




RESILIENCE



The Corps Network
Strengthening America through
service and conservation

2019 NATIONAL CONFERENCE
FEBRUARY 10 - 13
WASHINGTON, DC
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Recreational Trail Program Innovative Practices & Technologies

February 12, 2019
2:30 p.m. - 4:00 p.m.
Roosevelt

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Connecting Communities: Integrating Transportation and Recreation Networks

February 2019



U.S. Department of Transportation
Federal Highway Administration

USDOT Strategic Plan Goals for FY 2018-2022

Safety

- Reduce Transportation-Related Fatalities and Serious Injuries Across the Transportation System.

Infrastructure

- Invest in Infrastructure to Ensure Mobility and Accessibility and to Stimulate Economic Growth, Productivity, and Competitiveness for American Workers and Businesses.

Innovation

- Lead in the Development and Deployment of Innovative Practices and Technologies that Improve the Safety and Performance of the Nation's Transportation System.

Accountability

- Serve the Nation with Reduced Regulatory Burden and Greater Efficiency, Effectiveness, and Accountability.

National Context

FHWA Programs Support:

- An integrated, safe, accessible, and convenient transportation system for all
- Connected pedestrian and bicycle networks
- Design flexibility
- Economic development
- Efficient project development
- Equity, quality of life, and livability
- Multimodal data
- Sustainable transportation policies and practices

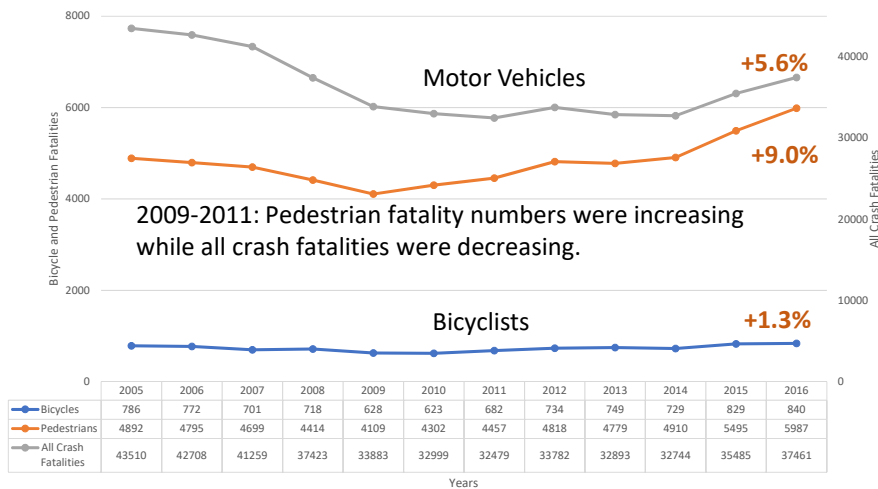


Youth Corps and Workforce Development MAP-21 Section 1524

- DOT encourages States to have contracts and cooperative agreements with qualified Youth Service and Conservation Corps.
- Corps work on recreational trails, pedestrian and bicycle projects, safe routes to school.
- Corps provide workforce development training.
- Agencies can sole source to qualified Corps.
- https://www.fhwa.dot.gov/environment/transportation_alternatives/guidance/youth_workforcedev_2018.cfm



Highway Fatalities



Source: Fatality Analysis Reporting System (FARS) 2016 Annual Reporting File

— Bicycles — Pedestrians — All Crash Fatalities

Connecting Communities: Integrating Transportation and Recreation

- We can connect and integrate transportation and recreation infrastructure.
- Trails: spines for transportation networks.
- Transportation and Recreation isn't either/or!



Bridges and Tunnels: Essential Links for Networks

- Long life spans: Plan for future demand, use, and reuse.
- Bridges connect communities.



Bridges and Tunnels: Essential Links for Networks

- Reconnect communities.
- Tunnels and underpasses.

