

Active Transportation Facilities in Canal Corridors

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 - Steve Cain, Heidi Goedhart, Lyle McMillan, Kevin Nichol, Angelo Papastamos, Jim Price, David Schwartz, Stephanie Tomlin

What is a canal trail?

- Public pathway, along an irrigation or drainage facility
- Within canal corridor ROW
- Any size/material, user types
- Atop enclosed canal or alongside open channel
- Often managed by local government (city or county)



Jacob Canal Trail (Saratoga Springs)



Lundstrom Park Trail (Logan)

Case Study Analysis



Lundstrom Park Trail, Logan



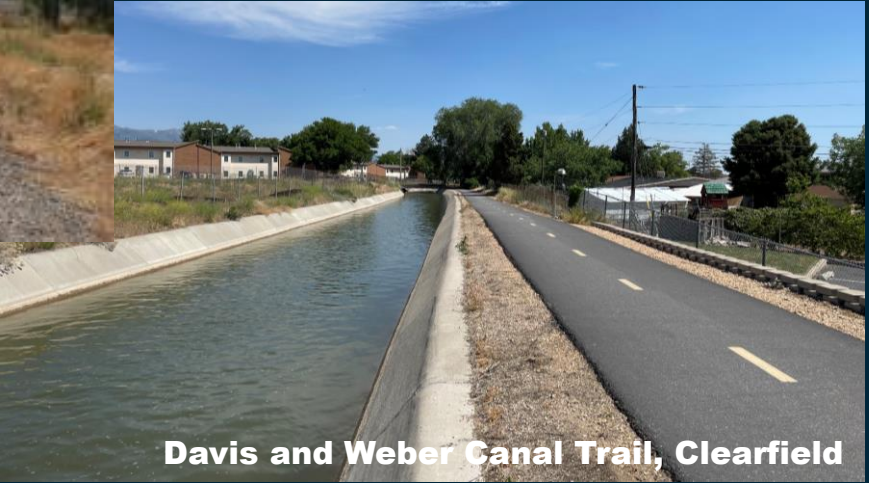
Jacob Canal Trail, Saratoga Springs



Murdock Canal Trail, Utah County



Utah & Salt Lake Canal Trail, West Valley



Davis and Weber Canal Trail, Clearfield

Results



Land ownership



Maintenance



Safety



Liability



Privacy



Funding

Results: Benefits

To canals

- Enclosure (if appropriate)
 - Reduce losses due to seepage and evapotranspiration
 - Improve water quality, manage
- Define land ownership status, preserve right-of-way, adapt to urbanization
- Assist with maintenance, address illegal use, more eyes on the trail

To communities

- Completion of trail networks
- Improved land utilization
- Community active transportation asset, safer routes
- Improved corridor appearance
- Increased property values

Results: Land ownership

- Canal corridor land can either be: (1) owned by fee title, (2) express easement, or (3) prescriptive easement.
 1. Fee title: Agreement is between the canal company and the local government sponsoring the trail.
 2. Express easement: Underlying land owners along canal corridor have to approve of the trail (new recreational use).
 3. Prescriptive easement (established after prolonged use): Underlying land owners may or may not have to approve of the trail.
 - <https://propertyrights.utah.gov/find-the-law/legal-topics/easements/>

Results: Maintenance

- Canal maintenance tasks
 - Weed control, vector control, track rack cleaning, gate inspection, dredging, road maintenance
 - Large equipment access
- Major maintenance occurs in off-season (Oct–Apr)
- Local government can assist (weeds, trash, etc.)



