

WELCOME TO

Midvale City



## MEET THE TEAM

TEAM MIDVALE CITY



Mercedes Maestas

Team Lead, Public Health

Molly Signoretty

Midvale Resident, Public Health

Marcus Stevenson

Midvale City Mayor

Wendelin Knobloch

Midvale City Senior Planner



## National Association of Chronic Disease Directors (NACDD)

Goal: To help all states and communities design communities to support physical activity and non-motorized forms of transportation

Objective: Gather interdisciplinary teams, comprised of public health, transportation, planning, elected officials, and other disciplines to attend general learning session with NACDD staff, develop team action plans, and implement Policy, Systems and Environmental outcomes to make their communities, regions, and states more walkable/moveable over the long term.





## 2 day Session – Provo, UT

Learned how each disciplines fit into the process of movability

Walk and Roll through Provo to see examples of good AND bad when making a community moveable for ALL.

Discuss barriers and brainstorm to overcome

Talk with others in the same disciplinary to compare efforts across the state of Utah

Make connections with NACDD staff to assist in creation of action plans in our own communities





# MOVABILITY

## AUDIT IN MIDVALE

### Midvale Main Street

Team Midvale City met to walk down Midvale Main Street to conduct a movability audit.

Salt Lake County Health Department offers to conduct audits for all communities to understand what the end user is experiencing when using non-motor forms of transportation.

Helped all team members better understand the area and what concerns arise to end users.

Helped Team Midvale City create a game plan of potential projects to engage in.





# WALKABILITY

VIRTUAL ACADEMY

7 sessions include information about:

- Creating Equitable Communities for ALL
- Understanding Economic Benefits of Moveability
- Bringing Together MULTIPLE agencies to complete a common goal
- Knowing Language in Planning, Transportation and Public Health
- Understanding Tactical Urbanism Projects
- ADA – Disabilities and Chronic Conditions
- Sharing Ideas and Action Plans to Get Feedback





## BRINGING IN OTHER PARTNERS

### More than a Team of Four

Bringing in individuals outside of our Midvale City Team, from Public Works, Unified Police Department, Legal Department, City Manager and others to have a common goal.

Having educational conversations to understand what role each individual can play in the process





# ACTION PLAN

## PROCESS

### Team Movability Action Plan Goals

Team Midvale City's overall goals are:

- Complete crosswalk painting project to increase visibility and decrease speeds on Main Street in Midvale City, by January 2023.
- Complete parklet building project to decrease speeds on Main Street in Midvale City, by January 2023.





# ACTION PLAN

## PROCESS

### Action Steps for Both Goals

- Complete Movability Audit
- Research Materials and Create Budget
- Schedule Painting and Parklet Event
- Recruit Help for Event Participation
- City Clearance from City Manager & Public Works
- Pre-Event Evaluation Data
- Pre-Event Set Up and Building Progress
- Host Event
- Post-Event Evaluation Data





# ACTION PLAN

## PROCESS

### Community Involvement

Having community buy-in is important for the success of a project. Creating opportunities to have the community actively involved in the project has been Team Midvale City's priority.

We are working to include the following:

- Hillcrest High School Woodworking Classes
- Main Street Businesses
- The Road Home
- Local Mural Artists
- Boys and Girls Club of Midvale





**MAYOR MARCUS'**  
MESSAGE

A Low Cost Way  
for Big Impact  
on Main Street





Join Us!



# **Active transportation facilities in canal corridors**

**Patrick Singleton, PhD**  
**Matthew Crump, MS**  
**Alfonso Torres-Rua, PhD**  
**Adam Pack, MS**

**Wasatch Front  
Regional Council**

**Active Transportation  
Committee**



College of Engineering  
**UtahState**University

**August 10, 2022**



# Acknowledgement



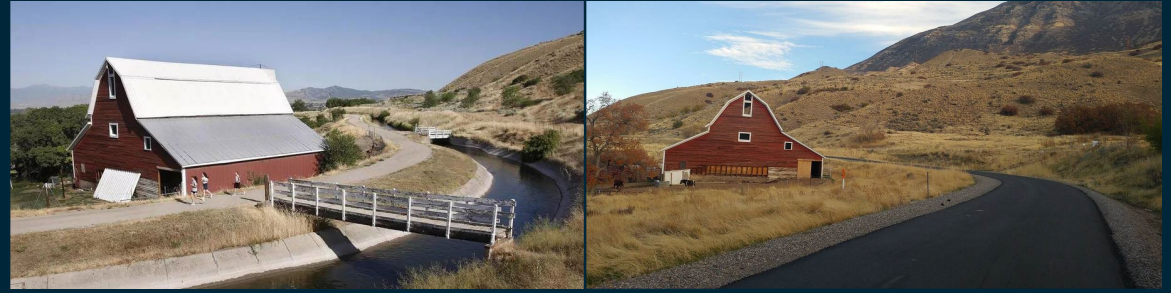
- This work was supported by the Utah Department of Transportation (Research Project 20.505). The authors alone are responsible for the preparation and accuracy of the information, data, analysis, discussions, recommendations, and conclusions presented herein. The contents do not necessarily reflect the views, opinions, endorsements, or policies of the Utah Department of Transportation or the US Department of Transportation. The Utah Department of Transportation makes no representation or warranty of any kind, and assumes no liability therefore.
- *Technical Advisory Committee*
  - Steve Cain, Heidi Goedhart, Lyle McMillan, Kevin Nichol, Angelo Papastamos, Jim Price, David Schwartz, Stephanie Tomlin



# 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).

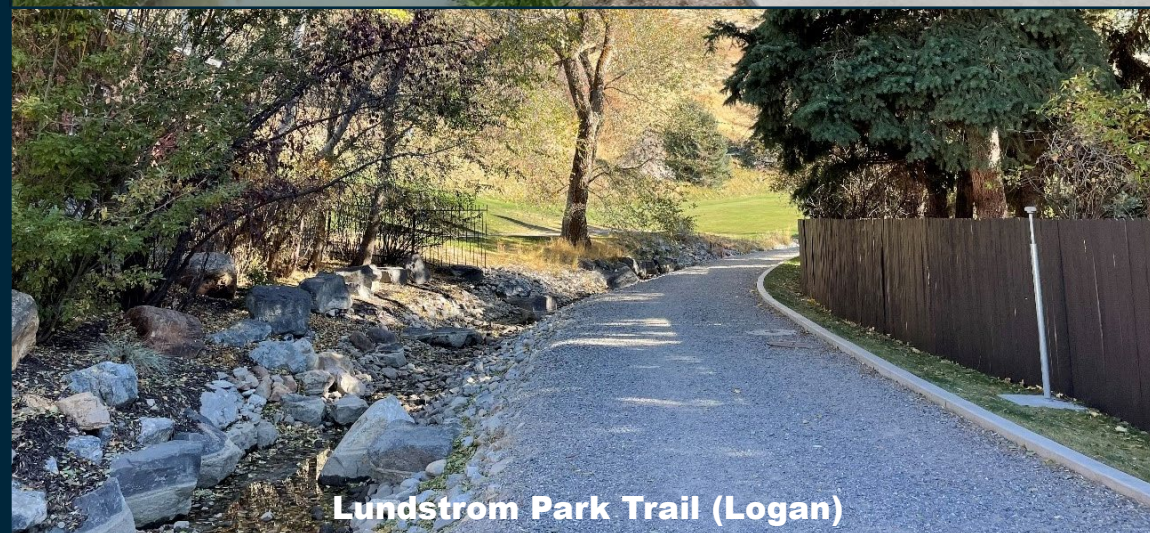
## Objective

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



# 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)





# Background

5

## 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



# Results

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Land ownership



Maintenance



Safety



Liability



Privacy



Funding



# 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

- Governmental Immunity Act
  - Protects local governments from lawsuits stemming from public recreation
- 2013 legislation
  - Protects land owners from legal claims by people using land opened to the public for recreation
- But concerns remain
  - Legal costs for defense (even if lawsuit will be unsuccessful)