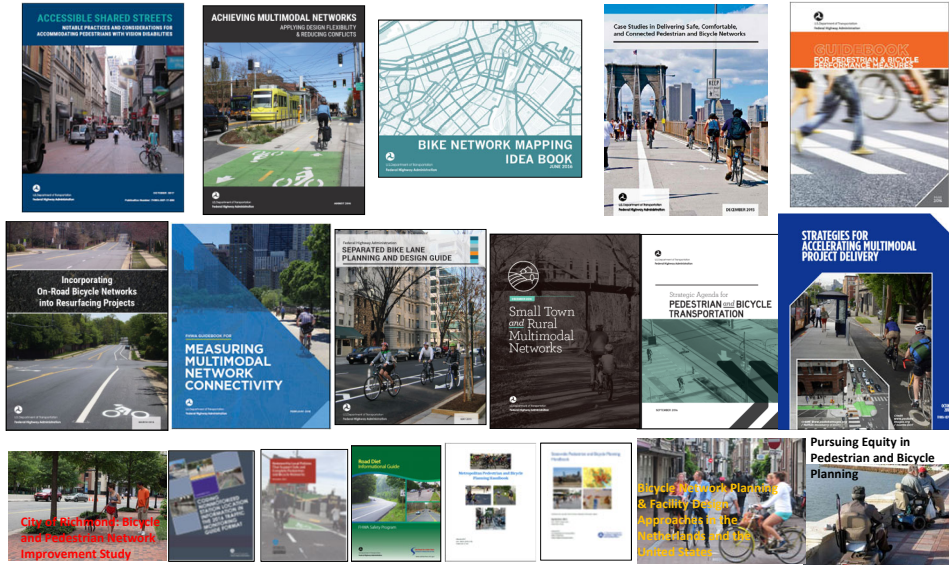


Recreational trails used for transportation

- Rail-trails and other shared use paths.
- No Federal law or regulation requires pavement, (accessibility requires “firm and stable”).
- No Federal law or regulation prohibits equestrian use.



FHWA Pedestrian and Bicycle Resources: 2013-2018

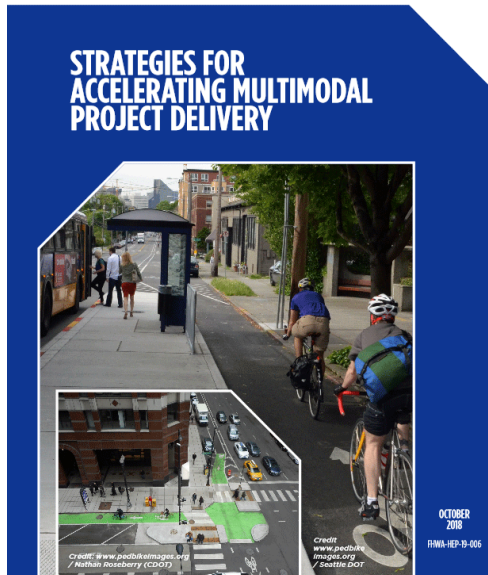


Small Town and Rural Multimodal Networks



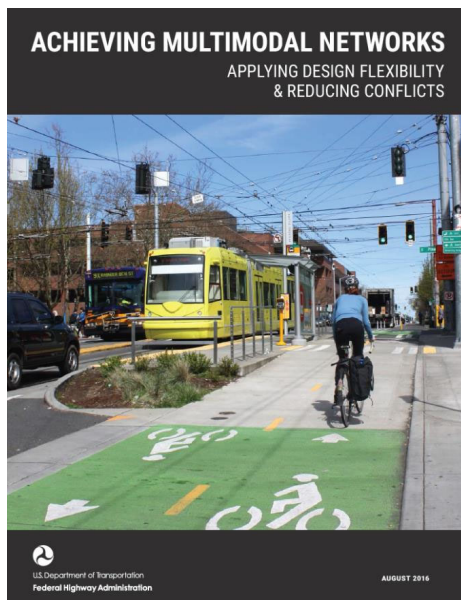
- Bicycle and pedestrian design in a rural context.
- Encourages innovation in development of safe and appealing networks for bicycling and walking.
- Examples of peer communities and project implementation.





- Identifies specific strategies and techniques to accelerate multimodal project delivery.
- Proven techniques that agencies are using to get high quality results
- Reduce barriers and delays in the project delivery process.

Achieving Multimodal Networks: Applying Design Flexibility and Reducing Conflicts



- Provide design flexibility, while reducing multimodal conflicts and achieving connected networks.
- Help practitioners address topics such as:
 - Intersection design
 - Road diets
 - Pedestrian crossing treatments
 - Transit and school access
 - Freight
 - Accessibility

MAP BASICS

Common approaches for bicycle infrastructure planning maps are highlighted below. The maps that follow demonstrate these general approaches to varying degrees.