Trail on Jordan & Salt Lake Canal maintenance road

Results: Safety

- Safety hazards of canals
- Potential treatments
 - Canal enclosure
 - Geometric design
 - Buffer between canal and trail
 - Fencing
 - Consult canal company
 - Removable canal cap/lid
 - Signage
 - Mode restrictions



East Jordan Canal Trail with fencing between canal and trail

Results: Liability

- General concern of open water with periodic diversion structures
- Canal companies have limited resources for legal defense
- Governmental Immunity Act
 - Protection for government sponsor of canal trail
- 2023 Legislation (HB 33)
 - Protection for canal or ditch company allowing trail

Utah Code

- Governmental Immunity Act
 - 63G-7-201. Immunity of governmental entities and employees from suit.
 - Section 73-1-8 amended to better protect operators of water facilities including canal companies

Results: Privacy

- Canals along back yards
- Communication: flyers, social posts, news articles
- Public meetings with stakeholders and community, help exchange ideas
- Personal meetings with individual households sometimes necessary



Housing adjacent to canal trail in South Jordan

Results: License agreement

- Legally-binding document between canal company and local government
- Majority of trails required a license agreement
- Help instill confidence among stakeholders of the future success of the canal trail
- Typical contents
 - Trail rules
 - Trail maintenance
 - Canal maintenance
 - Who pays for what
 - Communication
 - Indemnification
- Contact us for examples

Results: Funding

Trail Funding

- Typical Costs:
 - Variable depending on surface type, width, number of crossings
 - ~ \$500,000 to \$750,000 per mile
- Funding options
 - County 0.25-cent transportation local option sales tax
 - Utah state TIF
 - Utah Outdoor Recreation Grants
 - FHWA Recreational Trails Program
 - Utah Trail Network Initiative

Enclosure Funding

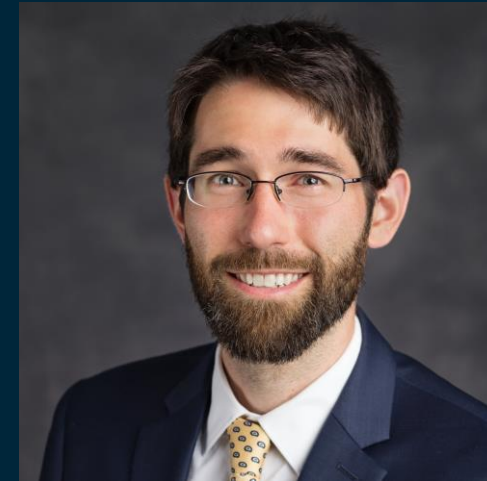
- Typical Costs:
 - Variable depending on canal size, accessibility, number of turnouts
 - ~ \$1 million to \$2 million per mile
- BoR WaterSmart Grants
 - 50/50 match
 - <https://www.usbr.gov/watersmart/weeg/>
- NRCS PL-566 Watershed Grants
 - 50-100% enclosure, 50% trail
 - <https://www.nrcs.usda.gov/wps/portal/nrcs/main/ut/programs/planning/wpfp/>

Resources

- Report: <https://rosap.nrl.bts.gov/view/dot/61516>
- Paper: [https://doi.org/10.1061/\(ASCE\)UP.1943-5444.0000854](https://doi.org/10.1061/(ASCE)UP.1943-5444.0000854)

Questions?

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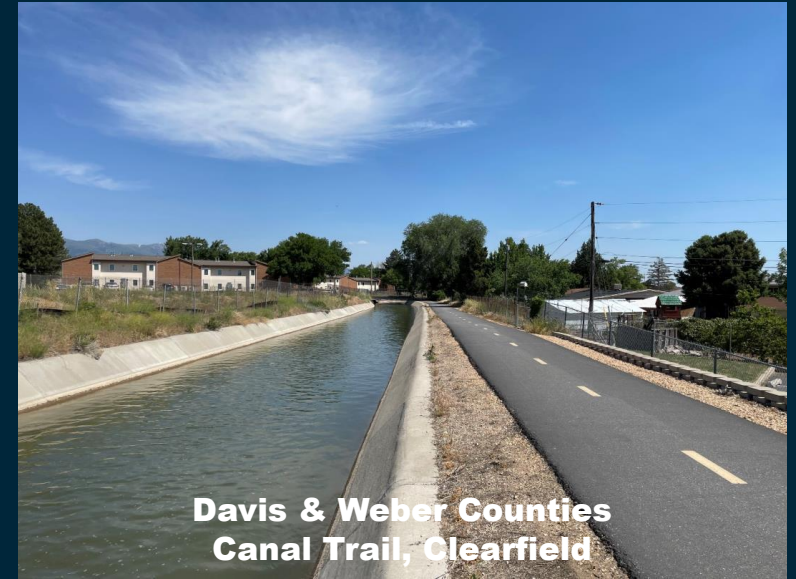
More canal trails!



