so can affect the project's eligibility for federal funds

Work by Municipal Forces

Force Account work by a municipality:

- Where municipal services and labor are used instead of contracting).
- This is meant to be the <u>exception and not the rule</u>. Town must present information to justify and seek approval.
- Required even when town proposes completing a small amount of work to offset their match requirements for the project.

Project Selection Timetable

- October 16, 2015 - Applications Due
- November - December 2015 - Selection Committee reviews and ranks applications
- January 2016 – Funding announcement
- February/March 2016 – Grant Agreements developed between VTrans and successful applicants

TA Committee:

- The Secretary of Transportation or his / her designee
- A representative from the Division of Historic Preservation
- One member representing the tourism and marketing industry
- A representative of the Agency of Natural Resources
- Three municipal representatives
- One member representing Planning and Development Agencies
- Two members from the House
- Two members from the Senate

Elements of a Competitive Application

- Strong connection with the transportation system
- Addresses one or more of program eligible categories
- Well-planned – helpful if project has a scoping study completed
- Strong public support
- Realistic, well-developed budget
- Concisely and articulately written

Strong Applications:
Need for project is clear

No separation from road

Lack of sidewalks

Discontinuous sidewalks

Application Scoring Criteria

- Give a brief description of the project
  - 200 words or less
  - Indicate the primary facility type being applied for
  - 5 points max.

- What is the feasibility of this project?
  - Scoping study applications - not scored on this criterion.
  - Describe the extent of project development completed to date.
  - 10 points max.

- Does this project address a need identified in a local or regional planning document?
  - 5 points max.

Application Scoring Criteria (continued)

- Does this project benefit a Designated Downtown, Designated Village, New Town, or Designated Growth Center?
  - 10 points max.
- Provide a project cost estimate
  - Project costs include both federal dollars and local dollars.
  - For scoping studies, use PE and Municipal Project Management lines only on the application form
  - 10 points max.

Category Specific Scoring Criteria

Select the eligibility category below (A, B, C or D) that best fits your project and answer the corresponding questions for that category (choose only one category).

A. Bicycle and Pedestrian Facilities

B. Community Improvement Activities

C. Environmental Mitigation-Stormwater

D. Environmetal Mitigation - Wildlife

A. Bicycle and Pedestrian Facilities

Includes Safe Routes for Non-Drivers & Conversion of Abandoned Railroad Corridors

(i) Will the project contribute to a system of pedestrian and/or bicycle facilities? (10 points max.)

(ii) Will the project provide access to likely generators of pedestrian and/or bicyclist activity? (10 points max.)

(iii) Will the project address a known, documented safety concern? (10 points max.)

*10 bonus points will be awarded for projects that are primarily Bicycle or Pedestrian facilities.

B. Community Improvement Activities

(i) Explain how the project improves the ***economic wellbeing of the community*** and/or provides a benefit to state tourism? (10 points max.)\

(ii) Describe the anticipated impact to the public; degree of visibility, public exposure and/or public use. (10 points max.)

B. Community Improvement Activities

(iii) **Answer only one of the following based on the type of project:**

a) Construction of turnouts, overlooks, and viewing areas as related to scenic or historic sites.

To what extent will the project provide a view of a highly unique and scenic area? (10 points max.)

b) Preservation or rehabilitation of historic transportation facilities.

Describe the historic significance of the historic transportation facility and the importance of the facility to the State.(10 points max.)

c) Archeological planning and research related to impacts from a transportation project.

Describe the associated transportation project and benefit of the proposed activities. (10 points max.)

d) Vegetation management in transportation rights of way to improve roadway safety, prevent against invasive species, and provide erosion control.

Describe the extent of the current problem; impact on the site and surrounding area. (10 points max.)

C. Environmental Mitigation - Stormwater

(i) Please describe how this application provides environmental mitigation relating to stormwater and highways. (10 points max.)

(ii) What information or data is provided to substantiate the current stormwater problem and associated environmental impacts? (10 points max.)