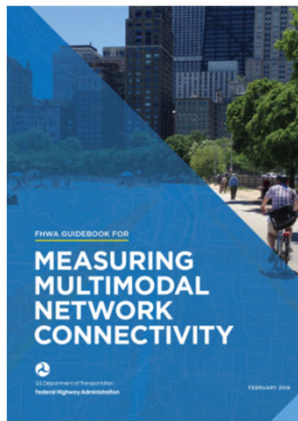
(1) COMMON INFORMATION LAYERS

<p>BIKE NETWORK LAYERS</p> <p>Specific Facility Types</p> <ul style="list-style-type: none"> • Bike path, bike lane, buffered bike lane, bike boulevard, separated bike lane, greenway, etc. <p>OR</p> <p>Flexible Facility Types</p> <ul style="list-style-type: none"> • On-street vs. off-street bikeway systems 	<p>LOCAL CONTEXT LAYERS</p> <ul style="list-style-type: none"> • Transit lines & stations • Bikeshare stations • Community amenities: Schools, universities, libraries, community centers, hospitals, etc. • Building footprints • Specific land use functions, such as commercial uses • Study areas or corridors 	<p>BASE LAYERS</p> <ul style="list-style-type: none"> • Parks & open space • Streets • Watersheds • City boundaries • Labels
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(2) REPRESENTING DIFFERENT TYPES OF INFORMATION

<p>PROPOSED VS. EXISTING NETWORK</p> <ul style="list-style-type: none"> • Identify ways to clearly denote what is existing and what is being proposed. <p> — Existing — Proposed — Existing — Proposed </p>	<p>COLOR SCHEME</p> <ul style="list-style-type: none"> • Consider how color will play a role in highlighting the bicycle network. Bright, saturated colors stand out against softer and more subdued tones. 	<p>LEVEL OF INFORMATION</p> <ul style="list-style-type: none"> • Carefully consider the amount of information used to tell the story. More information can help, but it can also be overwhelming if not organized in a consistent way. • Small icons and symbols can help to identify points of interest in a less obtrusive way.
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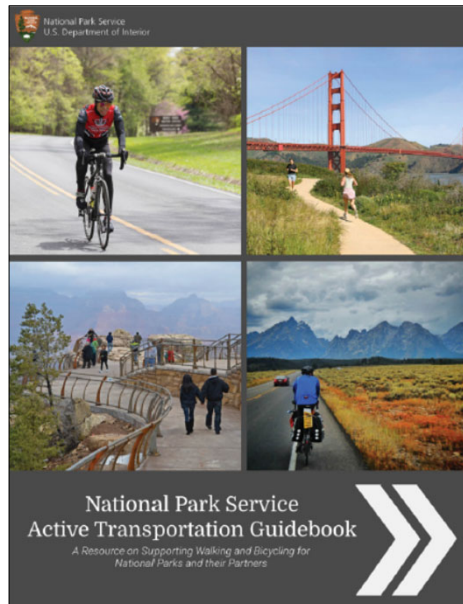
Measuring Multimodal Network Connectivity



MEASURING MULTIMODAL NETWORK CONNECTIVITY POSITIONS A TRANSPORTATION AGENCY TO:

- Enhance access to jobs, training, schools, and economic centers
- Accelerate project delivery by capturing efficiencies in economies of scale, project sequencing, construction phasing, financing, and community involvement
- Increase accountability of efforts to increase mobility options and system efficiency
- Prioritize infrastructure investments that fill gaps and address barriers in the transportation network, and that increase safety for all users
- Partner with the private sector to provide innovative multimodal transportation services and capture opportunities relating to shared-use mobility and automated and connected technology

National Park Service Active Transportation Guidebook



Proven Safety Countermeasures

Select any of the following icons to learn more about the specific countermeasure