## Utah Code

- Governmental Immunity Act
  - 63G-7-201. Immunity of governmental entities and employees from suit.
  - <https://le.utah.gov/xcode/Title63G/Chapter7/63G-7-S201.html>
- Real Estate, Limitations on Landowner Liability, Liability Relating to Recreational Use
  - 57-14-202. Use of private land without charge -- Effect.
  - <https://le.utah.gov/xcode/Title57/Chapter14/57-14-S202.html>



# 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: 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: Funding

## Trail funding

- Costs vary
  - Surface type, width, crossings
  - ~ \$500,000 per mile
- Funding options
  - County 0.25-cent transportation local option sales tax
  - Utah state TIF
  - Utah Outdoor Recreation Grants
  - FHWA Recreational Trails Program

## Enclosure funding

- 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/>

# Results: Case studies

15





# 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

# 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).



# 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?

- Patrick A. Singleton
- [patrick.singleton@usu.edu](mailto:patrick.singleton@usu.edu)





# More canal trails!

19





# Intersection / crossing design

20



**Crossing: signs and markings**



**Crossing: activated light**



**Crossing: pedestrian hybrid beacon**



**Entrance: collapsible bollard**

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







# Improving Street Design to Increase Safety for All



Six levels of service are defined for each type of roadway section and are given letter designations from A to F, with A representing good operating conditions and F representing unsatisfactory operating conditions.

## Intersection

- Highly stable, free-flow condition with little or no congestion
- Delay: <10 seconds/vehicle



- Stable, free-flow condition with little congestion
- Delay: 10 to 20 seconds/vehicle



- Free-flow condition with moderate congestion
- Delay: 20 to 35 seconds/vehicle



- Approaching unstable condition with increasing congestion
- Delay: 35 to 55 seconds/vehicle



- Unstable, congested condition
- Delay: 55 to 80 seconds/vehicle



- Stop and go
- Delay: >80 seconds/vehicle



## Roadway

LOS A



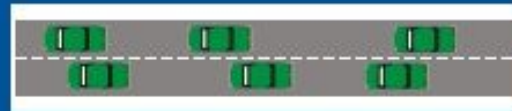
- Free flowing
- Uninterrupted vehicle

LOS B



- Stable flow
- Other vehicles are more noticeable

LOS C



- Stable flow
- Vehicle operations affected by other vehicles

LOS D



- High density free flow
- Operation of vehicle is affected by other vehicles

LOS E



- High density traffic flow, nearing capacity
- Operating conditions are extremely poor

LOS F



- Forced or breakdown flow
- Amount of traffic exceeds capacity

# Infrastructure Design Affects Safety



- Faster traffic
- Less protection



- Slower traffic
- More protection



# Slower Traffic Improves Safety

## Speed Kills

20  
MPH

8%



30  
MPH

20%



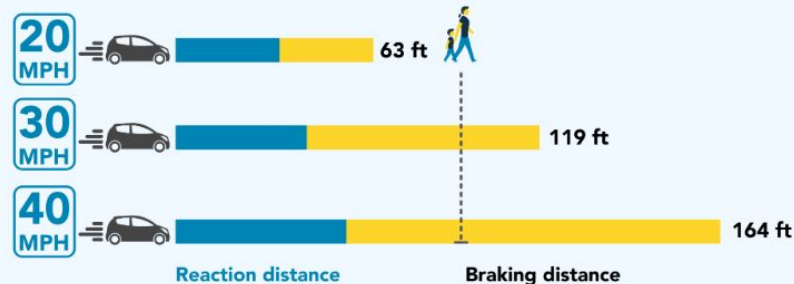
40  
MPH

46%



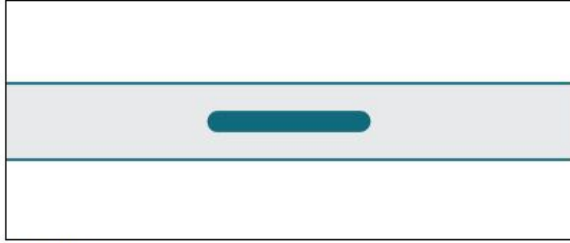
Likelihood of death for people walking if hit at these speeds

Source: AAA Foundation, Tefft, B.C. (2011)



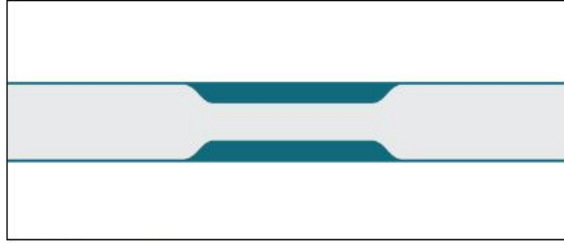
Source: NACTO Urban Street Design Guide (2013)

# Speed Reduction Mechanisms



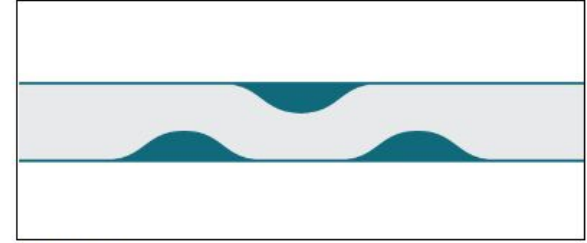
## Median

Medians create a pinchpoint for traffic in the center of the roadway and can reduce pedestrian crossing distances.



## Pinchpoint

Chokers or **pinchpoints** restrict motorists from operating at high speeds on local streets and significantly expand the sidewalk realm for pedestrians.

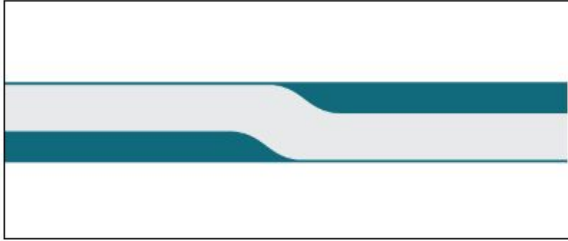


## Chicane

**Chicanes** slow drivers by alternating parking or curb extensions along the corridor.

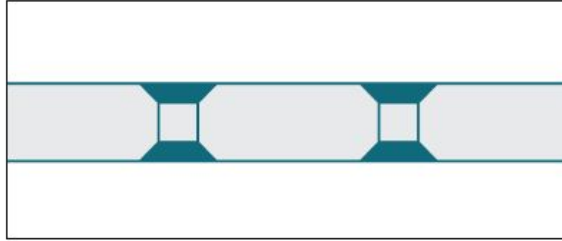


# Speed Reduction Mechanisms



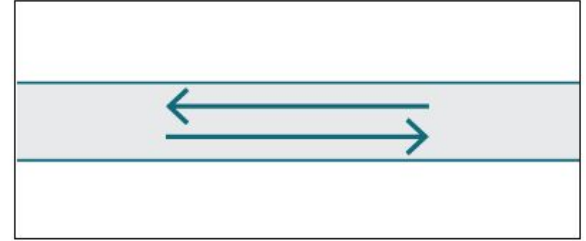
## Lane Shift

A lane shift horizontally deflects a vehicle and may be designed with striping, curb extensions, or parking.