(iii) What substantiating data or information is provided to show that the proposed application is an effective and manageable solution to the problem? (10 points max.)

C. Environmental Mitigation - Wildlife

(i) Please describe how this application provides environmental mitigation relating to wildlife mortality. (10 points max.)

(ii) What information or data is provided to substantiate the current stormwater problem and associated environmental impacts? (10 points max.)

(iii) What substantiating data or information is provided to show that the proposed application is an effective and manageable solution to the problem? (10 points max.)

If your project is funded:

- Funding is competitive. If funded, you will be asked to complete and submit a project commitment letter that includes:
  - Acknowledgement that you are responsible for providing the local share of the project funding and commit to doing so.
  - Commitment to move forward with this project and sign the Grant Agreement within one month of receiving the document.

Project Development Timeline Example

- January 2016 – Announcement of grant awards
- March 2016 – Grant agreement executed
- June 2016 – Engineering/MPM Procurement process complete
- March 2017 – Conceptual Plans and NEPA document secured
- September 2017 – Preliminary Plans completed
- June 2018 – Right of Way approved and cleared
- February 2018 – Final plans and bid documents completed
- May 2019 – Project goes out to bid for Construction

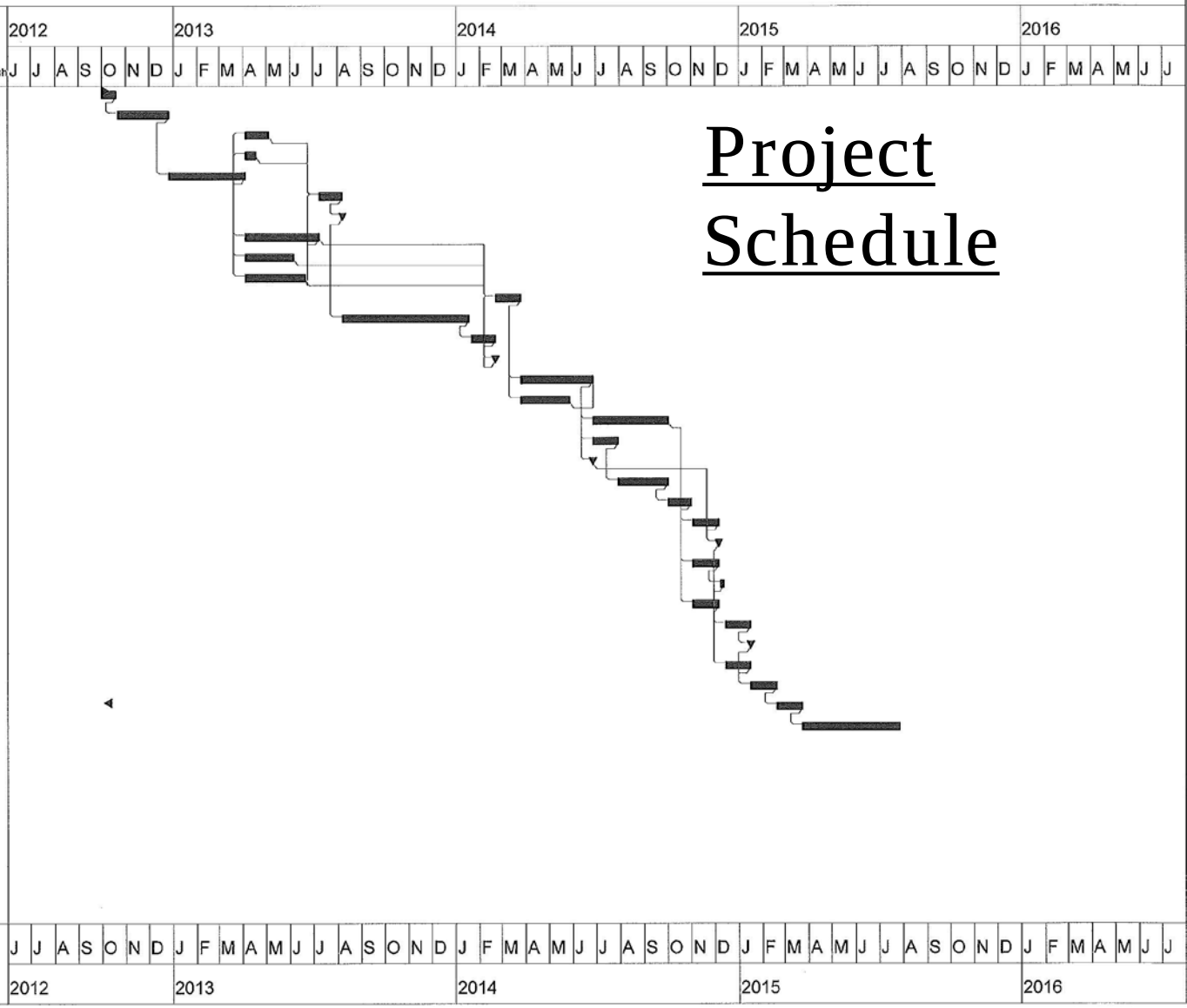
Project : 12F124(10)

