



**VINEYARD BICYCLE ADVISORY
COMMISSION (BAC) MEETING**
Vineyard City Hall, 125 S Main Street, Vineyard, Utah
Thursday, January 5, 2023 at 5:30 p.m

1. CALL TO ORDER

2. OPEN SESSION

3. MINUTES REVIEW AND APPROVAL

4. BUSINESS ITEMS:

4.1 The Purpose of the BAC

Rachel Stevens, Planning Technician, will provide an overview of the purpose of the Commission.

4.2 Elect a Chair and Vice-Chair for the BAC

The BAC will elect a chair and vice-chair for 2023.

4.3 2023 Calendar

The BAC will move to adopt a calendar for 2023.

5. WORK SESSION:

5.1 Update to Active Transportation Plan

Morgan Briam, Community Development Department, will present the proposed updates to the Active Transportation Plan.

6. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE

None.

7. ADJOURNMENT

The next regularly scheduled meeting is scheduled for April 20, 2023 at 5:30 pm.

The Public is invited to participate in all Bicycle Advisory Commission meetings. In compliance with the Americans with Disabilities Act, individuals needing special accommodations during this public meeting should notify Rachel Stevens, Planning Technician, at least 24 hours prior to the meeting by calling (385).338.5382.

The foregoing notice and agenda were emailed to the Salt Lake Tribune, posted on the Utah Public Notice Website and Vineyard Website, posted at the Vineyard City Offices, delivered electronically to city staff and each member of the bicycle advisory commission.

AGENDA NOTICING COMPLETED ON: January 4, 2023

NOTICED BY: /s/ Rachel Stevens

Rachel Stevens, Planning Technician

2023

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 BAC meeting scheduled for 5:30 pm



Community Development

Date: January 5, 2023
From: Morgan Brim, Community Development Director
To: Bicycle Advisory Commission
Item: Public Hearing Ordinance 2023-01 Active Transportation Master Plan
Location: Vineyard City

BACKGROUND:

In 2021, Mountain Lands Association of Government (MAG), our metropolitan planning organization, which oversees long range transportation planning and land use coordination for Utah County, approved funding to develop a city-wide active transportation plan. The goal of the plan is to provide interconnectivity between city active transportation facilities and regional facilities. Additionally, this plan provided the opportunity for the city to analyze obstacles to effective transportation and solutions to increase pedestrian and bicycle access and elevate safety.

PUBLIC FEEDBACK:

The city contracted with Alta Planning + Design to oversee the planning process for this project. As part of this process, several public comment formats were utilized to obtain feedback from residents. These included open houses, Facebook live events, online surveys, and mapping exercises. The following key points emerged from the public:

- A large majority of individuals in Vineyard walk, bike, or roll for recreation either daily or a few times per week
- The main reason participants indicated they walk, or bike is to stay active/for health and fitness
- Participants would like to use bikeways/trails/sidewalks for recreation and exercise to get to local parks, trails, and recreation centers
- Most participants are not necessarily interested in walking or biking to get to the Front Runner Station
- Participants desire more and better crosswalks, more connections between trails, more and better traffic signals, more bike lanes, and connections to more community destinations
- Most students are walking, biking, or rolling to school, with parents/guardians driving students as the next most common mode for getting to school
- Infrastructure doesn't effectively connect people where they want to go
- Driving is more convenient, and many are traveling with children
- Residents feel uncomfortable interacting with vehicular traffic
- Main Street was identified as a major obstacle to active transportation
- Main Street and Vineyard Road intersection was identified as being unsafe and having poor visibility for all users
- Traffic calming is needed throughout the community
- Safe crossings are needed in several locations along Main Street, Center Street and Vineyard

Road

- Safety is the main priority for most when it comes to project outcomes
- Speeding traffic and volume of traffic are two of the biggest concerns for citizens when it comes to transportation in Vineyard
- Main Street project is the top priority for the majority of participants
- Most transportation challenges in school zones are near Freedom Preparatory Academy

WEB MAP SUMMARY

Vineyard Active Transportation Plan

USER INPUT

- User-Marked Routes
- Access Challenge
- Community Improvement
- Connect Pathways
- Intersection Treatment
- Missing Facility
- Nice Facility
- Traffic Calming
- Walking or Biking Destination

EXISTING FACILITIES

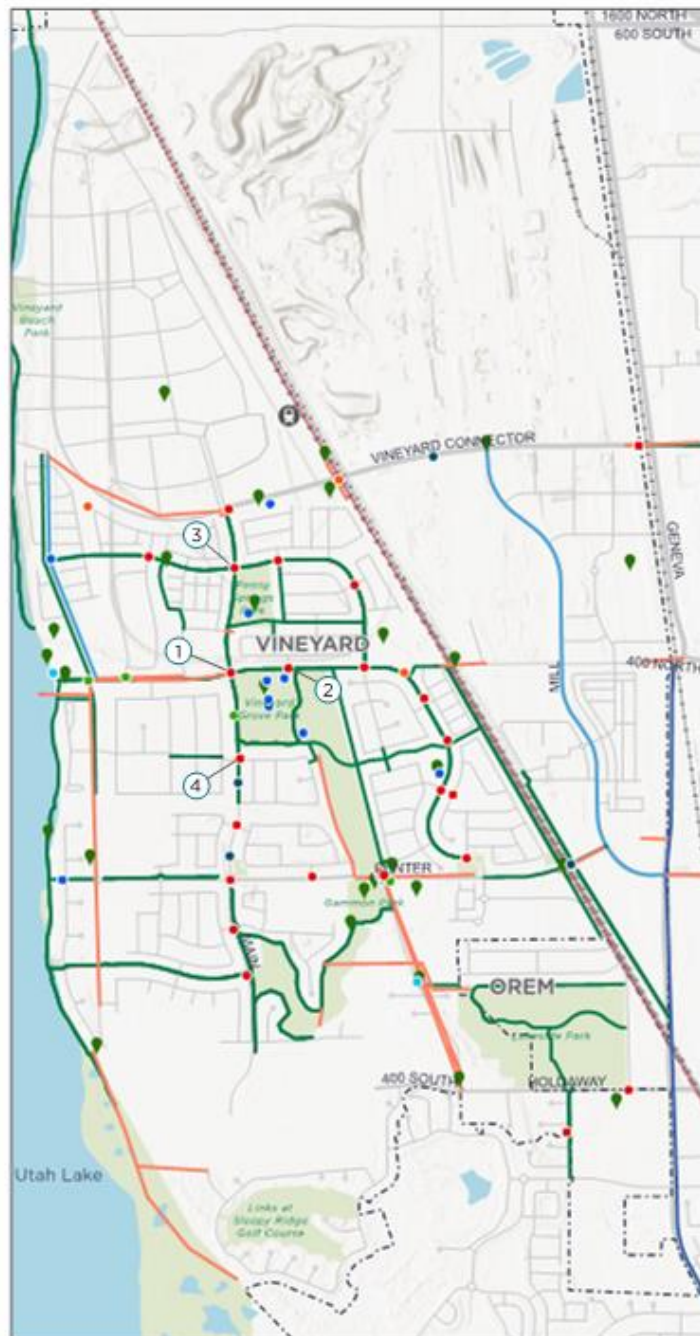
- Buffered Bike Lane
- Bike Lane
- Shared Use Path

BASEMAP FEATURES

- Frontrunner Station
- Commuter Rail
- Railroad
- River
- Water Body
- Park
- Vineyard



Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: December 2021



PRIORITY PROJECTS:

The plan identified five projects to improve overall safety and to increase active transportation in Vineyard. These projects were highlighted by residents throughout the public participation process.

- Project 1: Main Street Improvements – Considers lane repurposing to add buffered bike lanes, adds crossings and slows vehicular traffic. A traffic study was conducted by Hales Engineering and found level of service will remain adequate following Main Street lane reduction, while active transportation would increase substantially. Further studies will need to be completed prior to implementation.
- Project 2: Center Street Improvements – Adds crossings across Center Street with flashing indicators and a refuge islands. Considers slowing speeds and potential for adding a bike lane.
- Project 3: Holdaway Road Bike Boulevard – Slows traffic on Holdaway Road and designates route as a bike boulevard. Creates bike lanes and add striping and other elements. Considers rerouting Holdaway Road through the Homestead Pod two and one to reduce traffic cut-throughs.
- Project 4: 400 North Railroad Crossing – Provides a pedestrian bridge over the Utah Provo Main Line to connect the east and west sides of Vineyard. Will consider feasibility of a vehicular connection as well.
- Project 5: Lehi Rail Trail – Extends regional trail through Vineyard from north and south along the east side of the Utah Provo Main Line. Trail will run through industrial district and UVU campus.

RECOMMENDATION & MOTION:

Staff is recommending approval of Ordinance 2023-01 Active Transportation Plan. The following motion is proposed:

"I recommend approval of Ordinance 2023-01 Active Transportation Plan to the City Council."

ATTACHEMENTS:

Ordinance 2023-01 and proposed ATP



Ordinance 2023-01
Active Transportation Plan

AN ORDINANCE ADOPTING THE ACTIVE TRANSPORTATION PLAN OF VINEYARD CITY, ESTABLISHING POLICIES TO PROMOTE AND ENHANCE ACTIVE TRANSPORTATION, IDENTIFYING OBSTACLES AND EXISTING CONDITIONS, CREATES GOALS AND PRIORITY PROJECTS, PROVIDES MAPS IDENTIFYING PRIORITY PROJECTS AND DEVELOPMENT STANDARDS FOR ACTIVE TRANSPORTATION INFRASTRUCTURE; PROVIDING A REPEALER CLAUSE; PROVIDING A SAVINGS AND SEVERABILITY CLAUSE, PROVIDING FOR PUBLICATION BY SUMMARY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, in compliance with Utah State Municipal Land Use, Development, and Management Act (LUDMA), the City established a master plan as a companion document to the General Plan; and

WHEREAS, the state legislature has required that a municipality shall prepare and adopt a comprehensive, long-range general plan for the present and future needs of the municipality and the growth and development of all or any part of the land within the municipality; and

WHEREAS, the Metropolitan Planning Organization Mountain Lands Association of Governments approved planning services funds for Vineyard City to complete an Active Transportation Plan to effectively connect city infrastructure, trails and routes to the greater regional network; and

WHEREAS, the Planning Commission held a public hearing on January 4, 2022, and after fully considering public comment and staff recommendations, recommended approval to the City Council; and

WHEREAS, the City Council reviewed the Active Transportation Plan and held a public hearing on January 11 and January 25, 2022, and after fully considering public comment, staff and Planning Commission's recommendations, evidence and testimony presented by the City, staff and other interested parties.

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF VINEYARD:

Section 1: VINEYARD ACTIVE TRANSPORTATION PLAN. Attached as exhibit A.

Section 2: REPEALER CLAUSE. All City plans, which are in conflict with the Vineyard Active Transportation Plan herewith are hereby repealed.

Section 3: SAVINGS AND SERVERABILITY CLAUSE. It is hereby declared to be the legislative intent that the provisions and parts of this Ordinance shall be severable. If any paragraph, part, section, subsection, clause or phrase of this Ordinance is for any reason held to be invalid by a Court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance.

Section 4: PUBLICATION. This Ordinance, or a summary thereof, shall be published in the official newspaper of the City, and shall take effect immediately upon its passage, approval, and publication.

Section 5: EFFECTIVE DATE. This Ordinance shall be in full force and effect after its passage, approval and publication according to law.

CITY OF VINEYARD

ACTIVE TRANSPORTATION PLAN

December 2022



This draft was prepared for the city of Vineyard, Utah by Alta Planning + Design with planning assistance from the Steering Committee and local staff.



VINEYARD
STAY CONNECTED

alta



PROJECT TEAM

Morgan Brim, City of Vineyard
Briam Perez, City of Vineyard
Naseem Ghandour, City of Vineyard

ALTA PLANNING + DESIGN

David Foster, Principal-in-Charge
Cole Peiffer, Assistant Project Manager
Zoey Mauck, Planner/Designer
Emily Guffin, Planner

STEERING COMMITTEE

Burton Hohman - Vineyard Bicycle Advisory
Commission & Vineyard citizen
Caden Rhoton, Vineyard Bicycle Advisory Commission
Bryce Brady, Chair of Vineyard Planning Commission
Jim Price, Mountainland Association of Governments
(MAG)
Chris Wilson, Vineyard Assistant Public Works Director
for Vineyard
Cache Hancey, Vineyard Planning Technician
Christy Welsh, Vineyard City Council
Julie Fullmer, Mayor of Vineyard
Kathrine Johnson, UDOT

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01

INTRODUCTION

OVERVIEW

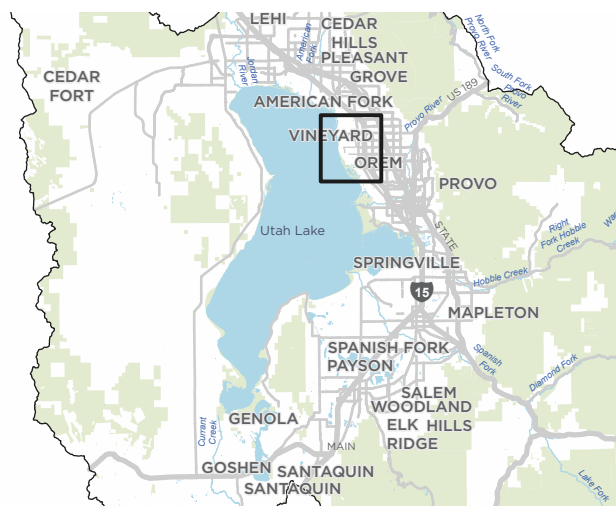
As a quickly-growing city, Vineyard is ready for transformational change through a safer and more accessible active transportation network. The City recognizes that by providing multiple options for transportation, the city will better serve their residents who do not wish to use or do not have the ability to use personal vehicles. The City hopes to provide an active transportation network that will allow residents to recreate within their own communities or commute to work as a pedestrian or cyclist.

This Active Transportation Plan (ATP) will serve as a guide to city staff and elected officials on how to allocate funds and properly construct (and reconstruct) roadways that are conducive to multiple modes of transportation. The Plan aims to improve the health of residents by promoting exercise and active transportation while reducing the environmental impacts of personal vehicles, and thus improving the air quality.

Implementing the strategies of the ATP will further establish Vineyard as a recreation destination, promoting economic development and tourism. Additionally, with the adoption of the Plan, Vineyard will be better positioned to pursue active transportation grants for additional planning or project implementation.

The recommendations in this Plan may change as Vineyard changes, as priorities shift, and as opportunities arise to complete projects. The Plan should be considered a fluid document. Some of the projects may need to be implemented incrementally and specific recommendations may be altered; specific and recommended facility types are the ultimate goal, but other treatments may need to be used in the interim.

Figure 1.1 Vineyard in Context



What is an Active Transportation Plan and what will it do?

Active transportation is defined as “human-powered modes of transportation, primarily walking and bicycling”. Active transportation plans document a City's long-term vision for accommodating bicyclists and pedestrians through policies, programs, and infrastructure improvements. This active transportation plan represents the next step in implementing the transportation element of Vineyard's general plan which seeks to provide multimodal transportation options and reduce automobile dependency for Vineyard residents.

WHERE WE'RE GOING...

Vineyard's rapid growth, as highlighted in **Figure 1.2**, has required the development of several community planning efforts to preserve and protect the community's values. Many of these plans touch on the importance of active transportation in supporting key community objectives such as:

- » Developing a multimodal transportation system
- » Fostering active lifestyles
- » Creating an economically vibrant community
- » Supporting environmental sustainability
- » And many others

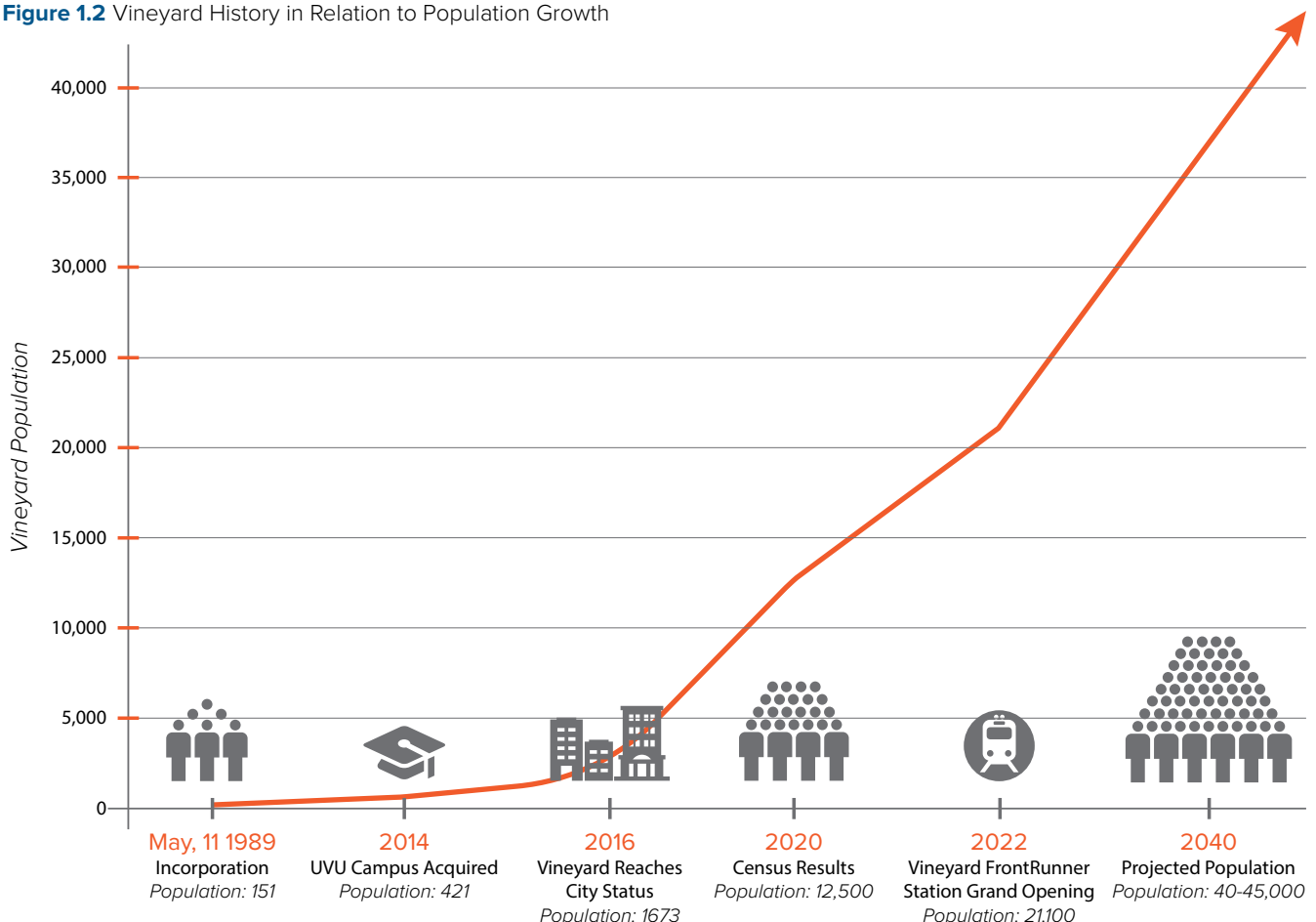
This plan seeks to build upon previous planning efforts in order to develop appropriate network recommendations and infrastructure design guidelines. The following studies have been reviewed to determine their impact on the Vineyard Active

Transportation Plan and capitalize on previous lessons learned.

- » **Vineyard Strategic Plan**
- » **Vineyard Downtown Master Plan (2020)**
- » **Vineyard Station Plan (2020)**
- » **Vineyard City General Plan (2019)**
- » **MAG Transplan50: Mountainland Association of Governments 2019-2050 Regional Transportation Plan (2019)**
- » **UVU Master Plan (2016)**

Additionally, several local and regional plans were referenced during the development of network recommendations presented in Chapter 4. For purposes of promoting cross-jurisdictional collaboration, plan summaries from each of the participating jurisdictions are included in this section. Recommendations from the plans are shown spatially on **Map 1.1** (page 10)

Figure 1.2 Vineyard History in Relation to Population Growth



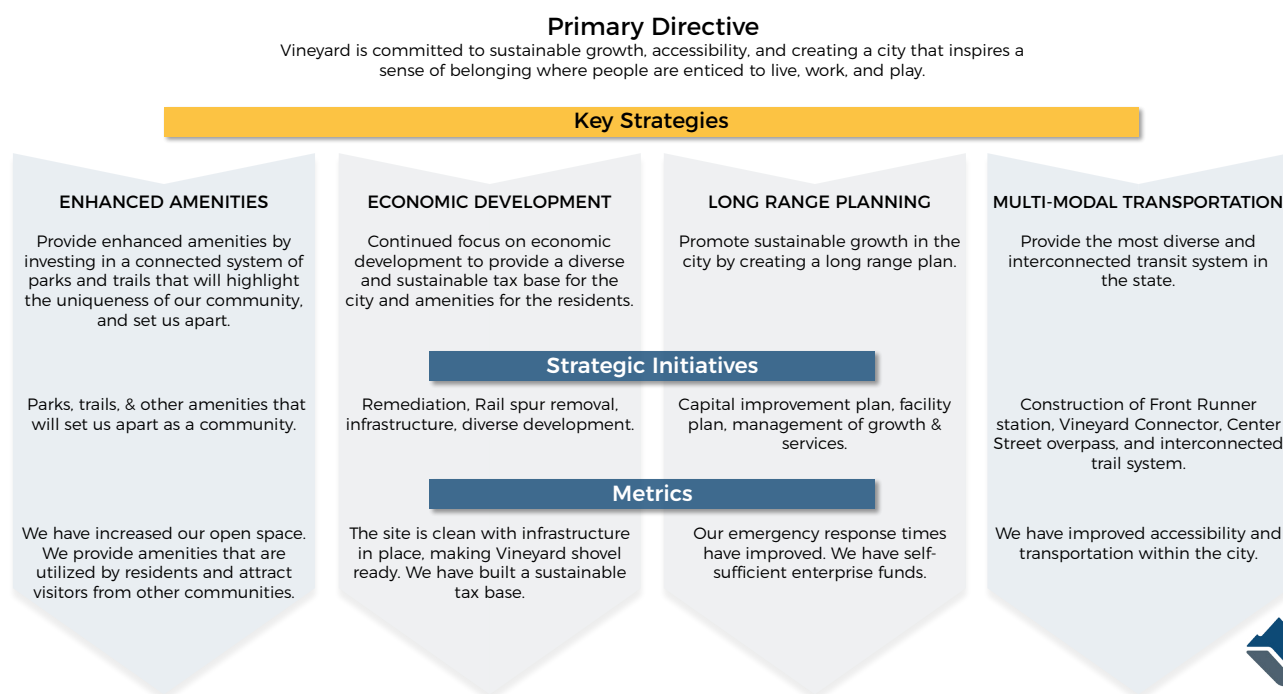


Figure 1.3 Vineyard Strategic Plan Overview

VINEYARD STRATEGIC PLAN

The Vineyard Strategic Plan identifies four key strategies that back up the city's commitment to sustainable growth, accessibility, and the creation of a welcoming city that facilitates the ability to live, work, and play in Vineyard. These key strategies, as detailed in **Figure 1.3** include providing enhanced community amenities by investing in a connection parks and trails system (Enhanced Amenities), focusing on economic development to provide a diverse, sustainable tax base for the city and amenities for residents (Economic Development), promoting sustainable growth by creating a long range plan (Long Range Planning), and providing the most diverse, interconnected transit system in Utah (Multi-Modal Transportation)

VINEYARD CITY GENERAL PLAN (2019)

The Vineyard City General Plan was written to help guide decision-making in a constantly changing community, and to help focus and unify future planning efforts and public investment. Key elements identified as the main themes of the plan, shown on the following page in **Figure 1.4** include Heritage + Cultural Resources, Land Use, Open Space, Parks + Trails, Economic Development, Transportation, Public Facilities + Services, Moderate Income Housing, and Technology.

Active transportation is a critical component of the plan, impacting nearly every one of these eight elements, but most specifically the Parks + Trails

and Transportation categories. Additionally, key opportunities listed in the plan include the addition of bike lanes, trails, and safe pedestrian routes throughout the city, recreational trail access along the Utah Lake Lakefront, and the development of the Geneva Road Corridor

These key themes lead into the Vision for Vineyard: *Vineyard is a vibrant well-balanced community providing residents and visitors a connection to our heritage and a path towards an enduring future. We promote a **healthy community** through thoughtful public investments, innovation, strategic partnerships, an **activated lakefront** and **thoughtful shared open spaces**.*

The guiding principles to achieve this vision include:

- Maintain our **family-friendly** atmosphere
- Promote **walkable neighborhoods** and a mix of uses that complement each other
- Encourage and **support innovation in all aspects of our development**
- **Grow responsibly**
- **Think sustainably** – considering environmental, societal and economic impacts of growth
- Foster a vibrant and **resilient** economy
- Support the right businesses for our community
- Celebrate our rich heritage
- Support the **equitable** distribution of public resources throughout our community
- **Collaborate** with adjacent jurisdictions, Utah Valley University, and the larger region

Figure 1.4 General Plan Key Elements



VINEYARD DOWNTOWN MASTER PLAN (2020)

Phase I - Alignment of Downtown Streets

The first phase of the alignment of downtown streets was developed through a charrette process from 2019-2020. This alignment, shown in [Figure 1.5](#), led to the plan for a walkable downtown with parks, plazas, and waterfront access, established through the Downtown Code.

Downtown Code

The Downtown Code provides a structure for development in the new Vineyard downtown core. Seven specific street types make up the downtown area, all with the intent of developing a network of complete streets that consider multimodal transportation opportunities, all portions of the street right-of-way, the reduction of stormwater runoff, and the creation of focal points in the community ([Figure 1.6](#)).

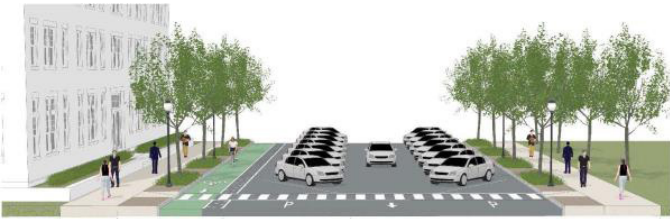
For each street type, the two bicycle facility types include dedicated bicycle lanes (striped lanes, optionally protected by a buffer, on the outside of the outermost travel lanes or between parking and the curb; parking-protected lanes where practical; lane on both sides of street and is five-feet wide (more when one-way or on one side of the street) and ten-feet+ wide when two-way.) and designated shared lanes (a lane that is shared between vehicles and bicycles).

Figure 1.5 Vineyard Downtown Street Alignment



Figure 1.6 Street Types and Corresponding Facilities**LAKE PROMENADE STREET**

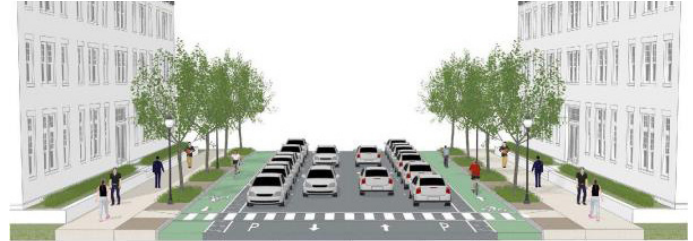
- Bicycle facilities: required (parking protected preferred)
- Pedestrian facilities: 8' sidewalk minimum on both sides of the ROW, 6' minimum urban park strip

**Figure 1.6a** Lake Promenade at the Civic Square**Figure 1.6b** Lake Promenade - Central Promenade**MAIN STREET AND NORTH PROMENADE**

- Bicycle facilities: 6' protected lane, 6' dedicated lane from Vineyard Connector intersections to the first intersections within Downtown
- Pedestrian facilities: 8' minimum sidewalk, 8' minimum urban park strip

**Figure 1.6c** Main Street at Vineyard Connector**Figure 1.6d** Main Street Central**Figure 1.6e** North Promenade**BIKE-WAY STREETS**

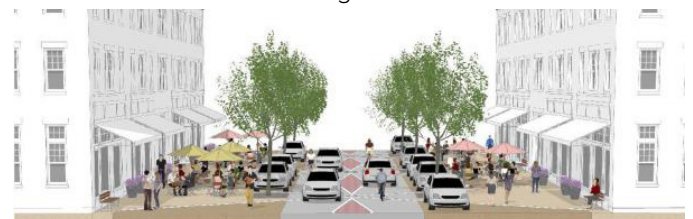
- Bicycle facilities: protected bike lanes; off-street lanes at the station and UTA bus stops
- Pedestrian facilities: 6' minimum in the Village, 8' minimum elsewhere, 6' minimum park strip or urban park strip

**Figure 1.6f** Bikeway Street**SIDE STREETS**

- Bicycle facilities: Shared bike lanes
- Pedestrian facilities: 6' minimum sidewalks, 6' minimum park strip or urban park strip

**Figure 1.6g** Side Street in Low Intensity Area**Figure 1.6h** Side Street in Medium Intensity Area**Figure 1.6i** Side Street in Medium Intensity Area - 2**SHARED SPACE STREETS**

- Bicycle facilities: Shared roadway
- Pedestrian facilities: Minimum of 8' combined sidewalk and furnishing zones

**Figure 1.6j** Lake Promenade Market Street

LAKE ROAD

- Bicycle facilities: 12' minimum shared use trail on the lake side and shared lanes on the roadway
- Pedestrian facilities: 8' minimum sidewalk, 8' or larger urban park strip or furnishing zone opposite the lake, 8' or larger park strip along lake side



Figure 1.6k Lake Road North and South Section

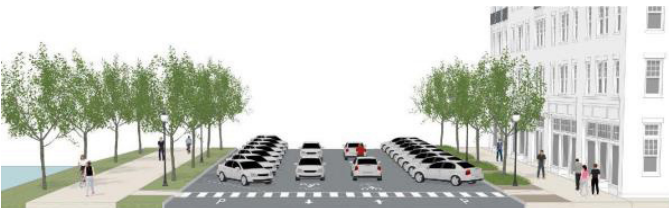


Figure 1.6l Lake Road Central Section

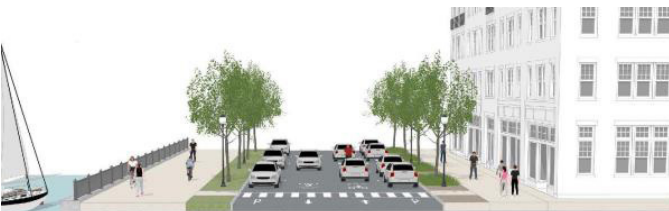


Figure 1.6m Lake Road Marina Section

PEDESTRIAN STREETS

- Bicycle facilities: Shared roadway
- Pedestrian facilities: Walkway 20' minimum
- (No section drawing provided)

VINEYARD STATION PLAN (2020)

Ground was broken on May 13, 2021, for a brand new \$5.6 million FrontRunner Station in Vineyard, adding another stop between the American Fork and Orem stations (**Figure 1.7**). As Vineyard experiences record population growth, many new homes, businesses, and the new Utah Valley University (UVU) Vineyard campus will make the station well-used and necessary in achieving Vineyard's goal of providing the most diverse and interconnected transit system in the state of Utah. The station opened in August of 2022.



Figure 1.7 Vineyard FrontRunner Station Groundbreaking

UTAH VALLEY UNIVERSITY (UVU) FACILITIES MASTER PLAN (2021 UPDATE)

In 2014, Utah Valley University (UVU) acquired 125-acres of land to develop their Vineyard campus. The campus will consistently be evolving and growing, but the master plan (**Figure 1.8**) sets forth a 40-year strategy for the development of new facilities and amenities.

The Vineyard Campus site plan includes a linear open space along the western boundary, boulevards serving as the structure and primary connections for the campus, an innovation district clustered around the main entrance and main frontage area, small open spaces spread throughout the campus, and pedestrian connections along the campus perimeter connecting into the rest of the community.

To provide strong vehicular and bike/pedestrian connectivity, the campus street network is aligned with the surrounding roads, and block sizes and dimensions support a comfortable experience for all users that provides a clear connection to surrounding developments, like Geneva's downtown.



Figure 1.8 UVU Master Plan

MAG TRANSPAN50: MOUNTAINLAND ASSOCIATION OF GOVERNMENTS 2019-2050 REGIONAL TRANSPORTATION PLAN (2019)

The MAG TransPlan50 focuses on building a robust, intermodal, urban transportation system for Summit, Utah, and Wasatch Counties. “The plan attempts to minimize impacts on society and the environment while providing for enough transportation capacity and choices to ensure the region’s economy continues to grow” through the following goals:

Goal 1: Update the Regional Highway System to a Metropolitan Grid-based Network

Goal 2: Explore Additional Freeways, Add Capacity

Goal 3: Create a Robust Regional Transit System

Goal 4: Build a Regionally Connected Active Transportation System

Goal 5: Preserve What We Have

For a regionally connected active transportation system, the plan states that “the goal of the ped/bike system is to reduce vehicle trips and mitigate traffic congestion”. TransPlan50 strives to reach this goal by identifying a network that connects population and employment centers through trails and on-street facilities.

The plan identifies numerous facility additions or improvements that are planned for the next thirty years, shown in **Figures 1.9-1.10**. Of these projects, several are identified in or adjacent to Vineyard, including:

- Vineyard FrontRunner station
- North Light Rail Line and Central Light Rail Line: Trax light rail lines connecting to Vineyard
- Vineyard Connector: a trail and buffered bike lanes starting from Geneva Rd and heading north
- Vineyard Center Street Railroad Bridge
- Utah Valley Express (UVX) State Street: Bus Rapid Transit line running through Vineyard
- Utah Lakeshore Trail: a trail along the Utah Lake lakeshore
- Lindon Heritage Trail: a trail from the Lindon Boat Harbor along the future Geneva Resort Park, and connecting north and west to Pioneer Ln.
- Orem Center St Bike Lanes: bike lanes along Center St from Geneva Rd to 1200 W

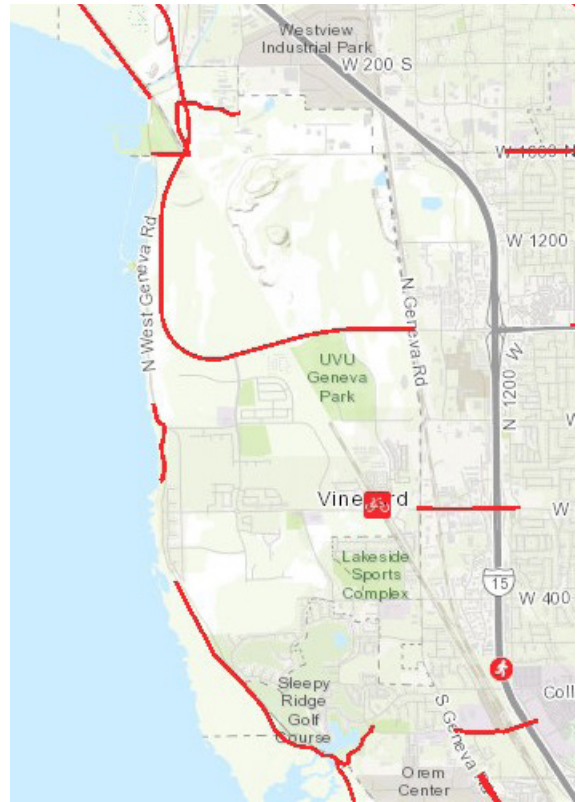


Figure 1.9 MAG TransPlan50 Active Transportation Plans

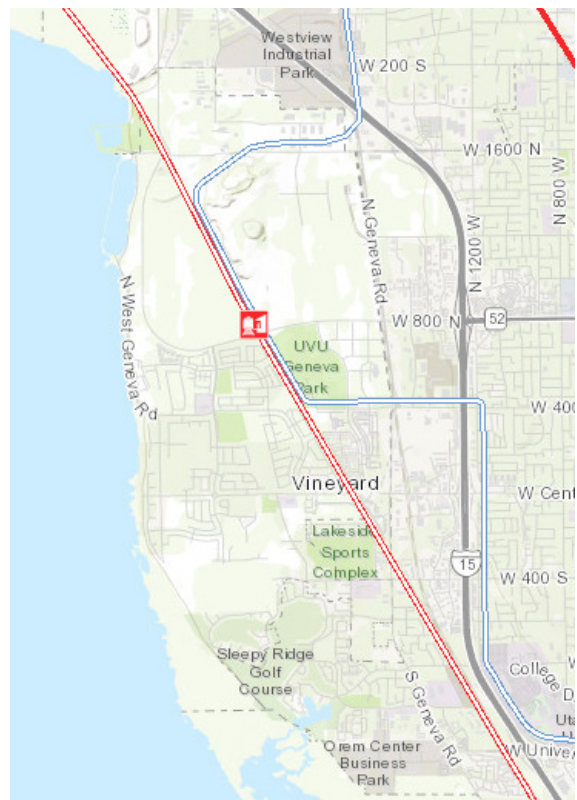


Figure 1.10 MAG TransPlan50 Transit Plans

Map 1.1 Existing Plans

EXISTING PLANS

Vineyard Active Transportation Plan

Existing | Proposed Facilities

-  Shared Use Path
-  Buffered Bike Lane
-  Bike Lane

Future Plan Locations

-  Downtown Master Plan (P1)
-  UVU Master Plan
-  Vineyard Station Plan
-  Central Light Rail Line

Future Plan Recommendations

-  Vineyard City General Plan
-  Downtown Master Plan (P1)
-  Waterfront Plan
-  UVU Master Plan
-  Vineyard Station Plan
-  TransPlan50
-  Historic Lehi Rail Trail

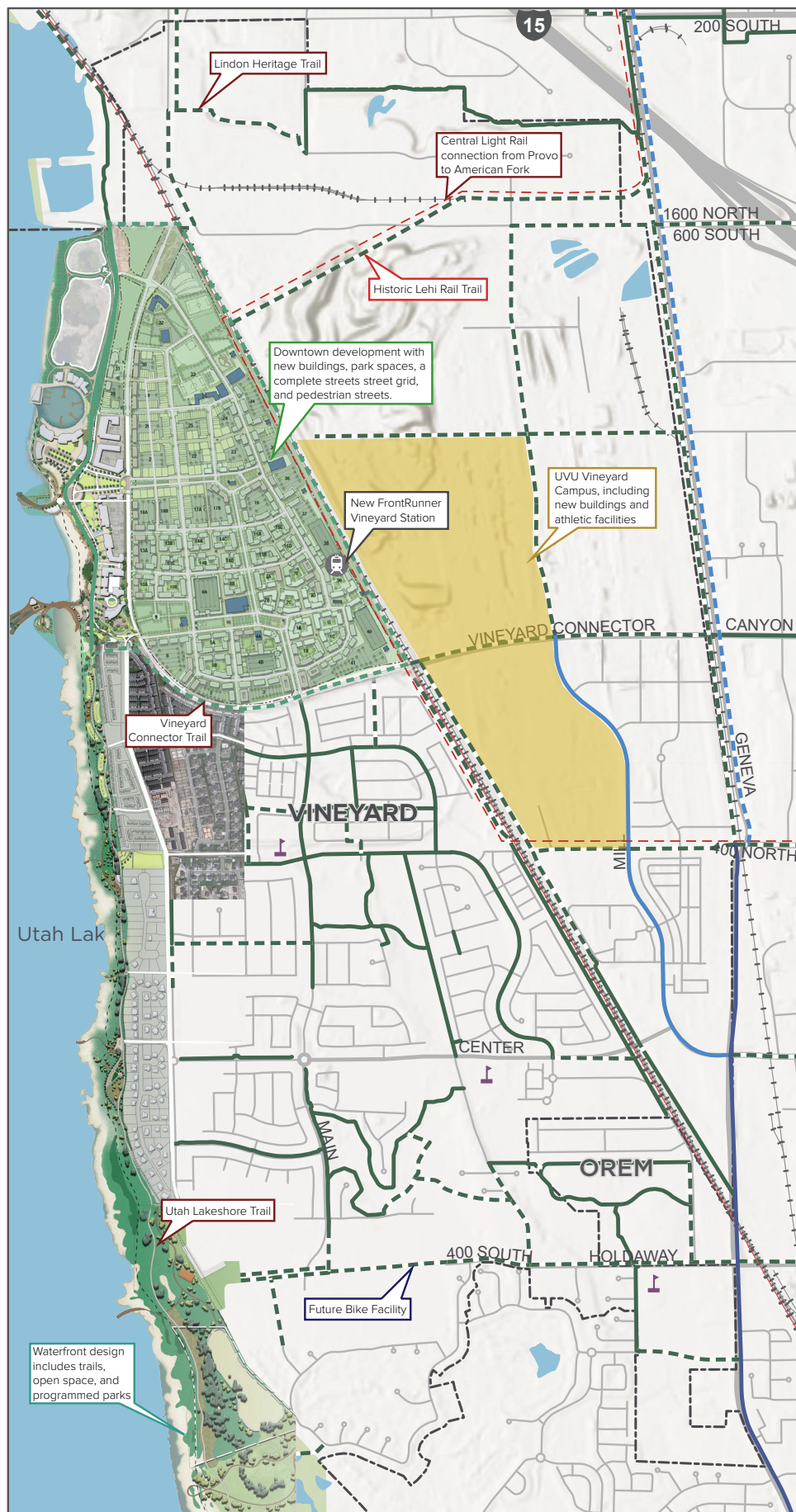
BASEMAP FEATURES

-  Frontrunner Station
-  School
-  Commuter Rail
-  Railroad
-  Water Body
-  Park
-  Vineyard



alta

Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: May 2021



ASSIMILATING VINEYARD'S ACTIVE TRANSPORTATION VISION

A robust and thoughtful active transportation network is an integral part of the success of many plans across the City of Vineyard. A word cloud based on the key themes and goals from these plans is included below in **Figure 1.11**. Based upon the goals from each reviewed plan, the project team and steering committee collaborated on a collective framework of goals and objectives to guide the active transportation plan. Input from the steering committee in support of this process is highlighted in **Figure 1.12**.