## Speed Hump

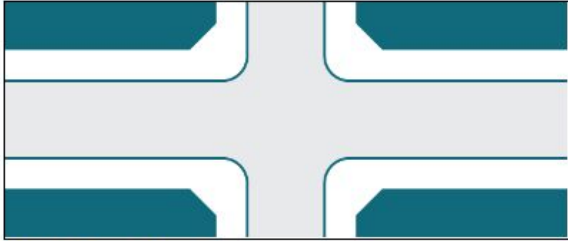
**Speed humps** vertically deflect vehicles and may be combined with a midblock crosswalk.



## 2-Way Street

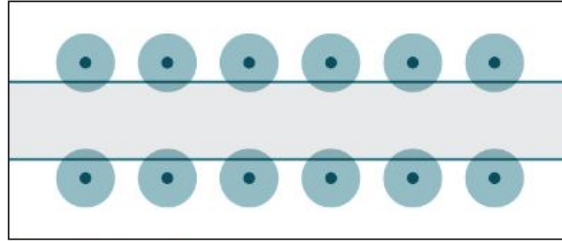
2-way streets, especially those with narrower profiles, encourage motorists to be more cautious and wary of oncoming traffic.

# Speed Reduction Mechanisms



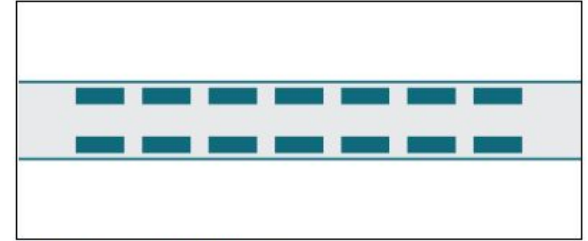
## Building Lines

A dense built environment with no significant setbacks constrains sightlines, making drivers more alert and aware of their surroundings.



## Street Trees

Trees narrow a driver's visual field and create rhythm along the street.

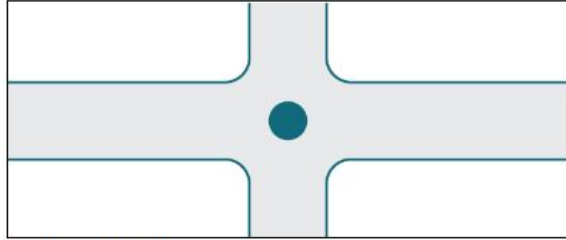


## On-Street Parking

On-street parking narrows the street and slows traffic by creating friction for moving vehicles.



# Speed Reduction Mechanisms



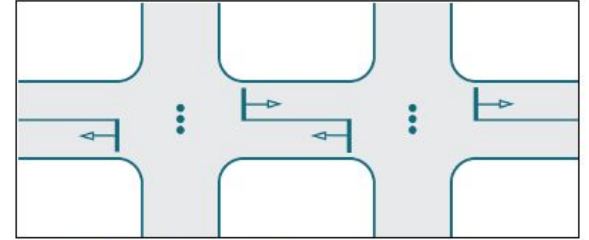
## Roundabout

**Roundabouts** reduce traffic speeds at intersections by requiring motorists to move with caution through conflict points.



## Diverter

A traffic diverter breaks up the street grid while maintaining permeability for pedestrians and bicyclists.

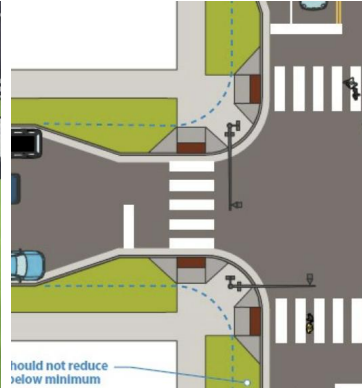


## Signal Progression

Signals timed to a street's target speed can create lower speeds along a corridor.

# Street Design to Increase Safety for All

- Separate and Protect Users





# Street Design to Increase Safety for All



Source: [NACTO](#)

# Street Design to Increase Safety for All



Source: [NACTO](#)



# Street Design to Increase Safety for All



Source: [NACTO](#)

## CROSSWALK VISIBILITY ENHANCEMENTS



IN-STREET STOP OR YIELD SIGNS may improve driver yielding rates.

CURB EXTENSION visually narrows the travel lane, improves sight distance between drivers and pedestrians, and reduces the amount of time pedestrians are in the roadway.

HIGH-VISIBILITY MARKING improves visibility of the crosswalk, compared to the standard parallel lines.

## RAISED CROSSWALK



ELEVATED CROSSING makes the pedestrian more prominent in the driver's field of vision, and allows pedestrians to cross at grade with the sidewalk.

APPROACH RAMPs may reduce vehicle speeds and improve motorist yielding.

## PEDESTRIAN REFUGE ISLAND



REFUGE AREA breaks up a complex crossing into two shorter pieces, providing a place to rest and reducing the amount of time a pedestrian is in the roadway.

MEDIAN can enhance visibility of the pedestrian crossing and reduce speed of approaching vehicles.

## PEDESTRIAN HYBRID BEACON



A PEDESTRIAN HYBRID BEACON is a traffic control device that stops all lanes of traffic, which can reduce pedestrian crashes.

ADVANCE YIELD OR STOP MARKINGS & SIGNS increase motorist yielding while reducing risk of a multiple-threat crash.

## RECTANGULAR RAPID-FLASHING BEACON



LIGHTING illuminates the front of the pedestrian and avoids creating a silhouette.

TRAIL CROSSINGS are made more visible by RRFBs when coupled with crosswalk visibility enhancements and a refuge island. The PHB should be considered as an option to the RRFB along highways with high traffic volumes or speeds.

## ROAD DIET—BEFORE



## ROAD DIET—AFTER



ROAD DIETS narrow travel lane widths or reconfigure travel lanes, typically from a 4-to-3 lane cross section, to reduce pedestrian crossing distances and provide options for bicycle lanes or on-street parking.

## LEADING PEDESTRIAN INTERVAL



WALK signal provides pedestrians a 3-7 second head start.

LEADING PEDESTRIAN INTERVAL is programmed into the WALK signal to give pedestrians a head start in the crosswalk, which can reduce conflicts with vehicles.