 Roadside Design Improvement at Curves	 Reduced Left-Turn Conflict Intersections	 Systemic Application of Multiple Low-Cost Countermeasures at Stop-Controlled Intersections	 Leading Pedestrian Interval	 Local Road Safety Plan
 USLIMITS2	 Enhanced Delineation and Friction for Horizontal Curves	 Longitudinal Rumble Strips and Stripes on Two-Lane Roads	 Median Barrier	 Safety Edges
 Baskplates with Retroreflective Borders	 Corridor Access Management	 Dedicated Left- and Right-Turn Lanes at Intersections	 Roundabouts	 Yellow Change Intervals
 Medians and Pedestrian Crossing Islands in Urban and Suburban Areas	 Pedestrian Hybrid Beacon	 Road Diet	 Walkways	 Road Safety Audit

Pedestrian and Bicycle Funding Opportunities
U.S. Department of Transportation Transit, Highway, and Safety Funds
 Revised August 9, 2018

This table indicates potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs. Additional restrictions may apply. See notes and basic program requirements below, and see program guidance for detailed requirements. Project sponsors should fully integrate nonmotorized accommodation into surface transportation projects. Section 1404 of the Fixing America's Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Key: \$ = Funds may be used for this activity (restrictions may apply). -\$ = Eligible, but not competitive unless part of a larger project. \$* = See program-specific notes for restrictions.																
Activity or Project Type	Pedestrian and Bicycle Funding Opportunities															
	BUILD	INFRA	TIFIA	FTA	ATU	CMAQ	HSIP	NIIPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	ELTTP
Access enhancements to public transportation (includes benches, bus pads)	\$	-\$	\$	\$	\$	\$		\$	\$	\$						\$
ADA/504 Self Evaluation / Transition Plan									\$	\$	\$	\$	\$			\$
Bicycle plans				\$					\$	\$	\$	\$	\$			\$
Bicycle helmets (project or training related)									\$	SRTS	\$	\$	\$*			
Bicycle helmets (safety promotion)									\$	SRTS	\$	\$	\$			
Bicycle lanes on road	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bicycle parking	-\$	-\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bike racks on transit	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bicycle repair station (air pump, simple tools)	-\$	-\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bicycle share (capital and equipment, not operations)	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bicycle storage or service centers (example: at transit hubs)	-\$	-\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Bridges / overcrossings for pedestrians and/or bicyclists	\$	-\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$	\$			\$
Bus shelters and benches	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Coordinator positions (State or local)						\$ 1 per State			\$	SRTS	\$	\$	\$			
Crosswalks (new or retrofit)	\$	-\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$	\$			\$
Curb cuts and ramps	\$	-\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$	\$			\$
Counting equipment				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$*			\$
Data collection and monitoring for pedestrians and/or bicyclists				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$*			\$
Historic preservation (pedestrian and bicycle and transit facilities)	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Landscaping, streetscaping (pedestrian and/or bicycle route, transit access), related amenities (benches, water fountains), generally as part of a larger project	-\$	-\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project)	\$	-\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$
Maps (for pedestrians and/or bicyclists)				\$	\$	\$	\$	\$	\$	\$	\$	\$	\$*			\$
Paved shoulders for pedestrian and/or bicyclist use	\$	-\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$	\$			\$

- Congestion Mitigation and Air Quality Improvement Program (CMAQ)
- Surface Transportation Block Grant Program (STBG)
- Transportation Alternatives Set-Aside
- Recreational Trails Program (RTP)
- Federal Lands Transportation Program
- Federal Lands Access Program



Transportation Alternatives



The TA Set-Aside authorizes funding for programs and projects defined as **transportation alternatives**, including:

- On- and off-road pedestrian and bicycle facilities, including trails for nonmotorized use.
- Community improvement activities:
 - Historic preservation
 - Vegetation management
- Environmental mitigation related to stormwater and habitat connectivity
- Recreational trail projects
- Safe routes to school projects



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Transportation Alternatives



Eligible Project Sponsors

- Local governments;
- Regional transportation authorities;
- Transit agencies;
- Natural resource or public land agencies;
 - May include Federal, State, or local public land agencies
- School districts, local education agencies, or schools;
- Tribal governments;
- Nonprofit entity responsible for local transport safety programs;
- Any other local or regional governmental entity with responsibility for oversight of transportation or recreational trails (other than an MPO or a State agency) that the State determines to be eligible...
- RTP set-aside project sponsors determined by States.



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Recreational Trails Program

Recreational Trails Program

- The RTP provides funds to the States to develop and maintain recreational trails for all trail uses.
 - Usually administered through a State resource agency.
 - Only FHWA program to support routine maintenance.
- States solicit and select projects for funding.
- States are encouraged to use [Youth Corps](#).
- Represents a portion of the Federal motor fuel excise tax paid by OHV users (including snowmobilers).