RUTLAND CITY STP EH12(2)

Date: 25 Jun 2012

Time: 16:02:15

Activity Name	Activity Description	Rem. Dur.	Orig. Dur.	Activity Date	Activity Finish
010.01	PE/Pre-Appraisal Authorized	15	15	01Oct12	19Oct12
010.02	Grant Agreement	44	44	22Oct12	26Dec12
020.01	Local Concerns Meeting	22	22	04Apr13	03May13
020.03	Develop Purpose & Need Statement	10	10	04Apr13	17Apr13
020.05	Select Design Consultant	66	66	27Dec12	03Apr13
030.04.02	Alternatives Presentation/Refinement	22	22	09Jul13	07Aug13
030.04.03	Alternative Accepted	0	0	07Aug13	07Aug13
040.01	Section 4F/6F Process	66	66	04Apr13	08Jul13
040.02	Section 106 Process	44	44	04Apr13	05Jun13
040.03	NEPA Coordination	55	55	04Apr13	20Jun13
040.04	NEPA Document Submitted for Approval	22	22	21Feb14	25Mar14
050.01	Develop Conceptual Plans	110	110	08Aug13	17Jan14
050.02	Public Meeting/Hearing/Refinement	22	22	21Jan14	20Feb14
050.03	Project Defined	0	0	20Feb14	20Feb14
060.01	Develop Preliminary Plans	66	66	26Mar14	26Jun14
060.04	Hydraulics - Final	44	44	26Mar14	27May14
060.05	Environmental Permits	66	66	27Jun14	01Oct14
060.09	ROW Acquisition Authorization	22	22	27Jun14	29Jul14
060.12	Access Permits	0	0	26Jun14	26Jun14
080.01	Develop ROW Plans and Titles	44	44	30Jul14	01Oct14
090.02	Appraisal	22	22	02Oct14	31Oct14
090.03	Negotiation	22	22	03Nov14	05Dec14
090.05	ROW Clear	0	0	05Dec14	05Dec14
100.01	Develop Final Plans	22	22	03Nov14	05Dec14
100.03	Utility Clearance	5	5	08Dec14	12Dec14
100.08	Develop Project Special Provisions	22	22	03Nov14	05Dec14
100.10	Develop Contract Plans	22	22	15Dec14	15Jan15
100.11	Submit Contract Plans	0	0	15Jan15	15Jan15
110.01	Proposal Preparation	22	22	15Dec14	15Jan15
110.02	Advertisement	22	22	16Jan15	18Feb15
110.03	Contract Award	22	22	19Feb15	23Mar15
120.01	Construction	88	88	24Mar15	27Jul15



ProjectView

Scoping Study Timeline Example

- **January 2016**– Announcement of grant awards
- March 2016 – Grant agreement executed
- May 2016 – Consultant Procurement process complete
- October 2016 – Draft Study/Alternatives Presentation
- January 2017 – Scoping Study completed

Common Mistakes

- “We always know who to hire!”
- “We’ve got plans; let’s go to construction!”
- “I’m sure we can handle the MPM role internally.”
- “The guy from ANR said “no problem…”
- “We don’t need any Right-of-Way…”
- “Our plow driver says it looks OK…”
- “It’s just water…”
- “Can’t we just rely on our contractor to know what needs to be done?”