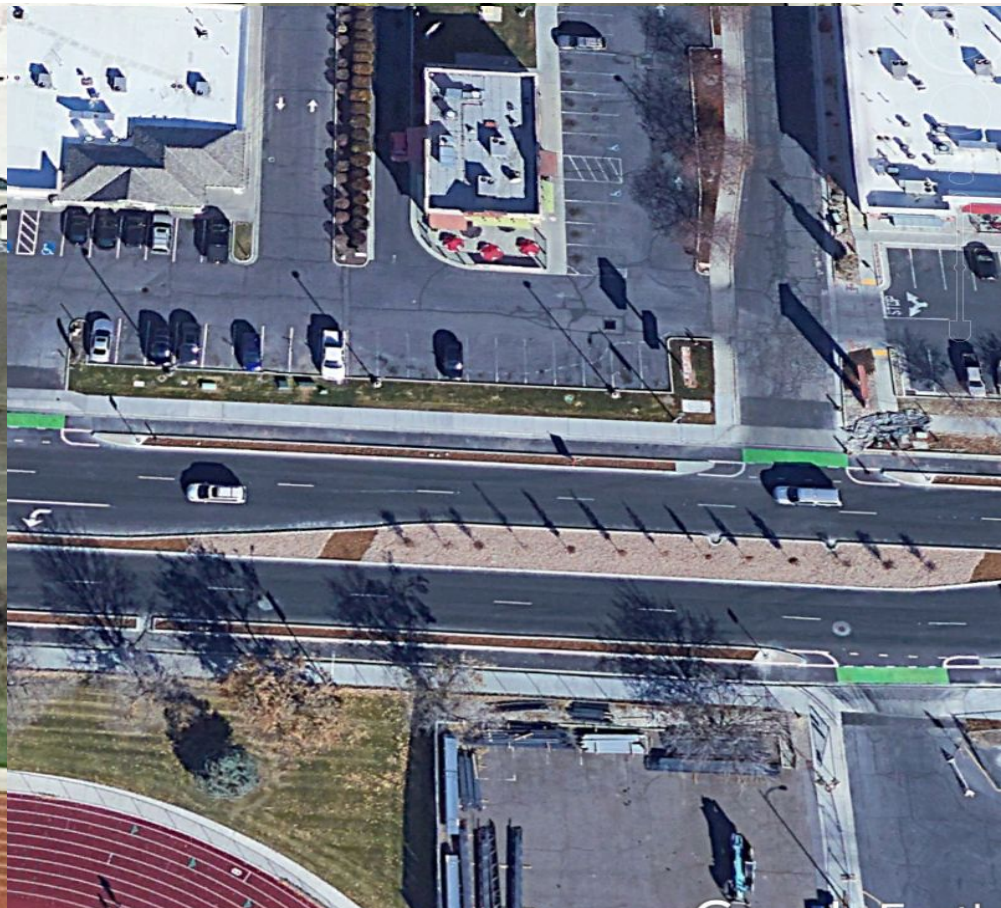
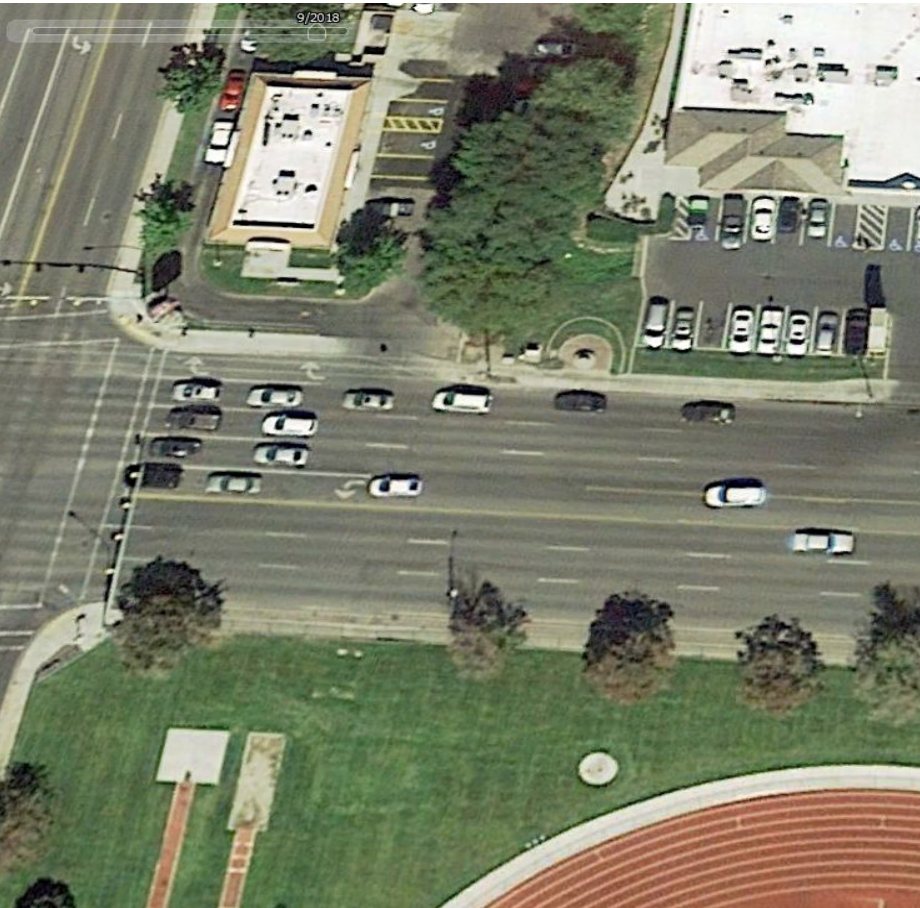
# Safe Streets and Roads for All (SS4A)

- Funds initiatives that prevent roadway deaths and serious injuries
- Comprehensive Safety Action Plan being applied for by WFRC
- Cities can apply for projects based on Action Plan in future funding rounds



# Street Design to Increase Safety for All

Cougar Boulevard, Provo, Utah







## 2023-2050 RTP Fiscal Constraints

Active Transportation Committee // August 10, 2022

# Wasatch Choice Vision



## Economic Development

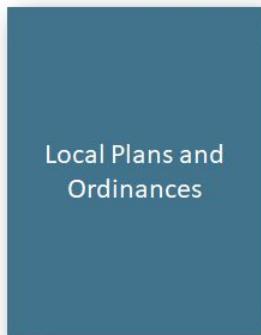
Comprehensive  
Economic Development  
Strategy



## Land Use

Transportation  
and Land Use  
Connection

Local Plans and  
Ordinances



## Transportation

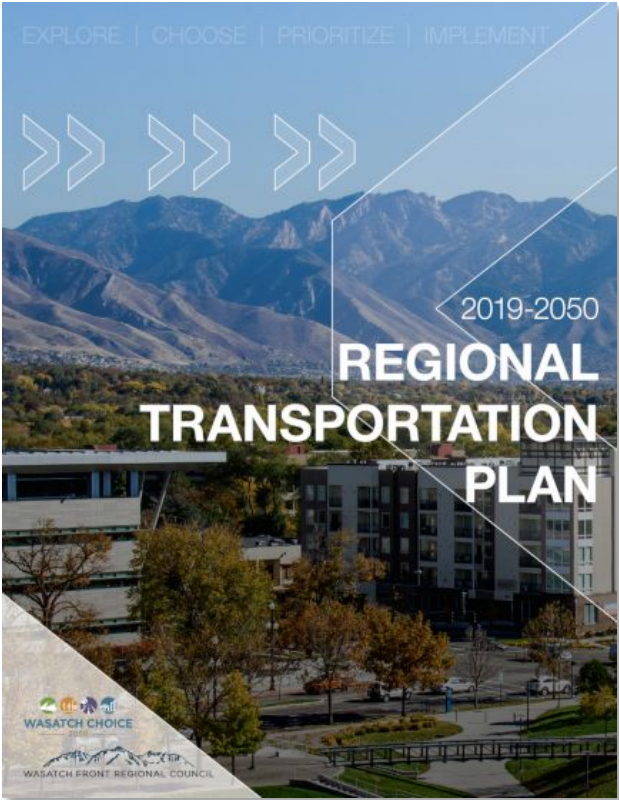
Regional  
Transportation  
Plan



-  Livable and healthy communities
-  Access to economic and educational opportunities
-  Manageable and reliable traffic conditions
-  Quality transportation choices
-  Safe, user friendly streets
-  Clean air
-  Housing choices and affordable living expenses
-  Fiscally responsible communities and infrastructure
-  Sustainable environment
-  Ample open space and recreational opportunities