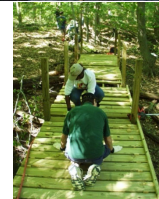


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Recreational Trails Program

Eligible RTP Projects

- Maintain and restore existing trails (and bridges).
- Develop and rehabilitate trailside and trailhead facilities.
- Purchase and lease trail construction and maintenance equipment.
- Construct new trails (limits on Federal lands).
- Acquire easements or property for trails (willing seller only: Condemnation is prohibited).
- Trail assessments for accessibility and maintenance.
- Trail safety and environmental protection education.
- State administrative costs.



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Recreational Trails Program

Project Examples

Recreational Trails Program Database

- More than 24,000 project examples
- Searchable by State or project type
- Many examples for you to consider
- See <http://recreationaltrailsinfo.org/>

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Recreational Trails Program

What can your Corps do?

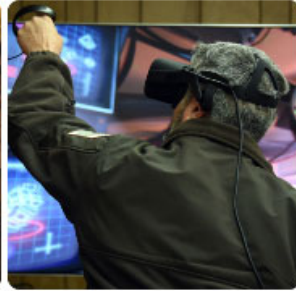


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Caves Trails & Caverns



Rickwood Caverns Underground Cave Trail **Alabama**



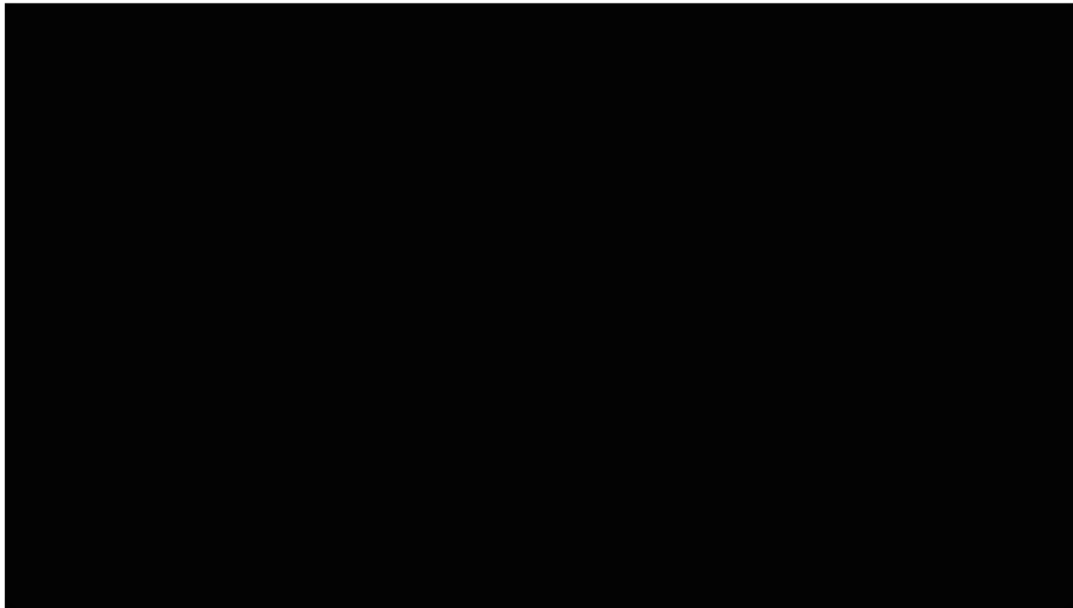
Virtual Reality cave system tour technology developed by RTP grant.

Underground LED Cave lighting installation

LED lighting preserves cavern ecosystem

Routine trail maintenance within the cave system

Innovative Uses of RTP Grants



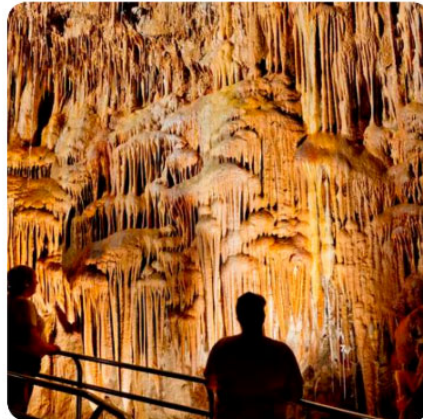


Corps Example: *Kartchner Caverns, Ocotillo Trail*



All trail work on the Ocotillo trail project was completed with hand tools by the AZCC trail crew and park staff.