**Utah & Salt Lake Canal Trail,
West Valley City**



Jacob Canal Trail, Saratoga Springs



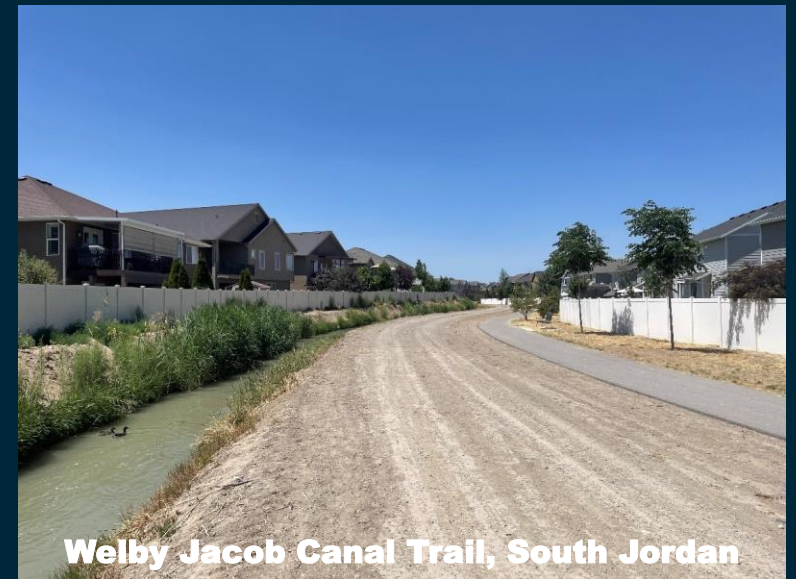
**Davis & Weber Counties
Canal Trail, Clearfield**



East Jordan Canal Trail, Draper



Utah & Salt Lake Canal Trail, Riverton



Welby Jacob Canal Trail, South Jordan

Intersection / crossing design



Crossing: signs and markings



Crossing: activated light



Crossing: pedestrian hybrid beacon



Entrance: collapsible bollard



Right. Access control treatment method (Alta Planning + Design).

Introduction

Motivation

- Increased demand for outdoor recreation, especially during COVID-19 pandemic
- Off-street facilities for AT, safe & comfortable for all
- Canal corridors often ideal: flat, straight, through developed communities



Murdock Canal before (Johnson, 2010) and after (TripAdvisor, 2014).

Objective

**Understand concerns
& considerations
about establishing
trails on canal
corridors in Utah**

Background

History of Utah canals



Left: Canal construction in Smithfield, courtesy of Katie Henrie.



Right: Deer Creek Reservoir part of BOR Project, courtesy of Provo River Water Users Association.

Public use of canals



Methods

Case study review

- Identified 19 canal trails in Utah (as of June 2021).
 - Wasatch Front
 - Cache County
 - Vernal
- Summarized key information, type, size, funding, planning, design, construction, and lessons learned.

Personal interviews

- 30 stakeholders: local government, canal company, engineering firm, etc.
- Completed, planned, and no planned canal trails
- Semi-structured interviews, 30–60-minutes, phone/Zoom
- USU IRB Protocol #11582

Rec'd: Getting started

- Select potential canal trail corridors based on prioritization, local government needs, community engagement.
- Determine land ownership status of canal (fee title, express or prescriptive easement), right-of-way.
- Discuss interest in trail with canal company.
 - Compile list of concerns from each party.
 - Come to the table with offers: trail/road maintenance, indemnification of liability, help with enclosure grant funding.
- Communicate with other stakeholders (adjacent landowners, trail advocacy groups, other local governments).

Legislation Options

- Funding to analyze all major canals for impact on regional trail network and land ownership type.
- Combined funding through Department of Transportation and Department of Natural Resources. State money for canal companies could match NRCS and BOR money.
- Funding for creation of toolkit to help with license agreement, funding resources, lessons learned, etc...