# Regional Transportation Plan Overview



Four-Year Cycle



Financially  
Constrained



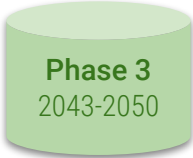
Air Quality



Phase 1  
2023-2032

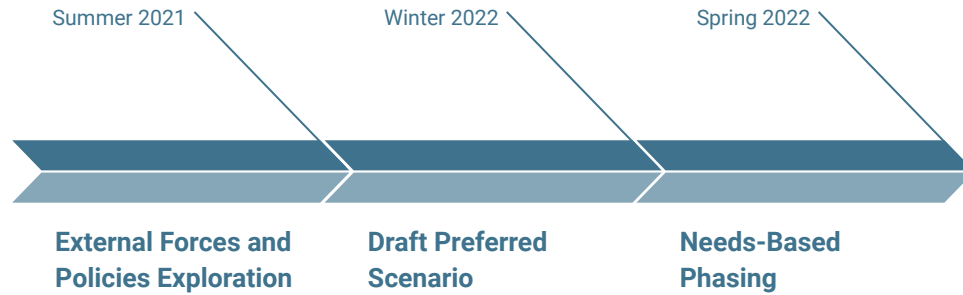


Phase 2  
2033-2042



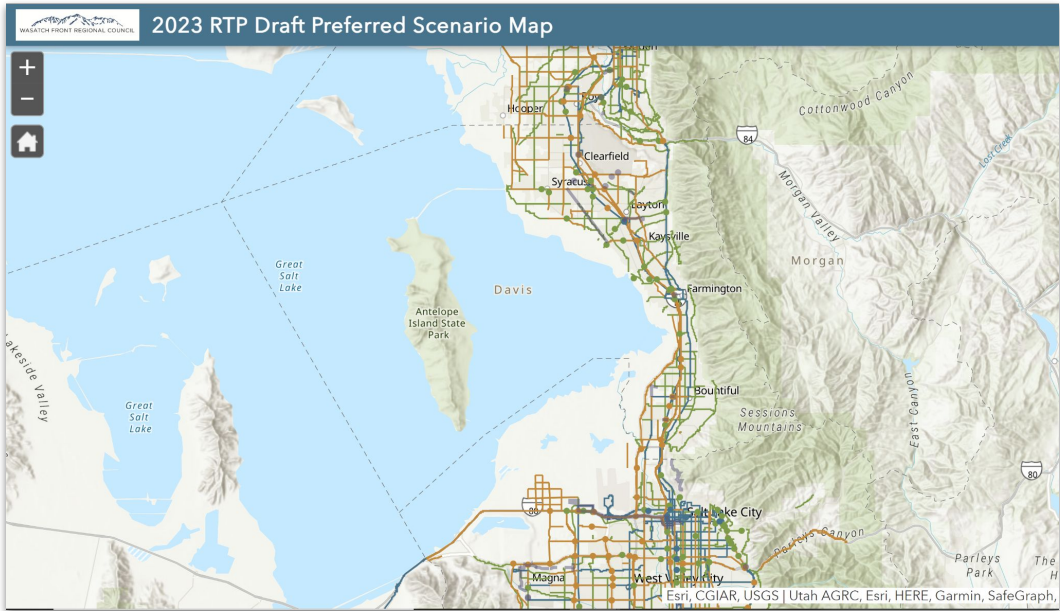
Phase 3  
2043-2050

# RTP Development Timeline






 Türkiye Cumhuriyeti Millî Eğitim Bakanlığı  
 Ministry of National Education  
 Millî Eğitim Bakanlığı  
 Ministry of Education, Youth and Sports of the Republic of Turkey




# Phasing Criteria

- Safety
- Access to Opportunities
- Supports Wasatch Choice
- Connectivity
- Transportation choices
- Transit ridership
- Latent bicycle demand
- Health
- Equity
- Freight mobility
- Affordability
- Travel time
- State of good repair
- Advances previous investments


>> Guided by the Active Transportation Committee

Active Transportation Project Phasing Criteria




WASATCH CHOICE GOAL	CRITERIA	DESCRIPTION	WEIGHTING
Safe, user-friendly streets	Improves safety	Project reduces level of traffic stress for an active transportation user	15
	Addresses latent bicycle demand	Project is in an area of high existing and potential active transportation demand	15

Roadway Project Phasing Criteria



WASATCH CHOICE GOAL	CRITERIA	DESCRIPTION	WEIGHTING*		
			WITHIN COMMUNITY	COMMUNITY TO REGION	REGION TO REGION
Access to economic and educational opportunities	Improves access to opportunities	Project improves access to jobs and households that can be accessed in defined travel shed	15	15	15
	Improves access to opportunities in Equity Focus Areas	Project improves access to jobs and households that can be accessed in defined travel shed from Equity Focus Areas	5	5	0
	Supports affordable transportation costs	Project provides multi-modal options to Equity Focus Areas	10	5	0
	Enhances freight mobility	Project is in a volume per			
Manageable and reliable traffic conditions	Reduces vehicle hours of delay	Project reduces (for existing) Project increases redundancy			
	Safe, user-friendly streets	Improves safety			
	Fiscally efficient communities and infrastructure	Improves state of good repair Project repairs Project is in environment			
Liveable and healthy communities	Supports the Wasatch Choice Vision centers	Project improves Choice Vision			
Quality transportation choices	Supports transportation choices	Project is on a transit route Project is on an active trans			

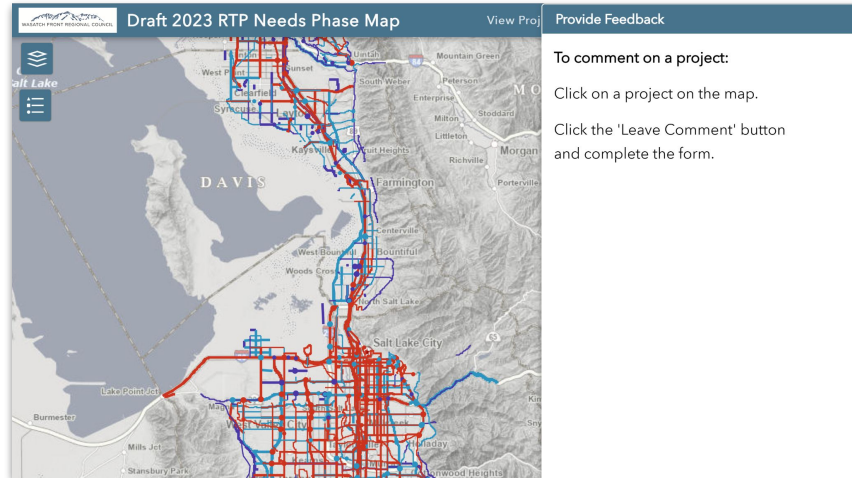
Transit Project Phasing Criteria



WASATCH CHOICE GOAL	CRITERIA	DESCRIPTION	WEIGHTING
Quality transportation choices	Supports existing ridership	Project has high ridership per mile with base year socioeconomic data	15
	Supports projected ridership	Project has high ridership per mile with future year socioeconomic data + project meets ridership threshold	15
Access to economic and educational opportunities	Improves access to opportunities	Project improves access to jobs and households that can be accessed in defined travel shed	15
	Improves access to opportunities in Equity Focus Areas	Project improves access to jobs and households that can be accessed in defined travel shed from Equity Focus Areas	15
Liveable and healthy communities	Improves access to activity-dense areas	Project is in an area with high jobs and residents per square mile within 1/4 mile of stations	15
	Improves access to existing amenities	Project is proximate to existing amenities (healthcare, schools, grocery stores, government offices, parks)	10
Manageable and reliable traffic conditions	Addresses areas of traffic congestion	Project is on or adjacent to corridor with high levels of vehicular delay	5
Safe, user-friendly streets	Improves access to transit	Project is in an area with high walk network connectivity	8
Fiscally efficient communities and infrastructure	Advances previous investments	Project is included in a completed environmental or corridor study and/or project right-of-way is preserved	2
			100



# Needs Phasing Outreach Summary



Comment period: April 25th - May 13th  
Interactive map  
RGC TAC (Planners)  
TransCom TAC (Engineers)