Informational kiosks and three benches along the route were also constructed.



Natural Disaster Recovery & Mitigation

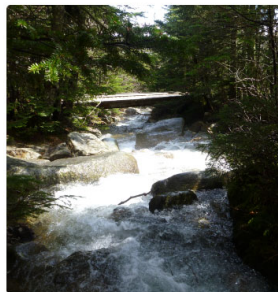


Tuckerman Ravine **New Hampshire**

Bridge restoration efforts began years after Tropical Storm Irene damaged four bridges.

RTP grant help construct a snowmobile bridge which provides access to skiers, snowshoers and hikers

Project work provides watershed protection; bridge allows passage of river organisms and debris during floods.



Natural Disaster Recovery



Tuckerman Ravine New Hampshire

Bridge restoration efforts began years after Tropical Storm Irene damaged four bridges.

RTP grant help construct a snowmobile bridge which provides access to skiers, snowshoers and hikers

Project work provides watershed protection; bridge allows passage of river organisms and debris during floods.



Natural Disaster Recovery & Mitigation



Hurricane Barrier Harborwalk Massachusetts



Largest stone structure on the East Coast and the largest hurricane barrier in the world

Built in the early 1960s to protect the city after the devastating hurricanes of 1938 and 1954

Multi-use trail that connects communities and neighborhoods in and around New Bedford, MA

Protects about 1,400 acres in New Bedford, Fairhaven, and Acushnet from tidal flooding for hurricanes and coastal storms.

Natural Disaster Recovery & Mitigation



Hurricane Barrier Harborwalk Massachusetts



Winter Recreational Activities



Uller Ski Trail & Weber Lake Loop Wisconsin



back-country ski trail that's groomed every 1-2 weeks by a volunteer group

Uller trail offers Nordic skiing, snowshoeing, and general hiking

RTP grant expanded the trail system into a looped trail to increase visitor participation

Additional trail loops were created due to a substantial increase in users

Winter Recreational Activities



Snowmobile Safety Program Colorado



Funding is generated through the sale of snowmobile registrations, out-of-state permits, and RTP funding.

The program supports law enforcement, avalanche awareness, and snowmobile Safety Certificates

Provide over 3,000 miles of safe and well-maintained winter trails for use by all winter sports enthusiasts

Grooming and maintenance of trails is provided by 27 non-profit volunteer clubs

Winter Recreational Activities



Arrow Trail System Colorado



allow users access to the Idlewild Trail System from downtown Winter Park

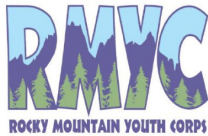
Trails were designed to be sustainable and fun, use natural features and take users to several overlooks and historical sites along the way

The Town of Winter Park constructed backcountry single track trails

Access to Tourist Attractions - The trail takes users to Corona Pass Road - a historic railroad route - and the Continental Divide.



Corps Example: *Cataract Bridge*



Bridge project took place within the U.S. Forest Service, Dillion Ranger District. Work was performed by a RMYC-CO crew and involved installing a retaining wall, rocks and gravel along the bridge.



Wetland Boardwalks



Chapman Way & Lowe Pond Boardwalk Massachusetts



Project provides habitat preservation and protects rare aquatic plant species and Beaver habitat

Also serves as a multimodal trail for hiking, Mountain Biking, Equestrian, and runners

Strong support from local Equestrian community



Corps Example: *Viles Arboretum Boardwalk*



One of the longest boardwalks in Maine

Public-Private Partnerships with Maine Outdoor Heritage Fund, Augusta Bird Club, Hammond Lumber, and Maine CC

Provides the community access to Maine's diverse wetland habitats

Educational and interpretative programs for the public



Corps Example: *Alaka'i Swamp Trail*




Habitat protection from off-trail-trekking also damaged sensitive the sensitive reserve habitat.

The project took 1900 staff hours to complete, with 52 hours of helicopter operations and 320 volunteer hours.


Sections of the boardwalk would be reconstructed with slip-proof boards constructed with recycled plastic that have been reinforced with fiberglass.