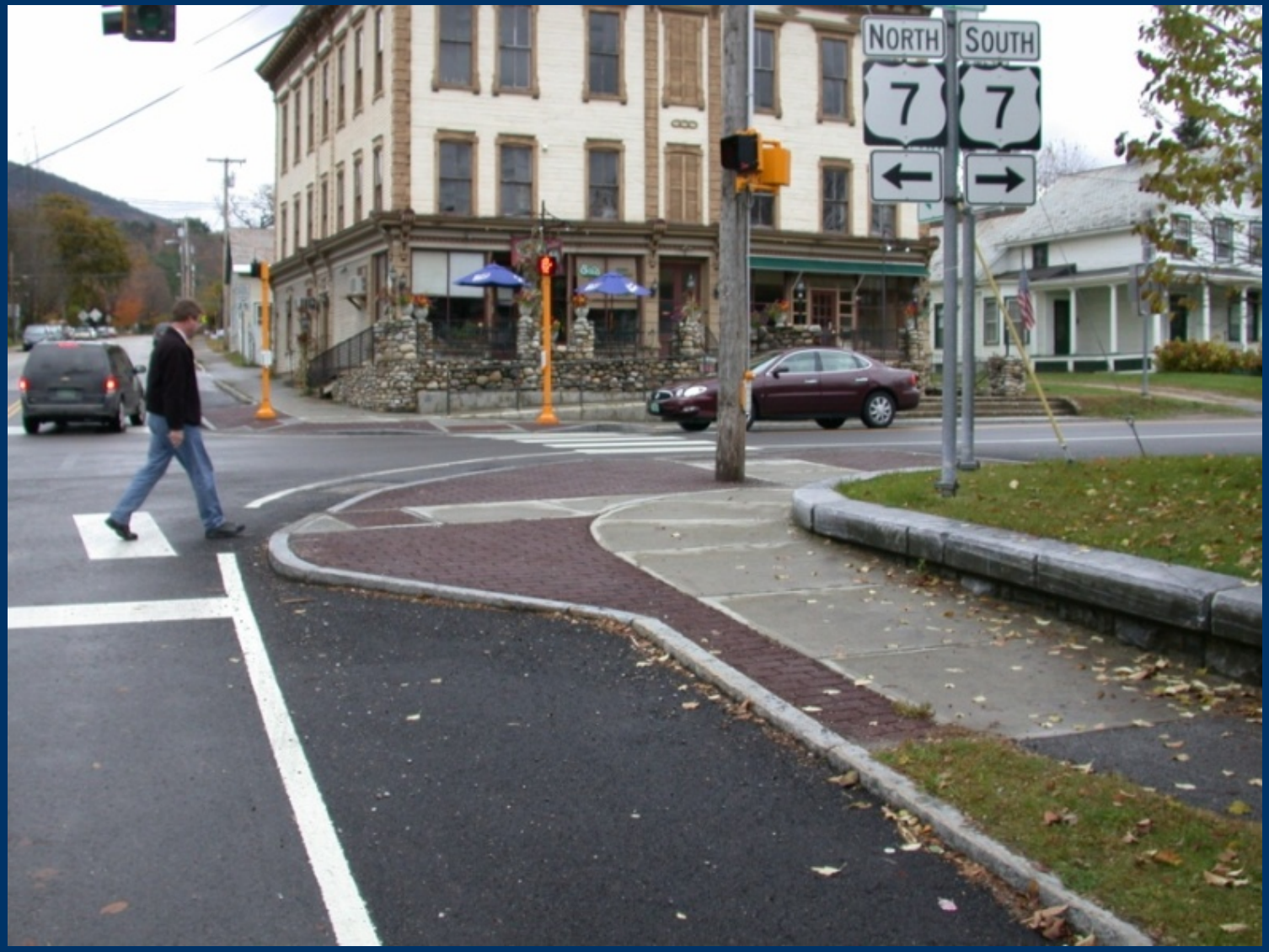
Successful Projects

- Hire qualified professionals
- HAVE GOOD AND CONTINUAL COMMUNICATION WITH VTRANS
- Have realistic project cost estimates and schedules when applying
- Have the full support of the town