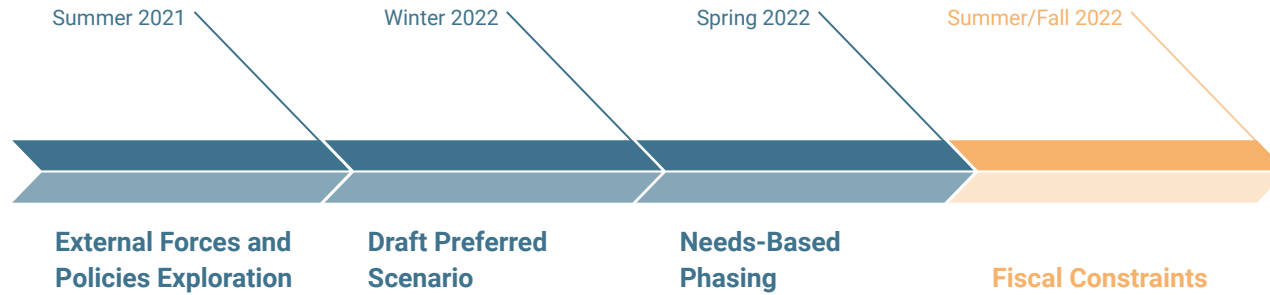


**Roads:** 100 comments

**Transit:** 61 comments

**Active Transportation:** 130 comments

# RTP Development Timeline





# Unified Plan Financial Model Development

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Revenues and expenditures: transit, road, and active transportation

## Updates



- Growth Rates (sales taxes, fuel taxes, registration fees, federal funding, etc.)
- Project costs and operating expenses
- IIJA
- Active Transportation:
  - State funding (TIF AT, TTIF FLM)
  - Federal funding (STP, CMAQ, TAP, JHC, SRTS)