The Alaka'i Swamp is one of the world's highest elevation wetlands


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Urban Greenways

Metropolitan Branch Trail Washington, DC




The Metropolitan Branch Trail runs along the Metro rail line through Washington, DC



Connects communities and neighborhoods in DC and runs approx. 8 miles

Includes connects to 7 metro stations and the area's trail network




Urban Greenways


Lazy Brook & Morris Canal New Jersey

Greenway system that links suburban neighborhoods with municipal recreational parks.

The trails are open to hiking, cross-country skiing and horseback riding, with portions open to mountain biking.




Work was completed in November 2018 and includes trail makers, benches, bridges, and parking area





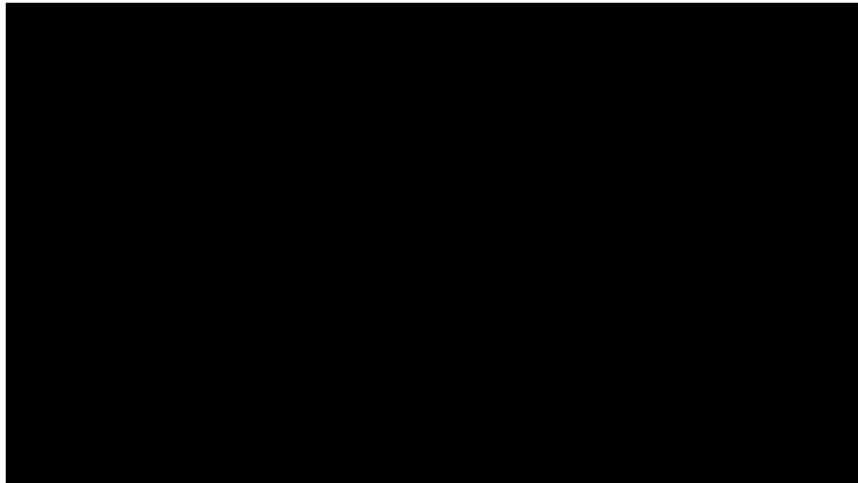
Corps Example: *Wiseburn Walking Path*



LA CONSERVATION CORPS

Transforming Youth. Enhancing Communities.

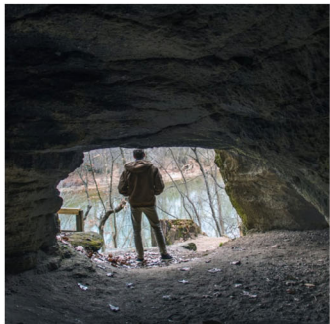
The Wiseburn Walking Path project, completed in September 2017, is a nearly three-quarters of a mile walking path installed by LA Conservation Corpsmembers in the Wiseburn community. This project provided more than 14,000 hours of employment to at-risk young adults.



Water Trails & Blueways



Daniel Boone Heritage Canoe Trail North Carolina



Grant improved access to the Yadkin River, which will serve as the trail head for the Daniel Boone Heritage Canoe Trail, which is part of the Yadkin River State trail.



Riverside parking, assisted canoe launch rails and landscaping



Second official state river trail in North Carolina, behind the Cape Fear and second-largest watershed in NC

Trail Training

FHWA has agreements to promote trail training.

- American Trails: National Trails Training Partnership
- Tread Lightly! and National Off-Highway Vehicle Conservation Council: OHV User Ethics and OHV Safety and Access Training
- American Council of Snowmobile Associations: Snowmobile Safety and Access Programs
- Bureau of Land Management National Trails
- The Corps Network: Youth Service and Conservation Corps Workforce Development
- Partnership for the National Trails System: National Trails System Information, Corridor Protection, and Training



Project Sponsors: Contact your State TA or RTP manager.

States: Contact your FHWA Division office.

- Transportation Alternatives:

www.fhwa.dot.gov/environment/transportation_alternatives/

- State TA Manager contacts

- RTP: www.fhwa.dot.gov/environment/recreational_trails/

- State RTP Administrator contacts

National TA and RTP oversight:

Christopher Douwes, Community Planner

Transportation Alternatives

Recreational Trails Program

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Strengthening America through
service and conservation

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We want to hear from you!

**Don't forget to complete your
Workshop Evaluation**

A link to the evaluation will be sent to your email.

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