Resources

- FHWA website on federal aid essentials:
  http://www.fhwa.dot.gov/federal-aidessentials/
- Transportation Alternatives Program Summary and 2014 Application Guide:
  http://vtransengineering.vermont.gov/sections/ltf/transportationalternatives
- Local Transportation Facilities Guidebook and appendices:
  http://vtransengineering.vermont.gov/bureaus/mab
- If you have any questions contact Scott Robertson at:
  Scott.Robertson@vermont.gov or by phone at (802) 828-5799

Technical Points



Meet ADA requirements for universal design

Meet Sidewalk Design Requirements

- **5 feet wide is standard, 4-foot minimum**
- **Separate from road**
- **Greenstrips where possible**
- **Curb ramps at intersections**
- **Visible crosswalks**
- **Pedestrian Signals**

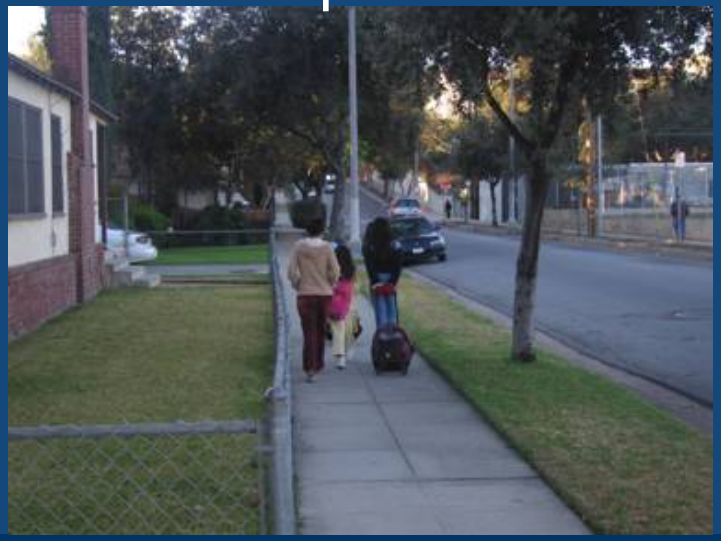
Surfaces

- Use a firm, stable and slip resistant surface – can be achieved with concrete or asphalt
- Surfaces should be smooth, free of openings and gaps