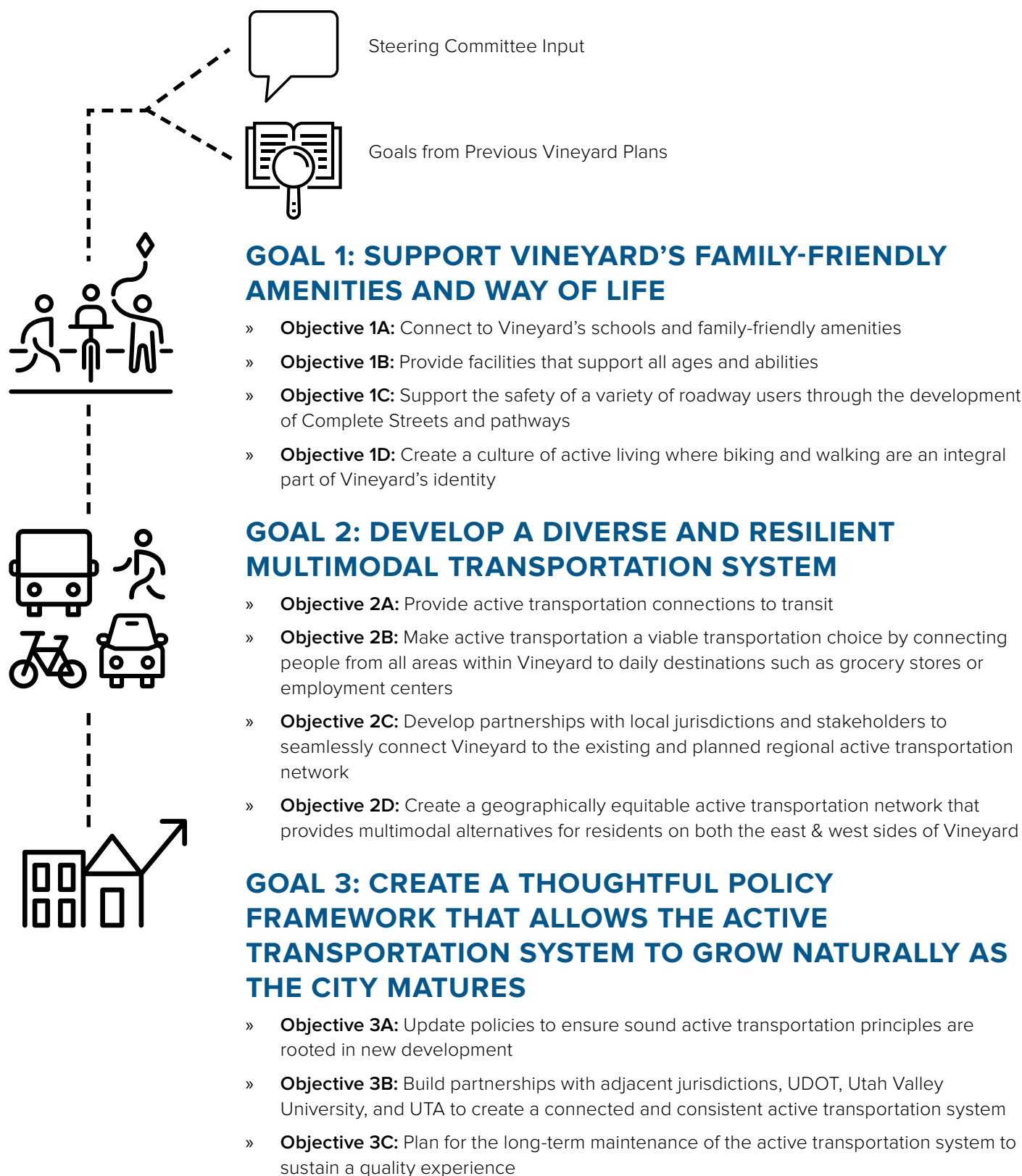
When implemented, Vineyard's active transportation network should...				
BALANCE BETWEEN TRANSPORTATION AND RECREATION OPPORTUNITIES	PROMOTE ACTIVE LIFESTYLES, MENTAL HEALTH	Provide transportation option for all age groups. Provide safe connections to the lake and downtown.	Biking and walking should feel like driving. Continuously connected and safe throughout the community and to surrounding networks. Cohesive.	Support complete streets suitable for street, pedestrians, cars and transit users. Complete streets are streets that are designed and operated to enable safe movement for everyone who uses them.
INTERCONNECT ALL COMMUNITIES AND AREAS OF THE CITY	Continued safe bike travel for children	Make walking an interesting experience. Show that Vineyard is forward thinking.	Engaging Sites from A-B	Encourage more people to utilize alternative methods of transportation
More seamless	PROVIDE WALKING	Encourage an active healthy lifestyle for our residents.	INCLUDE SUN ACTIVITIES	Safe routes to School
Safe intersections for cyclists and pedestrians	Make the active option the convenient option.	Increase vineyard's property values and attract new residents.	Provide viable transportation options for all residents.	I would like every corner of Vineyard to be able to be accessed by all people via biking and walking. Vineyard should be a truly walkable/bikeable community. East vineyard is lacking in biking infrastructure.
Use "shortening the distance between origins and destinations" as the framework for developing and planning infrastructure.	Continuous paths that don't require stopping or turning abruptly.	https://www.vineyardia.org/resource	Paths to elementary schools that avoid roads as much as possible.	Consistent material use (Asphalt)

Figure 1.12 Steering Committee input on goals



Figure 1.11 Word cloud based on relevant previous plans

GOALS AND OBJECTIVES





02

EXISTING CONDITIONS

OVERVIEW

As is true for many communities along the Wasatch Front, the City of Vineyard faces challenges in cultivating active transportation mode share (percent of people who walk or bike). These include streets and rail corridors that divide neighborhoods, missing or incomplete active transportation infrastructure, or simply personal habits that revolve around driving exclusively for transportation. This section provides a current picture of the state of active transportation in Vineyard by looking at current trends in local active transportation, existing walking and biking infrastructure, local destinations, existing travel patterns, and opportunities & constraints.

EXISTING CONDITIONS

CURRENT TRAVEL TRENDS

The city of Vineyard is located in Utah County along the southern portion of the Wasatch Front. With a population of 21,100, Vineyard is one of the fastest growing cities in Utah County as evidenced by its 5000% growth since 2010. The city's area of approximately 6.4 square miles includes a population density of 3,297 people per square mile, making it a high-density city compared to neighboring communities such as Orem or Lindon, but slightly less dense than Provo.

Vineyard is a young city, with a median age of 22.5 years old, which is much lower than the median age in the Provo-Orem Metro Area (24.8 years old) and Utah (30.8 years old). Additionally, 43% of the population is less than 19 years old, pointing to the importance of developing transportation systems that can provide for those who are unable to drive a vehicle.

The median household income in Vineyard is \$81,116, which is much higher than the amount in the Provo-Orem Metro Area (\$74,387) as well as in Utah (\$71,621). 33% of Vineyard's households make more than \$100,000.

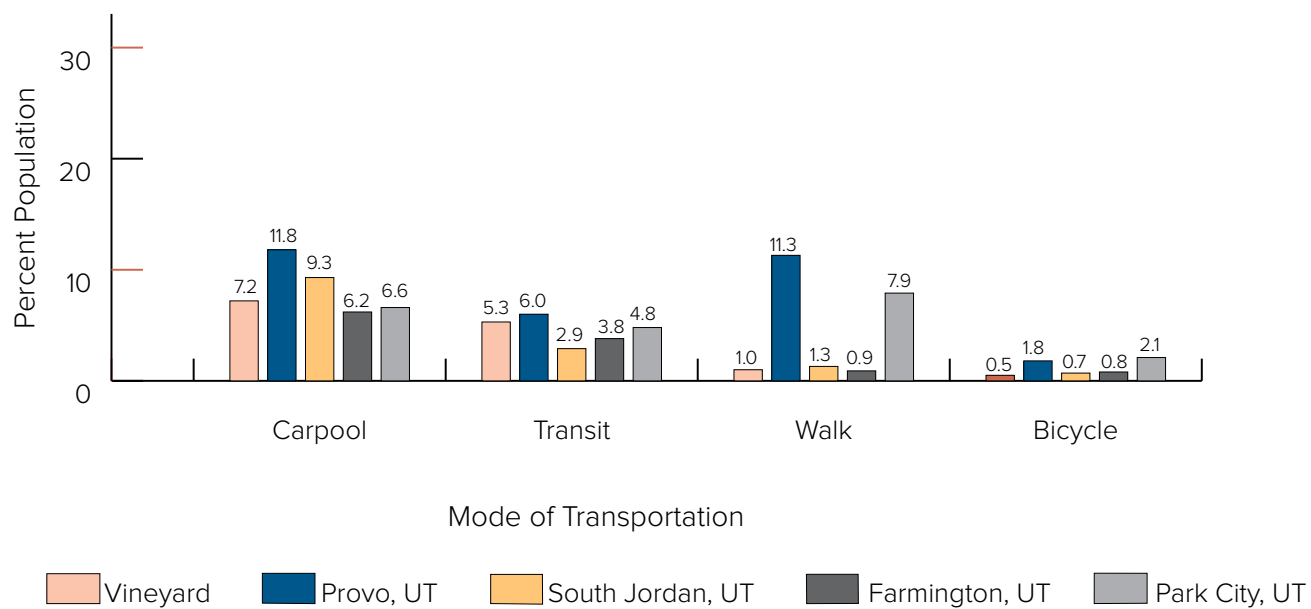
The majority of Vineyard residents identify as white (78%), followed by Hispanic (14%). 3% of residents identify as black and 2% identify as Asian. These numbers are comparable to the Provo-Orem Metro Area and Utah.

JOURNEY TO WORK

Based on data from the American Community Survey (ACS) (2015-2019 5-year estimates), 7.2% of residents within Vineyard commute to work by carpooling and 5.3% take public transit. The percent of residents commuting to work by walking is very low, with only 1% of residents in Vineyard walking to work, and those commuting by bicycle even lower (0.5%). See [Figure 2.1](#) for a comparison of Vineyard's journey to work mode share versus similar cities.

While current bicycle / pedestrian mode share for commuting is low in Vineyard, there is great room for progress. The ACS data shows that 16.7% of commuting trips are less than 10 minutes, a distance that could likely be easily traveled on a bicycle. This presents a tremendous opportunity to transform these short trips into walking or bicycling trips. In addition, many of the city's major destinations, such as the downtown and community gathering places, are centrally located and within short walking and bicycling distance for many neighborhoods.

Approximately **77%** of residents commute to work by driving alone.

Figure 2.1 City of Vineyard Mode Share Comparison (ACS Journey to Work Data)

EXISTING ACTIVE TRANSPORTATION NETWORK

OVERVIEW

Vineyard has approximately 18.5 miles of bikeways, including buffered bike lanes and off-street facilities (shared use paths & sidepaths), as shown in **Figure 2.2** and **Map 2.1**.

Vineyard has several types of existing active transportation facilities, though primarily shared use paths spread throughout the community, ranging from small interior trail segments within neighborhood subdivisions to connections to larger regional trails. Additionally, there is a short segment of buffered bike lanes on the edge of Vineyard's city limits. As the community grows, connecting new shared use paths and bike lanes to these existing facilities will create a dense, interconnected network of pathways for both recreational and transportation use.

Bike Lanes - 1.1 miles standard, 1.9 miles buffered
Existing bicycle facilities in Vineyard include standard and buffered bike lanes. Standard bike lanes are striped adjacent to car travel lanes while buffered bike lanes are separated from the roadway by a striped buffer.

Utah Lake Shore Trail - 2.6 Miles in Vineyard
The Utah Lake Shore Trail runs along the Utah Lake shore, and connects to greater trail networks, like the Provo River Parkway, Murdock Canal, and Jordan River Trail. Currently, 17.7 miles of the trail have been completed, 17.7 are planned and awaiting construction, and overall, the proposed trail will eventually reach 98.2 miles.

Lindon Heritage Trail - 1 mile in Vineyard
The Lindon Heritage Trail passes through several historic sites in Utah Valley, and upon completion, will extend to the foothills of Mount Timpanogos. Currently one mile of the trail is part of Vineyard's trail network.

Subdivision (Interior) Trails - 11.9 miles
Within the subdivisions of Vineyard, there are many short segments of interior trails that either connect to the larger trail networks or create smaller trail networks within a neighborhood. These segments should be points of connection for new trail development.

Figure 2.2 Existing Facility Types

18.5 Miles of Existing Active Transportation Facilities



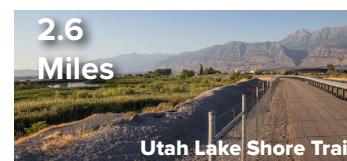
Bike Lanes are a common facility type in many cities, designating 4-7 feet of roadway width with 6-inch striping.

1.9 Miles Total



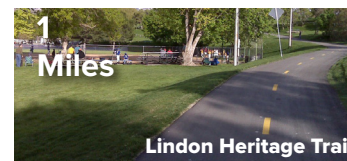
Buffered Bike Lanes are visually separated from traffic and/or parking by a striped buffer, but lack any physical separation.

1.1 Miles Total



2.6 Miles

Utah Lake Shore Trail



1 Miles

Lindon Heritage Trail



11.9 Miles

Subdivision (Interior Trails)

Sidepaths & Shared Use Paths, sometimes called trails, are paved off-street paths/trails found adjacent to roadways, along riparian or rail corridors, or through parks and open space. Typically 10-12' wide (8' minimum), they are designed to accommodate two-way travel by people walking, biking, rolling, or using other non-motorized modes.

15.5 Miles Total

Map 2.1 Existing Active Transportation Facilities

EXISTING ACTIVE TRANSPORTATION FACILITIES

Vineyard Active Transportation Plan

EXISTING FACILITIES

- Bike Lane
- Buffered Bike Lane
- Shared Use Path

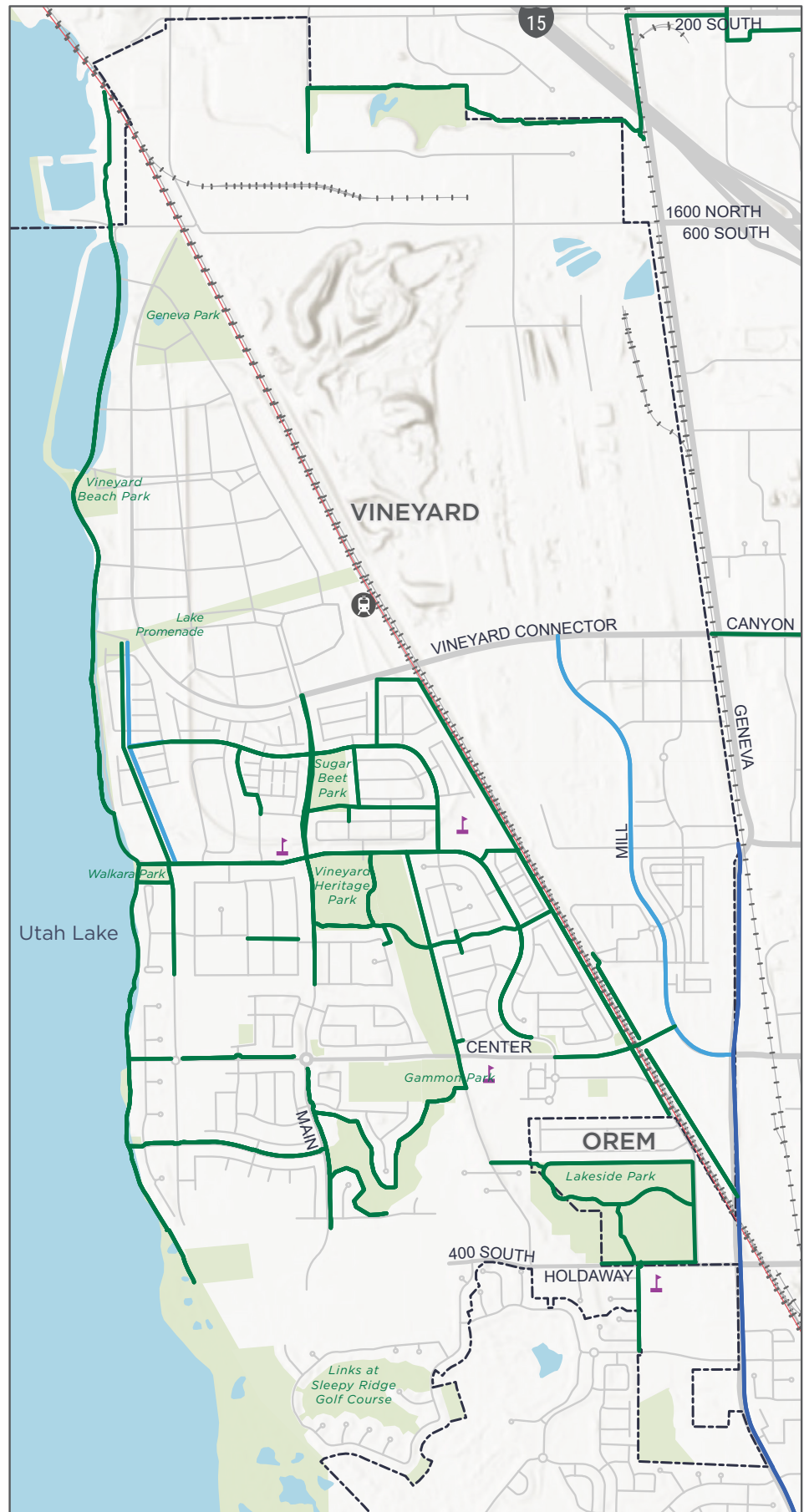
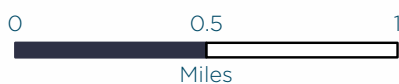
BASEMAP FEATURES

-  Frontrunner Station
-  School
-  Commuter Rail
-  Railroad
-  Water Body
-  Park
-  Vineyard



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Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: May 2021



COMMUNITY DESTINATIONS

OVERVIEW

Vineyard has a diverse mix of local destinations that could be accessed on foot or by bicycle. These include schools, employment destinations such as the industrial district, entertainment centers like the Megaplex, numerous parks, the future FrontRunner Station, and the Utah Lakeshore Trail. These major destinations are shown in **Figure 2.3** and highlighted in **Map 2.2**.

TRAVEL-SHED ANALYSIS

Map 2.2 also highlights typical walksheds (1/2 mile) from key major destinations. This is a typically accepted walking distance and highlights how accessible community destinations are for people walking.

Figure 2.3 Major Destinations in Vineyard (From top to bottom: Vineyard Grove Park, Megaplex, Vineyard Beach, Linton Marina)



DESTINATIONS

Vineyard Active Transportation Plan

DESTINATIONS

-  Education
-  Employment
-  Entertainment
-  Recreation
-  Transportation
-  1/2 Mile Walkshed

EXISTING FACILITIES

-  Buffered Bike Lane
-  Bike Lane
-  Shared Use Path

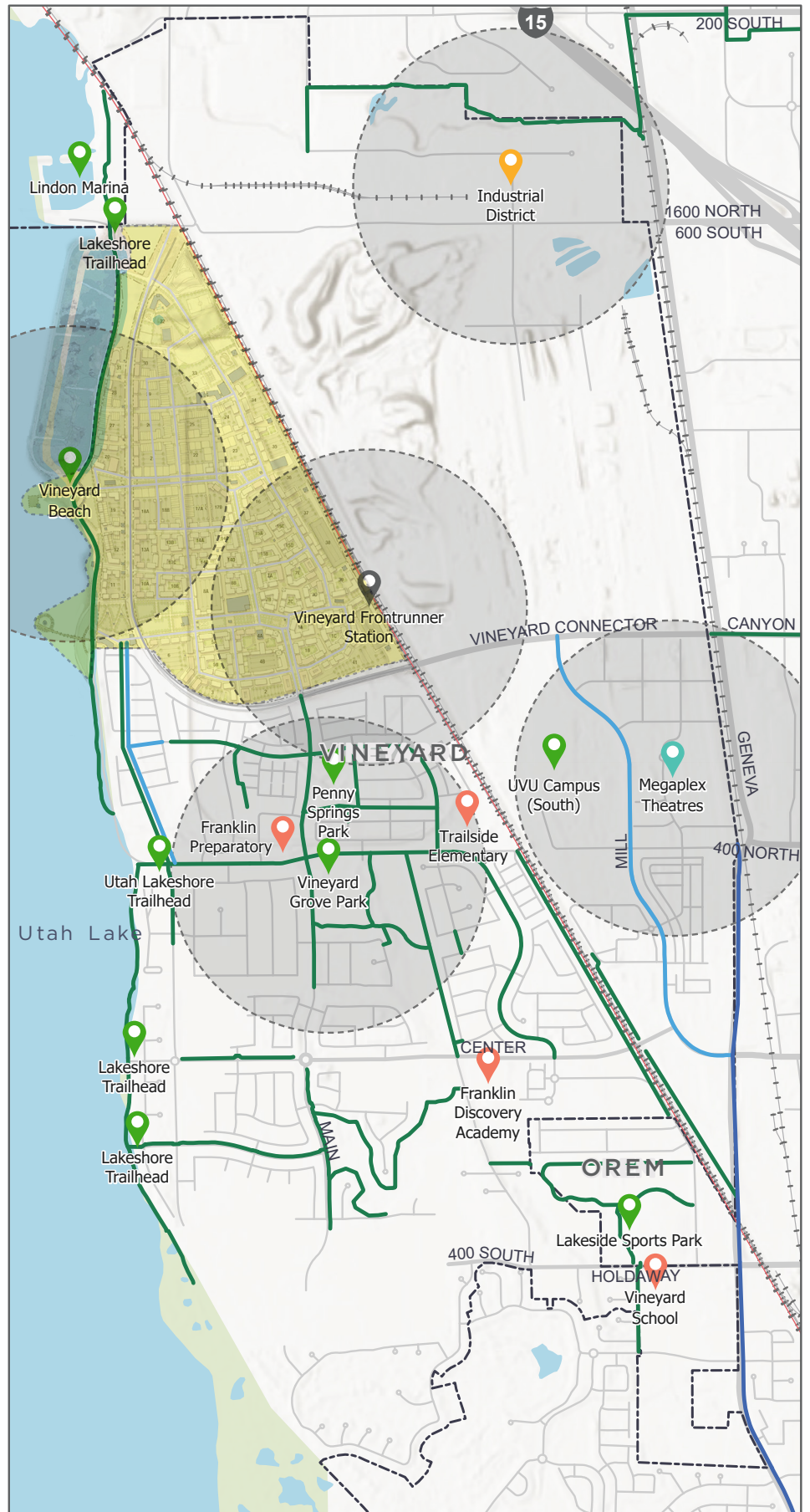
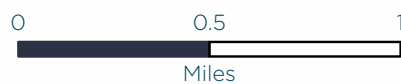
BASEMAP FEATURES

-  Commuter Rail
-  Railroad
-  Water Body
-  Park
-  Vineyard



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Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: May 2021



ORIGIN-DESTINATION TRIP FLOWS

OVERVIEW

In an effort to understand travel patterns within Vineyard, Bike Utah assisted the Planning Team in analyzing Streetlight data. Streetlight is a data firm that sells information including origin/destination data, traffic speed, traffic volumes, and other transportation data based on GPS information sampled anonymously from smartphone applications. The "Trip Flows" map on the next page, **Map 2.3**, illustrates all trip modes (vehicular, bike, and walk) to and from predetermined Streetlight zones that start and end within the city limits and are less than three miles. Trips under three miles are likely to be suitable for walking or bicycling as the average walking trip in the US is approximately 1 miles and the average bicycling trip is approximately 3 miles (NHTS 2017).

This analysis has a few key limitations

- » Trips that start or end outside of Vineyard are not accounted for
- » Streetlight zones are roughly 200 meters x 200 meters
- » Trips beyond three miles in length are not accounted for

MAJOR TAKEAWAYS

- » **Main Street** represents one of the most traveled corridors for trips under three miles in Vineyard.
- » A strong origin and destination link exists between the multi-family developments east of the railroad tracks along Mill Road and West Vineyard. These could represent school trips or trips to access amenities or parks in West Vineyard.
- » East-West trips are critical in order for Vineyard residents to access entertainment, dining, and retail in east Vineyard.

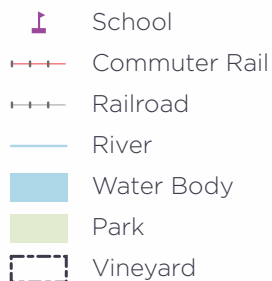
TRIP FLOWS

Vineyard Active
Transportation Plan

TRIP FLOWS (<3 Miles)

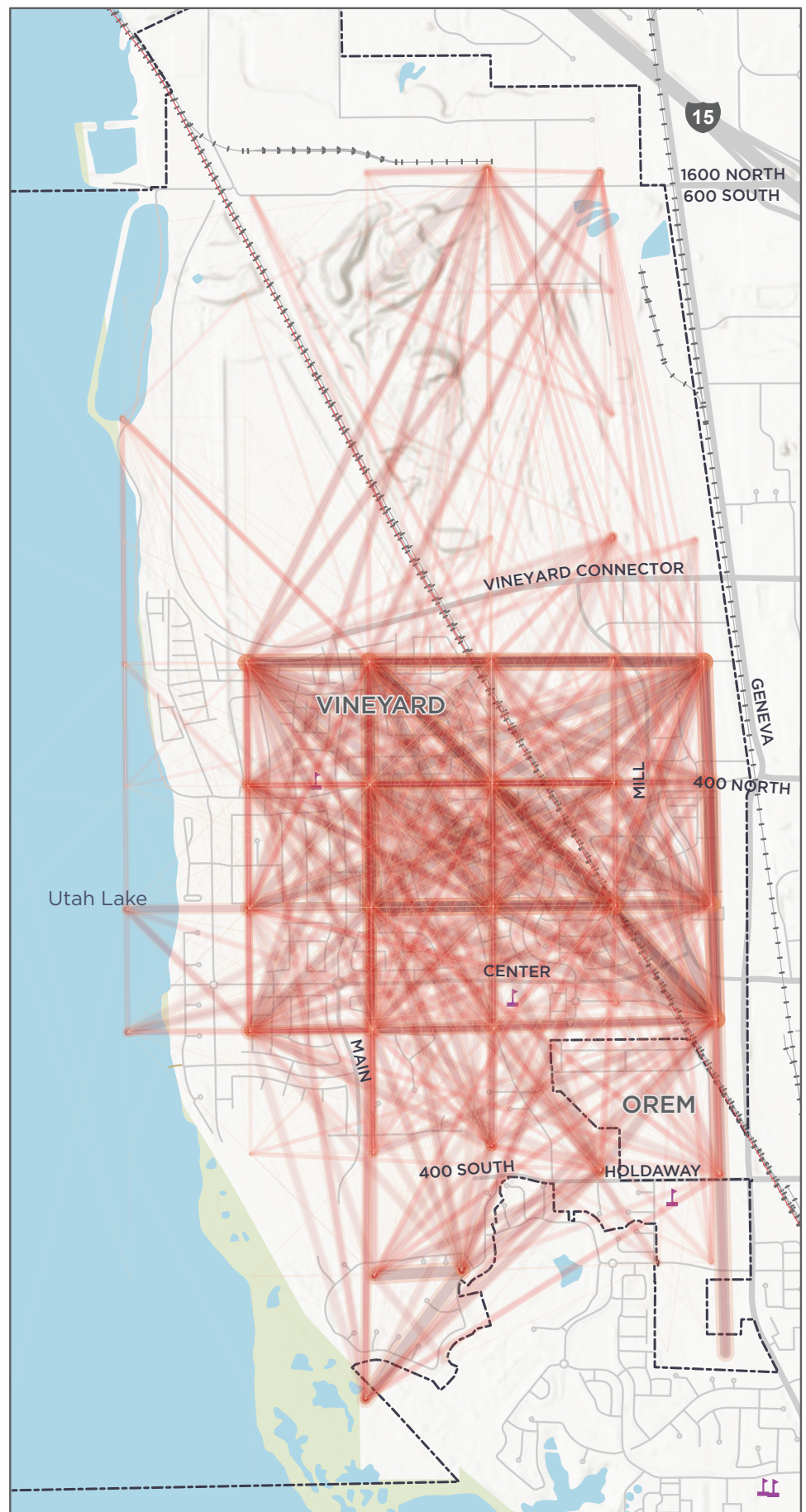
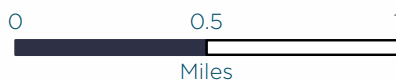


BASEMAP FEATURES



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Source: City of Vineyard; Utah
County; Utah AGRC; UDOT
Date: May 2021



CRASH & SAFETY ANALYSIS

As of December 2022, there have been four recorded bike/car crashes, and seven recorded pedestrian/car crashes in Vineyard since 2019. These crashes, shown in [Map 2.4](#), primarily resulted in a minor injury or possible injury, but one pedestrian/car crash on Parker Pl in south Vineyard resulted in a fatality. The recorded crashes area spread throughout Vineyard, aside from a concentration of three crashes recorded at Center St and Geneva Rd, all of which resulted in a minor or possible injury.

Additionally, it is important to consider that there may be unreported crashes and “near-misses” where a bicyclist or pedestrian narrowly avoided a serious collision.

POTENTIAL AREAS OF CONCERN

Historically, bicycle and pedestrian crashes occur predominantly at intersections. In Utah, 66% of bicycle crashes and 60% of pedestrian crashes occur at intersections. As such major, multi-lane roadway crossings represent one of the primary hazards for people bicycling or walking in Vineyard. This plan includes a high-level review of a select number of major Vineyard intersections to assess opportunities and challenges to improving safety.

Main Street and Center Street Roundabout

This intersection design, shown in [Figure 2.4](#) is a multi-lane roundabout with two lanes of entering traffic and crosswalks on both the north and east sides of the roundabout. These crosswalks have the potential for the “multiple threat” crossing, as shown in [Figure 2.5](#) since two vehicles are required to yield to pedestrians in the crosswalk. If the car closest to the crossing pedestrian yields, it is possible that the pedestrian will begin crossing and not have an adequate view of the second moving traffic lane. If the vehicle in that second moving lane does not yield, a crash is likely.



Figure 2.4 Main Street and Center Street Roundabout

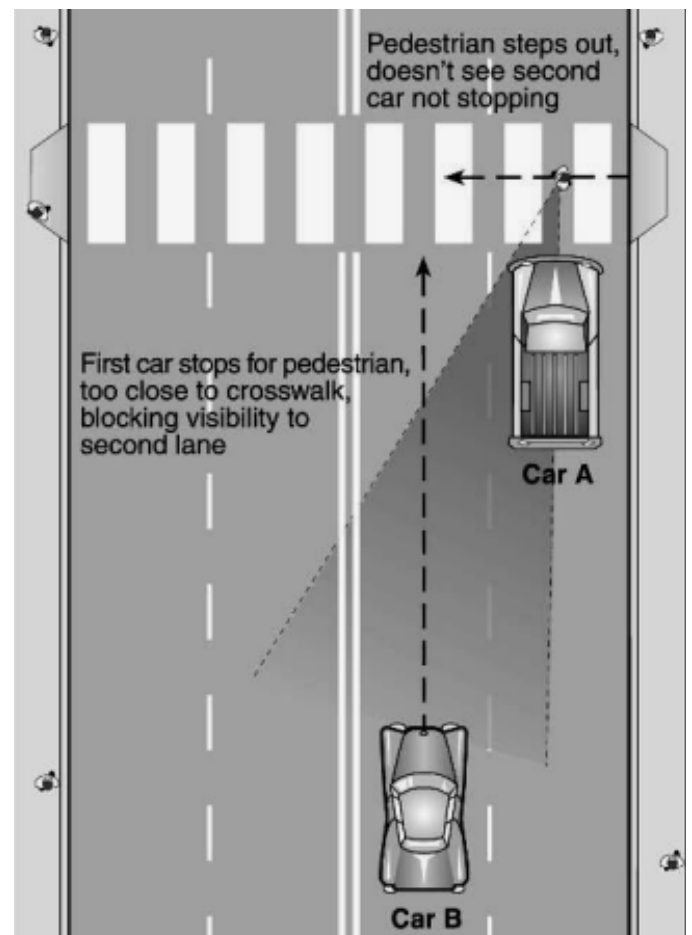


Figure 2.5 “Multiple Threat” crossing

Map 2.4 Bike and Pedestrian Related Crashes

BIKE AND PEDESTRIAN RELATED CRASHES

Vineyard Active Transportation Plan

CRASH TYPE

- Bike
- Pedestrian

CRASH SEVERITY

- Fatal
- Suspected Minor Injury
- Possible injury
- No injury/PDO

EXISTING FACILITIES

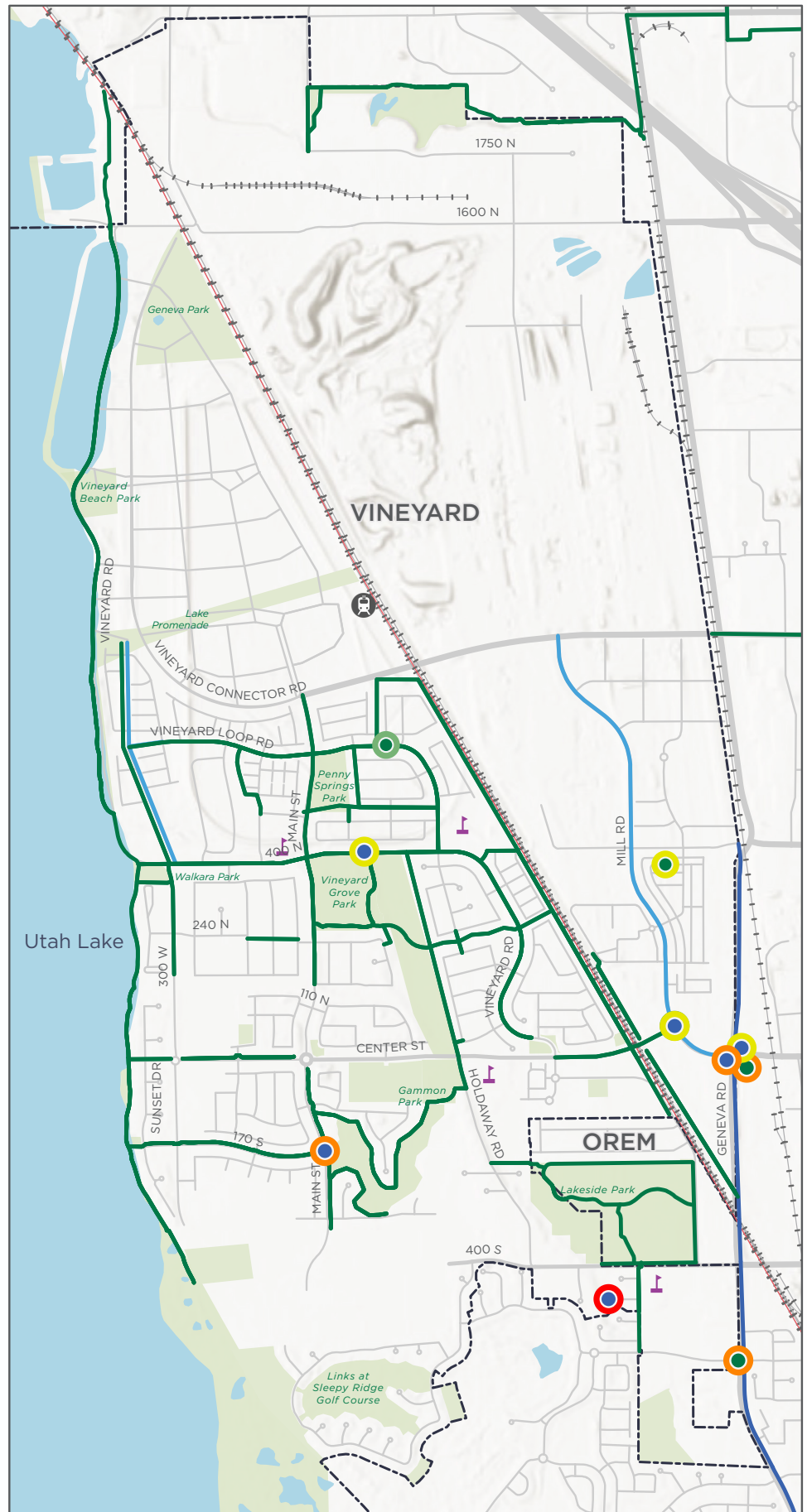
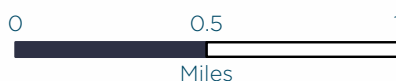
- Bike Lane
- Buffered Bike Lane
- Shared Use Path

BASEMAP FEATURES

- School
- Frontrunner Station
- Commuter Rail
- Railroad
- Water Body
- Park
- Vineyard



Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: December 2022



PROWAG Implications for Multilane Roundabouts

Title II regulations under the Americans with Disabilities Act (ADA) require municipalities to apply specific design standards, developed by the United States Access Board, when constructing or altering pedestrian facilities. The ADA Accessibility Guideline or “ADAAG” contains the requirements for accessible facilities. Dating back to 2011, the U.S. Access Board has also developed draft guidelines, Public Rights-of-Way Accessibility Guidelines (PROWAG), that address the unique accessibility challenges of public rights-of-way. Although PROWAG has not been adopted by the Department of Justice, it does serve as the current best practice when designing multimodal facilities within the public right of way. PROWAG, as currently drafted, would require the implementation of pedestrian signals at multilane roundabouts, such as the Main/Center Street roundabout, to mitigate multiple threat crashes and better accommodate pedestrians with visual impairments.

Main Street / Vineyard Loop Road (600 North) Intersection

As an unsignalized multi-lane roadway, the Vineyard Loop Road/Main Street intersection is a challenging intersection to navigate for pedestrians or bicyclists. "Multiple threat" crossing issues as described with the Main/Center Street roundabout also exist at this intersection. The presence of dedicated right turn pockets on both approaches increases the crossing distance for pedestrians and bicyclists. Those crossing Main Street are faced with 100' of travel lanes and turn lanes to cross between pedestrian ramps.

Main Street / Vineyard Road Intersection

The Vineyard Road/Main Street intersection is challenged with many of the same conditions as Vineyard Loop Road/Main Street intersection with long crossing distances for active transportation travelers. This intersection does benefit from the provision of a Pedestrian Hybrid Beacon (PHB), sometimes referred to as a HAWK, on the north leg of the intersection connecting to Discovery Preparatory Academy, shown in [Figure 2.6](#). While the PHB is helpful to travelers crossing the north leg of the intersection, those on the south side of Vineyard Road must either travel out of direction to take advantage of the PHB or look for gaps in traffic in order to cross Main Street. A planned and funded traffic signal should make crossing at this location safer in the future.



Figure 2.6 Main Street and Vineyard Road (400 N) PHB

OPPORTUNITIES AND CONSTRAINTS

Map 2.5 on the following page illustrates some of the initial opportunities and constraints (barriers and gaps) identified in Vineyard's street network based on the existing conditions analysis outlined in this chapter. This summary is focused on major barriers currently limiting city-wide or regional connectivity

OPPORTUNITIES

Regional Trail Connections

Vineyard is fortunate to have the existing Utah Lakeshore Trail which provides excellent north-south mobility in an idyllic setting. As gaps in the trail are closed, the Lakeshore Trail will provide more transportation value to adjacent communities such as Lindon and Provo. The proposed Historic Lehi Rail Trail will provide another regional trail connection that will connect Vineyard regionally to the center of the Utah Valley.

Future Development Areas

Vineyard's planned Downtown and UVU Campus represent exciting opportunities to partner with new development to create neighborhoods that are rooted in sound active transportation planning principles. Future Development Areas

FrontRunner Service

The 2022 completion of the Vineyard FrontRunner station will add a much needed transit option for Vineyard residents. By linking Vineyard neighborhoods to the FrontRunner station with comfortable and convenient active transportation routes, the City can take a giant step forward towards creating a diverse, multimodal transportation system.

CONSTRAINTS - BARRIERS

FrontRunner and Freight Rail Corridors

The existing FrontRunner and freight rail lines that bifurcate Vineyard represent the single largest physical barrier to developing a connected and convenient active transportation system. Infrequent crossing opportunities and the elevation gain required to cross over the rail corridor with a grade-separated crossing both present challenges to active transportation users. Where crossings do exist for roadways, it is imperative to take advantage of these opportunities to provide quality active transportation accommodations.

Geneva Road

While Geneva Road lies within the limits of Orem City and is controlled by UDOT as a state route, it plays a critical role in determining Vineyard's connectivity to Orem and the broader region. Vineyard City should seek out opportunities to engage with UDOT and Orem City to ensure comfortable and safe active transportation accommodations on and across Geneva Road when projects arise.

Major Intersections

Several major intersections will influence the comfort and convenience of the active transportation system now and into the future as Vineyard develops. These include intersections along Main Street, Vineyard Connector, and Mill Road.

CONSTRAINTS - GAPS

East-West Corridors

As previously highlighted, providing quality active transportation connections at existing crossings of the rail corridor is imperative to create a convenient active transportation system. As such, Vineyard Connector, Center Street, and 400 S will play a critical role in providing connectivity to the broader regional active transportation system

OPPORTUNITIES & CONSTRAINTS

Vineyard Active Transportation Plan

OPPORTUNITIES & CONSTRAINTS

- Major Crossing Barrier
- Intersection Barrier
- ↔ Existing Access across Barriers
- ↔ Desired Access across Barriers
- ⋯ Active Transportation Gap
- Area of New/Future/Potential Development

EXISTING FACILITIES

- Buffered Bike Lane
- Bike Lane
- Shared Use Path

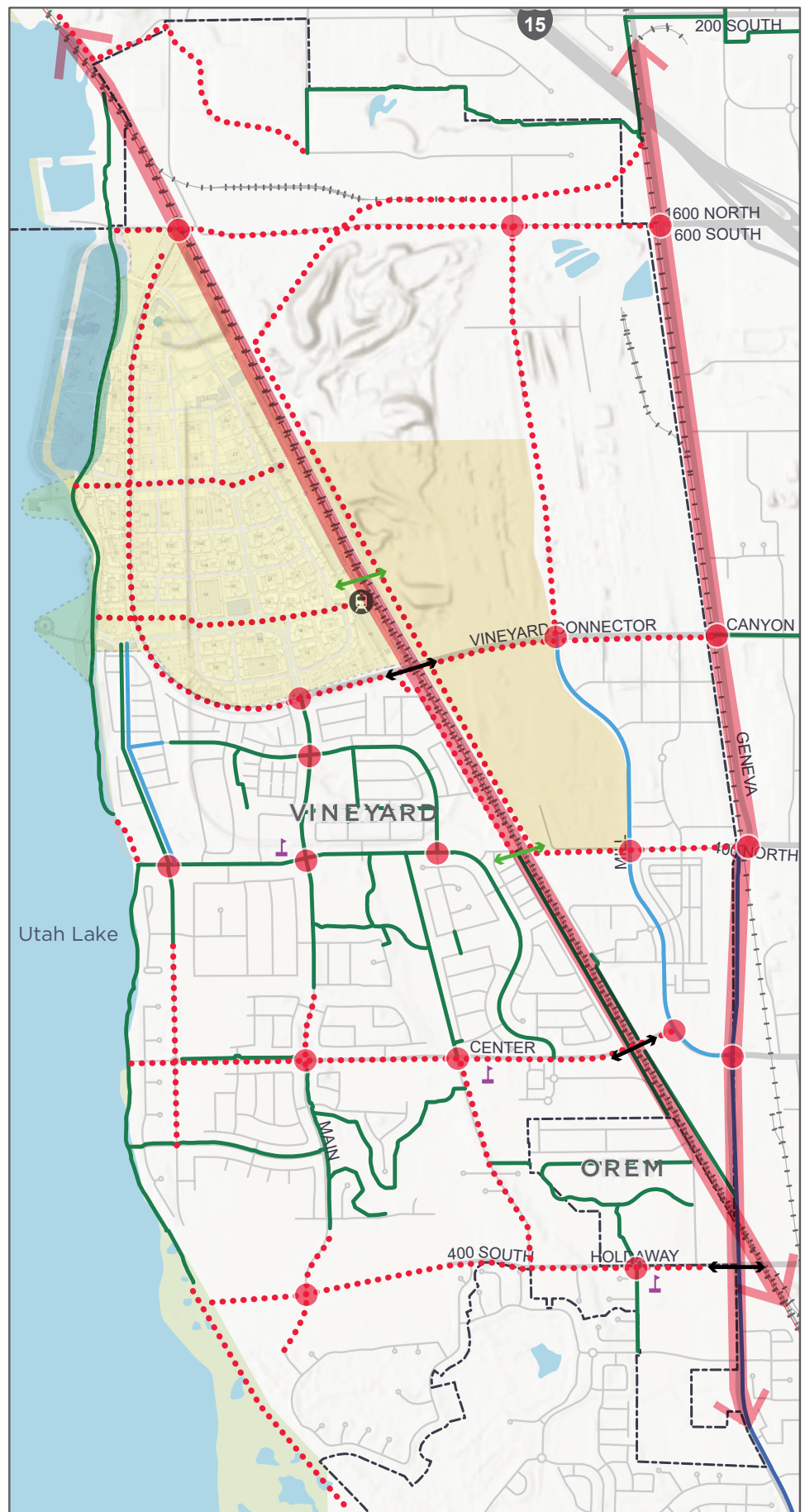
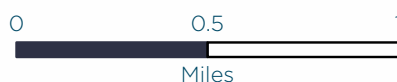
BASEMAP FEATURES

- 🚂 Frontrunner Station
- 🏫 School
- Commuter Rail
- Railroad
- Water Body
- Park
- - - Vineyard



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Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: May 2021



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03

PUBLIC INVOLVEMENT

INTRODUCTION

PUBLIC INVOLVEMENT METHODS

To ensure the goals and projects proposed in the Vineyard Active Transportation Plan aligned with the needs of the community, the Project Team conducted two rounds of public engagement during the planning process. During Phase 1, a public survey was available to help the project team understand the public's general feelings toward different modes of transportation, and what factors limit the use of active transportation to get around. Additionally, a web map allowed community members to mark desired routes, common community destinations, and any type of barrier they experience when using active transportation in Vineyard. Ideas provided in Phase 1 were used to develop network recommendations.