# Funding Available by Mode

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**\$0.9 B**



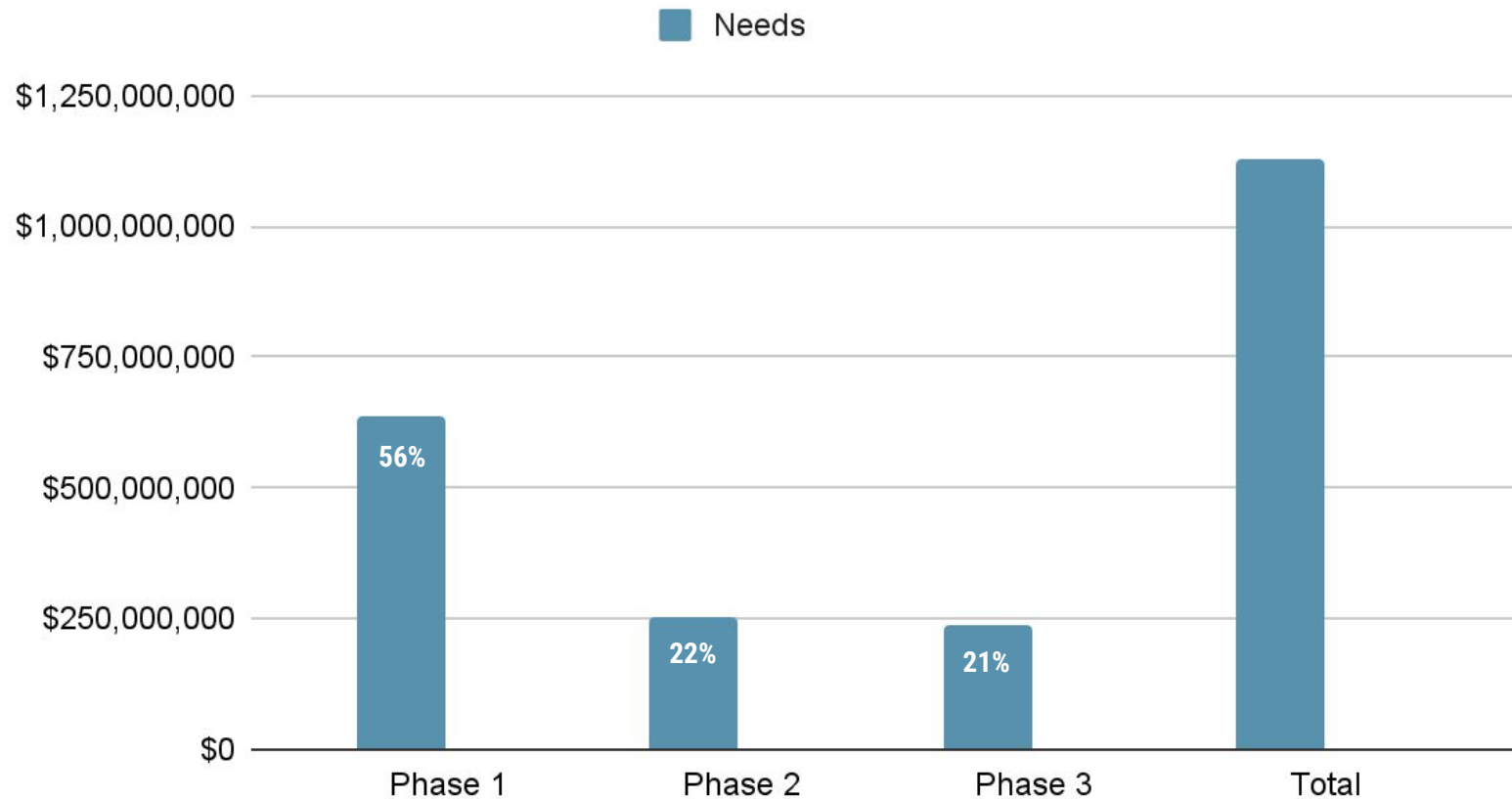
**\$17.7 B**



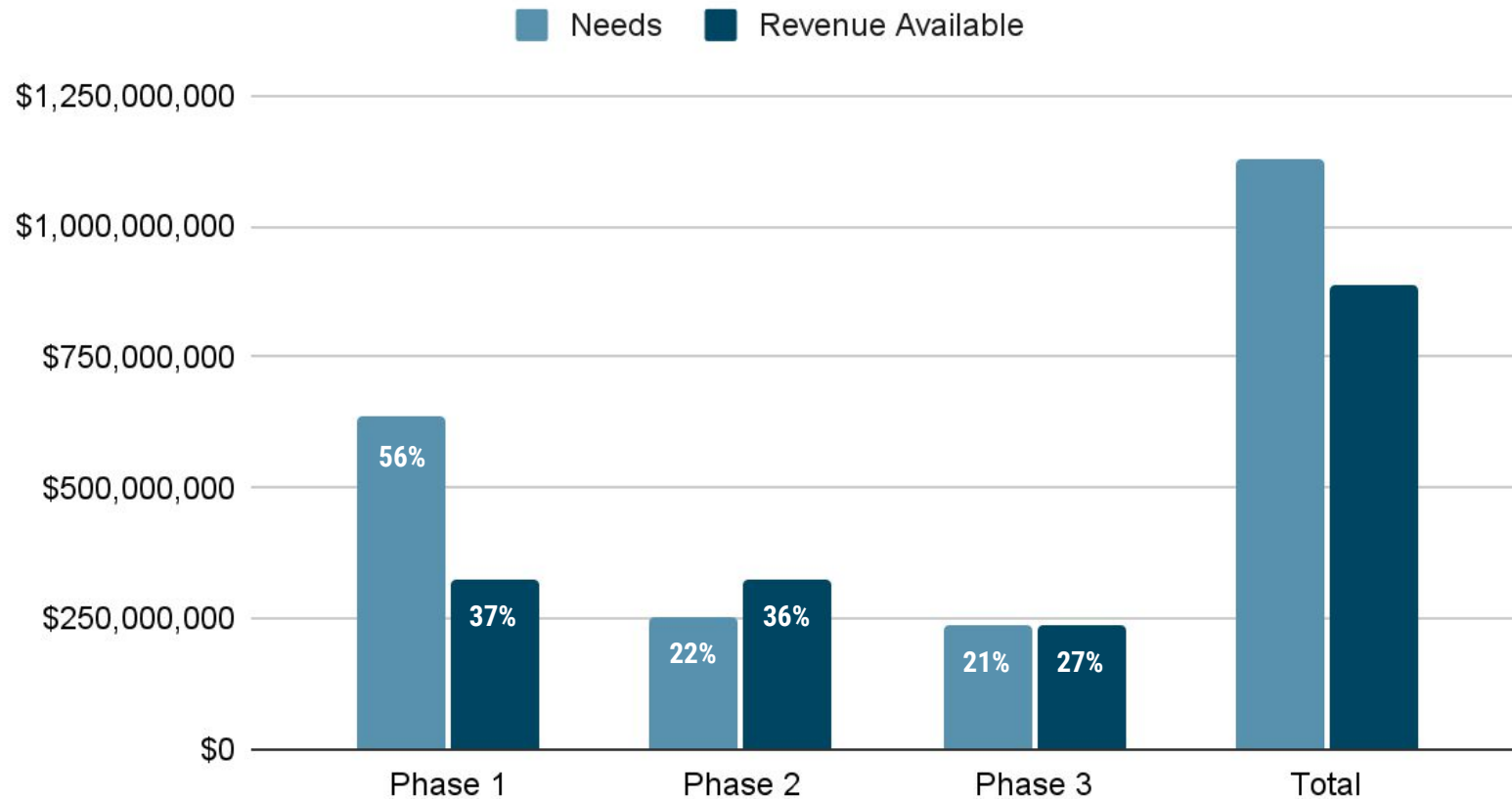
**\$5.2 B**



# Active Transportation

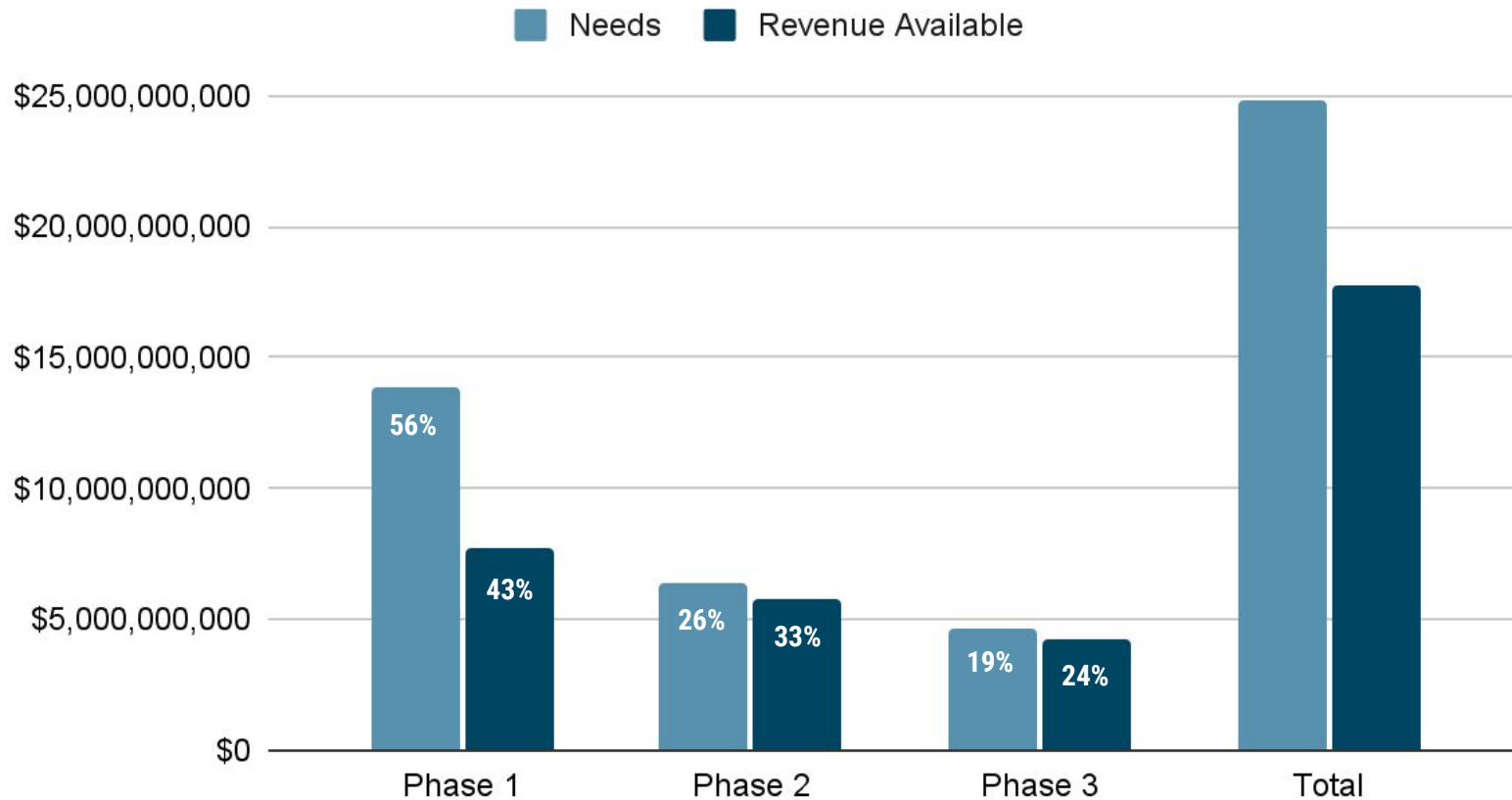


# Active Transportation

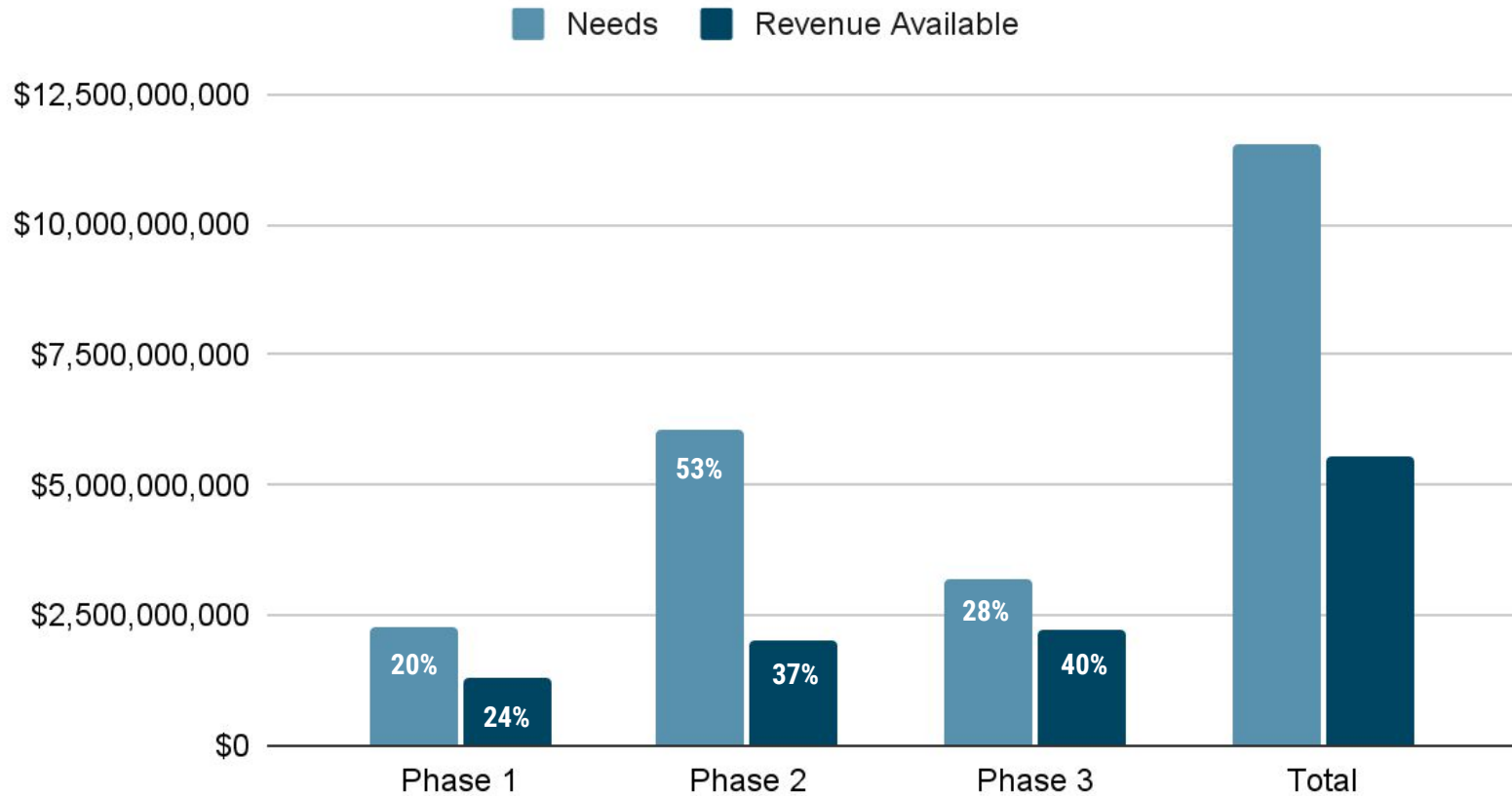




# Roadway

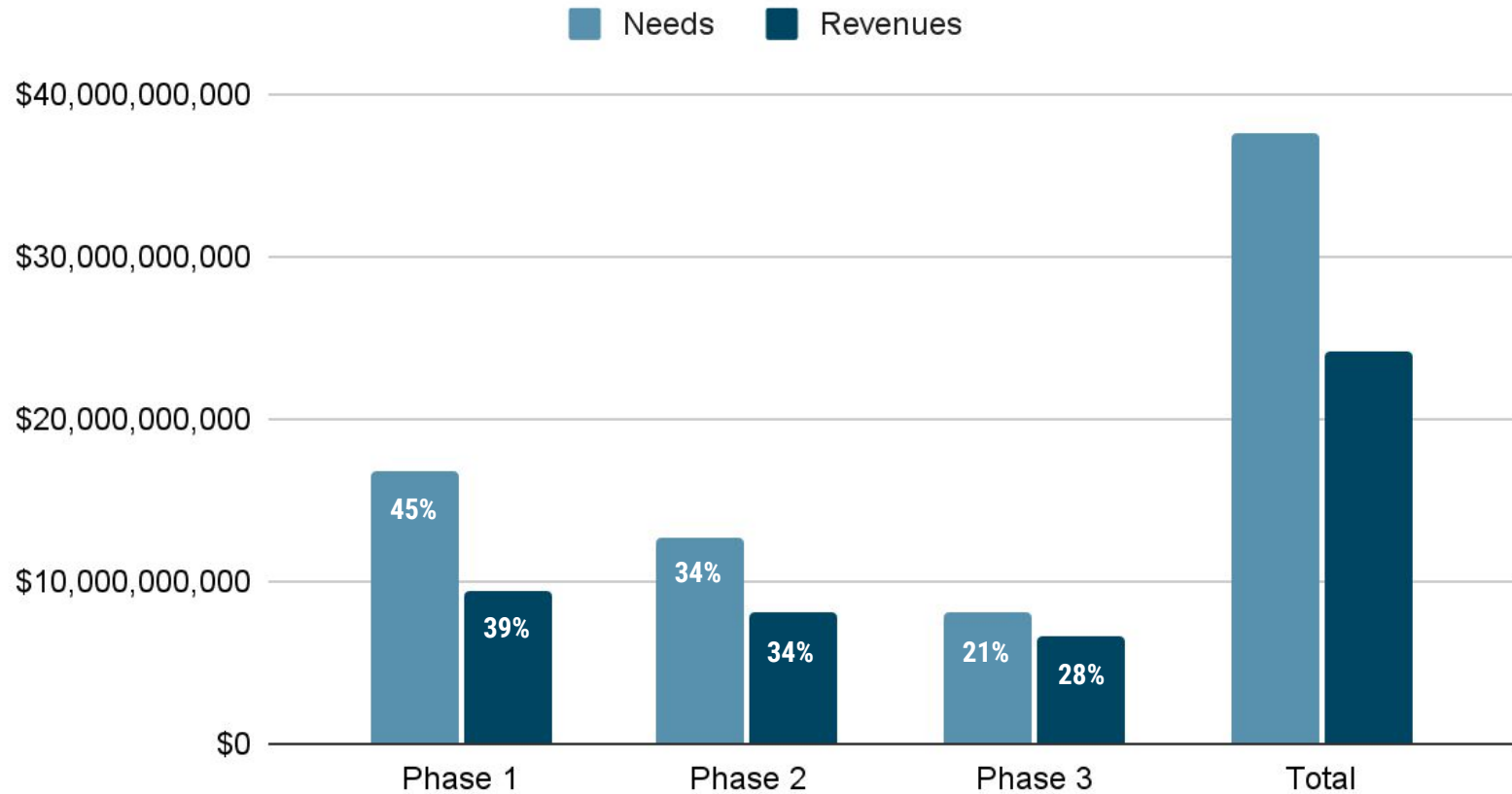


# Transit

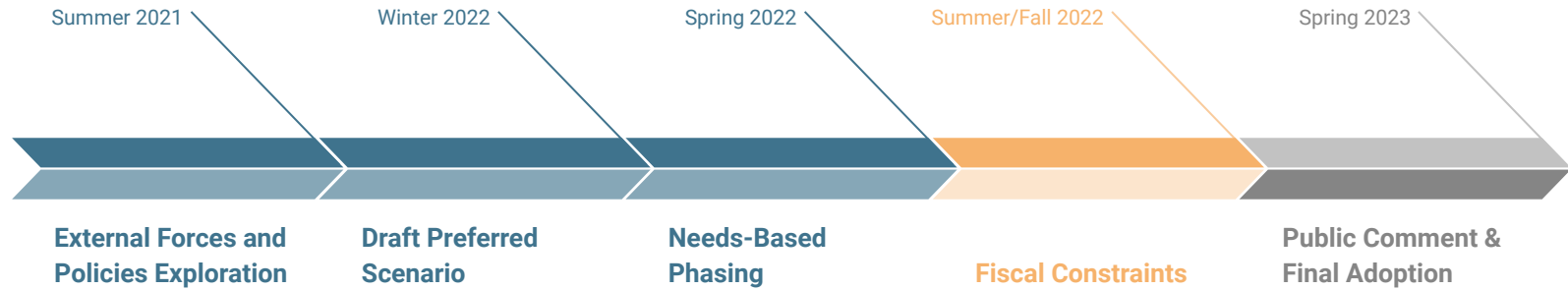




# All Modes



# RTP Development Timeline





# Next Steps

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## Fall 2022

UDOT and UTA leadership  
meetings

Workshops and  
stakeholder outreach

Unified Plan coordination



## Winter 2023

Public comment period



## Spring 2023

May 25, 2023 adoption



# Draft Fiscally Constrained Plan

For more detailed discussion, email **[jjohner@wfrc.org](mailto:jjohner@wfrc.org)**

<https://wfrc.org/rtp-2023-fc-phase-map/>





# Breakout Rooms by Mode

**Active Transportation** - Jory

**Transit** - Lauren

**Roads** - Nikki