Narrow curbside sidewalks provide no buffer

Provide buffer from travel lanes

Green Strip



Bike Lanes

On-street Parking

Landscaping

Green strip provides pleasant, uncluttered sidewalk

- **2 ft. min. – wider preferred**
- **5 feet min. to plant trees**

Provide safe crossings

1. Determine where people should/want to cross

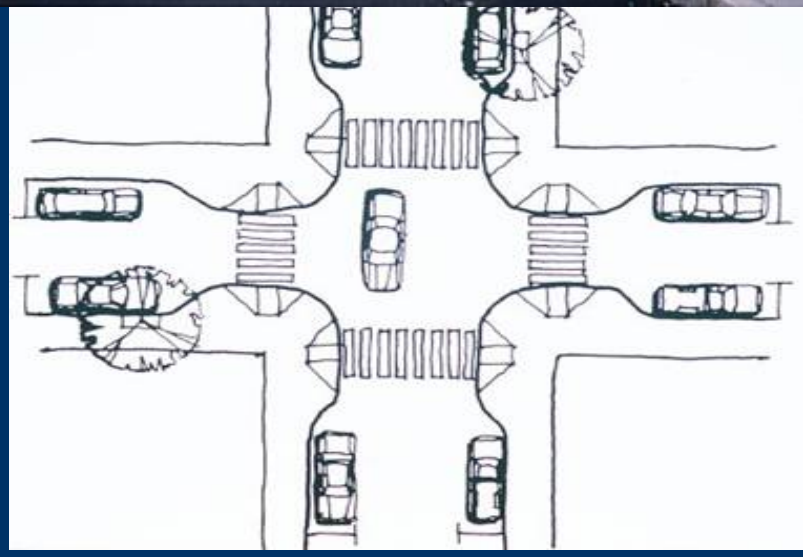
2. Minimize crossing distances

3. Use appropriate traffic controls
   -Marked crosswalks
   -Warning signs
   -Stop signs and traffic signals

4. Slow vehicle speeds

Curb extensions at crossings

- Reduce the crossing distance
- Allow better sight lines
- Improve visibility of pedestrians
- Narrower road reduces speed



Cut-through Medians or Islands are Important

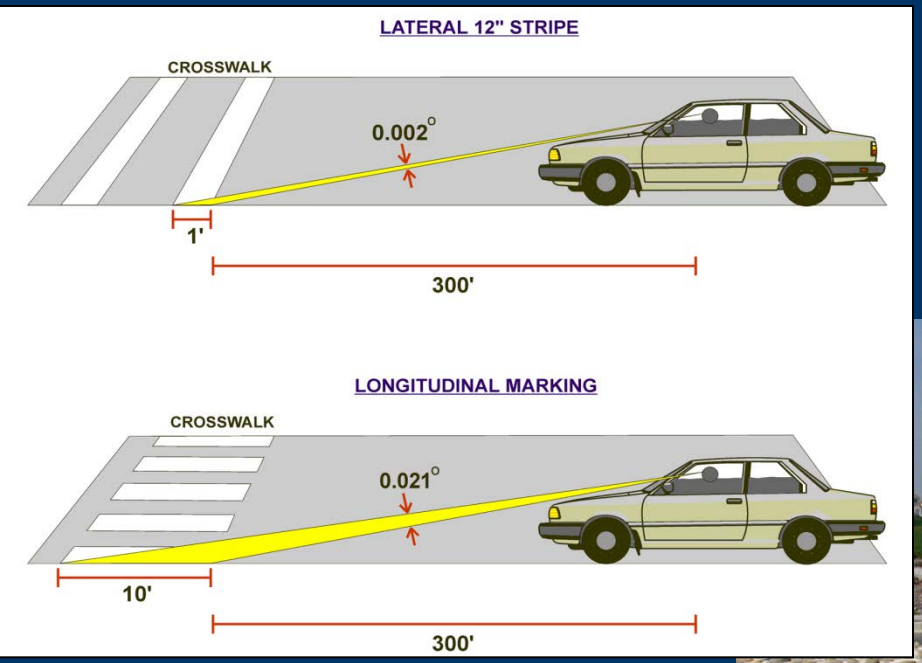
Guidance on use:

- 2004 AASHTO Pedestrian Guide – "crossing islands should be considered where the crossing distance exceeds 60 feet, but can be used at intersections with shorter crossing distances where a need has been recognized."

Photo credit: Dan Burden

Recommended by Federal Highway as a proven pedestrian safety countermeasure

Install high-visibility markings



Block Style: more visible than two parallel lines

Bicycle facilities

On-road bicycling

Shared use paths

Bike Parking

Bicycle lanes

So. Burlington, VT

Springfield, VT

W. Brattleboro, VT

- Intended for congested areas
- Minimum 4’ wide
- Pavement markings and signs

Shared use paths

- Standard width – 10’
- Multiple users
- On independent alignment

So. Burlington, VT

Wilder, VT

- Good when providing a short cut or alternative to high volume road
- Complements the street system
- Complex project development

Install bicycle parking

- Locate close to building entrance
- Simple design is best

- Adequate parking for expected use
- <u>NO</u> wheel benders

QUESTIONS???

Fall 2015 VTrans TA Program