After the initial recommendation process, Phase 2 of the public engagement process was launched to gather feedback on the proposed facilities and spot improvements. This feedback was gathered through a second public survey, and was advertised through the Vineyard Bike Town Hall hosted during bike month (May) and a Facebook live discussion. The feedback captured from this survey helped guide final edits to the recommended network, and strengthened justification for recommended policy and program recommendations.

The summary of the outcomes of both of these phases is included in the following chapter.

PHASE 1 OUTREACH

ONLINE SURVEY #1

The first round of public engagement featured a public online survey that gauged interest in, and feelings toward biking and walking in Vineyard. This survey was open and available from the beginning of September through mid-November 2021, and received over 300 responses. A visual summary of the survey responses is provided on the following page ([Figure 3.1](#)).

Key Insights

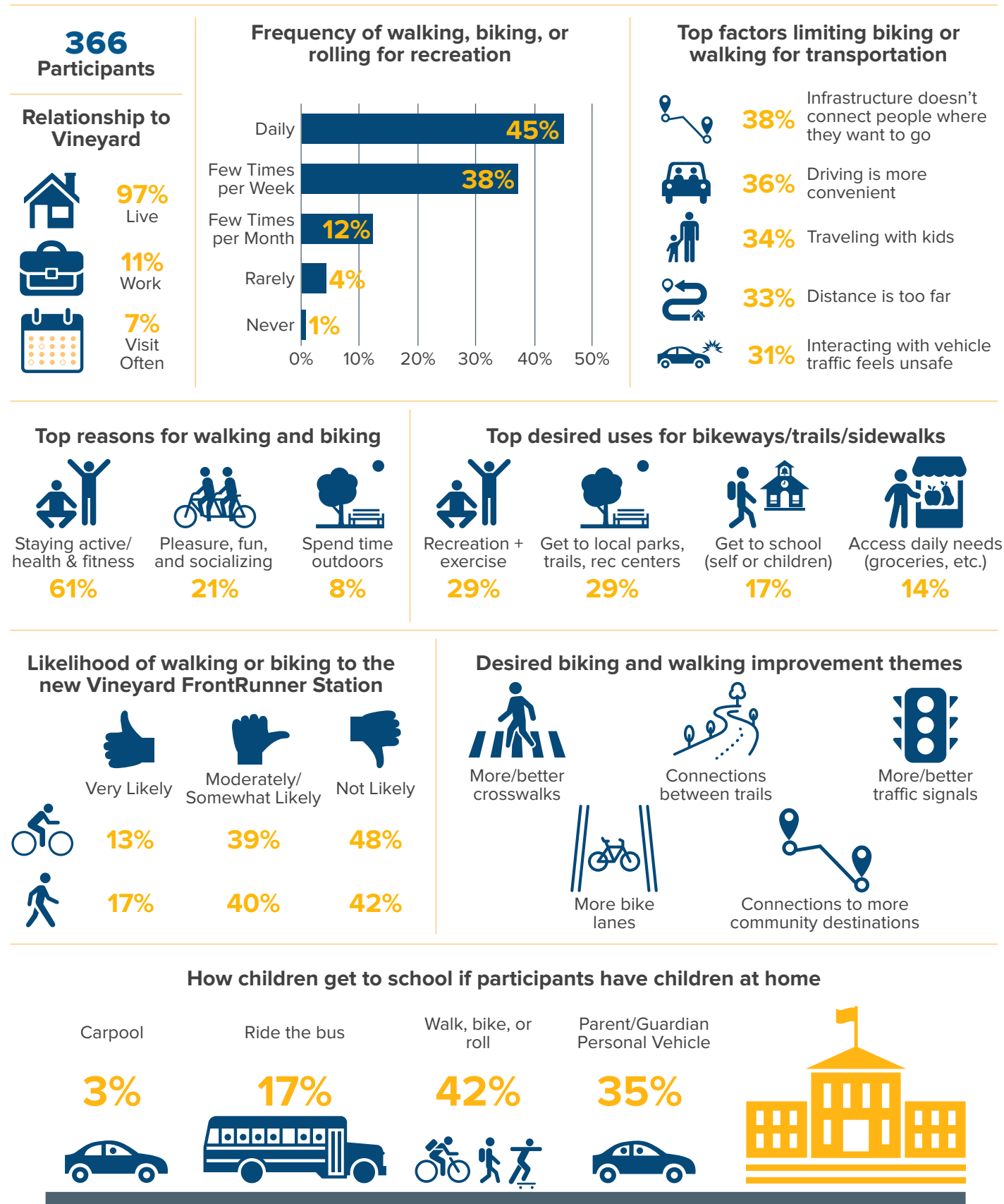
The following key points emerged from the survey:

- » A large majority of individuals in Vineyard walk, bike, or roll for recreation either daily or a few times per week
- » The main reason participants indicated that they walk or bike is to stay active/for health and fitness
- » Participants would like to use bikeways/trails/sidewalks for recreation + exercise and to get to local parks, trails, and recreation centers.
- » The majority of participants are not necessarily interested in walking or biking to get to the new Vineyard Frontrunner Station
- » Participants desire more and better crosswalks, more connections between trails, more and better traffic signals, more bike lanes, and connections to more community destinations
- » The majority of students are walking, biking, or rolling to school, with parents/guardians driving students as the next most common mode for getting to school

The demographic representation for the survey responses is included in [Appendix 1.1](#).

Figure 3.1 Round 1 Engagement - Survey Summary

Vineyard Active Transportation Plan Round 1 Engagement - Survey Summary



INTERACTIVE WEB MAP

An online webmap included as part of the public input process allowed the project team to understand both desired routes and problematic or successful locations. Participants were able to draw in routes they either use now and feel need improvements, or routes that they'd like to use, but feel uncomfortable doing so based on the current conditions. Additionally, participants were able to mark specific points on the map, including locations with access challenges, locations needing community improvement, places where pathway connections are needed, intersections in need of improved treatments, locations missing a needed facility, areas in need of traffic calming, nice facilities that participants enjoy using, and finally, destinations that participants either currently do, or would like to, access by biking or walking. Participants were able to vote in support of comments from others. The top-voted comments along with other comments and a summary of the web map outcomes is shown in [Map 3.1](#).

Key Insights

The following key points emerged from the web map:

- » Main Street currently has many intersections in need of improvement. For example, the highest ranking map comment identified the Main Street & Vineyard Rd intersection as being unsafe and having poor visibility for all users.
- » Many intersections around Vineyard are in need of improvement
- » Traffic calming is needed throughout the community
- » Connecting existing trails is important

User-Marked Routes (Desired Route) Themes

- » Connect existing trails
- » Safe routes for kids walking to school
- » Crosswalks needed at many of the intersections throughout Vineyard
- » Easier access to parks via trails/safe sidewalks
- » Connections from all parts of town to the lakefront trail

Top-Liked Comments

- ① **105 Likes - Vineyard Rd + Main St**
Dangerous for all users, poor visibility, many accidents occurring here Safe routes for kids walking to school
- ② **35 Likes - Vineyard Rd + 110 E**
Need for a formalized pedestrian crossing and traffic calming
- ③ **28 Likes - Vineyard Loop Rd + Main St**
Traffic signal and formalized crosswalks are needed here
- ④ **23 Likes - 230 N + Main St**
Crosswalk needed to connect neighborhoods east to west

WEB MAP SUMMARY

Vineyard Active Transportation Plan

USER INPUT

- User-Marked Routes
- Access Challenge
- Community Improvement
- Connect Pathways
- Intersection Treatment
- Missing Facility
- Nice Facility
- Traffic Calming
- Walking or Biking Destination

EXISTING FACILITIES

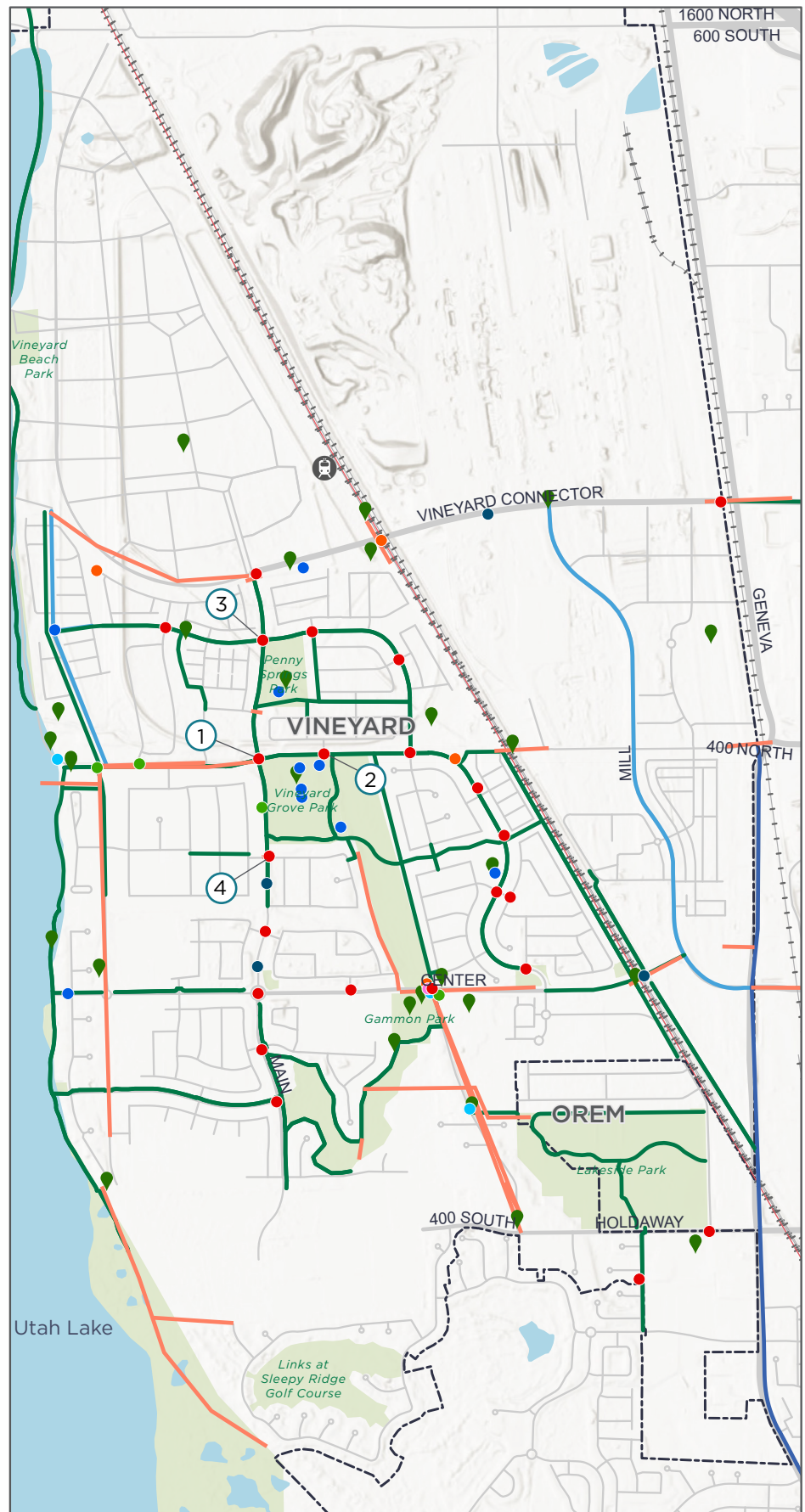
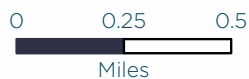
- Buffered Bike Lane
- Bike Lane
- Shared Use Path

BASEMAP FEATURES

- Frontrunner Station
- Commuter Rail
- Railroad
- River
- Water Body
- Park
- Vineyard



Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: December 2021



PHASE 2 OUTREACH

ONLINE SURVEY #2

The second round of public engagement featured a public online survey that shared the themes that emerged from the first round of engagement, in addition to maps of the recommended projects and the desired outcomes of implementing the plan. Participants had the opportunity to comment on these recommendations and outcomes, and also were able to comment on projects or outcomes that they felt the plan was missing. Additionally, several questions related specifically to school zones, as active transportation safety in school zones was noted as a high priority in the first round of engagement. This survey was open from the beginning of May through mid-June 2022, and received over 150 responses. A visual summary of the survey responses is provided on the following page ([Figure 3.2](#)) with specific responses related to school zones called out in [Figure 3.3](#).

Key Insights

The following key points emerged from the survey:

- » Safety is the main priority for most when it comes to project outcomes. Improved access to recreation and schools are the next two most important.
- » Speeding traffic and volume of traffic are two of the biggest concerns for Vineyard citizens when it comes to transportation in Vineyard.
- » Many participants feel emphasis on safer walking facilities (sidewalks and crosswalks) and improved traffic flow (volume + speed management) are critical to the creation of a successful active transportation network in Vineyard.
- » The Main Street project is the top priority project for the majority of participants.
- » The majority of transportation challenges in school zones are near Freedom Preparatory Academy

The full answers provided for the free response questions in the survey are included in [Appendix 1.2](#).

PHASE 2 PUBLIC MEETINGS

As part of the second round of public engagement, the project team took part in two public communication events.

The first event was the Vineyard Bike Town Hall hosted in person on May 12, 2022 at Vineyard Town Hall as part of Bike Month. During this event, the team shared the goals of the project, maps of the proposed active transportation network, and the desired outcomes of the project. The team also advertised the opportunity to participate in the public survey.

Another event that allowed for public participation was a virtual Facebook Live interview with the consultant team about the active transportation plan on May 18, 2022. Information was shared similar to what was shared at the Bike Town Hall, and participants had the opportunity to comment and react as the interview took place. The survey was again advertised at this event.

Having both in-person and virtual events available to the public provided opportunities for everyone to safely share their thoughts and ideas, despite the continuing pandemic.

Figure 3.2 Round 2 Engagement - Survey Summary (Projects & Priorities)

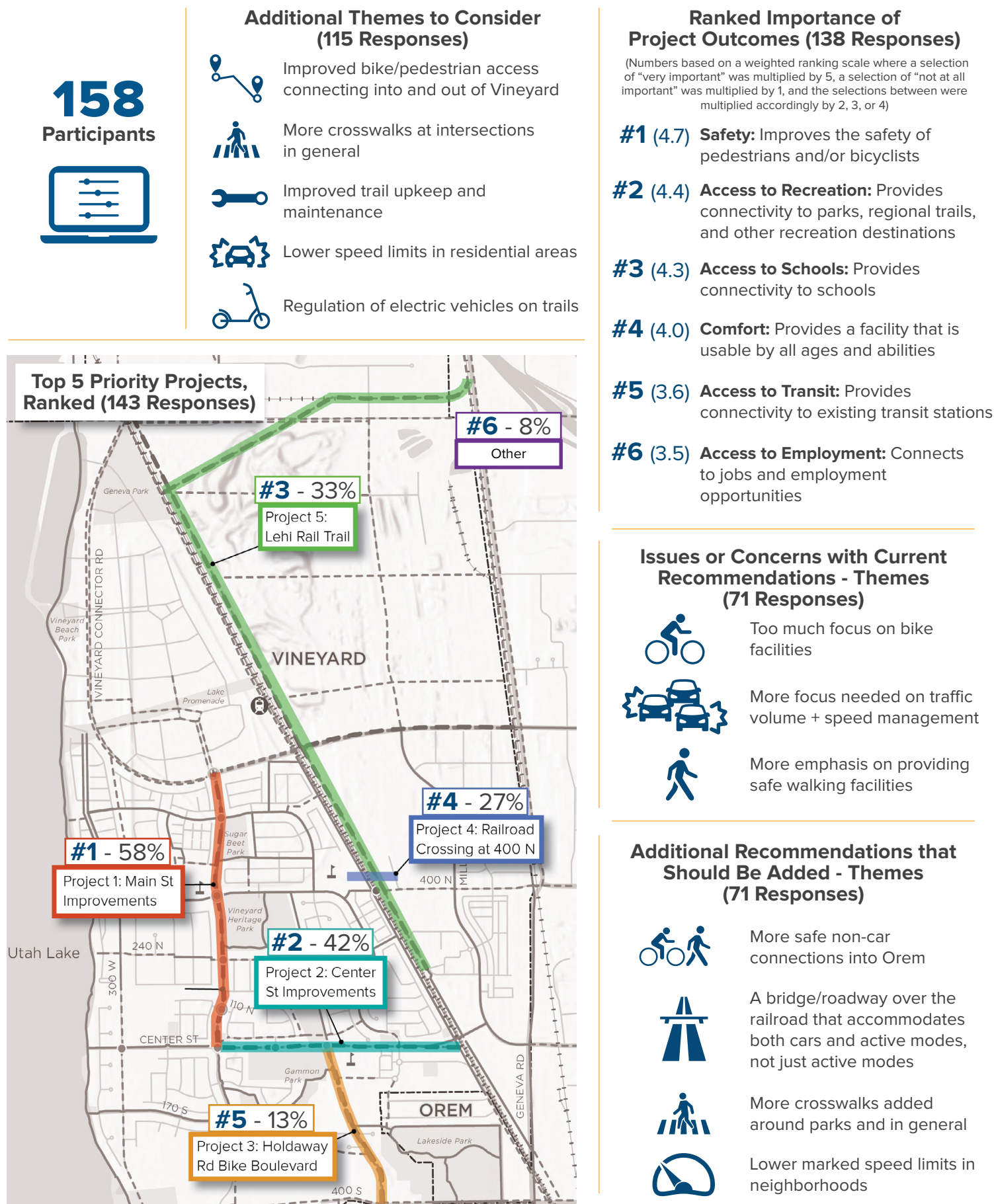
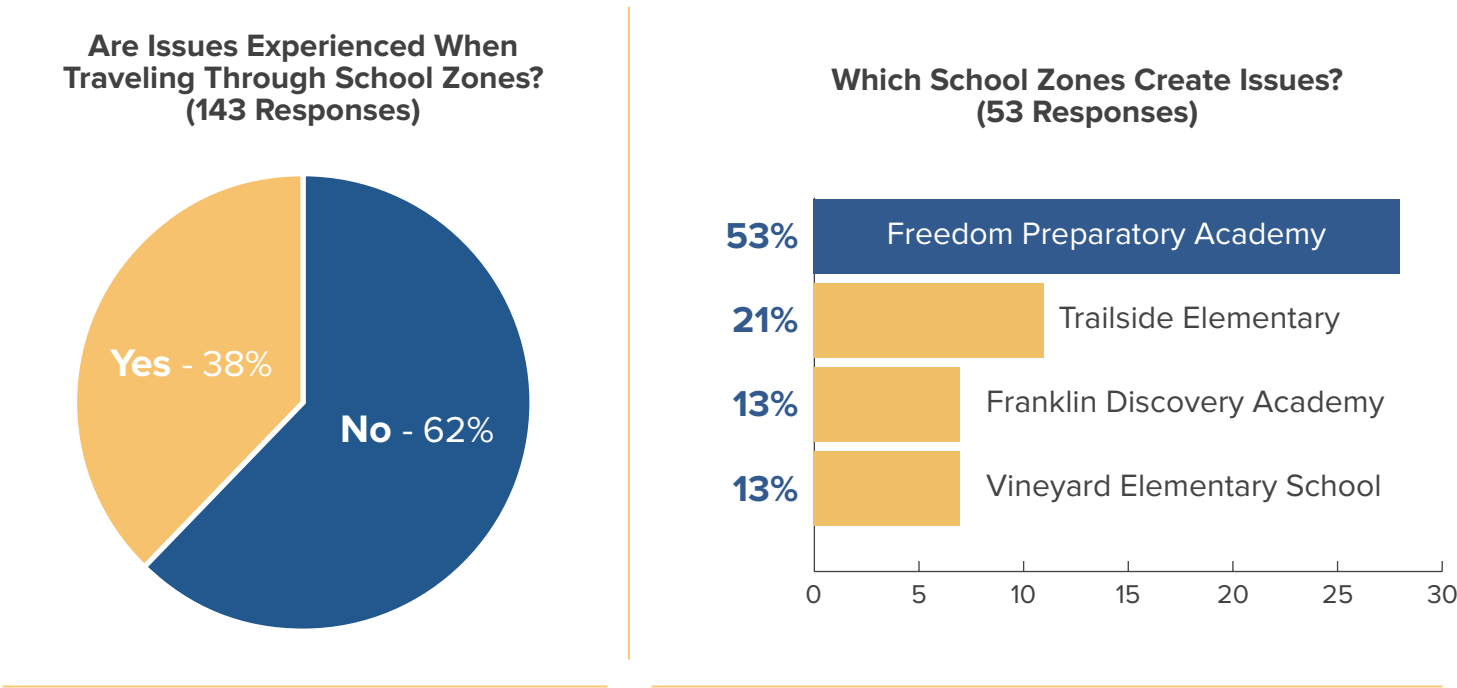


Figure 3.3 Round 2 Engagement - Survey Summary (School Zones)



Issues Encountered in School Zones
(52 Responses)

Freedom Preparatory Academy

-  Lighted signal (HAWK) is confusing to many, and doesn't work as a 4-way stop since it can't be seen from all directions
-  Signage and crossing guards are not obvious enough
-  Speeding traffic and cars not paying attention to the crosswalks
-  Parking along 100 W and 470 N often used by construction company trucks and trailers

Trailside Elementary

-  Cars need to be able to turn right where left turn only sign is placed
-  Speeding and distracted drivers
-  Cars passing around school buses

Franklin Discovery Academy

-  No left turn lane to exit school
-  No crosswalk on Center by Gammon Park
-  Lots of U-turns happening where they shouldn't be

Vineyard Elementary School

-  Turning left onto 400 S is impossible when children are being dropped off
-  Traffic jams when events are occurring simultaneously at the school and at Lakeside Sports Complex

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04

RECOMMENDATION
DEVELOPMENT

RECOMMENDATION DEVELOPMENT

METHODOLOGY

The Vineyard Active Transportation Plan was initiated to prioritize planning active transportation options for the community as the population and scale of Vineyard both continue to grow. With numerous new developments breaking ground, the addition of a FrontRunner Station, a new UVU Vineyard Campus, and the extension of surrounding regional trails connecting through and to Vineyard, ensuring all areas of town are connected via a safe and accessible active transportation network is critical to making Vineyard a destination for active living.

How Recommendations Align with Plan Goals

The plan goals guided development of recommendations made for both active transportation network improvements and policy/programming recommendations.

GOAL 1: SUPPORT VINEYARD'S FAMILY-FRIENDLY AMENITIES AND WAY OF LIFE

The facilities recommended in Vineyard are connected to existing facilities, destinations that are important for those living in Vineyard (schools, parks, employment centers, etc.), and connect neighborhoods and commercial parts of town to create continuous connections. Having this complete network allows people of all ages and abilities to get around safely in Vineyard, and makes Vineyard a destination for safe bike and walking experiences.

GOAL 2: DEVELOP A DIVERSE AND RESILIENT MULTIMODAL TRANSPORTATION SYSTEM

The Vineyard FrontRunner Station, future Bus Rapid Transit (BRT) routes, various UTA bus routes, and a proposed mobility hub (explored in the [Policy & Program Recommendations](#) section later in this chapter) are all exciting parts of making Vineyard a more inter- and intra-connected community.

A comprehensive active transportation network connecting to these services will make transportation without a personal vehicle a realistic option for Vineyard residents.

In addition to connections to public transportation options, the network will, as mentioned above, connect to critical destinations for those living in and visiting Vineyard, and extend further to connect with surrounding jurisdictions. This makes walking and biking viable choices for transportation, and not just for recreation.

GOAL 3: CREATE A THOUGHTFUL POLICY FRAMEWORK THAT ALLOWS THE ACTIVE TRANSPORTATION SYSTEM TO GROW NATURALLY AS THE CITY MATURES

While Vineyard is growing rapidly now, the community is sure to grow and change even more into the future. Having policies and programs in place that will ensure this growth works alongside the development of the active transportation network will be critical to maintaining Vineyard's identity as a community of active living.

PROPOSED ACTIVE TRANSPORTATION NETWORK

CORRIDOR RECOMMENDATION FACILITY TYPES

As discussed in [Chapter 2](#), Vineyard currently has 18.5 miles of active transportation facilities. The corridor recommendations made through this plan add 32.2 miles of facilities to the active transportation network for a total of 50.7 miles. This includes new facility types for roadway design and intersection geometries which augment more traditional designs. These new facility types are detailed below, and all recommended improvements are shown in [Figure 4.1](#) and [Maps 4.1, 4.2, and 4.3](#). [Map 4.1](#) is at a city-wide scale, while [Maps 4.2](#) and [4.3](#) provide a focused look at the northern and southern sections of the City.

Bike Boulevards

Bike Boulevard are low-volume/speed neighborhood streets that provide comfortable alternatives to busier roadways, creating safe routes that are also effective in the continuation of a strong active transportation network. Minimal physical infrastructure is needed to create a bike boulevard; Elements include shared lane markings (sharrows), signage, and traffic-calming elements to keep vehicle speeds in check.

Separated Bike Lanes

Separated Bike Lanes take many forms. They provide a buffer between through traffic and space for bikes, but unlike a buffered bike lane, vertical protection is added to prevent vehicles from entering the bike lane. Separated bike lanes can be at road level with just the buffer being raised, or can be level with the sidewalk.

Unspecified Facilities

The Unspecified Facilities shown on the map are not an actual facility type, but rather a location where future development plans will dictate what facility type is viable in that location. Selection of a facility will depend on roadway design, property lines, and a variety of other factors. Designating these routes as unspecified keep them on the map to consider in future plans, but don't factor in to the overall mileage calculated for the proposed network.

Figure 4.1 Proposed Active Transportation Facilities

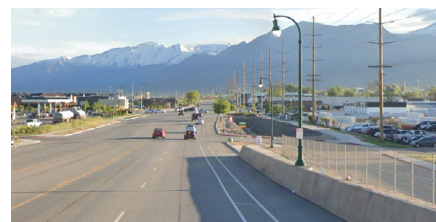
**32.2 Miles Proposed + 18.5 Miles Existing
= 50.7 Miles Active Transportation Facilities**



**Bike
Boulevards
2.3 Miles**



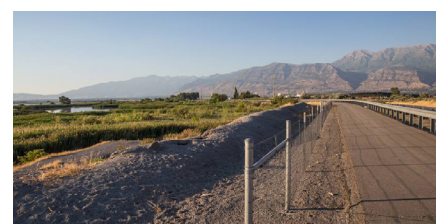
**Bike Lanes
1.8 Miles**



**Buffered
Bike Lanes
3.4 Miles**



**Separated
Bike Lanes
2.3 Miles**



**Shared Use
Paths
22.4 Miles**



**Unspecified
Facilities**

SPOT IMPROVEMENT HIGHLIGHTS

Physical Intersection Improvements

CURB EXTENSIONS

Curb extensions minimize pedestrian exposure during crossing by shortening the crossing distance and giving pedestrians a better chance to see and be seen before beginning to cross. Curb extensions are appropriate at any crosswalk where it is desirable to shorten the crossing distance and there is a parking lane adjacent to the curb.

The width of curb extensions should be between 6'-8' when located next to a parallel parking lane or 15' when next to an angled parking lane. Curb extension length can be adjusted to accommodate bus stops or street furniture. Example standard details for a variety of curb extensions are included in [Appendix 4](#).



Curb Extensions

MARKED CROSSWALKS

Marked crosswalks signal to motorists that they must stop for pedestrians and encourage pedestrians to cross at designated locations.

Crosswalks should be located to align as closely as possible to the pedestrian zone of the sidewalk corridor. While parallel markings are the least visible and wear the quickest of all crosswalk markings, transverse lines or continental markings provide additional visibility and may last longer if located outside of the wheel path. The MUTCD states that crosswalks should not be less than 6 feet wide. Solid white lines that mark the crosswalk should not be less than 6 inches or greater than 24 inches wide.



Marked Crosswalk

PEDESTRIAN REFUGES

Pedestrian refuge islands are located at the mid-point of a marked crossing and help improve safety by increasing visibility and allowing pedestrians to cross one direction of traffic at a time.

Refuge islands can be applied on any roadway with a left turn center lane or median that is at least 6' wide. Islands should be at least 6' wide (to allow a 2' gap between detectable warnings) and at least 20' long (40' minimum preferred). On streets with posted speeds above 25 mph, provide double centerline marking, reflectors, and "KEEP RIGHT" signage in the island. Refuge islands must be ADA accessible.



Pedestrian Refuge

Mid-block Crossings

Mid-block crossings should be considered at locations with long distances (400 ft+) between crossing opportunities and near destinations with heavy pedestrian traffic.

A mid-block pedestrian crossing may consist of a combination of curb extensions, pedestrian refuges, marked crosswalks, pedestrian warning signage assemblies. Pedestrian hybrid beacons or rectangular rapid flashing beacons, described below, may also be utilized. See example detail drawings for single and multi-lane mid-block crossings in [Appendix 4](#).

Pedestrian Bridge

The city of Vineyard is bisected diagonally by Frontrunner and Union Pacific railroad tracks, interrupting connectivity from east to west. Several locations along the railroad corridor, including at the Trailside Elementary School, have been identified as strong candidates for a pedestrian bridge to allow both bike and pedestrian traffic to safely and easily cross the railroad tracks, even when trains are present. See a conceptual design for a pedestrian bridge at the Trailside Elementary School in [Appendix 5](#).

Active Transportation Signal or Beacon

ACTIVE WARNING BEACONS

An active warning beacon is an appropriate treatment when 2-3 lane roads have more moderate vehicle speeds (25-40 mph). This treatment consists of high visibility crosswalks and pedestrian warning signage with Rectangular Rapid Flashing Beacons (RRFBs) mounted to the sign post. RRFBs are typically push-activated, but can also include passive detectors that recognize pathway users and immediately activate the RRFB. When possible, pedestrian refuge islands should be included.

PEDESTRIAN HYBRID BEACON (PHB)

PHBs are used to improve non-motorized crossings of major streets. A PHB consists of a signal-head with two red lenses over a single yellow lens on the major street, and a pedestrian signal head for the crosswalk.

These are typically applied at unsignalized intersections or mid-block crossings with high volumes of pedestrian traffic. When used at intersections, "no right-turn" blankout signs may be used to control side-street traffic.



Mid-block Crossing



Pedestrian Bridge



Active Warning Beacon



Pedestrian Hybrid Beacon (PHB)

Mobility Hub

Mobility hubs are places where a variety of transportation options are concentrated in a strategic location. In the last decade, these options have grown from incorporating traditional modes of public transit, walking and bicycling, to now including a wide variety of options include bikeshare and shared transportation services such as Uber or Lyft. Mobility hubs provide nodes where people can easily and confidently access these modes and transfer between them, most specifically providing places to transfer between longer distance transit services, such as the Frontrunner, to local services such as bus or “first-last mile” modes such as scooter or bike share. [Appendix 2.1](#) includes a mobility hub case study from the University of Denver

Mobility hubs can also provide community services and amenities, like public wi-fi, restrooms, meeting spaces, and other features that are tailored specifically to the community.

With planning or construction in progress for the Vineyard Frontrunner Station, Downtown Vineyard, and UVU Vineyard Campus, a mobility hub could promote access and integrate with each of these projects. A potential Vineyard mobility hub could be programmed with a number of potential features such as:

- » Pedestrian bridge over the Frontrunner line and connecting to the planned UVU campus
- » End-of-line UTA bus infrastructure such as bus bays, driver restrooms, and trip-planning services
- » Integrated, TOD mixed use development
- » Convenient access to regional trails

Transit and Trip-making Services



Micro-transit pick up
& drop off area



Transit ticket and
integrated payment
kiosks



Bus, shuttle, or
light rail stop



Real time transit & other
shared mode information

Parking and Charging Services



Electric vehicle
charging



Short term bike
parking



Long term bike
parking



Bike &
scootershare
parking



Freight loading/
unloading area



Carshare parking
and access
points

Priority Access



Prioritized
walkways



Prioritized bike
& micromobility
access



Bicycle and
pedestrian
crossings

Amenities



Community
space



Complementary
retail



Activated
furnishing zone

Map 4.1 City-Wide Proposed Network

NETWORK RECOMMENDATIONS

Vineyard Active Transportation Plan

SPOT IMPROVEMENTS

- Active Transportation Signal or Beacon
- Planned Traffic Signal
- Physical Intersection Improvements
- Midblock Crossing
- Mobility Hub
- Pedestrian Bridge

CORRIDOR RECOMMENDATIONS

- Bicycle Boulevard
- Bike Lane
- Buffered Bike Lane
- Separated Bike Lane
- Shared Use Path
- Unspecified Facility

EXISTING FACILITIES

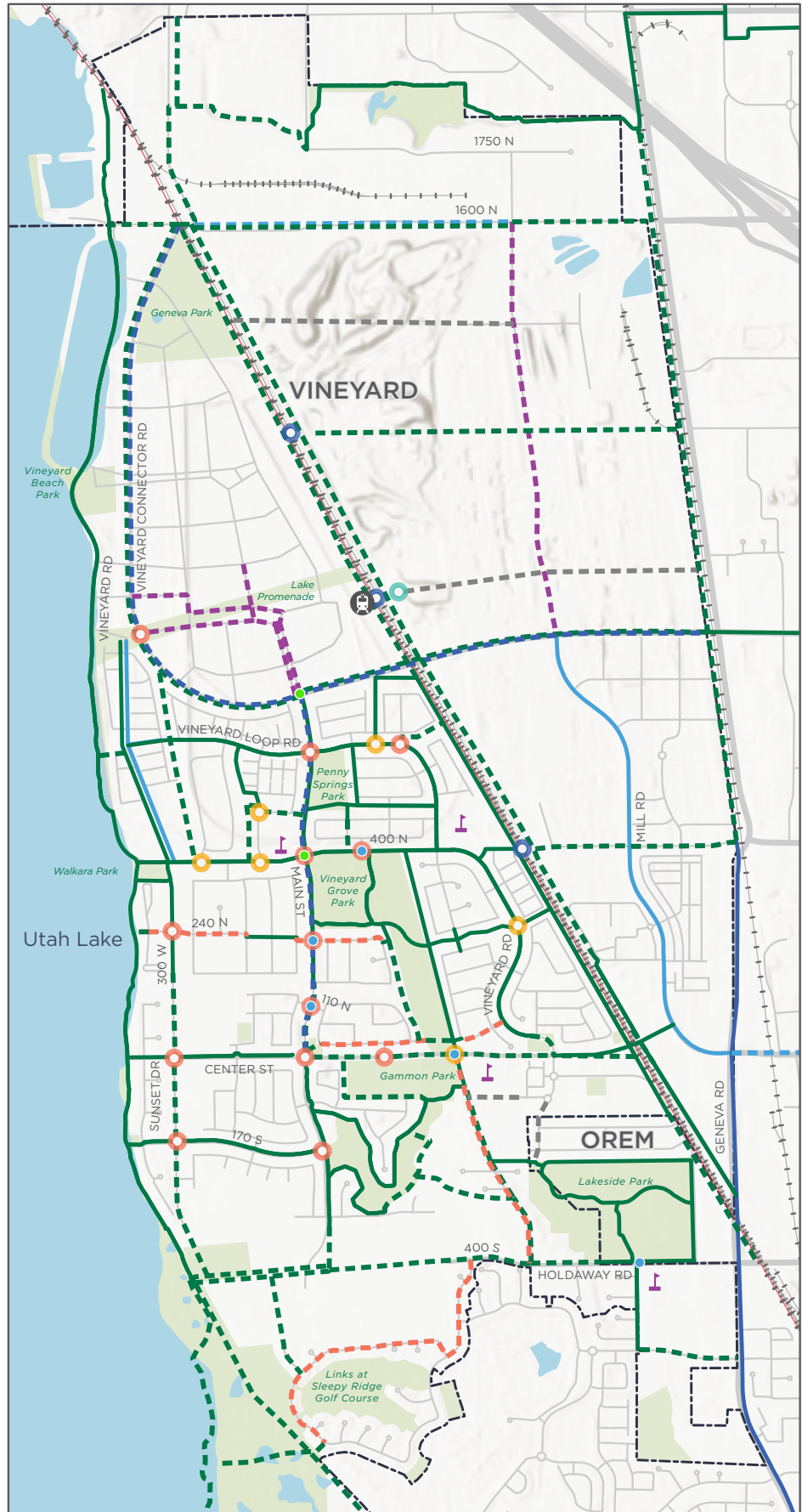
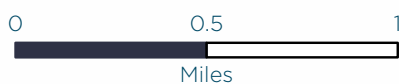
- Bike Lane
- Buffered Bike Lane
- Shared Use Path

BASEMAP FEATURES

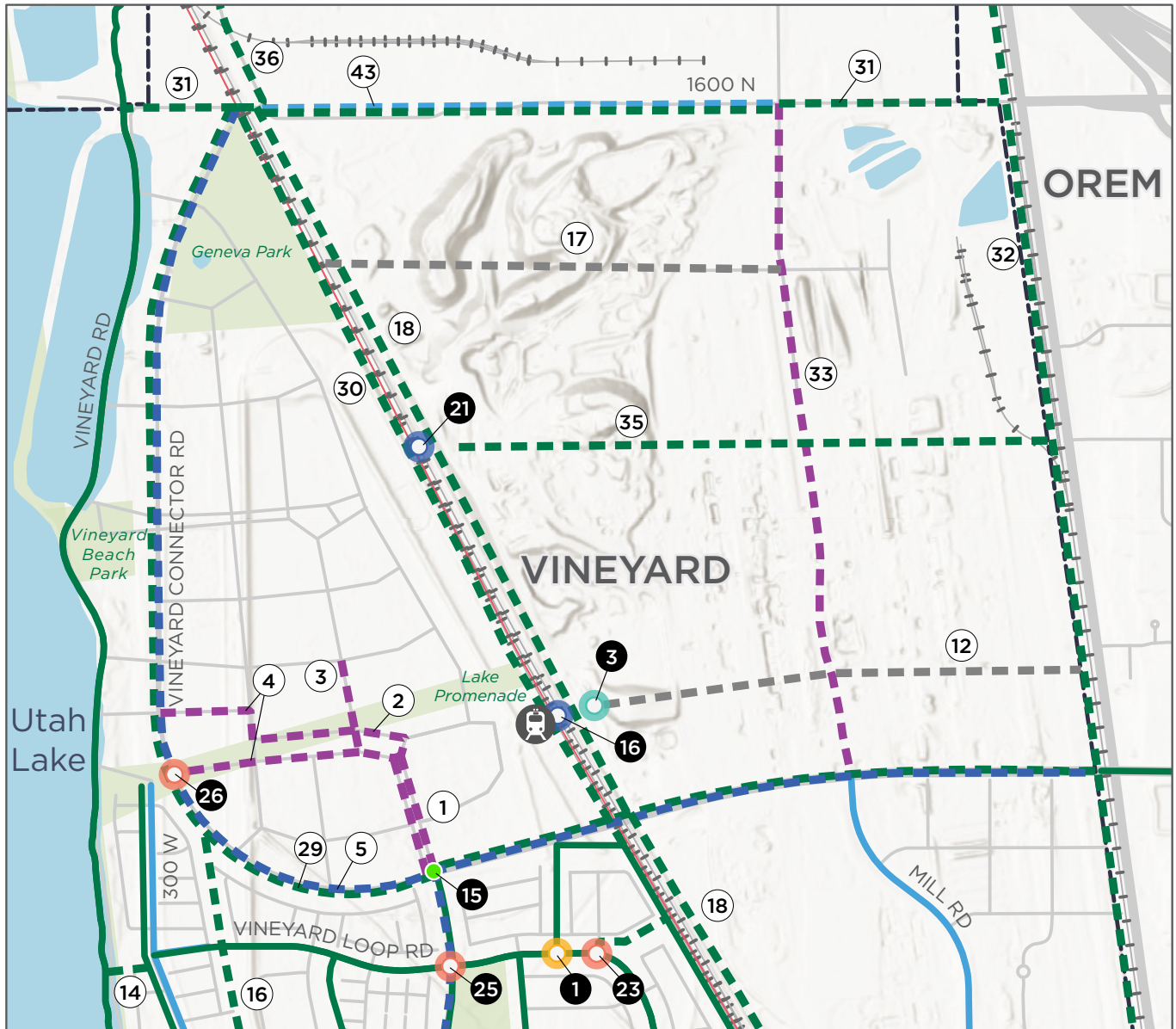
- ⌵ School
- 🚆 Frontrunner Station
- Commuter Rail
- Railroad
- Water Body
- Park
- Vineyard



Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: October 2022



Map 4.2 North Vineyard Proposed Network with Project Codes (List of project codes is included in [Chapter 5](#))



NETWORK RECOMMENDATIONS - NORTH VINEYARD

Vineyard Active Transportation Plan

SPOT IMPROVEMENTS

- Planned Traffic Signal
- Physical Intersection Improvements
- Midblock Crossing
- Mobility Hub
- Pedestrian Bridge

CORRIDOR RECOMMENDATIONS

- Bicycle Boulevard
- Bike Lane
- Buffered Bike Lane
- Separated Bike Lane
- Shared Use Path
- Unspecified Facility

EXISTING FACILITIES

- Bike Lane
- Buffered Bike Lane
- Shared Use Path

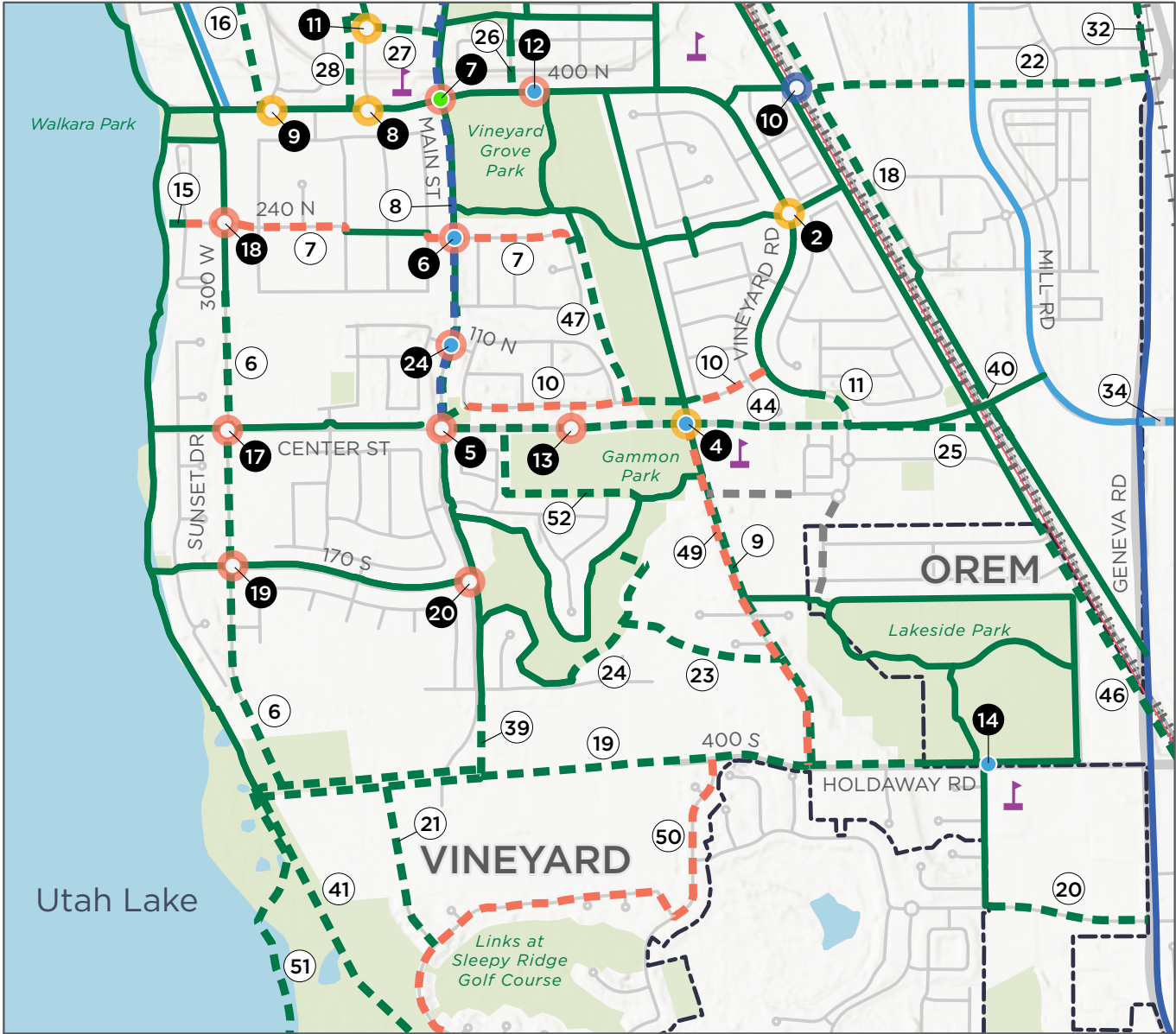
PROJECT CODE

- # Corridor Number
- # Spot Improvement Number

BASEMAP FEATURES

- T School
- 🚂 Frontrunner Station
- Commuter Rail
- Railroad
- Water Body
- Park
- Vineyard

Map 4.3 South Vineyard Proposed Network with Project Numbers (List of project numbers is included in [Chapter 5](#))



NETWORK RECOMMENDATIONS - SOUTH VINEYARD

Vineyard Active Transportation Plan

SPOT IMPROVEMENTS

- Active Transportation Signal or Beacon
- Planned Traffic Signal
- Physical Intersection Improvements
- Midblock Crossing
- Pedestrian Bridge

CORRIDOR RECOMMENDATIONS

- Bicycle Boulevard
- Bike Lane
- Buffered Bike Lane
- Separated Bike Lane
- Shared Use Path
- Unspecified Facility

EXISTING FACILITIES

- Bike Lane
- Buffered Bike Lane
- Shared Use Path

PROJECT CODE

- Corridor Number
- Spot Improvement Number

BASEMAP FEATURES

- School
- Frontrunner Station
- Commuter Rail
- Railroad
- Water Body
- Park
- Vineyard



Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: October 2022



KEY PROJECT HIGHLIGHT

FURTHER STUDY NEEDED: Although initial analysis indicates that Main Street would function well within a 3-lane configuration, further study is needed to analyze traffic and solicit public feedback. Next steps for this project include development of a dedicated Main Street Corridor Study to analyze additional alternatives, refine the initial analysis completed as part of this plan, and perform more robust public engagement.

VINEYARD'S MAIN STREET CORRIDOR

The Main Street corridor plays a key role in Vineyard's broader active transportation network. With several parks, schools, club houses, civic buildings, and other destinations along the corridor, there is high demand for robust biking and walking connections. In addition, Vineyard's compact size and adjacency of numerous residential neighborhoods could allow for convenient and short biking and walking trips to most Main Street destinations. The corridor possesses many characteristics which are supportive of active transportation including an existing sidepath, attractive streetscape, landscaped medians, and frequent street trees. Despite these positive traits, there are some notable deficiencies in the current configuration of Main Street that pose challenges to people walking and biking. More details can be found in [Appendix 5.1](#).

Challenges

HIGH TRAFFIC SPEEDS

With up to 74' of continuous pavement at intersections, high traffic speeds were noted by the public during the initial round of public outreach.

LACK OF ON-STREET BIKEWAYS

While a sidepath exists along the east side of Main Street for much of its length, there is a gap in the sidepath between Center Street and 150 N that forces bicyclists to either share the lane with higher speed traffic or ride on the sidewalk where conflicts with pedestrians may exist. Second, Vineyard's future downtown is planned to include on-street bike lanes on Main Street. While sidepath users could feasibly navigate between a Main Street sidepath south of Vineyard Connector to Main Street bike lanes in Downtown, it does require a more complex maneuver, especially for southbound bicyclists who would need to cross to the other side of Main Street.

LACK OF SAFE PEDESTRIAN CROSSINGS

The most frequently reported comments from the initial round of public engagement focused on pedestrian crossings of Main Street, specifically at Center Street, Vineyard Loop Road, and Vineyard Road intersections of Main Street. Many of these locations have minimal infrastructure supporting those crossing Main Street.

The Case for Right-Sizing Main Street

In response to the challenges and public feedback, a potential solution would be to reconfigure the existing street to remove one travel lane in each direction. While the suggested scenarios are based on an engineering study, further evaluation will be needed to determine the ultimate configuration.

EXCESS CAPACITY AND OPERATIONAL BENEFITS

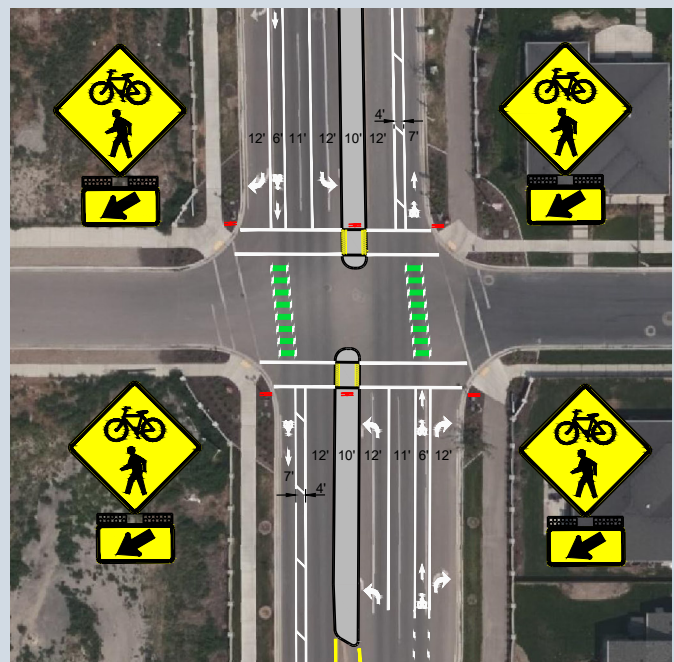
A traffic analysis found that removing a travel lane in each direction would still allow the corridor to function at an acceptable level of service (LOS).

HIGH COMFORT BIKEWAY CONNECTION TO FUTURE DOWNTOWN.

Removing a travel lane in each direction would allow for on-street buffered bike lanes. This would limit conflicts with bicyclists who prefer to ride faster and sidepath users who may travel at slower speeds.

ENABLES SAFE PEDESTRIAN CROSSINGS:

Removing a travel lane from Main Street would improve the safety and crossing opportunities for pedestrians. At unsignalized intersections, space could be reallocated to create a pedestrian refuge with RRFB's.



Proposed Main Street Plan View at Intersections

STREET CONNECTIVITY STANDARDS

The simplest aspect of a positive active transportation experience is strong street and pathway connectivity. Streets form the bones of a community and influence its basic character. While Vineyard is an fast-growing community with many opportunities to build out active transportation facilities alongside the growing street network, having a connected network of streets makes active transportation trips more viable and convenient. In addition to supporting active transportation, good street connectivity can also provide a variety of benefits to emergency response times, reductions in vehicle miles traveled, improved air quality, and improved access to destinations.

In larger undeveloped portions of the City, such as the northeast quadrant north of Vineyard Connector and east of the railroad tracks, the City may consider utilizing the Utah Street Connectivity Guide from the Utah Department of Transportation and developing their own street connectivity standards. Communities such as Lehi have adopted similar street connectivity standards as part of their City development code. Links to the UDOT Street Connectivity Guide and Lehi Standards are included below:

- » [Utah Street Connectivity Guide](#)
- » [Lehi Connectivity Standards \(section 37.040\)](#)

BIKE PARKING

Bicyclists need a safe and convenient place to secure their bicycles when they reach their destination. This may be short- or long-term parking for employees, students, residents, and commuters.

In general, bike racks should be placed at least 2 feet from the curb face to avoid being struck by swinging doors from parked vehicles. At least 4 feet of space should be provided between racks to provide maneuvering room. Additionally, a minimum clear distance of 6 feet should be provided between bike racks and adjacent property lines; Bike racks should typically be placed in the amenity zone. Recommended bike rack styles are shown in [Figure 4.2](#).

Vineyard currently requires bicycle parking as part of their parking code but they do not differentiate between short-term and long-term bicycle parking. With multi-family development, office, and retail uses expected to grow in Vineyard, further refinement to the bicycle parking code could address resident and employee needs for secure, long-term bike parking.

Long-term bicycle parking is for those spending longer amounts of time at a place – i.e. a workday or work shift, or at a multi-family residential building. Long-term bicycle parking is designed to be more secure than short term parking and provides enclosed space for one or more bikes. Types of long-term bicycle parking include lockers, cages, and bike rooms.

Rates for long-term bicycle parking are generally 1 space per 10,000 square feet for office, 1 space per 12,000 square feet for general retail, or 0.5 spaces per bedroom for multi-family residential. Detailed information on codifying long-term bicycle parking can be found in the *Association of Pedestrian & Bicycle Professionals Bicycle Parking Guidelines, 2nd edition*.

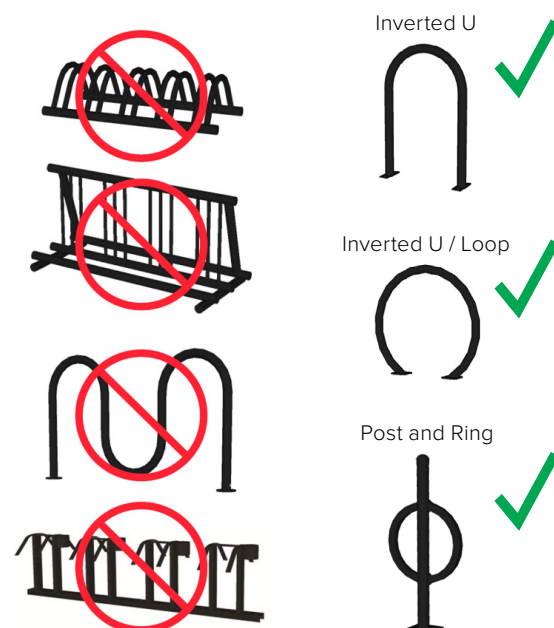


Figure 4.2 Association of Pedestrian & Bicycle Professionals Bicycle Parking Guidelines, 2nd edition Bike Rack Recommendations

Wayfinding

Wayfinding is an essential element of an accommodating and accessible active transportation network. Wayfinding is a system of signs, pavement markings, and maps to inform system users of recommended routes and to increase overall orientation and comfortability within the active transportation network. Vineyards' regional trails including the Utah Lakeshore Trail, Lehi Historic Rail Trail, and Lindon Heritage Trail are important regional routes that could benefit from complimentary wayfinding systems.

MOUNTAINLAND ASSOCIATION OF GOVERNMENTS (MAG) WAYFINDING GUIDE

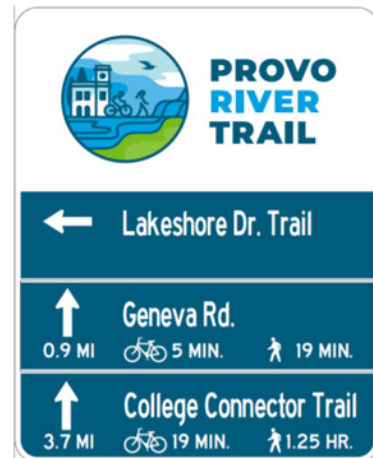
MAG developed a Wayfinding Guide for Multi-Use Paths along with a series of sign templates in 2020. This guide outlines the two goals of wayfinding for Utah County: increase awareness of the connectivity of trails and their amenities; and contribute to placemaking through branding and connectivity.

The guide details the components of a successful wayfinding system as well as style guidance and pricing on common multi-use path signage, such as:

- » Decision Signs – located at trail intersections informing users of the intersecting route as well as other destinations with travel times
- » Fingerboards – useful for trail intersections, especially when several destinations are available from multiple directions or when trails do not intersect at right angles
- » Turn Arrows – direct users to trail from on-road facilities
- » Confirmation Signs – located after complex intersections
- » Mile Markers – placed at every ¼ mile, mile markers reconfirm the trail route, locate emergencies, and help track progress
- » Street Labels – indicate upcoming streets to help users orientate themselves



Jordan River Trail Wayfinding Example from Salt Lake City, Utah. Source: SLC.gov



Wayfinding Sign Example. Source: MAG

PROGRAMS

Bike Utah's Youth BEST Program

The Youth Bicycle Education and Safety (BEST) Program teaches kids how to safely and confidently experience their communities by bicycle. The program is a 5-hour, in-class and on-bike program taught at schools around Utah. Bike Utah provides trained instructors, bicycles, helmets and all other equipment for the program. Through this program, students learn:

- » The benefits of riding a bicycle
- » Rules of the road
- » Helmet fitting
- » Bicycle safety checks
- » Navigating intersections
- » Right of way
- » To avoid hazards
- » Confidence and independence

If kids have the confidence to safely ride a bike and a safe, connected active transportation network is in place, kids will have independent access to their school, after school activities, and any other destinations they need to reach in Vineyard.

Adopt a Trail Program

Many communities, including communities throughout Utah like Farmington and Provo, have programs in place for "adopting a trail" segment. This program works differently from place to place; In some communities, "adopting" a segment refers to an individual, family, or organization paying a sponsorship fee that helps to cover the costs of maintenance and improvements to the trail system.

"Adopting" a trail segment in other communities means that an individual or group take temporary ownership of basic maintenance and cleanup of the segment. This relieves city maintenance staff of simple maintenance work, and builds land stewardship among those who volunteer to take on the task for their designated segment.

For either type of program, if a person or group "adopts" a trail segment, communities will often install signage indicating who adopted the trail, giving recognition to their generosity and/or hard work, and passion for the trail system.



Bike Utah Youth BEST event. Source: BikeUtah



05

IMPLEMENTATION

INTRODUCTION

With a newly-recommended active transportation network identified, the next step in the planning process is implementation. This process involves prioritizing corridor recommendations to determine which to work toward first, looking at high-level cost estimates to get an understanding of what network improvements will cost, and finally, reviewing funding opportunities to implement the recommended active transportation network.

PROJECT PRIORITIZATION

While all active transportation facilities were recommended for Vineyard with the goals of the plan in mind (an explanation of how the recommended network aligns with project goals is discussed in detail in [Chapter 4](#)), some projects are more supportive of project goals than others. Using the methodology shown in [Table 5.1](#), the priority projects were ranked based on how well they align with the project goals. Projects shown as "unscored" are currently in process, or are part of external plans, but are still important to the recommended network.

[Map 5.1](#) provides a visual for the score each corridor recommendation received. Top priority projects are included in [Table 5.2](#) with medium and low priority corridor projects and spot improvements included in [Tables 5.3](#) and [5.4](#). The full score breakdown is included in [Appendix 3](#).

Table 5.1 Prioritization Criteria

GOAL	CRITERIA	SCORING METHODOLOGY
Support Vineyard's family-friendly amenities and way of life	Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	0 - Project does not connect to schools/family-friendly amenities
		1 - Project connects to one park
		2 - Project connects to one or more schools, parks, or clubhouses
	Provides facility that supports all ages and abilities (provides separation from motor vehicles)	0 - Project provides no separation (Bicycle Boulevards)
		1 - Project provides limited separation (Standard Bike Lanes, Buffered Bike Lanes, Intersection Improvements)
		2 - Supports all ages and abilities (Separated Bike Lanes/Shared Use Path/Bridge)
Develop a diverse and resilient multimodal transportation system	Provides active transportation connections to transit	0 - Project does not provide connection to transit
		1 - Project provides connection to a bus route (runs along or intersects street with a bus route)
		2 - Project connects directly to the Vineyard FrontRunner Station
	Connects to daily destinations (grocery stores, employment centers, etc.)	0 - Project does not provide connection to daily destinations
		1 - Project provides connection to the industrial area in north Vineyard
		2 - Project provides connection to downtown and/or the Megaplex area
	Connects to existing/ planned regional active transportation network (Lehi Rail Trail, Lindon Heritage Trail, 1600 N, Lakeshore Trail extension)	0 - Project does not connect with other existing and/or planned facilities
		1 - Project directly connects with one existing and/or planned facility
		2 - Project directly connects with multiple existing and/or planned facilities
OTHER	CRITERIA	SCORING METHODOLOGY
Feasibility	Public engagement priority	0 - Not identified in public comments
		1 - Identified in either opportunities & constraints or public input map
		2 - Mentioned in both opportunities & constraints and public input map
	Project readiness	0 - No city efforts underway
		1 - City efforts soon underway (Sidepath on Center St along park, Hybrid Beacon at Lakeside Park, Vineyard Connector, Geneva Rd)
		2 - City efforts underway (Rail Trail, 1600 N, Lindon Heritage Trail, Holdaway Rd)

Map 5.1 Vineyard Prioritized Corridor Recommendations and Spot Improvements

PRIORITIZED PROJECTS

Vineyard Active Transportation Plan

PRIORITIZED CORRIDOR RECOMMENDATIONS

- 0 or Not Scored
- 1-4
- 5-8
- 9-13 (Top Priority)
- # Project Code

PRIORITIZED SPOT IMPROVEMENTS

- 0 or Not Scored
- 1-3
- 4-6
- 7-9 (Top Priority)
- # Project Code

EXISTING FACILITIES

- Bike Lane
- Buffered Bike Lane
- Shared Use Path

BASEMAP FEATURES

- ⌵ School
- ⚓ Frontrunner Station
- Commuter Rail
- Railroad
- Water Body
- Park
- Vineyard



alta

Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: October 2022

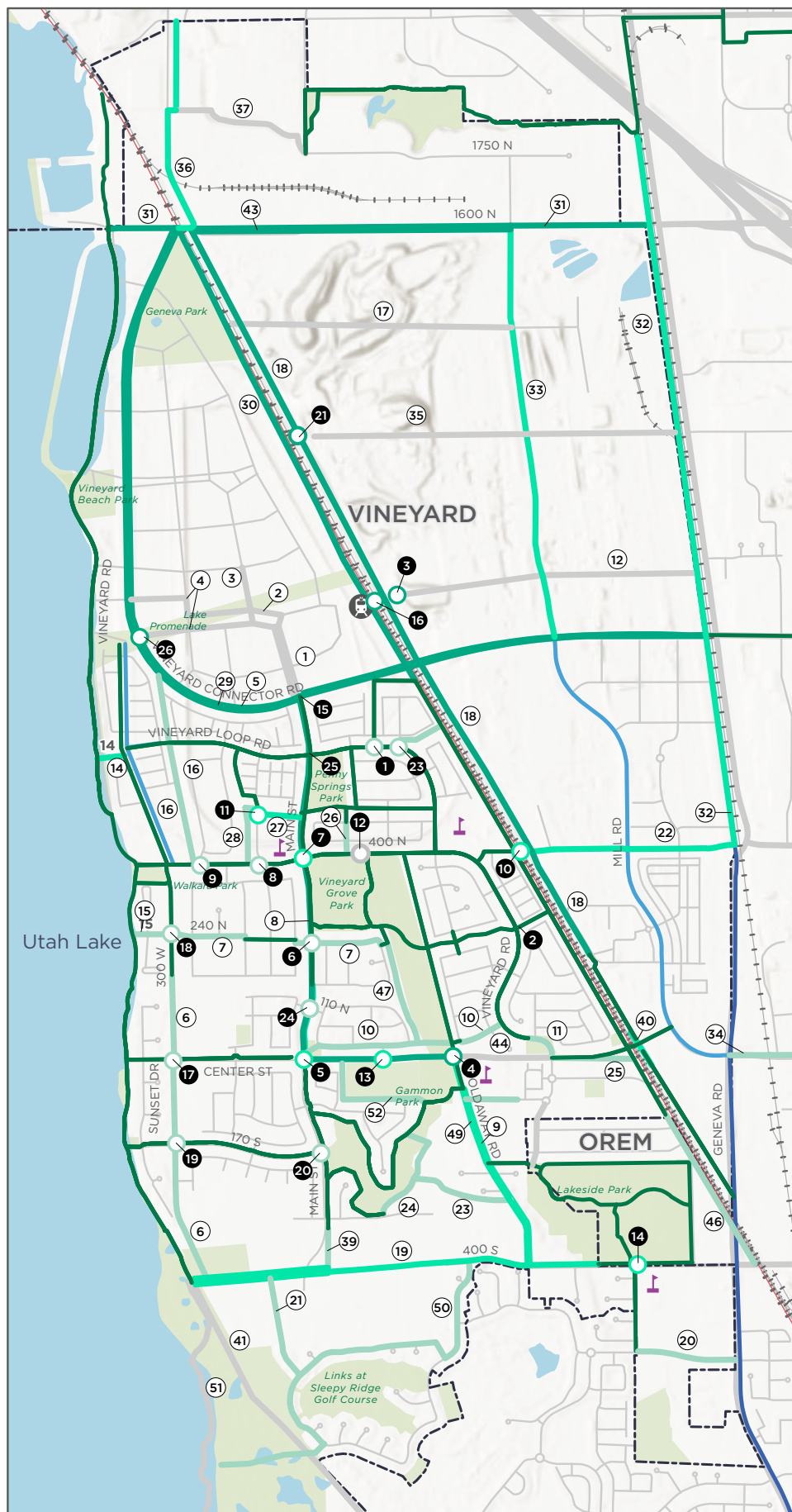
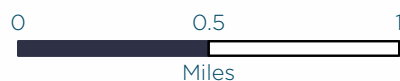


Table 5.2 Top Priority Corridor/Associated Spot Improvements and Individually-Scored Spot Improvements

SCORE	PROJECT CODE	CORRIDOR/LOCATION NAME	PROJECT TYPE
CORRIDOR PROJECTS + ASSOCIATED SPOT IMPROVEMENTS			
13	18	East Side Rail Trail	Shared Use Path
	10	Pedestrian Bridge over Railroad	Pedestrian Bridge
11	29	Vineyard Connector Trail	Shared Use Path
	26	Vineyard Connector + Grand Boulevard Crossing	Physical Intersection Improvements
10	5	Vineyard Connector Buffered Bike Lane	Buffered Bike Lane
	15	Main St & Vineyard Connector Signal	Planned Traffic Signal
10	30	Lehi Historic Rail Trail	Shared Use Path
10	31	1600 N Shared Use Path	Shared Use Path
	21	East Central Downtown Railroad Crossing	Pedestrian Bridge
9	42	Main St Buffered Bike Lanes	Buffered Bike Lane
	25	Main St & Vineyard Loop Rd Crossing	Physical Intersection Improvements
9	43	1600 N Bike Lanes	Bike Lane
9	44	(OPT. B) Center Street shared use path	Shared Use Path
SPOT IMPROVEMENTS			
9	3	Mobility Hub	Mobility Hub
9	16	Vineyard Station and Mobility Hub Pedestrian Bridge	Pedestrian Bridge
8	4	Center St Midblock Crossing	Midblock Crossing/ Active Transportation Signal or Beacon

Table 5.3 Medium/Low Priority Spot Improvements

SCORE	PROJECT CODE	LOCATION NAME	PROJECT TYPE
SPOT IMPROVEMENTS			
6	7	Vineyard Rd & Main Traffic Signal	Physical Intersection Improvements/ Planned Traffic Signal
5	11	100 W/470 N Crossing	Midblock Crossing
5	14	Holdway & Lakeside Sports Complex Hybrid Beacon	Active Transportation Signal or Beacon
4	5	Center & Main Roundabout Improvements	Physical Intersection Improvements
4	13	Center St & 105 E St Crossing	Physical Intersection Improvements
3	8	Vineyard Rd Midblock Crossing	Midblock Crossing
3	20	170 S & Main St Crossing	Physical Intersection Improvements
3	24	Main St & 110 N Street Crossing	Physical Intersection Improvements
2	9	Vineyard Rd Midblock Crossing 2	Midblock Crossing
2	17	Center St & 300 W Roundabout improvement	Physical Intersection Improvements
2	18	240 N & 300 W Crossing	Physical Intersection Improvements
2	19	170 S & 300 W Crossing	Physical Intersection Improvements
1	1	Vineyard Loop Rd Midblock Crossing	Midblock Crossing
UNSCORED SPOT IMPROVEMENTS (IN-PROCESS OR PART OF EXTERNAL PLANS)			
	2	Vineyard Rd Midblock Crossing	Midblock Crossing
	12	400 N & Vineyard Grove Park Crossing	Physical Intersection Improvements/ AT Signal or Beacon

Table 5.4 Medium/Low Priority Corridor Recommendations

SCORE	PROJECT CODE	CORRIDOR NAME	PROJECT TYPE
CORRIDOR PROJECTS + ASSOCIATED SPOT IMPROVEMENTS			
8	9	Holdaway Rd Sidepath	Shared Use Path
	24	Main St & 110 N Street Crossing	Active Transportation Signal or Beacon
7	22	400 N Sidepath	Shared Use Path
7	36	250 W	Shared Use Path
7	49	Holdaway Bike Blvd	Bicycle Boulevard
6	32	Geneva Road Sidepath	Shared Use Path
6	33	Mill Rd Extension Separated Bike Lanes	Separated Bike Lane
5	8	Main St Sidepath	Shared Use Path
5	14	300 W to Utah Lake Connector Trail	Shared Use Path
5	19	400 S Sidepath	Shared Use Path
5	27	470 N Shared Use Path	Shared Use Path
5	40	North Vineyard Rail with Trail Extension	Shared Use Path
4	6	300 W Sidepath	Shared Use Path
4	10	(OPT. A) Center Street Offset Bicycle Boulevard/Shared Use Path	Bicycle Boulevard
4	16	Vineyard Connector to Vineyard Rd Trail	Shared Use Path
4	25	Center Street Trail Offshoot	Shared Use Path
4	47	Vineyard Trail to Center St Connection	Shared Use Path
4	52	Gammon Park Connection	Shared Use Path
3	7	240 N Bicycle Blvd	Bicycle Boulevard
	6	Bicycle Boulevard Crossing	Physical Intersection Improvements/ AT Signal or Beacon
3	13	190 E to Rail with Trail Connection	Shared Use Path
	23	Vineyard Loop Rd Crossing	Physical Intersection Improvements
3	15	240 N Bicycle Blvd Trail Connection	Shared Use Path
3	20	575 S Sidepath	Shared Use Path
3	23	Holdaway Rd Trail Connection	Shared Use Path
3	24	Fish Hook Trail	Shared Use Path
3	26	85 E Connector Trail	Shared Use Path
3	38	Utah Lake Shore Connector	Shared Use Path
3	39	Main Street Side Path	Shared Use Path
3	46	Orem Rail with Trail Continuation	Shared Use Path
2	11	Vineyard Rd Trail Extension	Shared Use Path
2	21	Golf Course Connector Trail	Shared Use Path
2	28	Central Neighborhood Connector Trail	Shared Use Path
2	48	Holdaway Rd Connector	Unspecified Facility
2	50	Southwest Vineyard Bicycle Boulevard	Bicycle Boulevard
1	34	Center St Bike Lanes	Bike Lane
0	45	Cortona Ln to Lakeside Sports Park Connector	Unspecified Facility
UNSCORED CORRIDOR IMPROVEMENTS (IN-PROCESS OR PART OF EXTERNAL PLANS)			
	1	Main Street Separated Bike Lanes	Separated Bike Lane
	2	Squareabout Separated Bike Lane	Separated Bike Lane
	3	Downtown Separated Bike Lane	Separated Bike Lane
	4	Lake Promenade Separated Bike Lane	Separated Bike Lane
	12	Mobility Hub Connector Trail	Unspecified Facility
	17	Railroad to Mill Rd Connection	Unspecified Facility
	35	1200 N Shared Use Path	Shared Use Path
	37	Lindon Heritage Trail	Shared Use Path
	41	Inner Lake Shore Trail	Shared Use Path
	51	Utah Lake Shore Trail	Shared Use Path

COST ESTIMATES

Table 5.5 outlines unit costs for each type of facility and the respective sources they were drawn from. These unit costs include construction only and do not include planning, engineering, right-of-way acquisition, or survey costs. Construction costs vary based on the ultimate project scope and economic conditions at the time of construction.

Currently, project cost estimates, even when provided at a high level, are very difficult to predict for a variety of reasons. Given the variability of current project

costs, the estimates provided in **Table 5.5** should only be used as a starting point and not a definitive answer to the cost of any given project. These estimates were developed using a series of different area sources, including the Salt Lake City Livable Streets Program, South Utah County Trail Plan, and the Summit County Active Transportation Plan.

Table 5.5 High-Level Project Cost Estimates

PROJECT TYPE	UNIT	COST/UNIT
TRAFFIC CALMING MEASURES		
Bulbout	EA	\$20-100,000
Traffic Diverter	EA	\$10-20,000
Speed Lump/Cushion	EA	\$3-5,000
Median with Horizontal Deflection	EA	\$10-15,000
INTERSECTION TREATMENTS		
Marked Crosswalk	EA	\$8,000
Rectangular Rapid Flashing Beacons (RRFBs)	EA	\$55,000
Curb Extensions	EA	\$15,000
Pedestrian Refuge Island	EA	\$10-20,000
Grade-Separated Bike/Ped Bridge	LF	Varies widely
ACTIVE TRANSPORTATION INFRASTRUCTURE		
Sidewalks	LF	\$44
Shared Use Paths (Trails)	LF	\$172
Shared Lane Markings (Sharrows)	LF	\$4
Signed Bike Route	Sign	\$100-750
Bike Boulevard	LF	\$28
Standard Striped Bike Lanes	LF	\$11
Stripe-Buffered Bike Lanes	LF	\$12
Curb-Separated Bike Lanes	LF	\$44

FUNDING OPPORTUNITIES

A wide variety of potential funding sources are available at the federal, state, regional, and local levels for Vineyard to explore for implementation of the recommended projects included in this plan. **Table 5.6** provides a list of many of those available funding sources. Most funding sources are competitive in nature, and will require applications. For multi-agency projects, applications will likely be more successful if prepared as a joint effort with other local and regional agencies.

Private contributions should also be taken advantage of, when appropriate, in implementing recommended projects. These types of contributions vary greatly, with one example being a right-of-way donation. Additionally, Vineyard should explore the creation of a dedicated local funding source for active transportation improvements through a general fund allocation. This will lead to sustainable funding that can be used to leverage other sources, as well as the development of projects.

In addition to these funds, active transportation projects can be funded through a variety of measures at the local level: bonds financing, special improvement districts, or specified local sales taxes.

Table 5.6 Available Funding Sources

NAME	DESCRIPTION	MORE INFORMATION
FEDERAL FUNDING SOURCES		
Safe Streets and Roads for All (SS4A) Grant Program	The new SS4A Grant Program funds the development or update of a comprehensive safety action plan (Action Plan), conducting planning, design, and development activities in support of an Action Plan, and/or carrying out projects and strategies identified in an Action Plan	Learn more: https://www.transportation.gov/SS4A
Transportation Alternatives (TA)	Transportation Alternatives (TA) is a funding source under the FAST Act that consolidates three formerly separate programs under SAFETEA-LU: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). Funds are available through a competitive process. These funds may be used for a variety of pedestrian, bicycle, and streetscape projects including: • SRTS programs (infrastructure and non-infrastructure programs) • Construction, planning, and design of on- and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bikeways, pedestrian + bicycle signals, traffic-calming, lighting, and other safety-related infrastructure • Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for children, seniors, and individuals with disabilities who cannot drive • Construction of rail-trails • Recreational trails program	Learn more: https://www.fhwa.dot.gov/environment/transportation_alternatives/

NAME	DESCRIPTION	MORE INFORMATION
FEDERAL FUNDING SOURCES (CONTINUED)		
Fixing America's Surface Transportation (FAST Act)	The FAST act provides a long-term funding source for surface transportation and planning. Overall, the FAST Act retains eligibility for big programs - Transportation Investments Generating Economic Recovery (TIGER - now called RAISE), Surface Transportation Program (STP), and Highway Safety Improvement Program (HSIP)	For more information: https://www.transportation.gov/fastact
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants	RAISE grants, which were originally created under the American Recovery and Reinvestment Act as TIGER grants, can be used for a wide variety of projects, including road, rail, and transit projects. These grants provide capital funding to any public entity, including municipalities and counties.	Learn more: https://www.transportation.gov/RAISEgrants
Federal Transit Administration (FTA) Grants	The FTA has several grant programs available to local and state governments to enhance active transportation connections to public transportation facilities.	Learn more: https://www.transit.dot.gov/funding/grants/grant-programs
The Active Transportation Infrastructure Investment	This is a competitive program for Active Transportation networks and spines, with \$1B authorized but not yet appropriated as of spring 2022. This program would focus on improvements addressing walking and bicycling infrastructure.	Learn more: https://www.railstotrails.org/policy/funding/active-transportation-infrastructure-investment-program/
Reconnecting Communities Pilot Program (RCP)	RCP is a Federal program that aims to reconnect communities that were previously cut off from economic opportunities by transportation infrastructure. Funding from this program supports planning grants, capital construction grants, and technical assistance to restore community connectivity through the removal, retrofit, mitigation, or replacement of eligible transportation infrastructure facilities. Highways (including a road, street, or parkway) or other transportation facilities (such as rail lines), that have formed a barrier to community connectivity, including barriers to mobility, access, and economic development, due to high speeds, grade separations, or other design factors, are eligible for this program.	Learn more: https://www.transportation.gov/grants/reconnecting-communities
Healthy Streets	This is a \$500M discretionary program that will address issues such as urban heat island/tree cover in low-income and minority communities. This funding source may address Vision Zero concerns by creating streetscapes and other measures to calm or slow traffic.	Learn more: https://bikeleague.org/sites/default/files/Fact%20Sheet%20Healthy%20Streets%20Program%20%2B%20Funding%20Support%20%20(3)%20(1).pdf
USDOT Federal Highway Administration (FHWA) Congestion Management and Air Quality (CMAQ) Improvement Program grants	The FAST Act continued the CMAQ program to provide a flexible funding source to State and local governments for transportation projects and programs to help meet the requirements of the Clean Air Act. Funding is available to reduce congestion and improve air quality for areas that do not meet the National Ambient Air Quality Standards for ozone, carbon monoxide, or particulate matter (nonattainment areas) and for former nonattainment areas that are now in compliance (maintenance areas).	Learn more: https://www.fhwa.dot.gov/bipartisan-infrastructure-law/cmaq.cfm

NAME	DESCRIPTION	MORE INFORMATION
STATE-LEVEL FUNDING SOURCES - UDOT		
State Class B and C Program fund	Class B and C funds can be used for maintenance and construction projects, including active transportation. For these projects, thirty percent of the funds must be used for construction or maintenance projects that exceed \$40,000. The remainder of these funds can be used to match federal funds or pay the principal, interest, premiums, and reserves for issued bonds.	Learn more: https://www.udot.utah.gov/connect/business/public-entities/local-government-program-assistance View regulations: https://drive.google.com/file/d/10KwUcoo9En7H8yYulOWzZxi3QnFZ6g1K/view
Safe Sidewalk Program	The Safe Sidewalks Program, administered by UDOT, provides legislative funding for construction of new sidewalks where they are missing or where major construction or reconstruction of a route is not planned for ten or more years. For a proposed sidewalk location to be considered for the program, it must be: located adjacent to a state highway, within an urban area, have significant pedestrian traffic, and include a 25% local government match.	Learn more: https://www.udot.utah.gov/connect/business/public-entities/local-government-program-assistance/ View regulations: https://docs.google.com/document/d/1sfOQu5qictzKDAj0yDvSO48JFuYrZZbuYsyW4bbardY/edit
Highway Safety Improvement Program (HSIP)	HSIP funds are available for projects aimed at improving safety on all public roads to reduce traffic fatalities and serious injuries. Bike lanes, roadway shoulders, crosswalks, intersection improvements, underpasses, and improved signage are examples of eligible projects. These funds are administered through the UDOT Highway and Safety Division, and require a local match.	Learn more: https://www.udot.utah.gov/connect/about-us/operations/traffic-safety/
Safe Routes to School (SRTS)	UDOT administers Safe Routes to School (SRTS) funding - a \$1.2 Million annual fund to fund active transportation safety improvements within two miles of Utah schools. Cities can apply for this funding (a reimbursement fund) without matching requirements. These funds can be used for improvements such as new trails or sidewalks, signals, crosswalks, and other related facilities.	Learn more: https://site.utah.gov/connect/business/public-entities/safe-routes-to-school-srts-program/
Active Transportation Investment Fund (ATIF)	TIF funds are awarded through the State Transportation Commission and administered through UDOT. Projects must be paved, part of the UDOT Active Transportation Plan, provide traffic congestion mitigation on a state highway system, and include 40% non-UDOT funds to match to be eligible for funding.	Learn more: https://www.udot.utah.gov/connect/about-us/commission/project-prioritization-process/
STATE-LEVEL FUNDING SOURCES - NON-UDOT		
Community Development Block Grant (CDBG)	The CDBG Program provides annual grants on a formula basis to states, cities, and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons. The State of Utah administers the funds for cities with fewer than 50,000 residents.	Learn more: https://jobs.utah.gov/housing/community/cdbg/index.html
Federal Lands Access Program (FLAP)	The FLAP is intended to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. The fund is administered through UDOT in coordination with the Central Federal Lands Highway Division, which develops a Programming Decisions Committee. The Committee puts out the call for projects, establishes selection criteria, and prioritizes selected projects. The next call for projects is anticipated to be in 2025.	Learn more: https://highways.dot.gov/federal-lands/programs-access

NAME	DESCRIPTION	MORE INFORMATION
STATE-LEVEL FUNDING SOURCES -NON-UDOT (CONTINUED)		
Recreational Trails Program (RTP)	Administered by the Utah Division of State Parks and Recreation, the RTP requires that motor fuel tax revenues generated from motor fuel sales for off-highway recreational purposes be transferred from the Highway Trust Fund to the Trails Trust Fund for recreational trail and facility improvements. This program provides grants for non-motorized and motorized trails, including construction and maintenance of trails and facilities, staging areas, trailheads, restroom facilities, and trail signing.	Learn more: https://stateparks.utah.gov/resources/grants/recreational-trails-program/
Land and Water Conservation Fund	Administered by the Utah Division of State Parks and Recreation, the Land and Water Conservation Fund Act provides federal grants for the acquisition and/or development of public outdoor recreation areas. Any site/facility purchased, developed, or improved with funding from this grant is protected in perpetuity as a public outdoor recreation area.	Learn more: http://stateparks.utah.gov/resources/grants/land-and-water-conservation-fund/
Utah Outdoor Recreation Grant	Administered through the Office of Outdoor Recreation, the Utah Outdoor Recreation Grant project helps communities build trails and other recreation infrastructure by awarding matching grants. The grants help enhance recreational opportunities and amenities in Utah's communities.	Learn more: https://business.utah.gov/outdoor/uorg/
REGIONAL-LEVEL (MPO) FUNDING SOURCE		
Mountainland Transportation Improvement Program (TIP)	MAG awards 80 million dollars biennially for regional transportation projects and programs in urban Utah County. The funds come from a combination of federal, state, and county sources. Funding is programmed by the Metropolitan Planning Organization (MPO) to eligible applicants including member jurisdictions, UDOT, UTA, state agencies, and private organizations. The MPO selects projects through its committees based off congestion relief strategies, mode choice, air quality improvement, and safety. Projects can support transportation by any mode but must be regional in nature.	Learn more: https://mountainland.org/rp-tip/
Congestion Mitigation and Air Quality (CMAQ) Improvement Program	The CMAQ program aims to reduce congestion or improve air quality in nonattainment or maintenance areas by shifting travel demand to non-automobile modes. This fund is administered through the MAG TIP.	Learn more: https://www.fhwa.dot.gov/environment/air_quality/cmaq/
Surface Transportation Block Grant Program (STBG)	The Surface Transportation Block Grant (STBG) program provides flexible funding that may be used by for projects aiming to preserve and improve the conditions and performance of public roads, pedestrian and bicycle infrastructure, and transit projects. Planning, research, and development are also eligible for STBG funds within certain types of projects.	Learn more: https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm

NAME	DESCRIPTION
CITY FUNDING SOURCES	
Bond Financing	Bonds can be approved by voters to fund a range of projects. A local successful precedent is the 2012 Parks and Trails Bond in Salt Lake County, which authorized \$47 million in bond funds to complete the Jordan River Parkway, Parley's Trail, and acquire land for/construct new parks throughout the County.
Sales Tax	It is possible to pass a specified sales tax that can be used to fund active transportation improvements. These taxes can be used to generate funds for highway, transit, and local road (including bicycle) projects.
Special Assessment or Taxing Districts	Local municipalities can establish special assessment districts for infrastructure improvements, like sidewalks, that are missing or in need of improvement in certain areas.
Parking Fees	Some cities have instituted parking fees that are then used to pay for infrastructure improvements.
Development Impact Fees	Development impact fees are one-time charges collected from developers for financing new infrastructure construction and operations and can help fund bicycle and pedestrian improvements. Impact fees are assessed through a city's impact fee program.
New Construction	Future road widening and construction projects are methods of providing improved bike and pedestrian infrastructure. To ensure that roadway construction projects provide these improvements, it is important that the review process includes a review of any relevant active transportation related plans. Vineyard should also coordinate with UDOT to find opportunities for bike and pedestrian facilities on state road construction projects.
PRIVATE FUNDING SOURCES	
PeopleForBikes Community Grant Program	The PeopleForBikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make biking safer for people of all ages and abilities. PeopleForBikes accepts requests for funding up to \$10,000. Learn more: https://www.peopleforbikes.org/grant-guidelines
Private Developers	Developers should consider constructing local streets with bike- and pedestrian-oriented facilities within subdivisions, including dedicating right-of-way to trails and parks. Cities can encourage developers to include active transportation amenities during development review, and should require developers to show how the proposed development will accommodate or enhance active transportation connections.

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A wide-angle photograph of a wooden boardwalk that curves gently to the right. The boardwalk is made of dark, horizontal wooden planks. To the left of the boardwalk is a dense field of low-lying green plants with some yellow flowers. To the right is a similar field. In the background, there are rolling hills, some trees, and a few buildings under a bright, hazy sky. The sun is low on the horizon, creating a warm, golden light. A large white letter 'A' is overlaid on the left side of the image, and a horizontal orange line is positioned below it.

A

APPENDIX 1-5



APPENDIX 1: Survey Responses

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APPENDIX 4: Standard Construction Details

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APPENDIX 5: Priority Project Concept Cut Sheets

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A1: SURVEY RESPONSES

A1.1: SURVEY 1 DEMOGRAPHICS

A1.2: SURVEY 2 FREE RESPONSE QUESTIONS

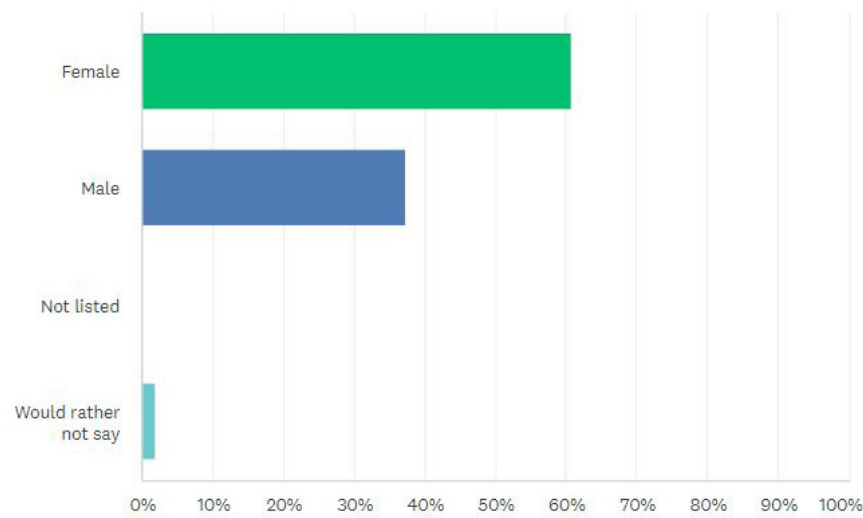
A1.1: SURVEY 1 DEMOGRAPHICS

WHERE DO YOU LIVE?

ANSWER CHOICES	RESPONSES	
▼ Lakefront at Town Center	10.14%	37
▼ The Lakes at Sleepy Ridge	6.30%	23
▼ Hampton	5.48%	20
▼ The Springs	5.48%	20
▼ The Willows	5.48%	20
▼ The Preserve	5.21%	19
▼ Westbrook	4.66%	17
▼ LeCheminant	4.38%	16
▼ Edgewater	4.11%	15
▼ The Garden	4.11%	15
▼ The Maples	3.84%	14
▼ Bridgeport	3.56%	13
▼ Cascade	3.56%	13
▼ Solstice	3.56%	13
▼ The Villas	3.56%	13
▼ The Meadows	3.01%	11
▼ Parkside	2.74%	10
▼ The Lochs	2.47%	9
▼ Providence	2.19%	8
▼ I do not live in Vineyard	1.92%	7
▼ The Cottonwoods	1.64%	6
▼ The Sycamores	1.64%	6
▼ Windsor	1.64%	6
▼ The Elms	1.37%	5
▼ The Shores	1.37%	5
▼ Concord	1.10%	4
▼ Holdaway Cove/Holdaway Rd	1.10%	4
▼ The Alloy	1.10%	4
▼ The Vine	1.10%	4
▼ Tucker Row	1.10%	4
▼ James Bay	0.55%	2
▼ Lincoln Square	0.27%	1
▼ Vineyard Gateway	0.27%	1
▼ Ashley Acres	0.00%	0
▼ Eastlake Warehouse Condos	0.00%	0
▼ FKW Properties	0.00%	0
▼ Lakeview Holdings Warehouse Condominiums	0.00%	0
▼ Park Place	0.00%	0
▼ Rendezvous Park	0.00%	0
▼ The Orchards	0.00%	0
▼ The Yard A	0.00%	0
▼ The Yard B	0.00%	0

WHAT IS YOUR GENDER?

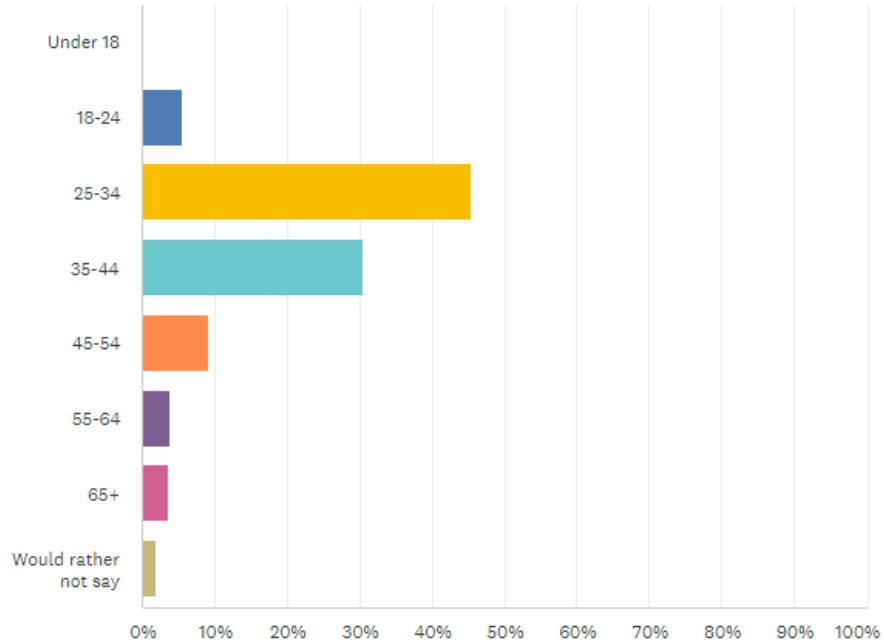
Answered: 365 Skipped: 1



ANSWER CHOICES	RESPONSES	
Female	60.82%	222
Male	37.26%	136
Not listed	0.00%	0
Would rather not say	1.92%	7
TOTAL		365

WHAT IS YOUR AGE?

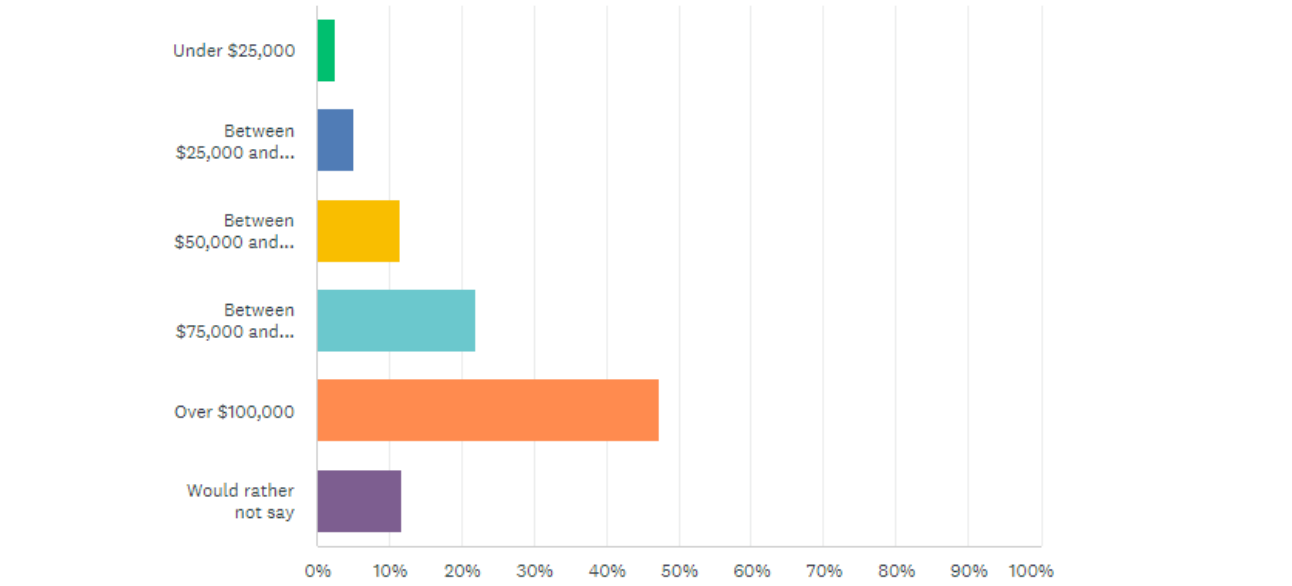
Answered: 364 Skipped: 2



ANSWER CHOICES	RESPONSES	
Under 18	0.27%	1
18-24	5.49%	20
25-34	45.33%	165
35-44	30.49%	111
45-54	9.07%	33
55-64	3.85%	14
65+	3.57%	13
Would rather not say	1.92%	7
TOTAL		364

WHAT IS YOUR HOUSEHOLD INCOME?

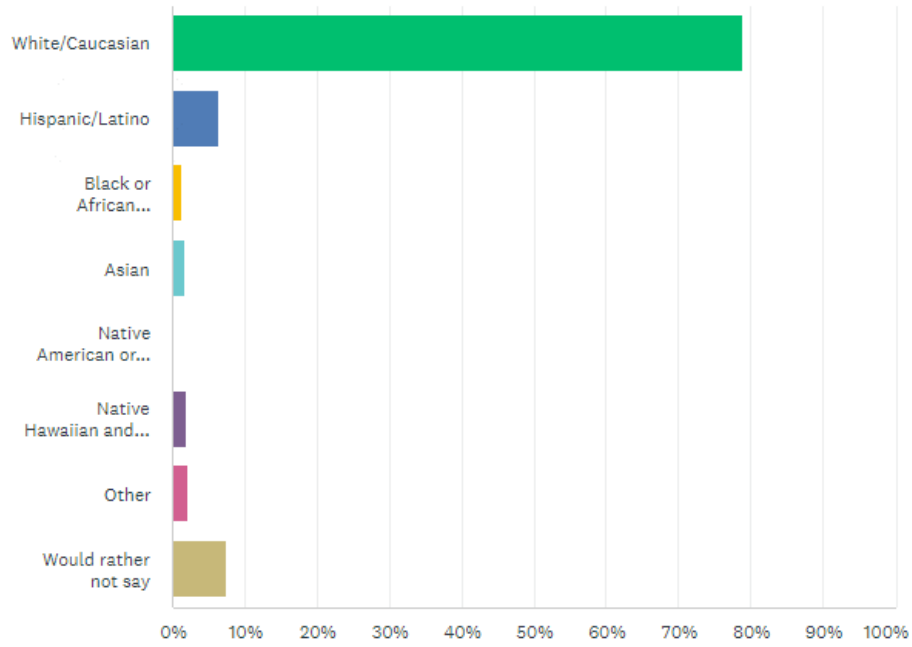
Answered: 366 Skipped: 0



ANSWER CHOICES	RESPONSES	
Under \$25,000	2.46%	9
Between \$25,000 and \$49,999	5.19%	19
Between \$50,000 and \$74,999	11.48%	42
Between \$75,000 and \$99,999	21.86%	80
Over \$100,000	47.27%	173
Would rather not say	11.75%	43
TOTAL		366

HOW DO YOU DESCRIBE YOURSELF?

Answered: 365 Skipped: 1



ANSWER CHOICES	RESPONSES	
▼ White/Caucasian	78.90%	288
▼ Hispanic/Latino	6.30%	23
▼ Black or African American	1.37%	5
▼ Asian	1.64%	6
▼ Native American or Alaska native	0.27%	1
▼ Native Hawaiian and/or Pacific Islander	1.92%	7
▼ Other	2.19%	8
▼ Would rather not say	7.40%	27
TOTAL		365

A1.2: SURVEY 2 FREE RESPONSE QUESTIONS

Q1 Are there additional themes the Community Development Team should consider when completing recommendations?

Answered: 115 Skipped: 44

#	RESPONSES	DATE
1	No	6/12/2022 8:41 PM
2	On street parking restrictions to allow better flow of traffic, safer pedestrian crosswalks, and to reduce overcrowding of popular destinations such as the Utah Lake access at the West end of Center Street.	6/8/2022 1:23 PM
3	Specifically look at school crosswalks	6/7/2022 1:36 PM
4	Bike/walking trail under the Vineyard Connector Road overpass over the railway.	6/7/2022 9:04 AM
5	The roads in and out of Vineyard are getting crowded. I'd love to see more ones or another way to go to and from Vineyard.	6/7/2022 7:33 AM
6	Light at 400 N and Main remains confusing for those not facing it.	6/6/2022 7:26 PM
7	Banning motorized bikes/scooters from walking trails. It's so dangerous for kids walking and noisy!	6/6/2022 7:04 PM
8	Traffic routed away from residential streets — so some main thoroughfares that are stone fenced away from homes like Main Street— and the rest of the streets smaller with good lighting and multiple crosswalks and speed deterrents.	6/6/2022 4:42 PM
9	Vineyard could get great exposure and sharing of ideas as a formal participant in the 15 Minute City Project; https://www.15minutecity.com/	6/6/2022 3:50 PM
10	More lanes on 800 N	6/6/2022 3:46 PM
11	Not sure what stores or store types are planned for the North are by the trax station. It would be nice to know the plans, be more transparent with Vineyard residents. There needs to be a flashing crosswalk on the East Side of the round a bout crossing center street. I am surprised there are not more deaths. Can we please enforce the no parking on the streets? It's getting ridiculous	6/6/2022 3:42 PM
12	Parking parking and rental basements	6/6/2022 3:35 PM
13	Protected bike lanes or bike lanes that are separated from automobile traffic	6/6/2022 3:34 PM
14	Improving the trail along the train tracks to match the quality of other trails around Vineyard— trees, grass, pavement maintenance.	6/6/2022 3:29 PM
15	There is a big need for a grocery store in Vineyard.	6/6/2022 3:28 PM
16	More access points to get over both sets of railroad tracks. Even with the Vineyard Connector road traffic is going to be a major issue getting to the neighborhoods in the west side of the tracks. Have 400 north go through to Mill road to help alleviate some of the congestion at Geneva and Center Street.	6/5/2022 2:30 PM
17	Aim to lower traffic	6/4/2022 11:12 PM
18	Changing bus route to avoid areas with lots of kids	6/4/2022 4:38 PM
19	I don't have a theme to suggest	6/4/2022 2:54 PM
20	No	6/4/2022 10:43 AM
21	More trails would be nice.	6/4/2022 10:18 AM
22	Traffic light at intersection of main street and vineyard loop road!	6/1/2022 8:22 AM
23	Traffic light at 400 N & Main St	5/28/2022 11:16 PM

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24	Trees and other shade near paths	5/28/2022 4:23 PM
25	Improved access in and out of the city.	5/28/2022 9:20 AM
26	Allow electric scooters	5/28/2022 7:09 AM
27	Expanding Vineyard connector rd. while there is very little along its sides. We will need more than a single lane both ways.	5/28/2022 12:57 AM
28	Better access and parking at present lake trail! How about adding some benches, drinking fountains. Bikes, four wheelers and skate boards are becoming a problem for us walkers on the lake trail.	5/27/2022 3:31 PM
29	judging by the current population growth and popularity of them, more park/playgrounds would be awesome. maybe even a dog-free park so we don't have to worry about stepping in messes while playing out there	5/27/2022 2:54 PM
30	Public Parking	5/27/2022 12:40 PM
31	More access to safe biking lanes, larger trail connections through city.	5/27/2022 9:52 AM
32	Regular clean-up programs to keep the area/crosswalks/trails picked up and clean	5/26/2022 9:23 PM
33	Franklin Discovery Academy. Crosswalks across Center St as well as a left turning lane out of the school. Crosswalk across Main Street connecting Parkside and Hampton neighborhoods.	5/26/2022 8:33 PM
34	Improved signage and crosswalks	5/26/2022 2:46 PM
35	Traffic lights	5/26/2022 8:08 AM
36	Family friendly	5/26/2022 5:38 AM
37	A traffic light at 400 N and Main st please	5/25/2022 7:46 PM
38	More crosswalks to and from parks	5/25/2022 6:15 PM
39	Trail upkeep. Making sure when we do bike we aren't getting flat tires all the time from overgrown/ weed/ thrones	5/25/2022 6:09 PM
40	No	5/25/2022 5:54 PM
41	Improved traffic for vehicles.	5/25/2022 4:49 PM
42	I don't think taking out a lane to make a bike lane makes sense until the downtown area is actually built since that will be much more of a draw for residents to bike to. For now I agree that asphalt paths need to be more continuous so you wouldn't need to go from an asphalt path to a concrete sidewalk.	5/25/2022 4:22 PM
43	More egress to the community, e.g. have 400north go all the way through past Trailside, RR crossing arms, and to Geneva. Also a bike/ped path along that as well. Center St bridge is horrible and seems an afterthought	5/25/2022 4:14 PM
44	Lower the speed limit to 20 mph. Just like the babies on holdaway rd got. But maybe you have to be from the Holdaway family to get something like that.	5/25/2022 6:40 AM
45	The theme is safety. No one feels safe riding on center street because it's become a drag race for cars in high density housing by the lake	5/25/2022 5:48 AM
46	Don't forget considerations for normal traffic as well. One of the greatest benefits of Vineyard is being so close to main roads and freeway access. If you make it take twice as long to get from home to a main road, I think that is a failure.	5/25/2022 1:14 AM
47	Nope	5/24/2022 11:53 PM
48	Stop spending money on these kinds of things. Privatize as much as you can. You steal my \$\$ and give little back.	5/24/2022 11:27 PM
49	Less density already	5/24/2022 10:38 PM
50	I don't mean to sound cynical but we also need to consider building and adapting roads to support a higher volume of automobile traffic. Entry points to the city are easily overburdened and congested because they are only two lanes wide—one lane in each direction. Discussion	5/24/2022 10:05 PM

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regarding the road leading to and from the new downtown land front area included plans for another two-lane road—again, only one lane in each direction. But that road is also expected to sustain visitors from outside Vineyard, including tourists from all over the state, and within Vineyard.

51	A pedestrian walkway over the railroad tracks and near Trailside Elementary would be amazing	5/24/2022 9:18 PM
52	Motor vehicle driver education	5/24/2022 8:28 PM
53	Crosswalks crosswalks crosswalks :)	5/24/2022 8:25 PM
54	Running. Perhaps even some distance markers for runners	5/24/2022 8:15 PM
55	More lanes on the roads	5/24/2022 8:11 PM
56	We need to have regular stop lights.	5/24/2022 7:18 PM
57	Stoplight on Main Street by freedom	5/24/2022 5:56 PM
58	No, I'm particularly interested in more protected crosswalks on Main Street.	5/24/2022 5:38 PM
59	Safety	5/24/2022 5:35 PM
60	Child safety routes to school	5/24/2022 5:11 PM
61	Protected bike lanes. More destinations in general - more people would ride or walk places if they didn't have to go into Orem to run errands	5/24/2022 3:55 PM
62	Better connections/straighter connections on trails at intersections.	5/24/2022 3:01 PM
63	The school zone signs. The ones for Franklin Discovery Academy are placed wrong. Going towards the bridge has no use. Moving to before the school and closer to Gammon park is better.	5/24/2022 2:56 PM
64	Nothing to add, but agreed on the topics listed. I have recently been using our sidewalks/trails more and a lot of the crosswalks either don't exist in convenient locations or have blind corners (large cement walls or the roads turn right at the walkway) making them dangerous to cross if cars are not actively looking for pedestrians.	5/24/2022 2:42 PM
65	Less Accessory Dwelling Units (ADUs). It seems that all the single family home areas are turning into high density as half the owners add a basement apartment. And half the time, they seem to be figuring a way to rent both top and bottom and don't even live there.	5/24/2022 1:52 PM
66	Those are the same concerns I have.	5/24/2022 1:40 PM
67	Specifically a crossing area from the gardens neighborhood to gammon park I've almost been hit with my children.	5/24/2022 1:34 PM
68	Connections to new and future retail space	5/24/2022 1:27 PM
69	Dredging of Utah lake. Spraying for mayflies/mosquitos	5/24/2022 1:22 PM
70	Signs when the street don't have outlet	5/24/2022 1:13 PM
71	Better upkeep of existing trails (especially with weeds and goat heads)	5/24/2022 12:51 PM
72	Lower speed limits in residential areas	5/24/2022 12:46 PM
73	Make more room for the UTA buses in our streets. Everything else sounds spot on!	5/24/2022 11:49 AM
74	No development of islands in the lake causing more traffic in and out of vineyard. Traffic trying to get in and out at peak work commute times is already bad, maybe widen roads on vineyard connector road passed Geneva to 800 N Limit further development to more infrastructure than housing such as grocery stores and necessary commodities. Try to attract more upscale and independent shops and eateries.	5/24/2022 11:19 AM
75	More traffic enforcement on main street.	5/24/2022 11:00 AM
76	Trails are nice to walk our dogs but a dedicated dog park would be wonderful to have close to our neighborhoods.	5/24/2022 10:35 AM
77	Safety	5/24/2022 10:34 AM

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78	?	5/24/2022 9:40 AM
79	Protected/separate/dedicated Bike, Car and Pedestrian lanes. Europe has this as a standard - safer, fewer accidents, higher usage. Bike lanes used heavily for commuting directly to work or to Transit (bus/tarins..)	5/24/2022 9:05 AM
80	Too much high density housing causing too much traffic.	5/24/2022 8:55 AM
81	Stop signs and traffic lights at certain intersections.	5/24/2022 2:14 AM
82	Wheelchair accessibility	5/24/2022 12:45 AM
83	More public transportation.	5/23/2022 10:22 PM
84	Sidewalks on both sides of main and center to the south and west of the roundabout	5/23/2022 10:00 PM
85	More trails	5/23/2022 9:46 PM
86	Better dining	5/23/2022 9:44 PM
87	Lights at the main intersection	5/23/2022 9:42 PM
88	Making as much of the city walkable as possible	5/23/2022 8:06 PM
89	Development of trails , walkways, and useable space along the lakefront	5/23/2022 5:47 PM
90	Lower the speed limit in all neighborhoods and have it well posted	5/23/2022 4:45 PM
91	I'm in agreement with the ones listed.	5/23/2022 4:31 PM
92	Bike lanes off the street so we don't risk getting hit by distracted drivers.	5/23/2022 4:20 PM
93	Access to a grocery store without needing a car or having to travel east of I-15.	5/23/2022 4:02 PM
94	No	5/23/2022 3:48 PM
95	Better driver education about their responsibility to share the road with cyclists.	5/23/2022 3:47 PM
96	Infrastructure for future EV development, like charging stations at the FrontRunner station, charging stations at other public places, and guidance or mandates for charging in high-density developments.	5/23/2022 3:41 PM
97	No, these are spot on.	5/23/2022 3:37 PM
98	traffic light at the new intersection; and at the first intersection on Main Street coming in to the Villas	5/23/2022 3:30 PM
99	no	5/23/2022 3:25 PM
100	Not only more bike lanes, but better bike lanes. Uni-directional bike lanes are more expensive to put in, less safe, and less used than bi-directional protected bike lanes. Additionally, common destinations like grocery stores being brought in to the community would be amazing.	5/23/2022 3:24 PM
101	There are currently no safe ways to get into Orem if you're not in a car or on the bus. There are no sidewalks on Vineyard Connector (cars veer onto the shoulder and park often making it dangerous to use a bike on this road), or on Center Street in Orem when crossing the train tracks.	5/23/2022 3:23 PM
102	There are a lot of "self-propelled" vehicles using the walkways - they endanger slower traffic and the motorized (gas-powered) ones make it noxious and are noisy. Please crack down on this.	5/23/2022 3:19 PM
103	I would love to see garbage cans at all the local parks. There are a lot of little smaller parks that do not have garbage cans, and subsequently have a lot of trash. Or, I would love to be paid to go on nightly walks to collect the trash that I see. 😊	5/23/2022 3:15 PM
104	There should be a stop light added @ Main and Vineyard Rd. (400N) the yellow flashing late needs to be updated	5/23/2022 3:14 PM
105	Traffic Lights at vineyard loop and main st.	5/23/2022 3:08 PM
106	I would prefer the CDT to rely on city planning/engineering expertise rather than the loudest voices of armchair traffic engineer residents.	5/23/2022 3:07 PM

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107	No	5/23/2022 2:56 PM
108	No	5/23/2022 2:55 PM
109	More train crossings such as one at the train station location. Soft-surface/natural trails or woodchip trails are much easier to make and maintain. Never-ending pavement is obnoxious and antithetical for the main appeal of the area; its natural lake views.	5/18/2022 6:40 PM
110	Maintaining trails that are already in use.	5/18/2022 4:16 PM
111	With limited access across the rail corridor. What is the plan to accommodate vehicle traffic with all the Main Street crossing improvements?	5/18/2022 3:28 PM
112	The ones mentioned above are what I am concerned about as well	5/18/2022 10:58 AM
113	What about something for dog walkers	5/18/2022 10:55 AM
114	No	5/12/2022 6:19 PM
115	Pedestrian safety, especially around schools	5/11/2022 1:16 PM

Vineyard Active Transportation Plan Draft Recommendations

Q4 Do you have any issues/concerns with the current recommendations?

Answered: 71 Skipped: 88

#	RESPONSES	DATE
1	No	6/12/2022 8:45 PM
2	There is too much emphasis on bike transportation. A better balance is needed between auto traffic, pedestrian traffic, and bicycles.	6/8/2022 1:35 PM
3	Make better biking for kids going to Freedom and Vineyard as well	6/7/2022 1:39 PM
4	No	6/6/2022 7:31 PM
5	Specifically the safety of WALKERS AND CHILDREN on the path on the south side of the willows. Motorcycles already regularly cut through the walking bridge into the Willows and if an improvement is made, please fix this! Is currently SO unsafe.	6/6/2022 7:18 PM
6	No	6/6/2022 5:12 PM
7	Not forward looking enough. There is already way too much traffic trying to get in and out of Vineyard 7:30-9am, 11-1, 4:30-6:30. Help!!!	6/6/2022 4:54 PM
8	Probably need more detail to really have an opinion or issue	6/6/2022 3:49 PM
9	None	6/6/2022 3:32 PM
10	Yes, the bike lanes, etc are not important. We need to focus the budget on getting ahead of the increased traffic that is inevitable.	6/5/2022 2:37 PM
11	The 400N bridge should include a road for cars to allow another entrance/exit point for Vineyard	6/4/2022 11:17 PM
12	Bus route on main st should be eliminated and redirected somewhere else. Single family home areas will have little to no need for a bus stop. Too many children crossing streets and playing near bus stops is a tragedy waiting to happen.	6/4/2022 4:42 PM
13	No concerns.	6/4/2022 10:45 AM
14	No	6/4/2022 10:45 AM
15	There is no proposed light on vineyard loop road/main street across from Penny Springs Park. It is a very dangerous intersection that needs serious attention	6/1/2022 8:25 AM
16	Need light at 400 N & Main	5/28/2022 11:25 PM
17	No	5/28/2022 4:26 PM
18	Access from north Vineyard to south Vineyard is extremely limited. It's disappointing to see that there are no planned improvements for that access.	5/28/2022 9:28 AM
19	Bike lanes on the current configuration of Main St.?	5/27/2022 3:32 PM
20	Bike/Pedestrian railroad crossing at Trailside is nice, however, why not make a crossing for 400n? doesn't have to be a bridge, just crossing arms - fairly common thing in other cities. and get 400n connected to Geneva road?	5/27/2022 3:02 PM
21	I don't love the front runner station. I believe it's a chance for the homeless to start making their way through our city	5/27/2022 9:54 AM
22	no	5/26/2022 9:28 PM
23	No	5/26/2022 8:37 PM
24	Will there be a light and/or slower speed limit on Main Street? The intersection of Main and Vineyard Loop Road is dangerous because people drive very fast and there is also a bit of a blind curve. A light would definitely be safer.	5/26/2022 8:23 AM

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25	No	5/26/2022 5:44 AM
26	We really need a traffic light at 400 N and Main. It is so hard to turn when dropping kids to school. Would help drivers and pedestrians.	5/25/2022 7:50 PM
27	I don't understand the Holdaway road stuff. Unclear as to what this entails	5/25/2022 6:13 PM
28	No	5/25/2022 5:57 PM
29	No	5/25/2022 4:58 PM
30	I don't want main street and center street to become 1 lane and I don't want to speed limit to be reduced. Bike paths should be supplemental not a hindrance.	5/25/2022 4:32 PM
31	Yes, 400 roadway should go across railroad as well as a path. Path can be a bridge, but there should be at least a standard crossing there with lights/arms. Existing roads in/out of north vineyard are not sufficient	5/25/2022 4:22 PM
32	Yes, stop spending money on stupid things like no bike paths. This is no it the role of government to provide this kind of thing	5/25/2022 6:46 AM
33	400 north should be a full traffic railroad crossing. Having another entry point to the school, and another way to access the amenities on mill road, would be awesome.	5/25/2022 1:20 AM
34	You're spending my hard earned money stolen from me thru taxation. I don't need you.	5/24/2022 11:28 PM
35	I'm not informed enough to have objections.	5/24/2022 10:16 PM
36	Motor vehicles speed WAY too much on main and center	5/24/2022 8:32 PM
37	No	5/24/2022 8:32 PM
38	No	5/24/2022 5:41 PM
39	No	5/24/2022 5:13 PM
40	These all sound great!	5/24/2022 4:17 PM
41	Main Street to 400 South needs to be completed before Holdaway Road changes.	5/24/2022 3:55 PM
42	There are no recommendations for improving neighborhood intersections with the trail. Currently they are very inconvenient and unsafe. It would be nice if an at grade crossing at Trailside Elementary was possible. I don't see myself ever using stairs to get over the tracks.	5/24/2022 3:08 PM
43	No	5/24/2022 1:37 PM
44	Vineyard is already very congested. I'm concerned we might over correct into "bike friendly" which will only add to the traffic/congestion felt by residents. If we bare that in mind I think everyone wins	5/24/2022 1:26 PM
45	No	5/24/2022 1:13 PM
46	No	5/24/2022 1:10 PM
47	motorized scooters and/or electric bikes that are ridden recklessly in areas designed for careful/lower speed	5/24/2022 12:54 PM
48	No	5/24/2022 11:03 AM
49	no	5/24/2022 9:45 AM
50	No	5/23/2022 10:28 PM
51	Would the Holdaway Rd Bike Boulevard connect to any bike infrastructure or trails on either end of the road?	5/23/2022 10:07 PM
52	No	5/23/2022 10:04 PM
53	Actual traffic light where the crossing light is	5/23/2022 9:45 PM
54	400s and geneva needs to be the very most important	5/23/2022 4:48 PM
55	Show proposed connection from Center St. Overpass to Geneva Rd. Show proposed connection from Train station to Main St. Shared use path between Holdaway Rd and Lakeside	5/23/2022 4:16 PM

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	Park does not exist yet, it should be marked as 'proposed'.	
56	No	5/23/2022 4:12 PM
57	Lack of parking space for high density housing The Springs condos and townhomes is spilling over into nearby neighborhoods.	5/23/2022 4:07 PM
58	No	5/23/2022 4:00 PM
59	I'm so grateful you are working on this! It really is a danger trying to get to the clubhouse from vineyard loop road across Main Street. That road impacted where I decided to enroll my kids, because it's too stressful driving straight through Main Street to Trailside Elementary. Every day I turn north onto Main Street from Vineyard loop road praying that someone won't be dumb and accidentally hit me. Thank you thank you thank you!! I don't know what you have planned, but a 4-way stop would be nice, and extra lanes if possible to turn into. I don't know how it all works!	5/23/2022 3:59 PM
60	I'd like to see the 400 N crossing and Main Street projects completed first.	5/23/2022 3:50 PM
61	no	5/23/2022 3:30 PM
62	No	5/23/2022 3:21 PM
63	no	5/23/2022 3:17 PM
64	Yes! It seems like a lot of folks concerns are not about smart planning for the future of vineyard, but rather about "preserving a small town" that simply does not exist anymore and definitely will not exist in the future. The Holdaway Rd project in particular feels like it is based on emotion rather than sound city planning.	5/23/2022 3:07 PM
65	The Lehi Rail trail should be pedestrian-accessible from the train stop (which is already is previous UVU master plans). This would be a major improvement to accessibility around the area allowing crossing the tracks from the West to East.	5/18/2022 7:19 PM
66	I'm super stoked for the Lehi Rail Trail!	5/18/2022 4:44 PM
67	Projects 1,2 and 3 do not meet the criteria you described in the document. The plan puts bike lanes on main Street and Center Street that do not serve the majority of citizens in Vineyard.	5/18/2022 3:38 PM
68	No	5/18/2022 11:01 AM
69	Dog walkers are excluded	5/18/2022 10:57 AM
70	No	5/12/2022 6:22 PM
71	All are needed	5/11/2022 1:18 PM

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Q5 Are there any additional recommendations you feel should be added?

Answered: 71 Skipped: 88

#	RESPONSES	DATE
1	No	6/12/2022 8:45 PM
2	Please consider the costs of each item and weigh them against the benefits. Some ideas may be good but not worth the cost to residents.	6/8/2022 1:35 PM
3	Light at Vineyard Loop and Main	6/6/2022 7:31 PM
4	People in the Willows along the trails paid extra premiums for their lots to back up to a natural area. Google maps has one area you are proposing improving listed as a motorcross sport bike trail. It's dusty, loud and obnoxious. It's scared all the deer away, encouraged increased dirt bike use on the trail and bridge which is unsafe and is causing a literal dust bowl in our private yards. Please consider in your plans keeping this area natural and moving the improvements to the side of Center St, where there are ample entrances to neighborhoods instead of disturbing this area.	6/6/2022 7:18 PM
5	Traffic on 8th North and Center Street needs better routing and traffic control timing.	6/6/2022 4:54 PM
6	Vineyard should be the first Utah city to participate in the Google Maps parking project. https://www.usatoday.com/story/tech/2021/02/17/google-maps-feature-lets-you-pay-parking-transit-within-app/6778446002/	6/6/2022 3:55 PM
7	Let's be done with apartments. With allowing renters, our city has probably doubled, but it doesn't reflect on the census, because the renters don't count. So if we stop building apartments/ townhomes, that would be great. I think revisiting the renters in homes/ air bnb type rentals. I think we opened a can of worms, and the worms are making a mess of what can be a beautiful city. Also, speaking of beautiful city, there are a lot of huge weeds, where there should be NO weeds, especially along trails. I am sure COVID has made things ugly, but it's time to put a little more energy into maintaining the paths, walkways, sidewalks etc.	6/6/2022 3:49 PM
8	There needs to be an emphasis on moving safely into Orem by either Vineyard Connector or Center Street. Both of those roads are very dangerous if you're not in a car. I was on Vineyard Connector yesterday and a firetruck was coming the other way; a person on the other side of the road was pulling off to the side to let the firetruck pass and nearly ran over a person on a bicycle. On Center Street, there is no sidewalk, bike lane, or shoulder as the street passes over the train tracks meaning that someone on a bike would need to ride in traffic	6/6/2022 3:39 PM
9	Improvements for existing trail along the railroad tracks.	6/6/2022 3:32 PM
10	Same as last question, 400N car bridge	6/4/2022 11:17 PM
11	We need a grocery store asap! Would love to see more focus and attracting food and retail to Vineyard.	6/4/2022 10:45 AM
12	No	6/4/2022 10:45 AM
13	Extending Vineyard Connector to 300 W	6/3/2022 3:45 PM
14	Passionate about that light!	6/1/2022 8:25 AM
15	No	5/28/2022 11:25 PM
16	The traffic light at the intersection of Main Street and 400 N (by Grove park) should be the top priority! And then a possible light but definitely a crosswalk connecting the Hampton and Parkside neighborhoods! Thank you!	5/28/2022 3:32 PM
17	Extend Main Street to be a through street to limit traffic on Holdaway. Holdaway is a disaster as the most direct through street from north Vineyard to south Vineyard. Commuters aren't happy and residents aren't happy. It seems the only solution is to provide a viable alternative and reduce traffic volume on Holdaway altogether.	5/28/2022 9:28 AM

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18	More parking. Make the street parking around the Lakefront community available overnight. Require more parking for any future high density residential developments.	5/28/2022 1:04 AM
19	A pedestrian bridge over 800 N (Vineyard Con.).	5/27/2022 3:32 PM
20	we need more options to get in/out of the neighborhoods. the new center st bridge feels like an afterthought and really doesn't function well but at least it's an option. 800n is packed and stacked at certain times and 400s doesn't cater well to the population density further north and doesn't handle heavy traffic at all	5/27/2022 3:02 PM
21	Not at this time	5/27/2022 9:54 AM
22	no	5/26/2022 9:28 PM
23	No	5/26/2022 8:37 PM
24	Are there plans to create another road somewhere that goes over the railroad tracks and creates another route in and out of Vineyard? I know that's a tall order but it's really needed. Also, I hope there are plans once new downtown construction starts to add a lane coming into Vineyard from 800 N.	5/26/2022 8:23 AM
25	No	5/25/2022 5:57 PM
26	Stop light at intersection of Vineyard Loop Rd and Main Street.	5/25/2022 4:58 PM
27	No	5/25/2022 4:32 PM
28	Speed bumps would be a better way to slow down traffic on holdaway ...	5/25/2022 4:22 PM
29	Let's add hover board paths. And unicorn crossings.	5/25/2022 6:46 AM
30	Maybe a crosswalk across center street (drag race road) for kids and families crossing	5/25/2022 5:51 AM
31	Create official crossings and then enforce and ticket jaywalking. I myself have almost had quite a few accidents with people of all ages, not just children, crossing Main Street, loop road, center st, etc in the middle of the block instead of at official crossings.	5/25/2022 1:20 AM
32	Yes, quit. All of you.	5/24/2022 11:28 PM
33	Only the recommendation I previously mentioned to design future roads to accommodate higher volumes of automobile traffic.	5/24/2022 10:16 PM
34	Enforce motor vehicle speeding/safety and education about bikes	5/24/2022 8:32 PM
35	Again, please strongly consider a crosswalk at the entrance of grove park over to cascade. Many families walk to their sports and activities here, and people are crossing all the time. I see kids as small as first graders crossing here all the time. Young moms with 4 kids and a stroller, etc. And cars zoom by with no crosswalk. Kids can't go cross north to south west by the existing crosswalk on Main Street and vineyard loop road... because cars fly around that intersection and it's just too far of a walk from the entrance of grove park. Need a crosswalk at entrance of grove park. Even a simple painted one is fine. It will slow drivers down a fraction of the time, but it's worth it. Seriously - go sit there on a summer afternoon, or before school, and see how many kids cross right here. Thanks!	5/24/2022 8:32 PM
36	I would love a crosswalk at the entrance to the Hamptons neighborhood, crossing Main Street to the park!	5/24/2022 5:41 PM
37	More safety cross guards or police to control speed limit	5/24/2022 5:13 PM
38	There are no recommendations for improving neighborhood intersections with the trail. Currently they are very inconvenient and unsafe.	5/24/2022 3:08 PM
39	Changing the speed zone signs near Franklin Discovery Academy. They aren't placed correctly. It would help be more safe. Also, maybe putting a solar powered speed limit sign down the bridge. It's 25 on the bridge, but people go way above that. They try to go 35 or more. The bridge is dangerous going that fast.	5/24/2022 3:00 PM
40	There is a major need for a cross walk closer to Franklin Discovery Academy across Center Street. Kids walking to/from school from the West would need to walk all the way to North Vineyard road and back down to get home. Most kids will not walk that far and will choose to run across 4 lanes of traffic to avoid the extra walking. Getting out of the school in a car is	5/24/2022 2:49 PM

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also difficult since you need to make a u-turn before the N Vineyard road light which impacts traffic from both directions.

41	Traffic returning from work, getting into vineyard via Center Street. Turning left from Mill Rd. onto the Center Street overpass. The overpass is awesome, but the left turn lane to get onto it isn't long enough when people are coming home from work. The traffic gets dangerous as cars get stuck behind left turning cars, other cars realize they can't get over to turn onto center as the line goes all the way back and sometimes past the previous left turn. Not sure what can be done, but it is pretty hectic at that intersection each time I return home from work.	5/24/2022 2:01 PM
42	Not so many bus stops... There's so many in such a small area.	5/24/2022 1:37 PM
43	I love that Vineyard prioritizes bike and walking paths. We have small children that will greatly benefit from new safe crossing zones on main roads. Please continue to focus on new retail opportunities, especially a grocery store. We need a closer grocery store more than we need new bike trails or residential.	5/24/2022 1:32 PM
44	No	5/24/2022 1:13 PM
45	We need easier access to the downtown area in the future.	5/24/2022 1:10 PM
46	I would like to see center street overpass landscaped to help improve the weeds and look visually appealing. We were told before there were be privacy trees and other nice landscaping added the spring after the overpass was done.	5/24/2022 1:04 PM
47	Try not to remove the native trees there, along trails etc, it takes so long for new ones to grow and a lot of the new trees struggle from what I've seen.	5/24/2022 11:23 AM
48	No	5/24/2022 11:03 AM
49	YES... an off leash dog park would be great to have near our homes so our dogs have a chance to play with other dogs and run around instead of always being on a leash outdoors. Others I have spoken to agree but may not contact or express this to your group.	5/24/2022 10:47 AM
50	no	5/24/2022 9:45 AM
51	No	5/23/2022 10:28 PM
52	Trails leading to a grocery store	5/23/2022 10:07 PM
53	More crosswalks. Connect all trails and add sidewalks on all sides of the road	5/23/2022 10:04 PM
54	Again lower the speed limits in all neighborhoods to 15 mph and have it posted	5/23/2022 4:48 PM
55	I recognize that Vineyard doesn't control the entire route but I would sure love to see the lake path connect to Utah Lake State park, especially providing a connection to the Provo River Bike path.	5/23/2022 4:37 PM
56	Traffic light, 4 way, or round about at Main and Vineyard loop	5/23/2022 4:12 PM
57	Perhaps the turn lane on Vineyard Loop Rd west of Main Street should be removed and street parking should be allowed on one side to help the nearby condos and townhomes. Parking is needed more than a dedicated turn lane. This would also help keep speeds lower.	5/23/2022 4:07 PM
58	No	5/23/2022 4:00 PM
59	I would love a crosswalk from The Preserve to the 55+ community entrance. We cross there a lot going on walks. There IS one down by Main Street and on even further down by the lake, but no one wants to backtrack.	5/23/2022 3:59 PM
60	The one thing Vineyard really lacks is access to a grocery store without the need of a car. I hope we get a grocer to come into the area and that the store is safely and easily accessible for bikes, transit, and other non-car options.	5/23/2022 3:50 PM
61	400 S Widened from Holdaway Rd to Lakeview Rd	5/23/2022 3:30 PM
62	See the comment about golf carts and other motorized vehicles. Children are not legally allowed to drive cars; are they legally allowed to drive smaller, electric cars? Moreover, are they allowed to drive these smaller, electric cars in bike lanes and on sidewalks?	5/23/2022 3:26 PM
63	No	5/23/2022 3:21 PM

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64	n/a	5/23/2022 3:17 PM
65	I feel like most of my fellow residents complain too much and too often. Vineyard is not ever going to be the small town it used to be; let's plan for the REAL future rather than the imagined past.	5/23/2022 3:07 PM
66	There have been plans to bring the running/bike lake trail further North. This would also be a major thing to prepare infrastructure for.	5/18/2022 7:19 PM
67	We should be looking at the underpass at the Vineyard Connector and the Rail Lines.	5/18/2022 3:38 PM
68	No	5/18/2022 11:01 AM
69	My puppy needs a place to walk	5/18/2022 10:57 AM
70	Walkara. way	5/12/2022 6:22 PM
71	no	5/11/2022 1:18 PM

Vineyard Active Transportation Plan Draft Recommendations

Q8 What issues do you encounter?

Answered: 52 Skipped: 107

#	RESPONSES	DATE
1	I have no idea how the crossing light works or what it is showing when trying to cross left. People almost get in crashes all the time. It makes me a little worried for my kids trying to cross for school	6/12/2022 8:46 PM
2	Too much vehicle traffic for the intersection to handle. A traffic light is needed. This issue was brought up before the Edge development was approved and, as predicted, the intersection is one of the most dangerous in the city.	6/8/2022 1:38 PM
3	The Hawk light doesn't work for a 4 way stop, those turning onto Main Street cannot see the red lights. Very often I will be very carefully pulling into the intersection and after I started the crossing guards will start walking out, it's so dangerous!	6/7/2022 1:40 PM
4	There really isn't sufficient ingress/egress for drop off and pick up. It's a space issue, probably without a solution. The challenges at the intersection of 400N and Main St. should be largely resolved by a four-way signal.	6/7/2022 8:05 AM
5	Light is confusing for those not facing it	6/6/2022 7:32 PM
6	All of the schools have issues! Almost every time I have stopped for the schoolbus or slowed to the 20mph, other drivers are wreckless and drive around. The community needs more education about the laws or more law enforcement!	6/6/2022 7:21 PM
7	With so many directions, it's unclear whether the crossing guards are about to step into the road	6/6/2022 5:42 PM
8	Signage and crossing guards are inadequate for the very large road that we are trying to control. Hard to see the guards and they don't seem to know what they're doing. Professional traffic control personnel are needed.	6/6/2022 4:56 PM
9	People don't always stop for pedestrians. Not just during school, but year round	6/6/2022 3:50 PM
10	Some people drive entirely too fast (in violation of the speed limits) on that street and I worry about the kids	6/6/2022 3:40 PM
11	Turning left onto 400 South has a blind spot	6/4/2022 10:45 AM
12	Speeding cars, cars ignoring signals, distracted drivers	5/28/2022 4:26 PM
13	The lack of a traffic light makes it SO hard to cross the street during school pickup times because there is so much traffic going one way, children crossing, and no way to keep traffic flowing in the perpendicular direction.	5/28/2022 3:34 PM
14	Need to be a light there	5/28/2022 1:45 PM
15	People not following traffic laws	5/28/2022 7:13 AM
16	Drivers not paying attention to the crossing guard and people speeding.	5/27/2022 8:52 PM
17	turning left coming from Trailside	5/27/2022 1:33 PM
18	No crosswalk across Center by Gammon Park. No left turn lane to exit the school.	5/26/2022 8:38 PM
19	Traffic on the corner of 400 N and main. So hard to turn with no stop or traffic light	5/25/2022 7:51 PM
20	People don't know where to turn to drop off their children so it causes lots of unnecessary traffic.	5/25/2022 6:20 PM
21	The general nightmare that is 400 south. I avoid holdaway road and take the other road by the Orem park to get to 400 s. Turning left onto 400 s is impossible when parents are dropping off children. The schools traffic flow needs to be re evaluated.	5/25/2022 1:22 AM

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22	Speeding Non-designated pedestrian crossing	5/24/2022 9:28 PM
23	They have a turn left only sign outside on the main drop off to the south East. But if every car turns left it creates a traffic jam. Need to allow some cars to turn right... or just take that sign down. Go sit there on a busy school morning and see how much the "turn left only" sign disrupts the natural flow of traffic.	5/24/2022 8:34 PM
24	Traffic backups when school and events at the park are occurring simultaneously	5/24/2022 8:19 PM
25	Distracted drivers and kids crossing without a crosswalk.	5/24/2022 5:39 PM
26	Cars exceeded speed limit	5/24/2022 5:13 PM
27	Parents are stopping on the opposite side of the street and people are cutting across through traffic. The parking lot should be reconfigured to take dropoff/pickup off the street. Traffic needs to flow here (400 S). Also, the "intersection" on the east end before the light needs help —maybe change access to that school parking lot. Redesign the parking lot for better function and safety. Can the school district get on board?	5/24/2022 4:08 PM
28	Too many cars	5/24/2022 3:57 PM
29	People driving to fast	5/24/2022 3:57 PM
30	Speeding. Those getting off the bridge continue their speed, even during school hours. The speed zone signs are also placed incorrectly.	5/24/2022 3:01 PM
31	Getting out of the school and back to the Gardens (or other west side) neighborhoods is difficult and not well planned. There is a lot of traffic coming into and out of that school and getting out does not seem like it was planned properly as you have to make a u-turn on Center street. Walking to school is a VERY short distance, but due to the lack of a cross-walk closer to the school it is not safe to do so or convenient if you have to walk all the way to N Vineyard Road.	5/24/2022 2:53 PM
32	Going downhill traveling west towards the stop light slowing down ppl behind me are always riding my tail	5/24/2022 1:38 PM
33	We need a light at the intersection	5/24/2022 1:10 PM
34	The HAWK is confusing regarding turning on blinking red. Traveling E-W on Vineyard Rd. is difficult due to traffic volume.	5/24/2022 12:56 PM
35	Drivers don't understand the 4 way stop when pedestrians are crossing. It holds up traffic.	5/24/2022 9:52 AM
36	cars driving through school bus stops with children present.	5/24/2022 2:23 AM
37	Cars stopping to do u turns in the lane.	5/23/2022 10:05 PM
38	The light	5/23/2022 9:46 PM
39	Almost got hit on my bike crossing main st using the current pedestrian crossing	5/23/2022 5:01 PM
40	Distracted drivers	5/23/2022 4:38 PM
41	People speed after leaving the protected cross walk. How big is the 20 mph area in the school zone. Need driver education about this particular school zone.	5/23/2022 4:19 PM
42	Traffic along 470 N and along 100 W often gets bad. The long stretch of street parking around the school means people are turning into a storage lot. Construction companies will park trucks and trailers here. Parking on both sides makes it too narrow for two-way traffic. People will leave cars and trailers and work vehicles all along the school for long periods. Others park too close to corners so its hard to see oncoming traffic and the sidewalk ramps get blocked. Perhaps we allow parking on only side of the street or only vehicles with permits can park on these streets overnight.	5/23/2022 4:11 PM
43	Congested - hard to make turn etc	5/23/2022 4:07 PM
44	Traffic and parking along 100 W and 470 N are often difficult. People park on either side of the street narrowing it to the width of one lane. Often I have to pull over to allow a car to pass before I can drive through. People will park very close to the street corners making visibility difficult. I have had vehicles leaving the school pull out in front of me several times because they can't see me coming. Many drivers don't actually use the school parking lot to drop off	5/23/2022 4:01 PM

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their kids they just use the street and stop wherever they can squeeze in or just turn on their hazards and stop where they are. People also park in front of the wheelchair ramps at crossing points. Non-residents also use the street-side parking along the school field for extended use. Construction companies park their work trucks and trailers here on the weekend. Some people drop their trailers here for the long-term. And people in the condos and townhomes to the north park here and walk home because their development doesn't have adequate parking. Overall the traffic on these two roads has become far heavier than anticipated.

45	As I stated before, driving from Vineyard Loop Road to Trailside is extremely unsafe. You have to drive through Main Street where cars are zooming back and forth.	5/23/2022 4:00 PM
46	People speeding and going around school buses during busy times	5/23/2022 3:09 PM
47	People making U-turns where they shouldn't.	5/23/2022 3:08 PM
48	The intersection needs a real traffic light. The current crossing light is confusing to vehicles.	5/23/2022 3:01 PM
49	The crossing is not normal and the light can only be seen from one direction of cars. It is extremely unsafe and ineffective. I've seen many cars have to slam on their brakes when traveling from north to south because there is no warning that cars are stopping or that pedestrians may be crossing. Its possible for a car to have no indication and turn right toward the lake and hit a pedestrian	5/18/2022 7:22 PM
50	Everyone is speeding and ignoring the cross walk lights	5/18/2022 10:58 AM
51	People speeding	5/12/2022 6:24 PM
52	Needs another type of crossing...hard for both kids and cars	5/11/2022 1:19 PM

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A2: CASE STUDIES

A2.1: MOBILITY HUB CASE STUDY

A2.1: MOBILITY HUB CASE STUDY

MOBILITY HUB CASE STUDY: UNIVERSITY OF DENVER

The University of Denver is a mid-size private college in suburban Denver with adjacency to the University of Denver Light Rail Station. The University has served as a partner to the City in supporting incremental mobility upgrades to the station area since 2016. Geography students of the University have received the opportunity to participate in station area upgrades as a component of certain courses. The station was completed in 2016, and additional improvements may occur.

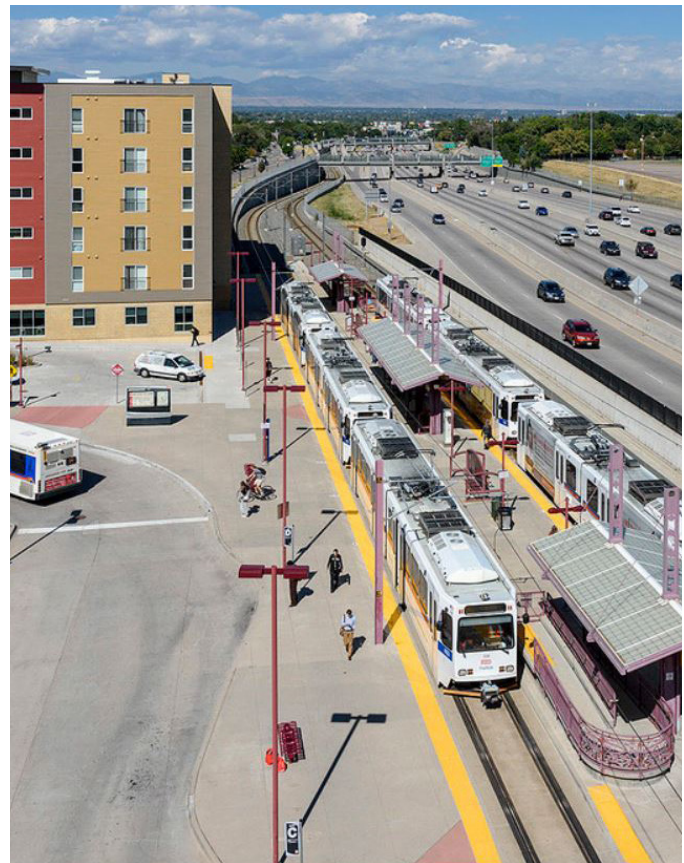
MOBILITY HUB ATTRIBUTES:

Partnership between the University, the City of Denver, and the Regional Transit District (RTD) has culminated in the following improvements to the station area:

- » Pedestrian upgrades to the intersection of University and Buchtel
- » Pedestrian upgrades to the intersection of University and Evans
- » Bikeway improvement to Buchtel
- » Car2Go carshare availability
- » Adjacency of modes including bus, light rail, carshare, bike, and pedestrian paths
- » Shared Mobility Pilots emphasizing light rail connection, including car-share and micro mobility pilots



wikipedia.com



flickr.com/photos/rtd-denver

A3: PROJECT PRIORITIZATION

A3.1: PROJECT PRIORITIZATION

A3.1: PROJECT PRIORITIZATION

The following table, **Table A3.1**, reiterates the prioritization method used to establish a list of the top active transportation projects recommended in this plan. **Table A3.2** provides the scoring for each project, separated by recommended active transportation facilities and spot improvements. Note

that **Table A3.2** should be read spread across two pages. A list of projects that are important but that are not being scored due to one of multiple factors (project is already in process, project is part of a separate plan, etc.) is included in **Table A.3.3**.

Table A3.1 Prioritization Method

GOAL	CRITERIA	SCORING METHODOLOGY
Support Vineyard's family-friendly amenities and way of life	Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	0 - Project does not connect to schools/family-friendly amenities
		1 - Project connects to one park
		2 - Project connects to one or more schools, parks, or clubhouses
	Provides facility that supports all ages and abilities	0 - Project type supports limited ages and abilities (Standard Bike Lanes/ Undetermined Facility)
		1 - Project type supports most ages and abilities (Buffered Bike Lanes/ Bicycle Boulevards/Intersection Improvements)
		2 - Project type supports all ages and abilities (Separated Bike Lanes/ Shared Use Path/Bridge)
Develop a diverse and resilient multimodal transportation system	Provides active transportation connections to transit	0 - Project does not provide connection to transit
		1 - Project provides connection to a bus route
		2 - Project provides connection to the Vineyard FrontRunner Station
	Connects to daily destinations (grocery stores, employment centers, etc.)	0 - Project does not provide connection to daily destinations
		1 - Project provides connection to the industrial area in north Vineyard
		2 - Project provides connection to downtown and/or the Megaplex area
	Connects to existing/ planned regional active transportation network (Lehi Rail Trail, Lindon Heritage Trail, 1600 N, Lakeshore Trail extension)	0 - Project does not connect with other existing and/or planned facilities
		1 - Project connects with one existing and/or planned facility
		2 - Project connects with multiple existing and/or planned facilities
OTHER	CRITERIA	SCORING METHODOLOGY
Feasibility	Public engagement priority	0 - No mention
		1 - Mentioned in either opportunities & constraints or public input map
		2 - Mentioned in both opportunities & constraints and public input map
	Funding or implementation underway	0 - Funding/implementation not underway
		1 - Funding/implementation soon underway (Sidepath on Center St along park, Hybrid Beacon at Lakeside Park, Vineyard Connector, Geneva Rd)
		2 - Funding/implementation underway (Rail Trail, 1600 N, Lindon Heritage Trail, Holdaway Rd)

Table A3.2 Project Scoring Table

							Supports Vineyard's family-friendly amenities and way of life		Develop a diverse & resilient multimodal transportation system			Feasibility		
							Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	Provides facility that supports all ages and abilities	Provides active transportation connections to transit	Connects to retail or employment opportunities	Connects to existing and planned regional active transportation network	Public engagement priority	Funding or implementation underway	
Project #	Project Name	Facility Type	Notes (Reasoning for Score)	Associated Spot Improvements	Extents: From	Extents: To	0-2	0-2	0-2	0-2	0-2	0-2	0-2	TOTAL
CORRIDOR RECOMMENDATIONS														
18	East Side Rail with Trail Extension	Shared Use Path	Shared use path, frontrunner connection, Connects to downtown, industrial area, and will connect to movie theater area, Connects to 1600 N and Lehi Historic Rail Trail, opportunities & constraints, Rail Trail	#10 Pedestrian Bridge over RR	1600 N	210 N	2	2	2	2	2	1	2	13
30	Lehi Historic Rail Trail	Shared Use Path	Shared use path, frontrunner connection, connection to downtown, ops, Lehi Historic Rail Trail		1600 N	Vineyard Connector Rd	1	2	2	2	2	1	2	12
29	Vineyard Connector Trail	Shared Use Path	Shared use path, bus route, connection to downtown, Connects to 1600 N and Lehi Historic Rail Trail, Mentioned in opportunities & constraints and public engagement map, Vineyard connector underway	#26: Vineyard Connector + Grand Boulevard	1600 N	Geneva Rd	1	2	1	2	2	2	1	11
5	Vineyard Connector Buffered Bike Lane	Buffered Bike Lane	Buffered bike lane, bus route, Downtown connection, Connects to 1600 N and Lehi Historic Rail Trail, Mentioned in opportunities & constraints and public engagement map, Vineyard connector underway	#15: Main St & Vineyard Connector Signal	1600 N	Geneva Rd	1	1	1	2	2	2	1	10
31	1600 N Shared Use Path	Shared Use Path	Shared use path, Connection to downtown and industrial area, 1600 N + lakeshore trail connection, opportunities & constraints, 1600 N corridor	#21: East Central Downtown Railroad Crossing	Utah Lake Shore Trail	Geneva Rd	1	2	0	2	2	1	2	10
42	Main St Buffered Bike Lanes	Buffered Bike Lane	Shared use path, bus route, Connection to downtown, Mentioned in opportunities & constraints and public engagement map		Vineyard Connector	Center St	2	2	1	2	0	2	0	9
43	1600 N Bike Lanes	Bike Lane	Buffered bike lane, Connection to downtown, 1600 N + lakeshore trail connection, opportunities & constraints, 1600 N corridor		RR tracks	Mill Rd extension	1	1	0	2	2	1	2	9
44	(OPTION B) Center Street shared use path	Shared Use Path	Shared use path, bus route, Mentioned in opportunities & constraints and public engagement map, Center St sidepath		Main St	Vineyard Rd	2	2	1	0	0	2	2	9
9	Holdaway Rd Sidepath	Shared Use Path	Shared use path, Mentioned in opportunities & constraints and Public Engagement map, Holdaway Rd project	#24: Main St & 110 N Street Crossing	Existing Holdaway Rd Sidepath	400 S	2	2	0	0	0	2	2	8

							Supports Vineyard's family-friendly amenities and way of life		Develop a diverse & resilient multimodal transportation system			Feasibility		
							Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	Provides facility that supports all ages and abilities	Provides active transportation connections to transit	Connects to retail or employment opportunities	Connects to existing and planned regional active transportation network	Public engagement priority	Funding or implementation underway	
Project #	Project Name	Facility Type	Notes (Reasoning for Score)	Associated Spot Improvements	Extents: From	Extents: To	0-2	0-2	0-2	0-2	0-2	0-2	0-2	TOTAL
CORRIDOR RECOMMENDATIONS (CONTINUED)														
22	400 N Sidepath	Shared Use Path	Shared use path, bus route, Connection to Rail Trail, ops	#10 Pedestrian Bridge over RR	Railroad	Geneva Rd	2	2	1	0	1	1	0	7
36	250 W	Shared Use Path	Shared use path, Connection to downtown, Connects with Lindon Heritage Trail and 1600 N		200 S	1600 N	1	2	0	2	2	0	0	7
59	Holdaway Bike Blvd	Bicycle Boulevard	Bicycle boulevard, Mentioned in opportunities & constraints and public engagement map, Holdaway Rd project		Center St	400 S	2	1	0	0	0	2	2	7
32	Geneva Road Sidepath	Shared Use Path	Shared use path, Connection to industrial area + movie theater area, Connection to 1600 N, opportunities & constraints		1600 N	400 N	0	2	0	2	1	1	0	6
33	Mill Rd Extension Separated Bike Lanes	Separated Bike Lane	Standard bike lane, Connection to movie theater/development area, Connection to 1600 N, opportunities & constraints		1600 N	Vineyard Connector Rd	0	2	0	2	1	1	0	6
8	Main St Sidepath	Shared Use Path	Shared use path, bus route, Mentioned in opportunities & constraints and public engagement map	#24: Main St & 110 N Street Crossing Main St	150 N	Center St	0	2	1	0	0	2	0	5
14	300 W to Utah Lake Connector Trail	Shared Use Path	Shared use path, Connects to Lakeshore trail		Utah Lake Front Trail	300 W	2	2	0	0	1	0	0	5
19	400 S Sidepath	Shared Use Path	Shared use path, Connects to Lakeshore trail, ops		Utah Lake Shore Trail	Vineyard Border/ Lakeside Park	1	2	0	0	1	1	0	5
27	470 N Shared Use Path	Shared Use Path	Shared use path, bus route		100 W	Main St	2	2	1	0	0	0	0	5
40	North Vineyard Rail with Trail Extension	Shared Use Path	Shared use path, Connects with 1600 N, Lehi Rail Trail, and Lindon Heritage Trail, opportunities & constraints		North of Center St	South of Center St	0	2	0	0	2	1	0	5
6	300 W Sidepath	Shared Use Path	Shared use path, Mentioned in opportunities & constraints and public engagement map		240 N	400 S	0	2	0	0	0	2	0	4
10	(OPTION A) Center Street Offset Bicycle Boulevard/ Shared Use Path	Bicycle Boulevard/ Shared Use Path	Bicycle boulevard + shared use path, bus route		Center & Main St	Vineyard Rd	2	1	1	0	0	0	0	4
16	Vineyard Connector to Vineyard Rd Trail	Shared Use Path	Shared use path, Connection to downtown		Vineyard Connector	Vineyard Rd	0	2	0	2	0	0	0	4

							Supports Vineyard's family-friendly amenities and way of life		Develop a diverse & resilient multimodal transportation system			Feasibility		
							Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	Provides facility that supports all ages and abilities	Provides active transportation connections to transit	Connects to retail or employment opportunities	Connects to existing and planned regional active transportation network	Public engagement priority	Funding or implementation underway	
Project #	Project Name	Facility Type	Notes (Reasoning for Score)	Associated Spot Improvements	Extents: From	Extents: To	0-2	0-2	0-2	0-2	0-2	0-2	0-2	TOTAL
CORRIDOR RECOMMENDATIONS (CONTINUED)														
25	Center Street Trail Offshoot	Shared Use Path	Shared use path, bus route, Connection to Rail Trail		Vineyard Rd	Rail with Trail	0	2	1	0	1	0	0	4
47	Vineyard Trail to Center St Connection	Shared Use Path	Shared use path, Public Engagement map		Vineyard Trail Connector (230 N)	Center St	1	2	0	0	0	1	0	4
52	Gammon Park Connection	Shared Use Path	Shared use path, bus route		Center St	Existing fish hook path	1	2	1	0	0	0	0	4
7	240 N Bicycle Blvd	Bicycle Boulevard	Bicycle boulevard , bus route	#6: Bicycle Boulevard Crossing	350 W Trail	160 E	1	1	1	0	0	0	0	3
13	190 E to Rail with Trail Connection	Shared Use Path	Shared use path, Connects to Rail Trail	#23 - Vineyard Loop Rd Crossing	190 E	Proposed Rail with Trail	0	2	0	0	1	0	0	3
15	240 N Bicycle Blvd Trail Connection	Shared Use Path	Shared use path, Connects to Lakeshore trail		Utah Lake Front Trail	350 W	0	2	0	0	1	0	0	3
20	575 S Sidepath	Shared Use Path	Shared use path, Connects to Lakeshore trail		Sleepy Ridge Dr	Geneva Rd	0	2	0	0	1	0	0	3
23	Holdaway Rd Trail Connection	Shared Use Path	Shared use path		Quivira Ln	Holdaway Rd	1	2	0	0	0	0	0	3
24	Fish Hook Trail	Shared Use Path	Shared use path		Trail east of Quivira Ln	Trail south of Dry Creek Ln	1	2	0	0	0	0	0	3
26	85 E Connector Trail	Shared Use Path	Shared use path		460 N	Vineyard Rd	1	2	0	0	0	0	0	3
38	Utah Lake Shore Connector	Shared Use Path	Shared use path, Connects with Lakeshore trail		Utah Lake Shore Trail	Lake View Dr	0	2	0	0	1	0	0	3
39	Main Street Side Path	Shared Use Path	Shared use path, opportunities & constraints		Zinfandel Ln	400 S	0	2	0	0	0	1	0	3
46	Orem Rail with Trail Continuation	Shared Use Path	Shared use path, Connection with Rail Trail		140 S	400 S	0	2	0	0	1	0	0	3
11	Vineyard Rd Trail Extension	Shared Use Path	Shared use path		West of Le Cheminant Dr	Center St	0	2	0	0	0	0	0	2
21	Golf Course Connector Trail	Shared Use Path	Shared use path		400 S	Lake View Dr	0	2	0	0	0	0	0	2
28	Central Neighborhood Connector Trail	Shared Use Path	Shared use path		470 N	Vineyard Rd	0	2	0	0	0	0	0	2
48	Holdaway Rd Connector	Unspecified Facility	Unspecified Facility		Holdaway Rd	Tungsten Way	2	0	0	0	0	0	0	2
50	Southwest Vineyard Bicycle Boulevard	Bicycle Boulevard	Bicycle boulevard, Connects to Lakeshore trail		400 S	Lake Shore Trail entrance, between 5 W and 45 E	0	1	0	0	1	0	0	2

							Supports Vineyard's family-friendly amenities and way of life		Develop a diverse & resilient multimodal transportation system			Feasibility		
							Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	Provides facility that supports all ages and abilities	Provides active transportation connections to transit	Connects to retail or employment opportunities	Connects to existing and planned regional active transportation network	Public engagement priority	Funding or implementation underway	
Project #	Project Name	Facility Type	Notes (Reasoning for Score)	Associated Spot Improvements	Extents: From	Extents: To	0-2	0-2	0-2	0-2	0-2	0-2	0-2	TOTAL
CORRIDOR RECOMMENDATIONS (CONTINUED)														
34	Center St Bike Lanes	Bike Lane	Standard bike lane, opportunities & constraints		Geneva Rd	800 W	0	0	0	0	0	1	0	1
45	Cortona Ln to Lakeside Sports Park Connector	Unspecified Facility	Unspecified Facility		Cortona Ln	Park connection off of 180 S	0	0	0	0	0	0	0	0
SPOT IMPROVEMENTS														
3	Mobility Hub	Mobility Hub	Mobility Hub, Frontrunner Connection, Creates connection to movie theater area, Connects to Lehi Rail Trail and East Side rail trail, opportunities & constraints				0	2	2	2	2	1	0	9
16	Vineyard Station and Mobility Hub Pedestrian Bridge	Pedestrian Bridge	Bridge, Frontrunner Connection, Creates connection to movie theater area, Connects to Lehi Rail Trail and East Side rail trail, opportunities & constraints				0	2	2	2	2	1	0	9
4	Center St Midblock Crossing	Midblock Crossing	Safe crossing, Bus route, Center St + Holdaway Rd hybrid beacon				2	1	1	0	0	2	2	8
7	Vineyard Rd & Main Traffic Signal	Physical Intersection Improvements	Intersection Improvements, Bus route				2	1	1	0	0	2	0	6
10	Pedestrian Bridge over Railroad	Pedestrian Bridge	Bridge, public engagement map				2	2	0	0	0	1	0	5
11	100 W/470 N Crossing	Midblock Crossing	Intersection Improvements				2	1	0	0	0	2	0	5
14	Holdway & Lakeside Sports Complex Hybrid Beacon	Active Transportation Signal or Beacon	Safe crossing, opportunities & constraints, Holdway & Lakeside Sports Complex Hybrid Beacon				2	1	0	0	0	1	1	5
5	Center & Main Roundabout Improvements	Physical Intersection Improvements	Intersection Improvements, Bus route				0	1	1	0	0	2	0	4
13	Center St & 105 E St Crossing	Physical Intersection Improvements	Intersection Improvements, Bus route, public engagement map				1	1	1	0	0	1	0	4
8	Vineyard Rd Midblock Crossing	Midblock Crossing	Intersection Improvements				2	1	0	0	0	0	0	3
20	170 S & Main St Crossing	Physical Intersection Improvements	Intersection Improvements, public engagement map				1	1	0	0	0	1	0	3
24	Main St & 110 N Street Crossing	Physical Intersection Improvements	Intersection Improvements, Bus route, public engagement map				0	1	1	0	0	1	0	3
9	Vineyard Rd Midblock Crossing 2	Midblock Crossing	Intersection Improvements, public engagement map				0	1	0	0	0	1	0	2

							Supports Vineyard's family-friendly amenities and way of life		Develop a diverse & resilient multimodal transportation system			Feasibility		
							Connects to schools and family-friendly amenities (parks, clubhouses, etc.)	Provides facility that supports all ages and abilities	Provides active transportation connections to transit	Connects to retail or employment opportunities	Connects to existing and planned regional active transportation network	Public engagement priority	Funding or implementation underway	
Project #	Project Name	Facility Type	Notes (Reasoning for Score)	Associated Spot Improvements	Extents: From	Extents: To	0-2	0-2	0-2	0-2	0-2	0-2	0-2	TOTAL
SPOT IMPROVEMENTS (CONTINUED)														
17	Center St & 300 W Roundabout improvement	Physical Intersection Improvements	Intersection Improvements, Connects to lakeshore trail				0	1	0	0	1	0	0	2
18	240 N & 300 W Crossing	Physical Intersection Improvements	Intersection Improvements, Connects to lakeshore trail				0	1	0	0	1	0	0	2
19	170 S & 300 W Crossing	Physical Intersection Improvements	Intersection Improvements, Connects to lakeshore trail				0	1	0	0	1	0	0	2
1	Vineyard Loop Rd Midblock Crossing	Midblock Crossing	Intersection Improvements				0	1	0	0	0	0	0	1

Table A3.3 Unscoored Projects

Project #	Project Name	Facility Type	Extents: From	Extents: To
UNSCORED PROJECTS				
1	Main Street Separated Bike Lanes	Separated Bike Lane	Lake Promenade	Vineyard Connector Rd
2 (Facility)	Squareabout Separated Bike Lane	Separated Bike Lane	Lake Promenade	Main Street
2 (Spot Improvement)	Vineyard Rd Midblock Crossing	Midblock Crossing		
3	Downtown Separated Bike Lane	Separated Bike Lane	Lake Promenade	Downtown Core
4	Lake Promenade Separated Bike Lane - North	Separated Bike Lane	Vineyard Connector Rd	Main St
12 (Facility)	Mobility Hub Connector Trail	Unspecified Facility	Mobility Hub	Geneva Rd
12 (Spot Improvement)	400 N & Vineyard Grove Park Crossing	Physical Intersection Improvements/AT Signal or Beacon		
17	Railroad to Mill Rd Connection	Unspecified Facility	Railroad	Mill Rd Extension
35	1200 N Shared Use Path	Shared Use Path	Railroad/Proposed Railroad Overpass	Geneva Rd
37	Lindon Heritage Trail	Shared Use Path	250 W	Pioneer Ln
41	Inner Lake Shore Trail	Shared Use Path	400 S	Powell Slough
51	Utah Lake Shore Trail	Shared Use Path	400 S	Powell Slough Waterfowl Mgmt. Area

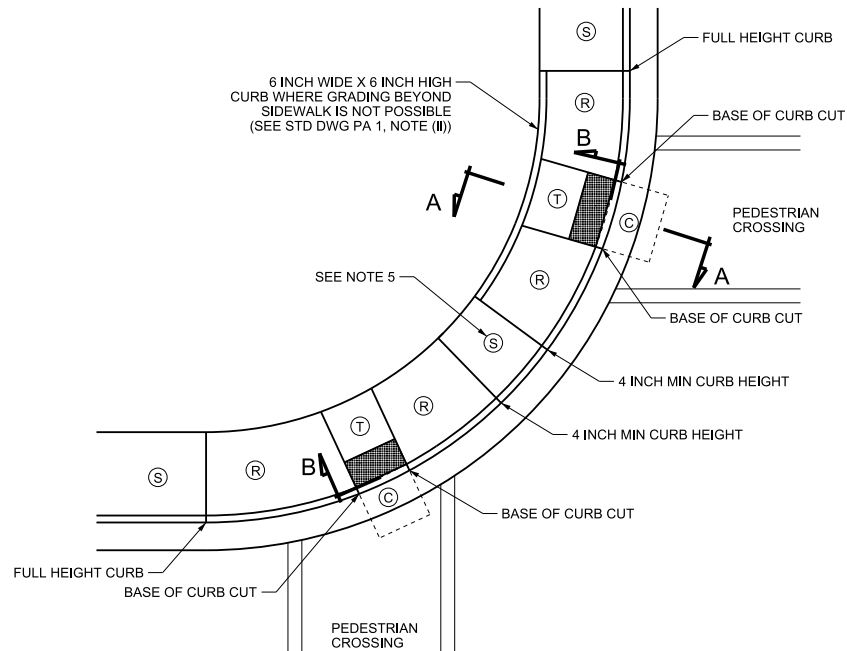
A4: STANDARD CONSTRUCTION DETAILS

A4.1: PEDESTRIAN RAMPS

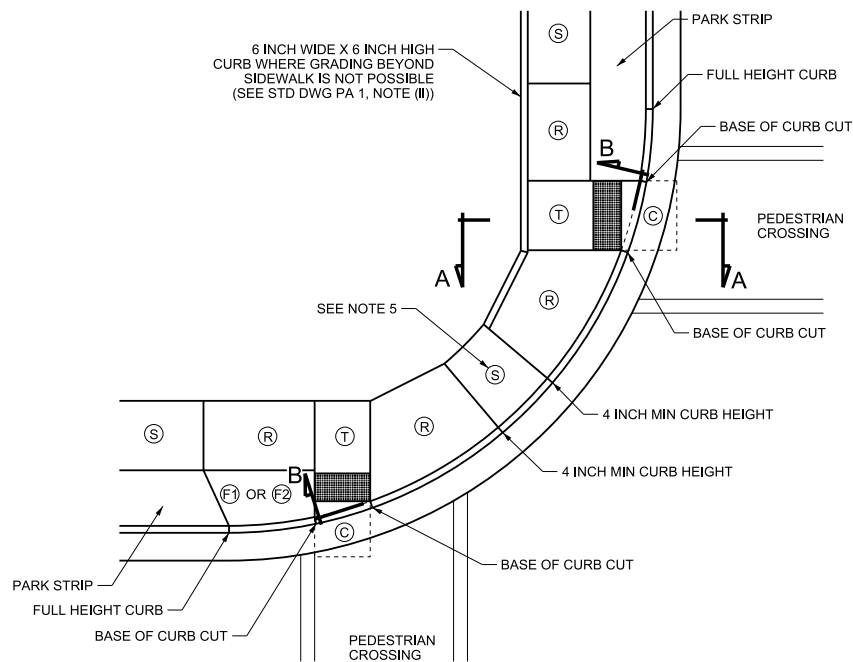
Figure A4.1 Curb Ramp Types. Source: UDOT 2022 Standard Drawing Book, p. 285

Figure A4.2 Supplemental Curb Ramp Types. Source: Santa Clara

Figure A4.1 Curb Ramp Types. Source: UDOT 2023 Standard Drawing Book, p. 295

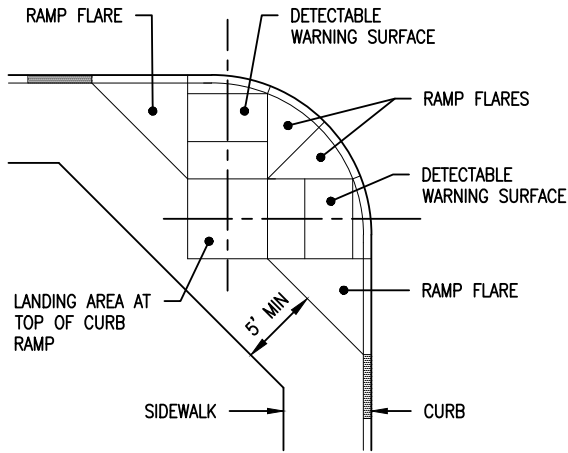


DUAL PARALLEL RAMP AT CORNER OPTION

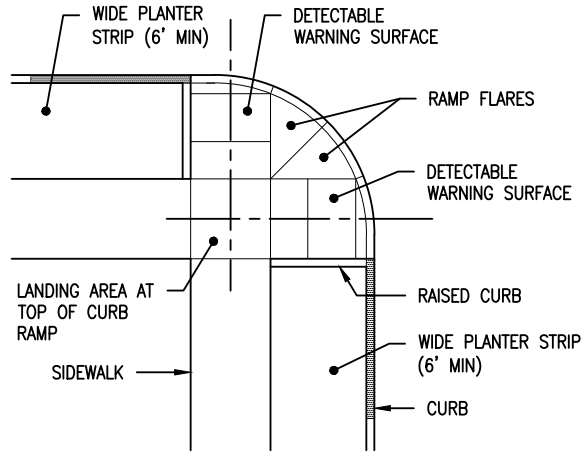


DUAL PARALLEL RAMP AT CORNER OPTION

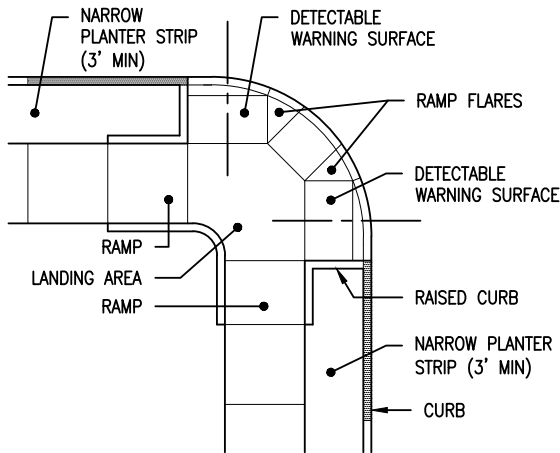
Figure A4.2 Supplemental Curb Ramp Types. Source: Santa Clara



PERPENDICULAR CURB RAMPS
WITH ATTACHED SIDEWALKS



PERPENDICULAR CURB RAMPS
WITH WIDE PLANTER STRIPS



COMBINATION CURB RAMPS
WITH NARROW PLANTER STRIPS

NOTES:

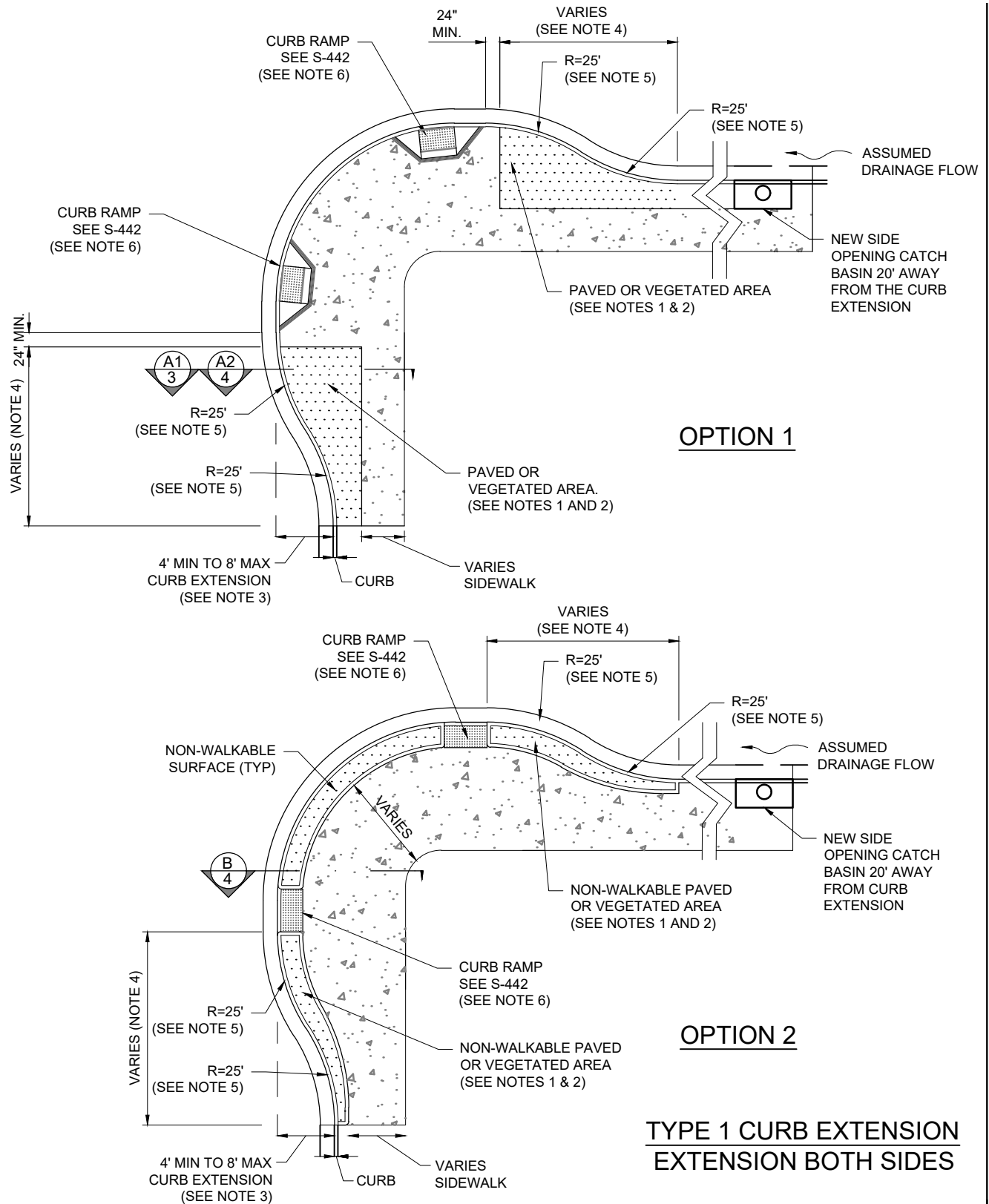
1. ALIGN THE CENTERLINE OF CURB RAMP WITH THE DIRECTION OF SIDEWALK TRAVEL. ALIGN THE CENTERLINE OF THE RAMP WITH THE CENTERLINE OF THE SIDEWALK WHERE POSSIBLE.
2. PROVIDE A 5' MIN X 5' MIN LANDING AREAS. LANDING AREAS SHALL HAVE A MAXIMUM SLOPE OF 1.5% MEASURED IN ANY DIRECTION
3. RAMPS SHALL HAVE A MINIMUM WIDTH OF 5'. RAMPS SHALL HAVE A MAXIMUM 7.5% SLOPE MEASURED IN THE DIRECTION OF TRAVEL AND A MAXIMUM 1.5% CROSS SLOPE.
4. RAMP FLARES SHALL HAVE A MAXIMUM 9.0% SLOPE MEASURED ALONG THE CURB LINE.
5. DETECTABLE WARNING SURFACES SHALL COMPLY WITH DETAIL ST-16.
6. APPLY RED PAINT TO TOP AND FACE OF CURB FOR DISTANCE OF 10' FROM THE EDGE OF THE CURB RAMP. DO NOT PAINT CURB RAMP OR RAMP FLARES.
7. OBTAIN APPROVAL OF THE CITY ENGINEER OR THE CITY ENGINEER'S DESIGNATED REPRESENTATIVE BEFORE USING THIS STANDARD DETAIL.

	DRAWN BY: X. LAST	PERPENDICULAR CURB RAMPS	XX-#
	CHECKED BY: X. LAST		
	APPROVED BY: X. LAST		
	DATE: MONTH 2020	CITY OF SANTA CLARA	PAGE: #

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A4.2: CURB EXTENSIONS

Figure A4.3 Curb Extension Types. Source: City of Los Angeles Supplemental Street Design Guide p. 101-111

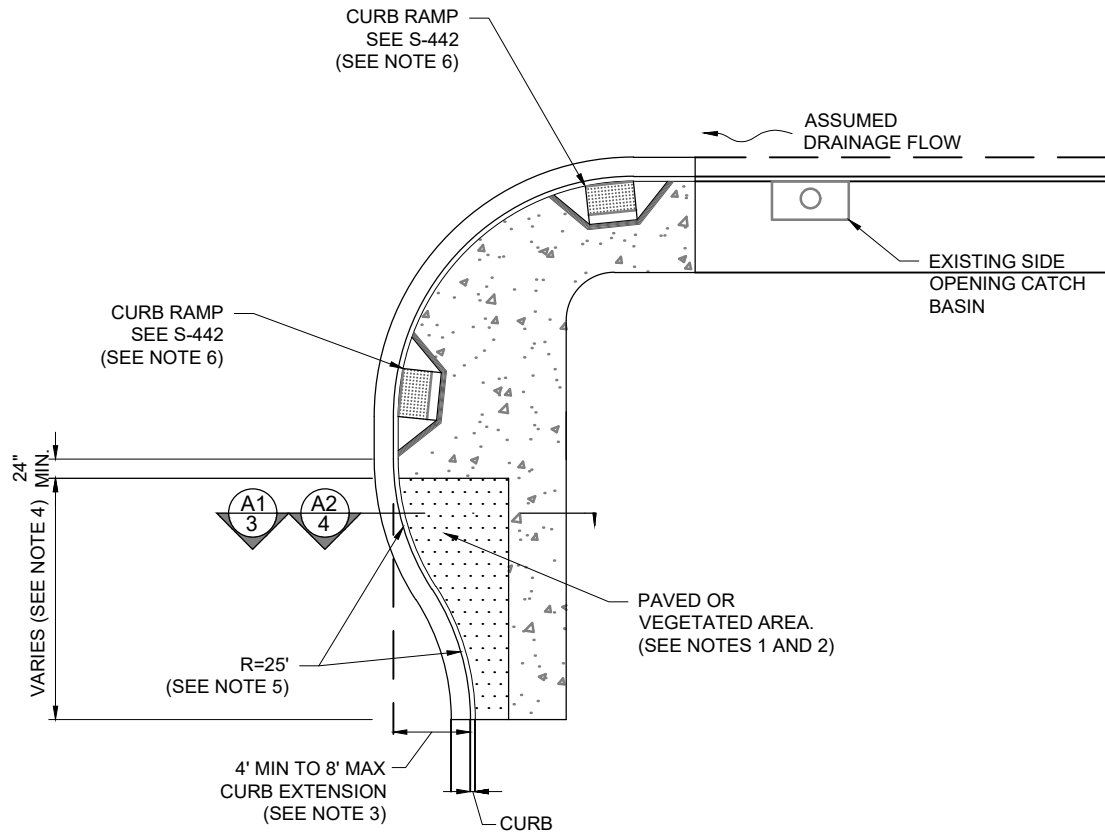
Figure A4.3 Curb Extension Types. Source: City of Los Angeles Supplemental Street Design Guide p. 101-111

CURB EXTENSION DETAILS

SUPPLEMENTAL
DESIGN GUIDE

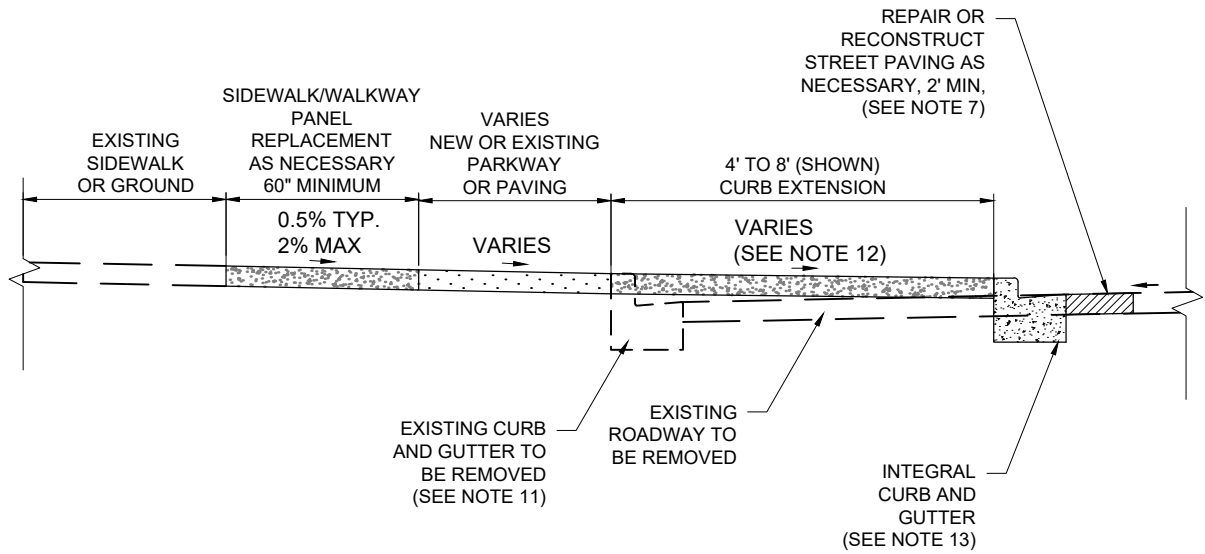
DETAIL 200

SHEET 1 OF 11



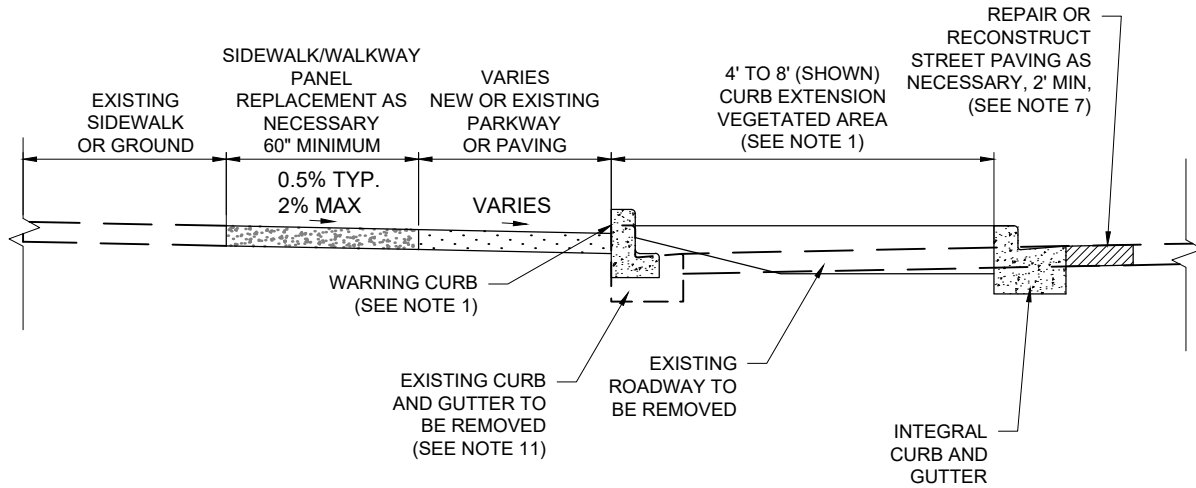
TYPE 1 CURB EXTENSION
EXTENSION ON 1 SIDE

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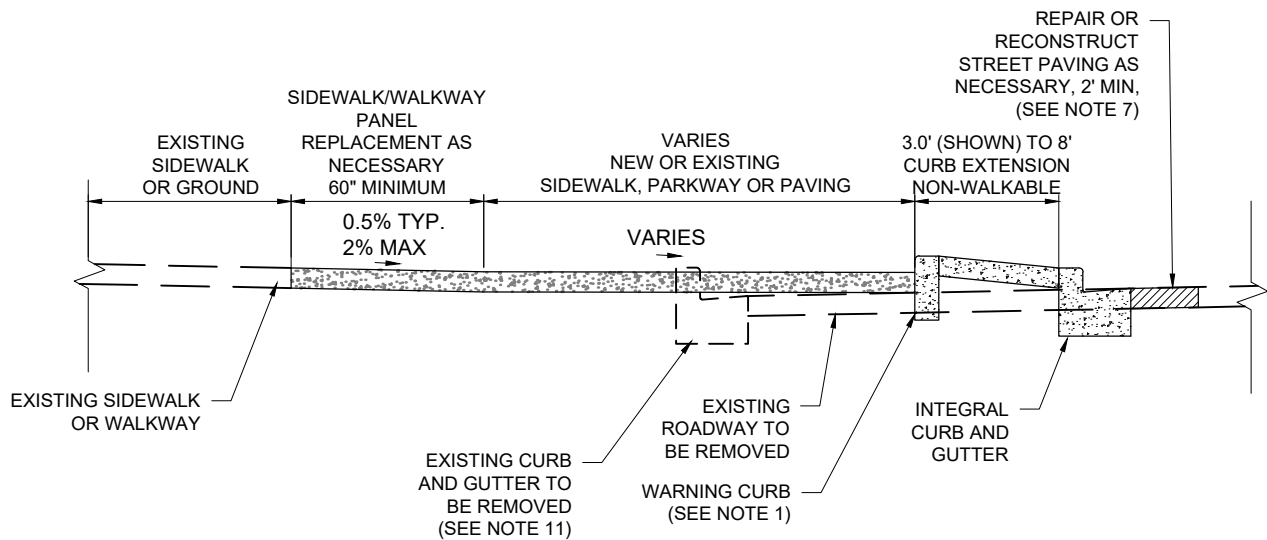


A1
1,2 **TYPICAL SECTION AT CURB RETURN**
WALKABLE - SHALLOW ROAD CROSS SLOPES

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4/2/2020 7:59 AM

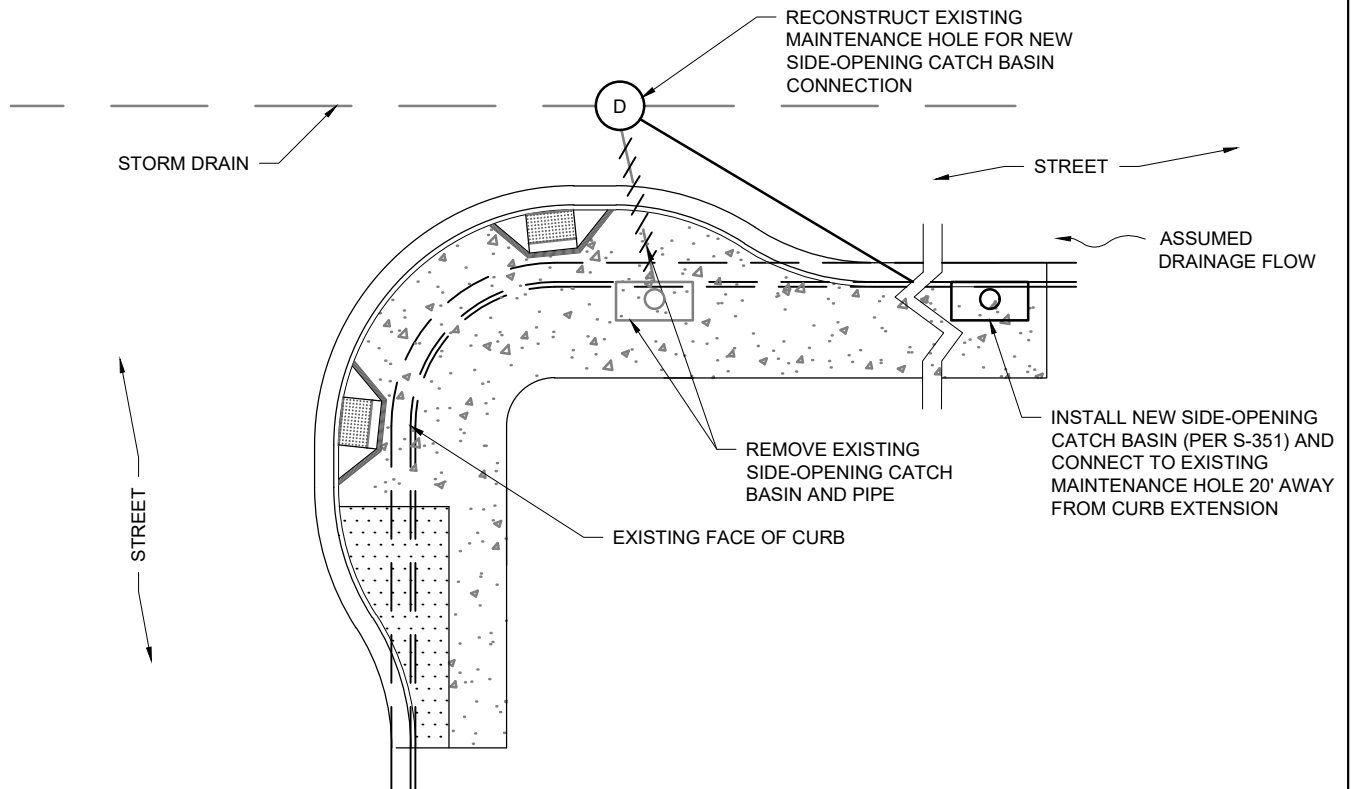


A2 TYPICAL SECTION AT CURB RETURN
1,2 NON-WALKABLE WITH VEGETATION

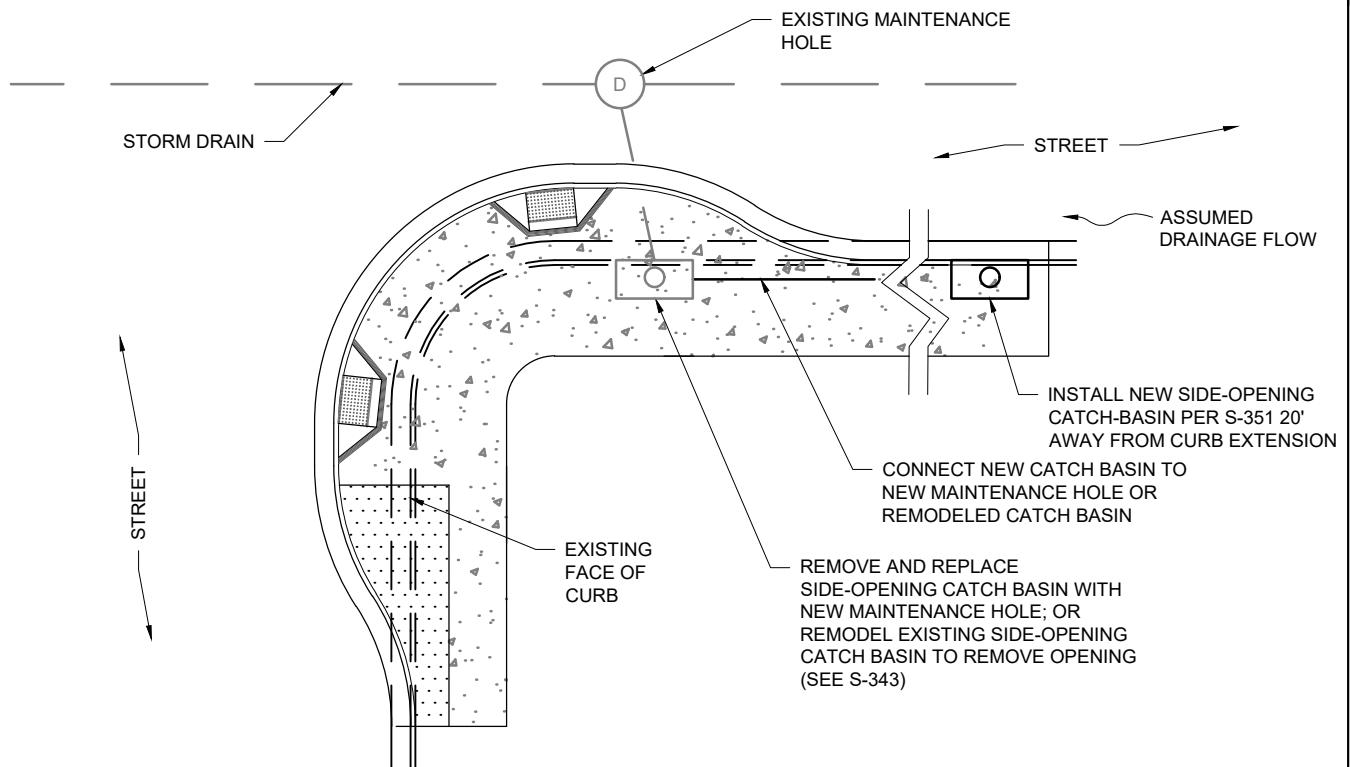


B TYPICAL SECTION AT CURB RETURN
1 NON-WALKABLE WITH RAISED LANDSCAPED AREA

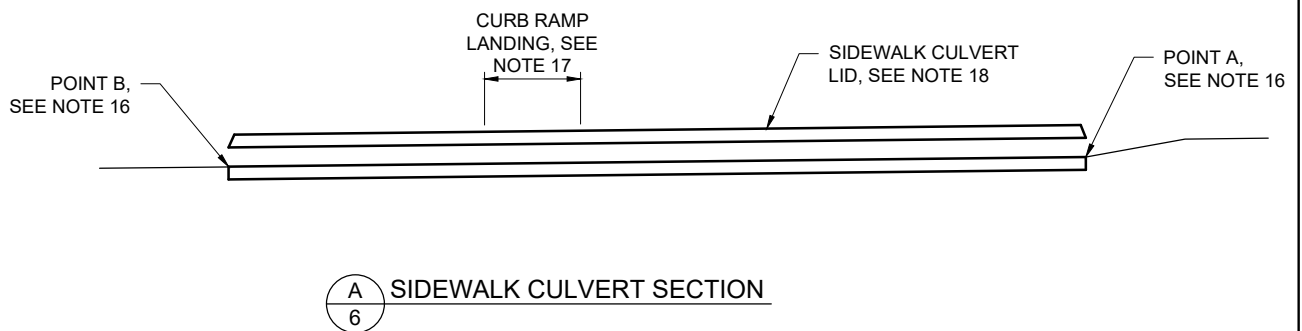
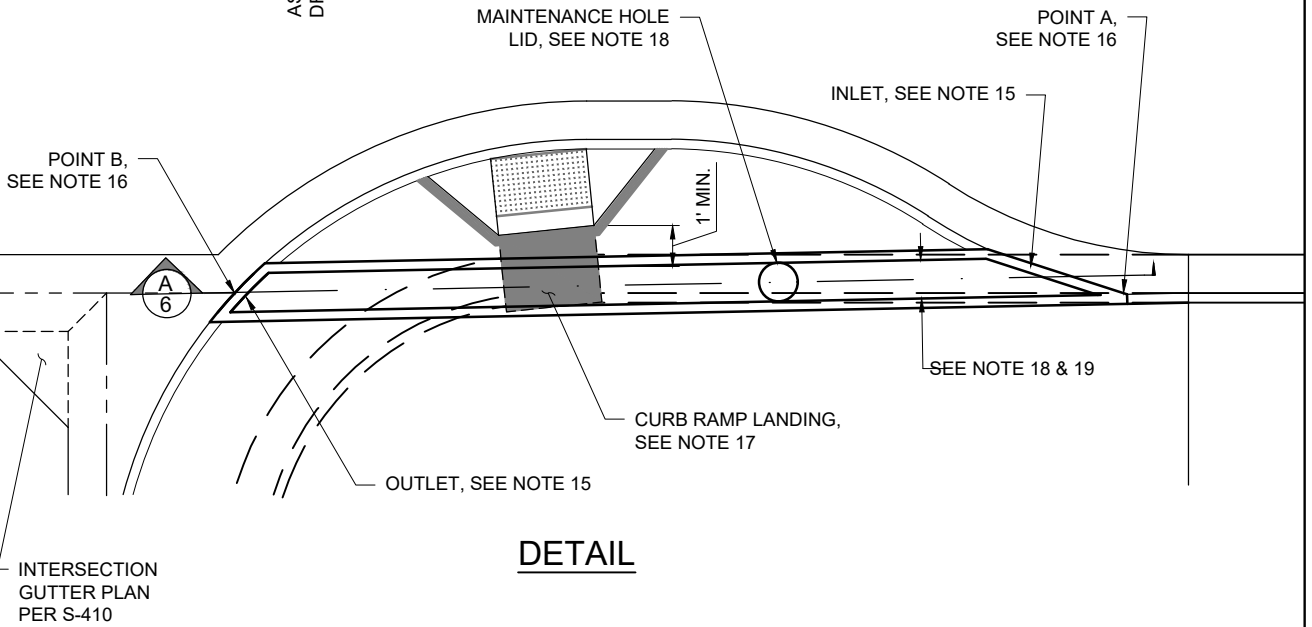
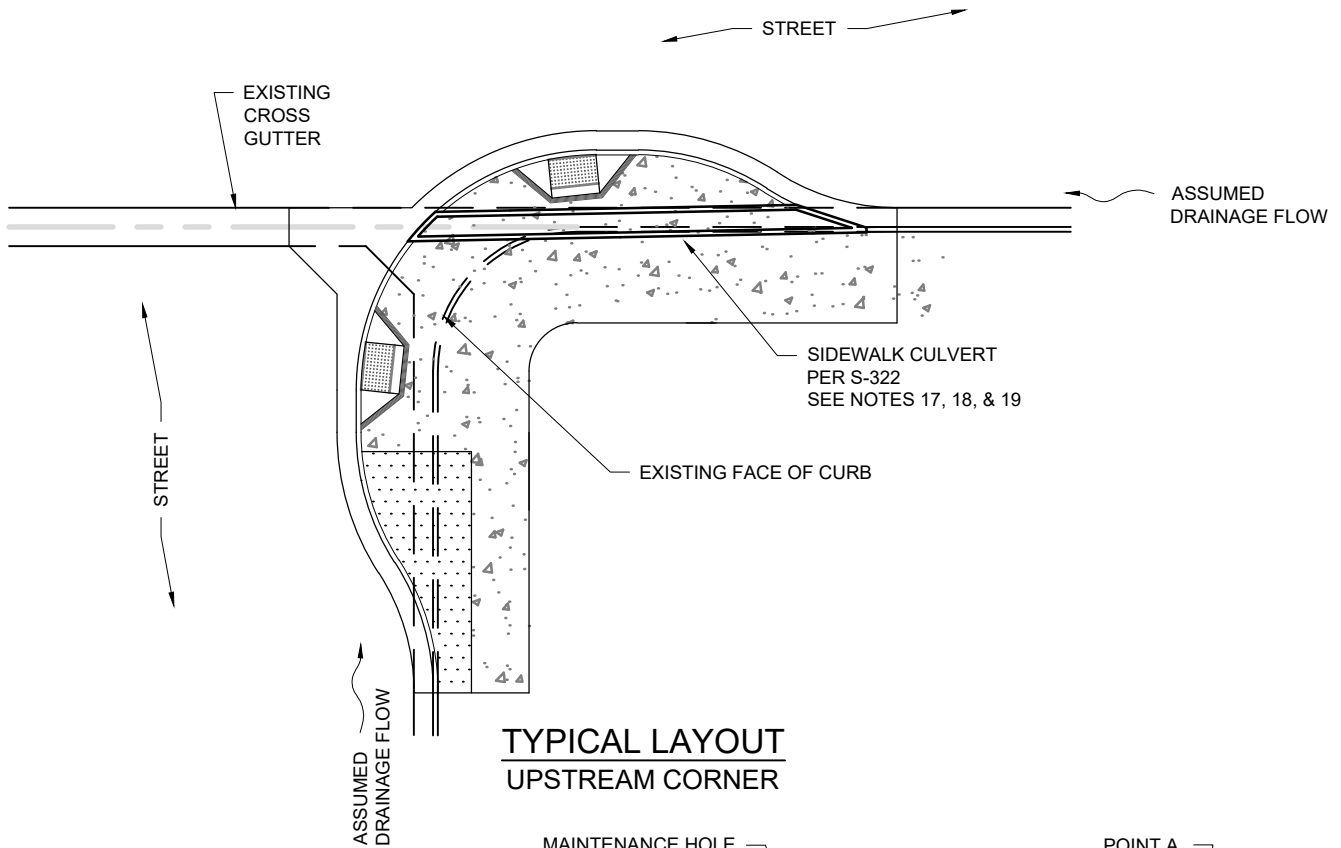
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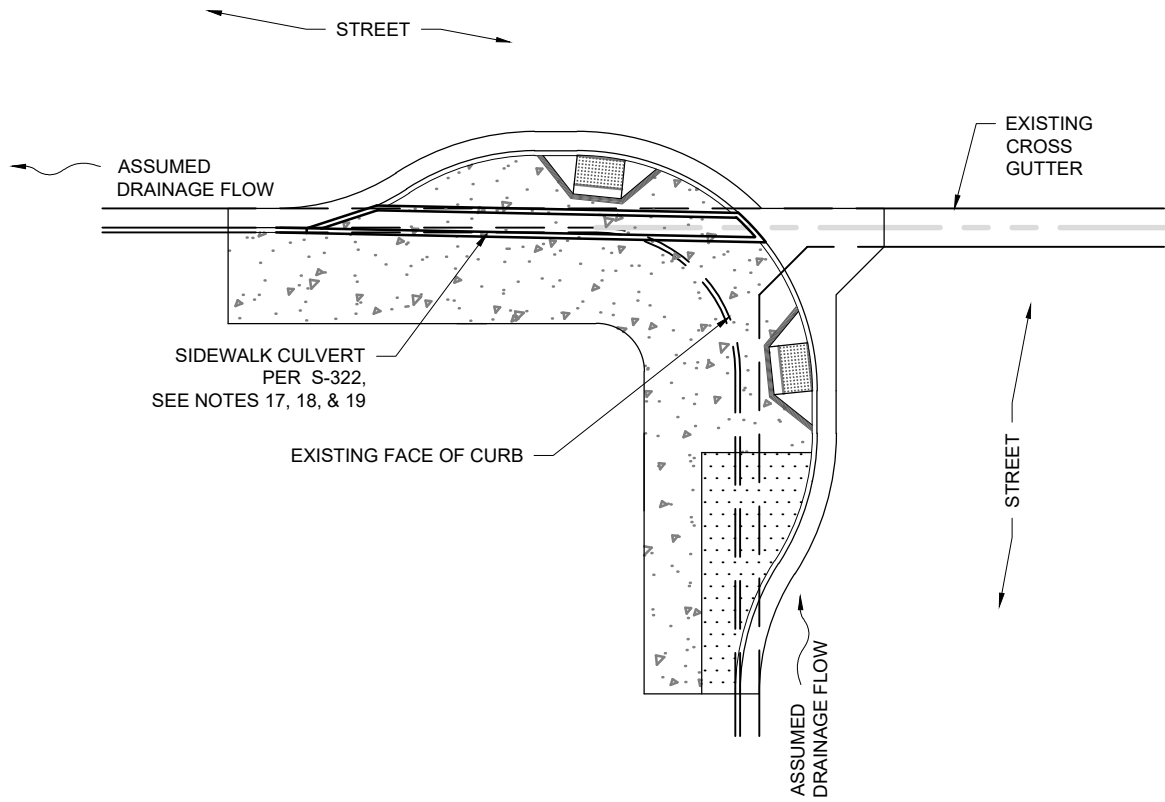


STORM DRAIN CONNECTION TYPE 1 CONNECTION TO EXISTING MAINTENANCE HOLE

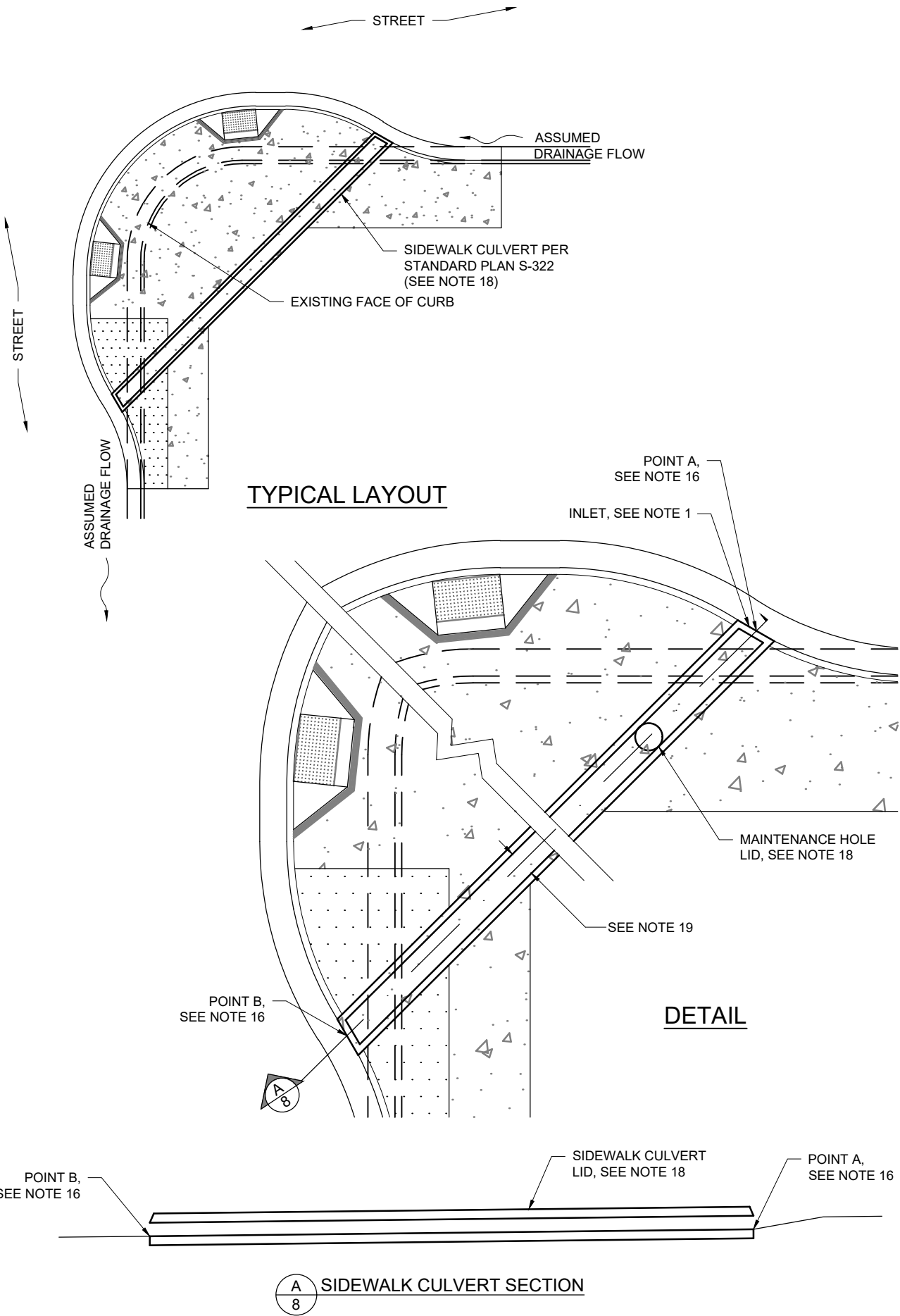


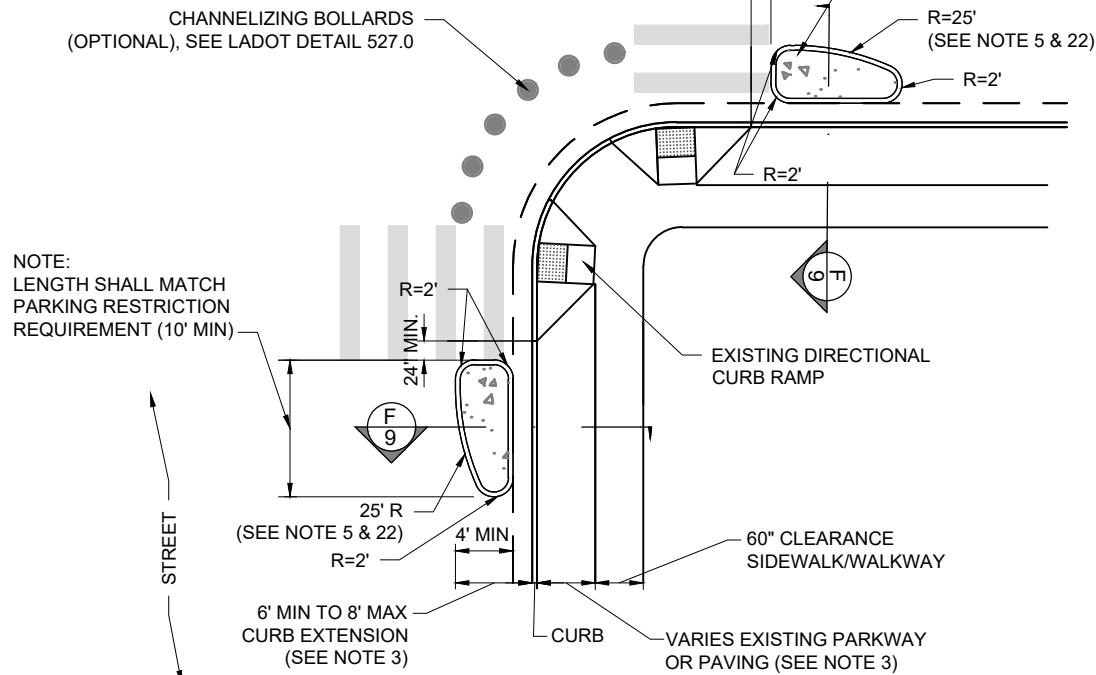
STORM DRAIN CONNECTION TYPE 2 REMODEL EXISTING SIDE-OPENING CATCH BASIN



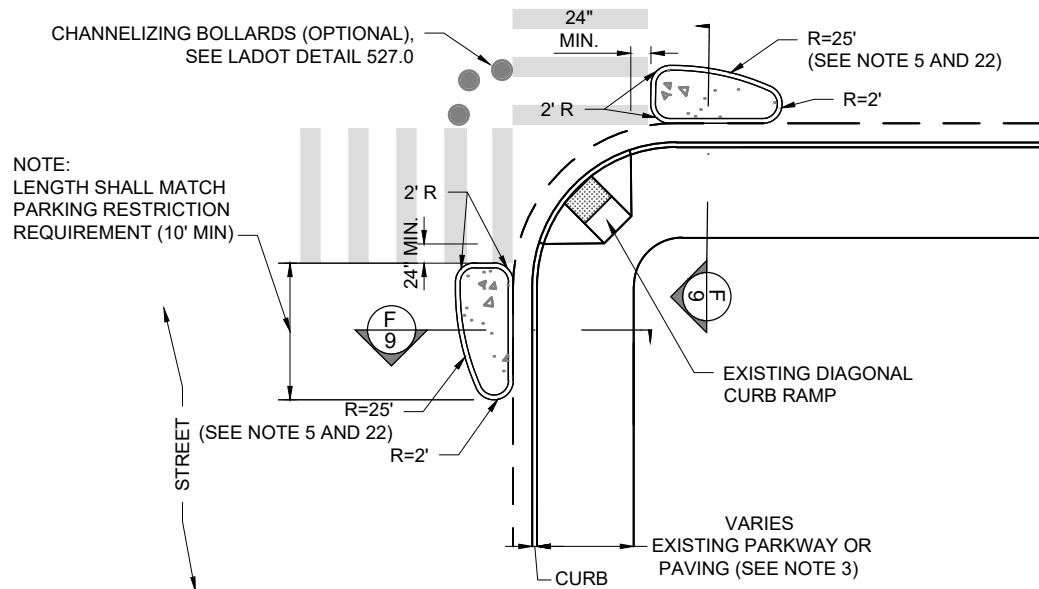


**TYPICAL LAYOUT
DOWNSTREAM CORNER**

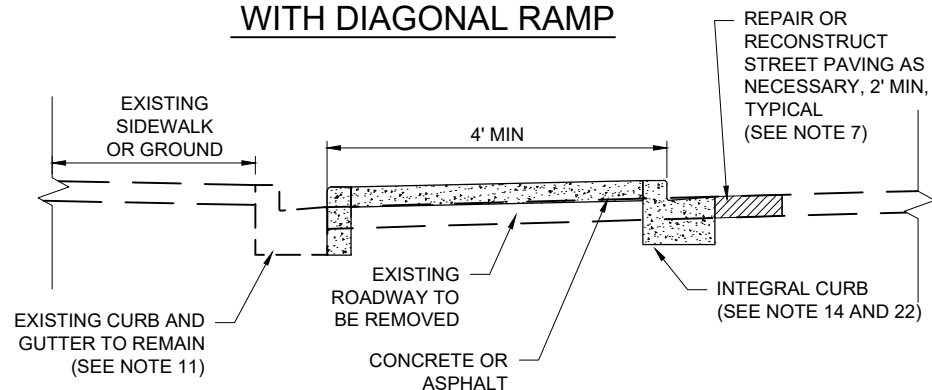




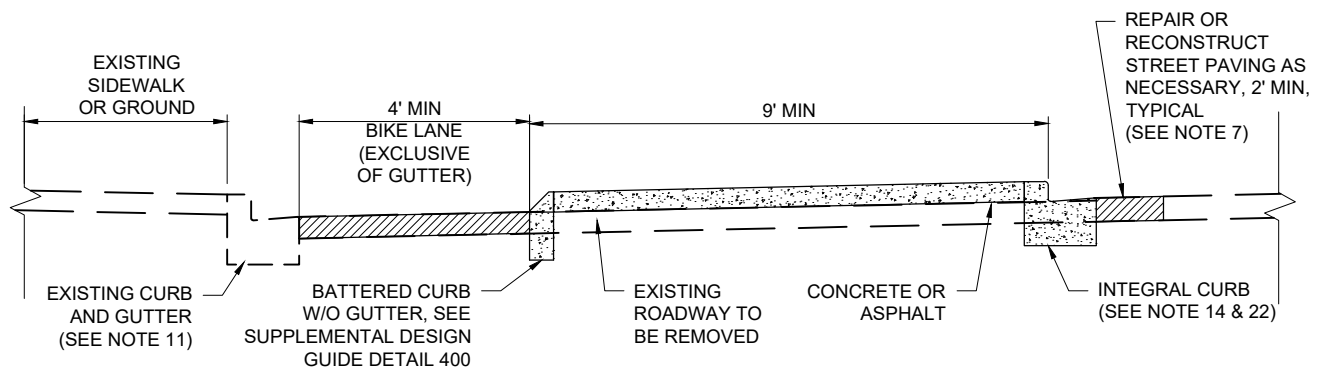
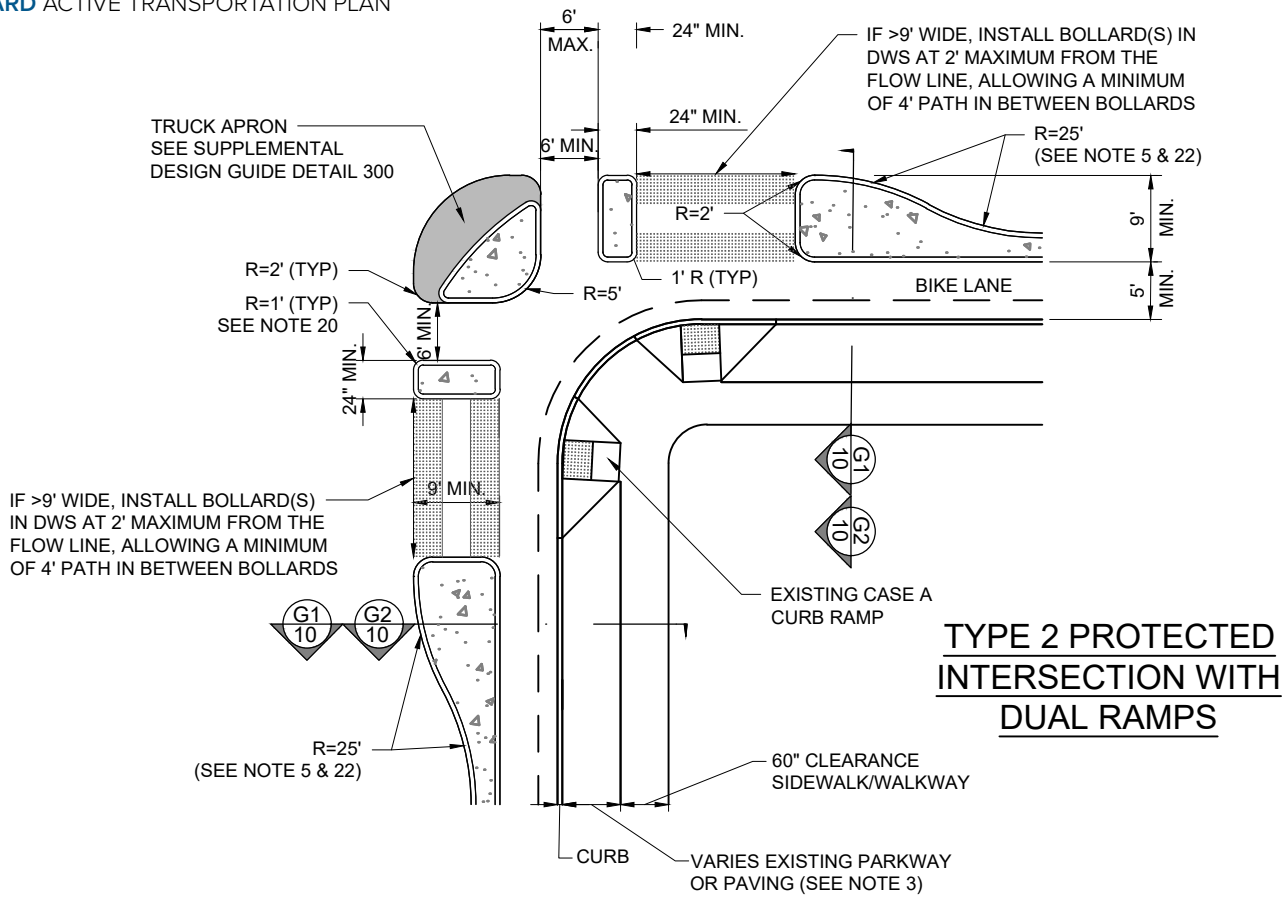
TYPE 2 CURB EXTENSION WITH DUAL DIRECTIONAL RAMPS



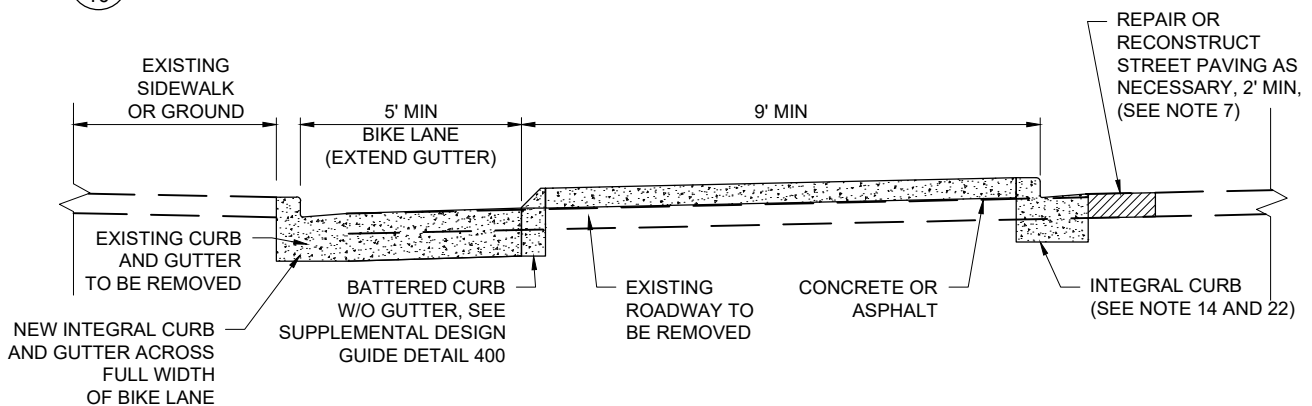
TYPE 2 CURB EXTENSION WITH DIAGONAL RAMP



TYPICAL SECTION FOR TYPE 2 CURB EXTENSION



G1 TYPICAL SECTION FOR TYPE 2 PROTECTED INTERSECTION WITH EXISTING CURB AND GUTTER



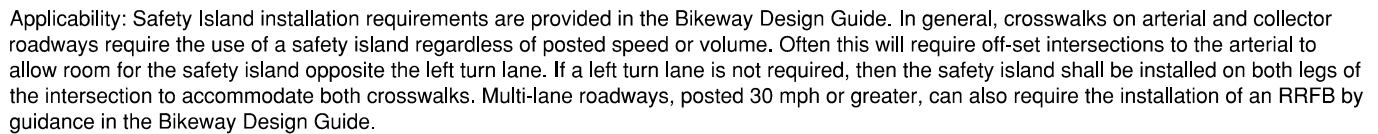
G2 TYPICAL SECTION FOR TYPE 2 PROTECTED INTERSECTION WITH REBUILT CURB AND GUTTER

NOTES

1. SEE STANDARD PLAN S-484 FOR DETAILS INVOLVING VEGETATED STORMWATER CURB EXTENSIONS, WHICH MAY BE USED FOR SITUATIONS INVOLVING LANDSCAPED AREAS WITHIN A NON-WALKABLE AREA.
2. AREA SHALL BE PAVED AND ADHERE TO ADA REQUIREMENTS WHEN WALKABLE SLOPES CAN BE ACHIEVED. WHEN WALKABLE SLOPES ARE UNATTAINABLE, TREATMENTS SHALL BE INSTALLED TO DISCOURAGE PEDESTRIANS FROM WALKING IN THE AREA. NON-WALKABLE ALTERNATIVES INCLUDE VEGETATION AS SHOWN IN STANDARD PLAN S-484, RAISED PLANTING BEDS, OR FLUSH PLANTING BEDS WITH A VALLEY GUTTER. SEE CROSS SECTIONS A-1 FOR DETAILS ON ALTERNATIVES. INLETS MAY ALSO BE PROVIDED WITHIN THE NON-WALKABLE AREAS AND CURB OPENINGS MAY BE PROVIDED IN THE WARNING CURB TO ALLOW RUNOFF IN THE SIDEWALK TO REACH THESE INLETS.
3. WHERE STRUCTURALLY FEASIBLE AND NO PARKWAY OBSTRUCTIONS INTERFERE OR REQUIRE CURB FOR LATERAL SUPPORT, WIDTH OF TYPE 1 CURB EXTENSION SHALL REMOVE EXISTING CURB AND GUTTER TO INCORPORATE THE ADJACENT PARKWAY AND FOLLOW SECTION A-1. OTHERWISE THE TYPICAL SECTION MINIMUM WIDTH IS 3'-6" FROM INSIDE EXISTING AND NEW CURBS.
4. TRANSITION LENGTH SHALL VARY BASED THE WIDTH OF THE CURB EXTENSION AND THE CURB RADII USED FOR THE TRANSITION.
5. A STREET SIDE CURB RADIUS OF 25' IS REQUIRED FOR COMPLETED STREET SWEEPING FROM GUTTER TO FACE OF CURB. A CURB RADIUS OF 10 FEET IS ALLOWABLE TO INCREASE AREA OF THE STORAGE/DETENTION AREA ONLY IF THE ADJACENT PROPERTY OWNER ASSUMES FULL RESPONSIBILITY FOR ANY GUTTER MAINTENANCE AS MAY BE REQUIRED DUE TO LACK OF STREET SWEEPING.
6. SEE STANDARD PLAN S-442 FOR DETAILS INVOLVING CURB RAMPS. CHOOSE CURB RAMP TO FIT CONDITIONS. WHERE CURB EXTENSION HAS REVERSE SLOPE, RAMP SLOPE SHALL NOT BE LESS THAN 2% TOWARD THE STREET.
7. MODIFY THE EXISTING STREET PAVING AS NECESSARY TO RESTORE A SMOOTH TRANSITION AND STREET CROWN (STANDARD PLAN S-432, SIMILAR). MATCH PAVING MATERIALS AND THICKNESS, SEE S-410 FOR STANDARD CURBS & GUTTERS. ENSURE POSITIVE DRAINAGE IS PROVIDED.
8. CONSTRUCT CONCRETE SIDEWALK WHEN SPECIFIED ON PLAN. SIDEWALK MINIMUM CLEARANCE 60".
9. ALL CONCRETE & SIDEWALKS SHALL BE CLASS 520-C-2500 PORTLAND CEMENT CONCRETE. INSTALL CONTRACTION, EXPANSION AND WEAKENED PLANE JOINTS IN CONCRETE PER S-480 & S-430.
10. MINIMUM RELATIVE COMPACTION OF EARTHWORK UNDER NEW PAVING SHALL BE PER SSPWC. SEE S-480 FOR FURTHER REQUIREMENTS.
11. EXISTING CURB HEIGHT GENERALLY VARIES FROM 5 INCHES TO 8 INCHES.
12. A WALKABLE ALTERNATIVE IS THE PREFERRED OPTION WHEN ADA COMPLIANT GRADES CAN BE ACHIEVED. FACTORS AFFECTING THE ABILITY TO PRODUCE WALKABLE GRADES INCLUDE THE ROADWAY CROSS SLOPE, EXISTING CURB HEIGHT, EXISTING GROUND OR SIDEWALK ELEVATION, AND THE WIDTH OF THE SIDEWALK EXTENSION. SLOPES NOT TO EXCEED 2%.
13. WHERE GRADES CAN BE MODIFIED, TYPE C CURB AND GUTTER WITH A STANDARD CURB HEIGHT SHALL BE INSTALLED. NEW CURB MAY BE INSTALLED WITH A CURB HEIGHT BETWEEN 5 TO 8 INCHES TO CREATE WALKABLE SLOPES ON THE CURB EXTENSION. WHERE APPROVED BY BUREAU OF ENGINEERING, A TYPE C (MODIFIED) DEPRESSED CURB AND GUTTER MAY BE UTILIZED IF A REDUCED CURB HEIGHT PRODUCES A WALKABLE SLOPE OF 2% OR LESS. CURB HEIGHTS LESS THAN 5" REQUIRE APPROVAL OF CITY ENGINEER.
14. OVERALL CURB HEIGHT WILL VARY BASED ON EXISTING GRADES AND CURB REVEALS. ENSURE THAT CURB DEPTH EXTENDS AT LEAST 8 INCHES BELOW FINISHED GRADE.
15. THE INLET AND OUTLET SHALL BE DESIGNED PER STANDARD PLAN S-322 (STEEL) OR STANDARD PLAN DL-2327 (CONCRETE) DEPENDING ON THE CULVERT TOP MATERIAL. THE INLET OPENING SHALL BE AT LEAST AS WIDE AS THE CULVERT, BUT MAY BE WIDER BASED ON THE HYDRAULIC ANALYSIS (CHECK SPREAD DURING THE DESIGN STORM).
16. WARPING THE GUTTER (PER STD PLAN S-311) IS OPTIONAL, WHICH WILL RESULT IN A LOWER ELEVATION AT POINT A, EFFECTING THE LONGITUDINAL SLOPE (SEE NOTE #3).
17. THE CURB RAMP LANDING SHALL ADHERE TO STANDARD PLAN S-442. THE CULVERT TOP SHALL BE SLIP RESISTANT AND ADA COMPLIANT.
18. THE CULVERT TOP SHALL BE EITHER CONCRETE (PER STD PLAN S-320 AND DL-2327), STEEL (PER STD PLAN S-322), OR GRATED (AS APPROVED BY BOE). A MAINTENANCE HOLE LID MAY OPTIONALLY BE INSTALLED ALONG THE LENGTH OF THE CULVERT WHEN THE TOP IS CONCRETE. A CONCRETE CULVERT TOP WILL RESULT IN A LOWER ELEVATION AT POINT A, EFFECTING THE LONGITUDINAL SLOPE (SEE NOTE #3). A MAINTENANCE AGREEMENT SHALL BE IN PLACE PRIOR TO THE INSTALLATION OF CULVERT.
19. THE MINIMUM INSIDE WIDTH OF THE CULVERT IS 2 FEET. AT THE DISCRETION OF THE OFFICE ENGINEER, THE ABSOLUTE MINIMUM WIDTH THAT IS PERMITTED IS 1.5 FEET. A NARROWER WIDTH MAY BE NECESSARY TO CONSTRUCT THE CURB RAMP.
20. A 2 FOOT TYPICAL CURB RADIUS IS PREFERRED FOR ALL ISLAND CORNERS. A 1 FOOT RADIUS OR SQUARED CORNERS MAY BE USED TO MAXIMIZE THE FOOTPRINT AND IMPROVE CONSTRUCTABILITY OF ISLANDS LESS THAN 10 SQUARE FEET IN SIZE.
21. VALLEYS CREATED FROM REVERSE SLOPES SHALL BE DRAINED BACK TO THE CURB WHEN POSSIBLE TO AVOID PONDING ON THE CURB EXTENSION. THE USE OF A VALLEY GUTTER REQUIRES THE APPROVAL OF THE CITY ENGINEER. WHERE A CROSS SLOPE OF 2% OR LESS IS NOT FEASIBLE, A NON-WALKABLE SURFACE MUST BE PROVIDED.
22. WHERE DRAINAGE IS A CONCERN AS INSTRUCTED BY THE CITY ENGINEER, TYPE C CURB & GUTTER SHALL BE INSTALLED.

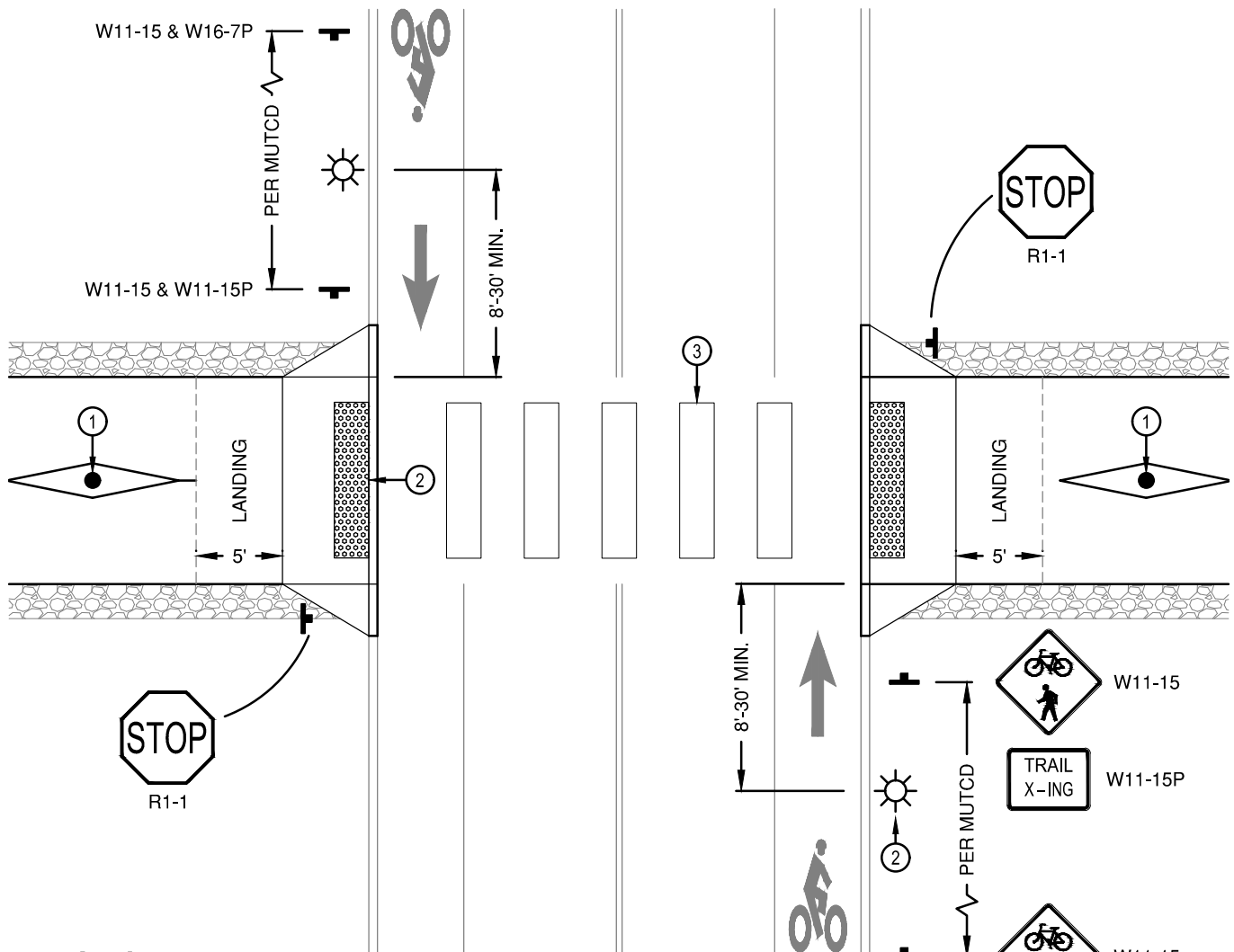
A4.3: MID-BLOCK CROSSINGS

Figure A4.4 Mid-Block Crossing Types. Source: Bend LSN Bikeway Standard Drawings p. 6 and 8



- ① RECTANGULAR RAPID FLASHING BEACON (RRFB) w/ W11-15 & W16-7P(L) SIGNS AND PUSH BUTTON, PLACE PER STD DWG R-9.
- ② CURB RAMP PER CITY STANDARDS w/ DETECTABLE WARNING SURFACE.
- ③ ILLUMINATION, LED, 250 WATT EQUIVALENT.
- ④ CONTINENTAL CROSSWALK, SEE STD DWG R-40.
- ⑤ STOP BAR, SEE STD DWG R-40.
- ⑥ MEDIAN/SAFETY ISLAND, BULLNOSE w/ RAISED PAVEMENT MARKERS & TUBULAR DELINEATORS. SEE MEDIAN END DETAIL, STD DWG R-25.
- ⑦ ADVANCE WARNING SIGN (R-1-5BL), DISTANCE 'A' TO BE DETERMINED BY ENGINEER.

A-51



KEYNOTES

- ① BOLLARD AND STRIPING (IF PATH IS WIDER THAN 9'), SEE STD DWG R-7A.
- ② DETECTABLE WARNING SURFACE.
- ③ CONTINENTAL CROSSWALK, SEE STD DWG R-41.
- ④ ILLUMINATION, LED, 250 WATT EQUIVALENT.

NOTES

1. APPLICATION: 35 MPH AND LOWER LOCAL, ARTERIAL AND COLLECTOR ROADWAYS WITH TRAIL CROSSINGS WHEN ADEQUATE SIGHT DISTANCE IS AVAILABLE.
2. AS DIRECTED BY CITY ENGINEER IF WITHIN 1/4 MILE OF SCHOOL OR PARK:
 - INSTALL RAISED CROSSWALK ON LOCAL, ARTERIAL AND COLLECTOR ROADWAYS WHEN POSTED SPEED IS 30 MPH AND LESS.
 - SAFETY ISLAND REFUGE MAY BE REQUIRED PER BIKE FACILITY GUIDELINES AND AS DIRECTED BY CITY ENGINEER.
 - SIGNAL, RRFB, PHB MAY BE REQUIRED PER CITY ENGINEER.

DRAWN	SRB
DIV	ROADWAY
REV	DATE



CITY OF BEND

CITY OF BEND

STANDARD DRAWING

710 NW WALL ST., BEND, OREGON 97701

MID-BLOCK CROSSWALKS

SCALE NTS

DATE 09/24/2018

APPR

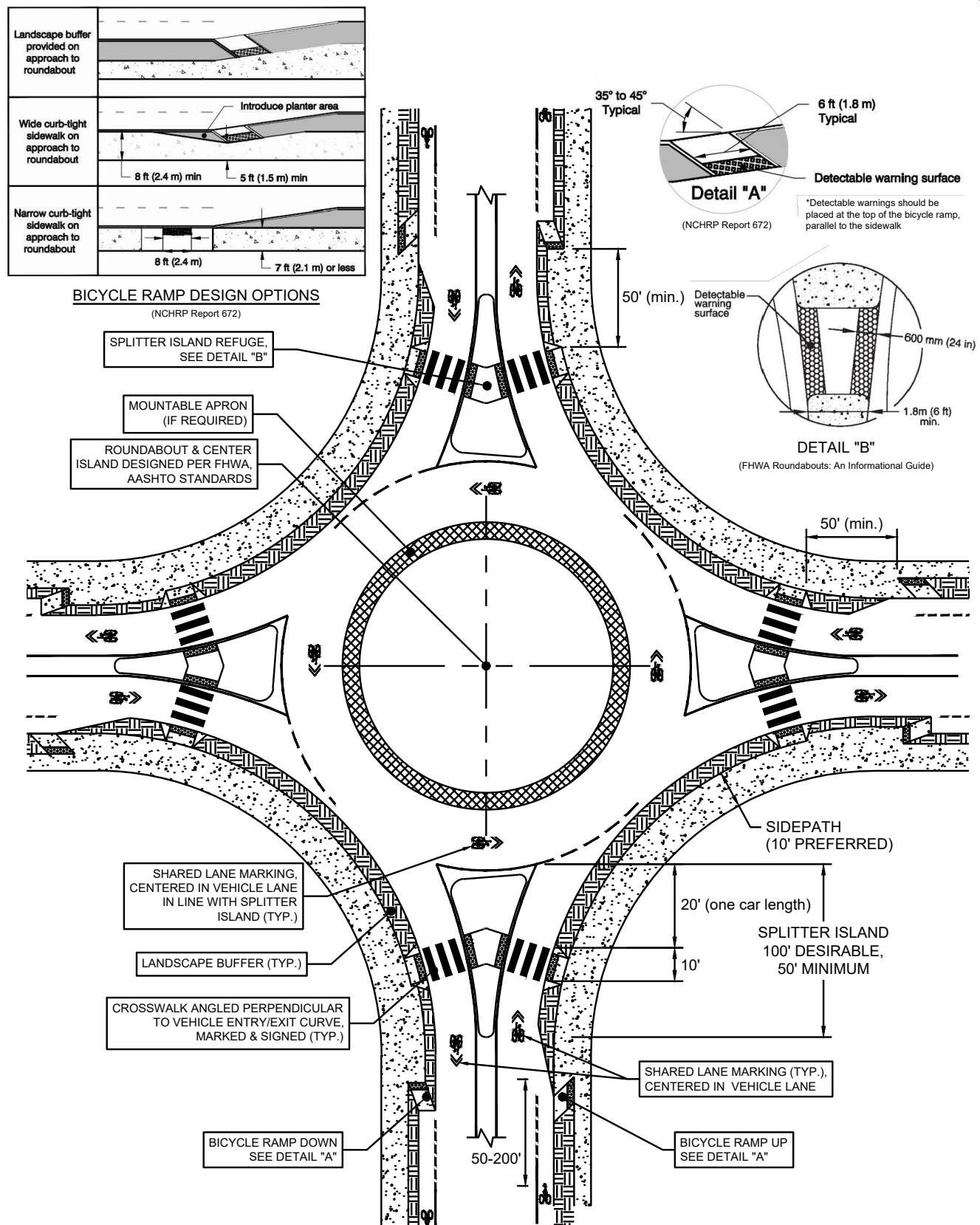
STD DWG 8

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A4.4: SINGLE LANE ROUNDABOUT

Figure A4.5 Single Lane Roundabout. Source: Alta Planning + Design

Figure A4.5 Single Lane Roundabout. Source: Alta Planning + Design



alta

City of Vineyard Active Transportation Plan
SINGLE LANE ROUNDABOUT DETAIL

figure 1

A5: PRIORITY PROJECT CONCEPT CUT SHEETS

A5.1: COMPREHENSIVE MAIN STREET RENOVATION

A5.2: CENTER STREET CROSSING IMPROVEMENT

A5.3: 400 S CROSSING IMPROVEMENT

A5.4: TRAILSIDE ELEMENTARY RAILROAD CROSSING

This section explores concept plans for four projects identified as being ready for design or a feasibility study. The elements included in these concept sheets are intended to help develop future scopes of work for design and engineering services, and give Vineyard a head start on understanding the opportunities, constraints, and planning level costs associated with implementing the project.

SELECTED PROJECTS

This section contains concept sheets for the following projects:

1. Comprehensive Main Street Renovation
 - Phase I: Road Diet and Unsignalized Crossing Improvements
 - Phase II: Right Turn Pocket Retrofits
 - Phase III: Roundabout Improvements
2. Center Street Crossing Improvement
3. 400 S Crossing Improvement
4. Trailside Elementary Railroad Crossing

These projects were selected for further refinement based on strong input from the public (Chapter 2) and their high scores during the prioritization process (Chapter 5).

01

A5.1: COMPREHENSIVE MAIN STREET RENOVATION

VINEYARD CONNECTOR TO CENTER ST

FURTHER STUDY NEEDED: Although initial analysis indicates that Main Street would function well within a 3-lane configuration, further study is needed to analyze traffic and solicit public feedback. Next steps for this project include development of a dedicated Main Street Corridor Study to analyze additional alternatives, refine the initial analysis completed as part of this plan, and perform more robust public engagement.

PROJECT DESCRIPTION

The Main Street corridor plays a vital role in Vineyard's broader active transportation network. With many destinations, such as parks, schools, club houses, civic buildings, and others along the corridor, there is high demand for safe and robust biking and walking connections. Currently, the corridor possesses many characteristics which are supportive of active transportation including an existing sidepath,

attractive streetscape, landscaped medians, and frequent street trees. However, notable deficiencies in the current configuration of Main Street that pose challenges to people walking and biking can be addressed through a series of phased upgrades to create a more approachable and pleasant Main Street environment.

CONTEXT



CORRIDOR AT A GLANCE



Excess Traffic Lanes

The number of traffic lanes on Main Street (Five lanes, including a middle turn lane) encourage high speeds, prevent the inclusion of on-street bike facilities, and create pedestrian crossings that are nearly 74' long in some instances.



Right Turn Lanes

The right turn lanes included at many intersections along Main Street (indicated on the map in blue) are unnecessary, especially when turning into low-volume residential streets. They add to the long pedestrian crossing distances, and make the pedestrian experience more unsafe.



Roundabout

The roundabout at the intersection of Main and Center St creates challenging crossings for pedestrians. The need to cross two lanes of traffic leads to a "multiple threat" crossing scenario, which can be uncomfortable and dangerous due to limited visibility.

CHALLENGES

Main Street's current lane configuration, two travel lanes in each direction and dedicated left- and right-turn lanes at most intersections, creates a challenging environment for pedestrians and bicyclists. These challenges include:

High Traffic Speeds

With up to 74' of continuous pavement at intersections, high traffic speeds were noted multiple times by the public during the initial round of public outreach.

Lack of On-Street Bikeways

While a sidepath exists along the east side of Main Street for much its length, it does not completely serve the needs of people biking. First, there is a gap in the sidepath between Center Street and 150 N that forces bicyclists to either share the lane with higher speed traffic or ride on the sidewalk where conflicts with pedestrians may exist. Second, Vineyard's future downtown is planned to include on-street bike lanes on Main Street. While sidepath users could feasibly navigate between a Main Street sidepath south of Vineyard Connector to Main Street bike lanes in Downtown, it does require a more complex maneuver, especially for southbound bicyclists who would need to cross to the other side of Main Street. Unfortunately,

this maneuver would occur at the Main Street / Vineyard Connector intersection, one of the busiest intersections in the city.

Lack of Safe Pedestrian Crossings

The most frequently reported comments from the initial round of public engagement focused on pedestrian crossings of Main Street. Several public comments were received in relation to the Center Street, Vineyard Loop Road, and Vineyard Road intersections of Main Street. While the Vineyard Road intersection does have an existing pedestrian hybrid beacon, many of the other locations have little infrastructure to support pedestrians trying to cross Main Street. This results in a nearly half-mile gap between the pedestrian crossings at Vineyard Connector, Vineyard Loop Road, and Center Street. Additionally, with left-turn lanes and right-turn pockets present at many intersections this forces pedestrians to cross approximately 74' of roadway and requires nearly 25 seconds at the average pedestrian speed of 3 ft/second. Problems with the pedestrian crossings at the Vineyard Road pedestrian hybrid beacon (PHB) and the pedestrian crossings at the Center Street roundabout were also been identified through public engagement and conversations with City staff.



Main Street / Vineyard Loop Road Pedestrian Crossing

THE CASE FOR RIGHT-SIZING MAIN STREET

In response to the challenges and public feedback described previously, one potential solution for Main Street would be to reconfigure the existing street to remove one travel lane in each direction. This strategy would address many of the previously described challenges that exist along the corridor while having minimal impact on traffic operations. The following sections describe the benefits of "right-sizing" Main Street. While the suggested scenarios are based on an engineering study, further evaluation will be needed to determine the ultimate configuration of Main St.

Excess Capacity and Operational Benefits

During the Spring of 2021, the Planning Team conducted turning movement counts at the major intersections along Main Street. Based on comparisons to previous counts in the area, the Planning Team determined that traffic patterns in the area were at a normal condition and not reduced due to the COVID-19 pandemic. The traffic analysis found

that removing a travel lane in each direction on Main Street would still allow the corridor to function at an acceptable level of service (LOS). The table below illustrates the intersection level of service for each intersection along the corridor for three scenarios:

- » Existing (2021) volumes
- » Future (2040) no-build volumes
- » Future (2040) build volumes which assumes removal of one travel lane in each direction from Center Street to Vineyard Connector

As the table below indicates, there is projected to be little impact on LOS with the build condition. Findings for some of the failing segments and nuances of the analysis are described below:

- » The Vineyard Loop Rd / Main Street intersection currently operates at a poor LOS due to difficulties in turning left onto Main Street during peak hours. No mitigation measures were recommended as the intersection is too close to Vineyard Connector for a traffic signal but may work with a roundabout.

Intersection		Level of Service (Sec. Delay per Vehicle)		
		Existing (2021)	Future (2040)	
			No-Build	Build
1	Vineyard Loop Road / Main Street	e (42.4) / EBL	f (>50) / EBL	f (>50) / EBL
2	470 North / Main Street	a (3.4) / EBR	a (4.8) / EBR	a (6.8) / EBR
3	Vineyard Road / Main Street	c (21.7) / WBT	f (>50) / EBL	B (14.0)
4	230 North / Main Street	b (10.1) / EBT	b (12.8) / EBT	b (11.6) / EBT
5	150 North / Main Street	a (6.6) / WBL	a (8.7) / WBL	a (8.9) / WBL
6	110 North / Main Street	a (8.3) / WBL	b (12.0) / EBT	b (11.7) / EBL
7	Center Street / Main Street	A (3.9)	A (5.1)	A (5.3)
8	Silver Oak Road / Main Street	a (6.5) / WBT	a (8.0) / EBT	a (6.9) / WBT
9	170 South / Main Street	a (4.3) / EBL	a (5.7) / EBL	a (5.4) / EBL
10	Zinfandel Lane / Main Street	a (5.6) / EBT	a (6.7) / WBT	a (7.2) / EBT

1. Intersection LOS values represent the overall intersection average for roundabout, signalized, and all-way stop-controlled (AWSC) intersections (uppercase letter) and the worst movement for all other unsignalized intersections (lowercase letter)

2. LOS (Delay) / Worst Movement; delay = seconds of delay per vehicle

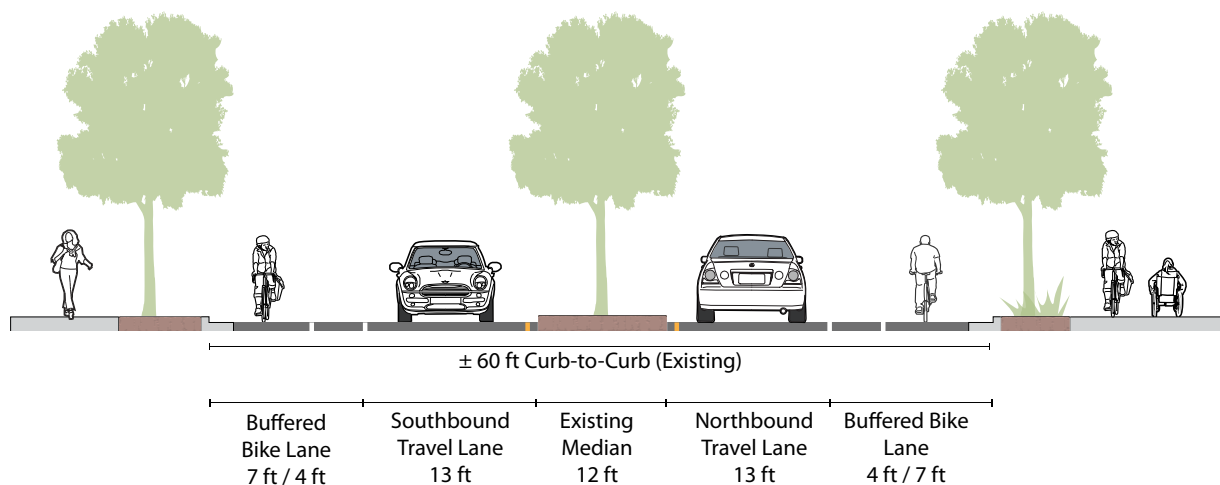
Source: Hales Engineering, March 2022

- » The Vineyard Road / Main Street intersection is anticipated to operate at LOS F in the 2040 condition. A traffic signal is currently planned for this intersection and would address this issue as shown in the 2040 build condition.
- » While the build condition assumes one travel lane in each direction for the majority of the Main Street corridor, the segment between Vineyard Connector and Vineyard loop road was analyzed with two southbound lanes to accommodate the dual westbound left-turn lanes from Vineyard Connector.

High Comfort Bikeway Connection to future Downtown

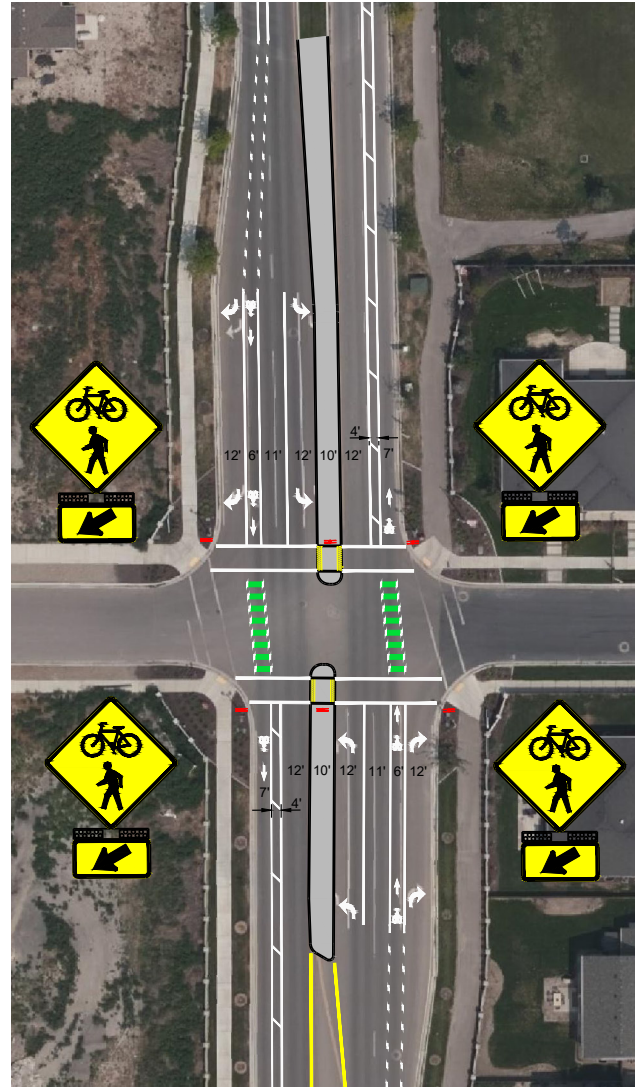
Removing a travel lane in each direction on Main Street would allow for the inclusion of on-street buffered bike lanes. This would create a seamless and convenient connection for commuting bicyclists traveling to and from Downtown. Main Street bike lanes would also limit conflicts with bicyclists who prefer to ride faster and sidepath users who may be traveling at slower speeds.

Proposed Main Street Cross-section (mid-block)



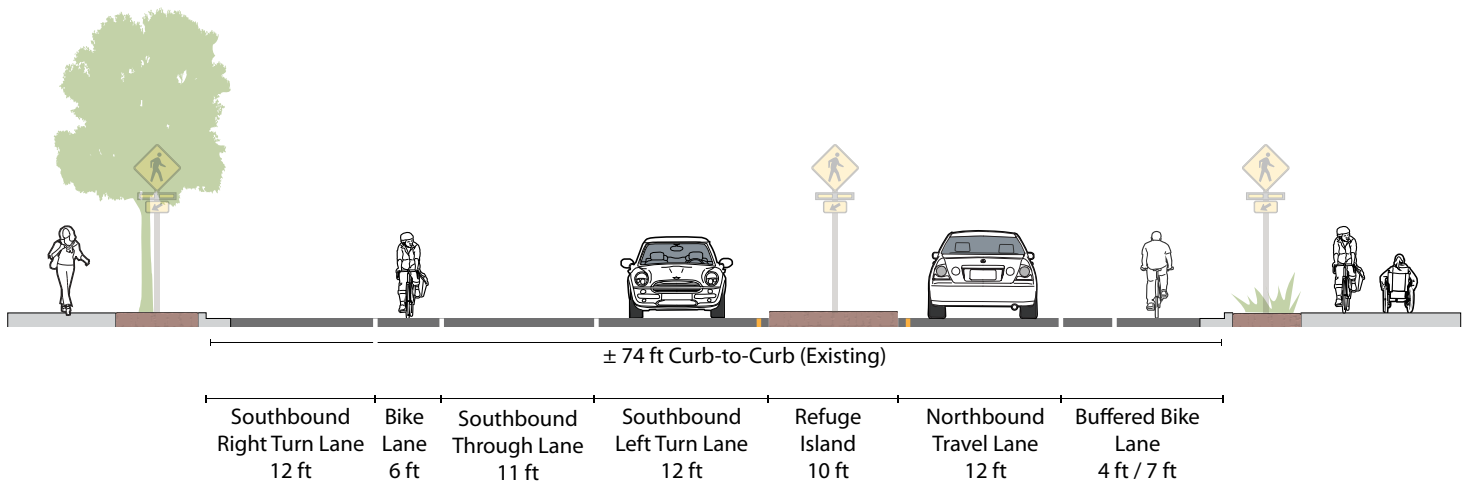
Enables Safe Pedestrian Crossings

Potentially the most important benefit of removing a travel lane from Main Street would be the improved safety and crossing opportunities for pedestrians. At unsignalized intersections such as Vineyard Loop Road, 230 N, and 110 N intersections, space could be reallocated to create a pedestrian refuge with RRFB's. With three RRFB's (two on the outside of the ROW and one in the pedestrian refuge) these pedestrian crossings are likely to exhibit good yielding compliance and create safe, controlled places for pedestrians and bicyclists to cross Main Street. In addition, instead of crossing 74' of uninterrupted roadway pedestrians would be able to cross approximately 19-40' of roadway before pausing (if necessary) in a pedestrian refuge before crossing the remaining lanes.



Proposed Main Street Plan View at Intersections

Proposed Main Street Cross-section at intersections



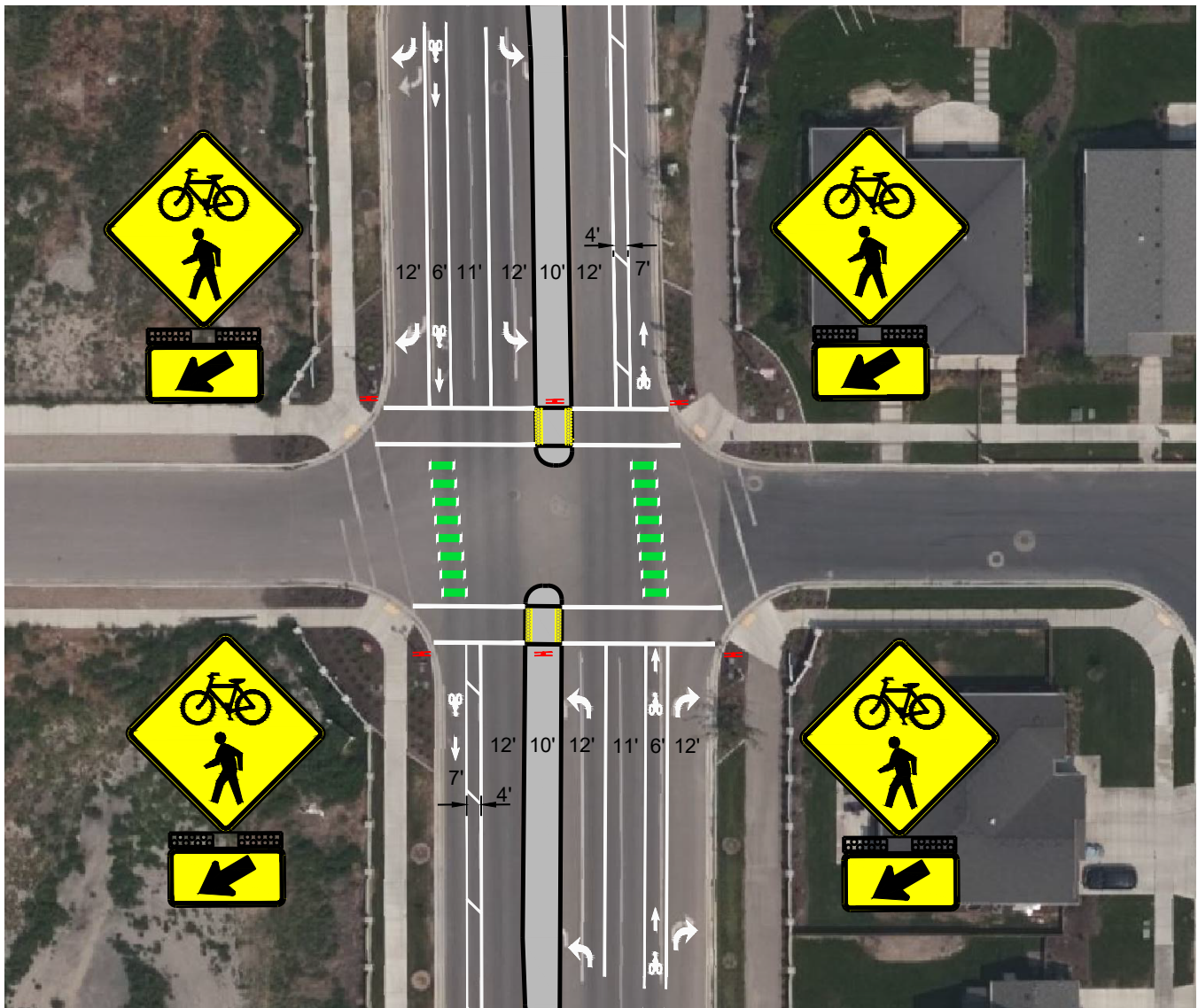
PHASE I - ROAD DIET AND UNSIGNALIZED CROSSING IMPROVEMENTS

Road Diet

To minimize the current traffic challenges along Main Street, two travel lanes could be removed to go from five lanes to three (one travel lane in each direction, and a center turn lane). This leaves space for a buffered bike lane on either side of the road, and in locations where the right turn lane is removed (see Phase II), the pedestrian crossing distance is shortened.

Unsignalized Crossing Improvements

At unsignalized intersections such as Vineyard Loop Road, 230 N, and 110 N intersections, space could be reallocated to create a pedestrian refuge with RRFB's. With three RRFB's (two on the outside of the ROW and one in the pedestrian refuge) these pedestrian crossings are likely to exhibit good yielding compliance and create safe, controlled places for pedestrians and bicyclists to cross Main Street. In addition, instead of crossing 74' of uninterrupted roadway pedestrians would be able to cross approximately 19-40' of roadway before pausing (if necessary) in a pedestrian refuge before crossing the remaining lanes.



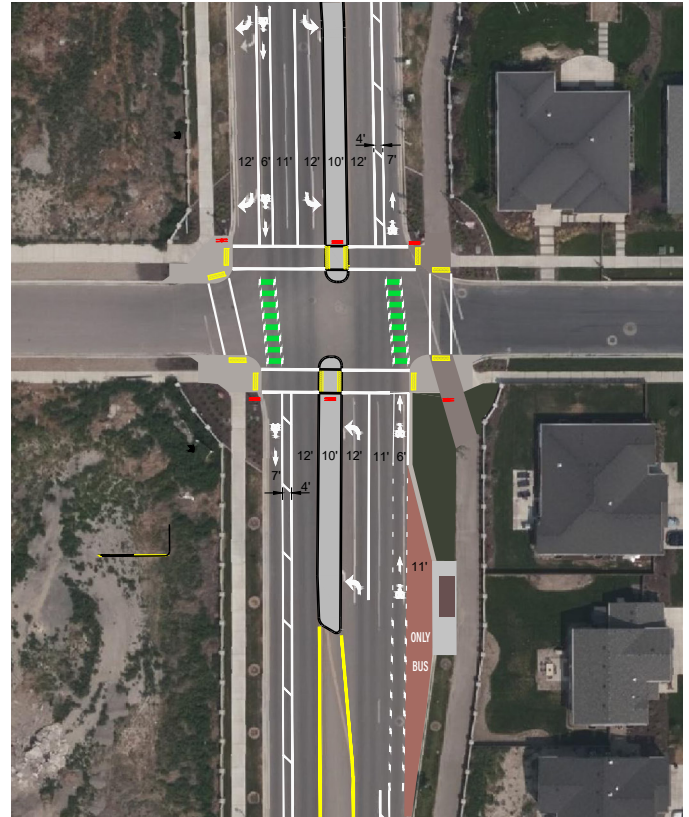
PHASE II - RIGHT TURN POCKET RETROFITS

Right Turn Lane Closure

Right turn lanes are not necessary when less than 50 turns are made from them each hour. Given these vehicle volumes, plus through traffic volumes, right turn lanes are not warranted at Main Street and 110 N, 150 N, 230 N, and Vineyard Loop Rd. Instead, the lanes could be converted to bus pullouts for UTA route 834, which connects to the Vineyard Frontrunner station to the north, and into Orem and Provo to the south and west.

Intersection Crossing Improvements

As part of the right turn lane closure on the northbound side of Main Street, curbs should be extended to line up with the edge of the bike lane, creating a shorter pedestrian crossing distance. Curb ramps at all edges of the intersection should be squared up with the crosswalk (perpendicular ramps) instead of their current angled/apex design.

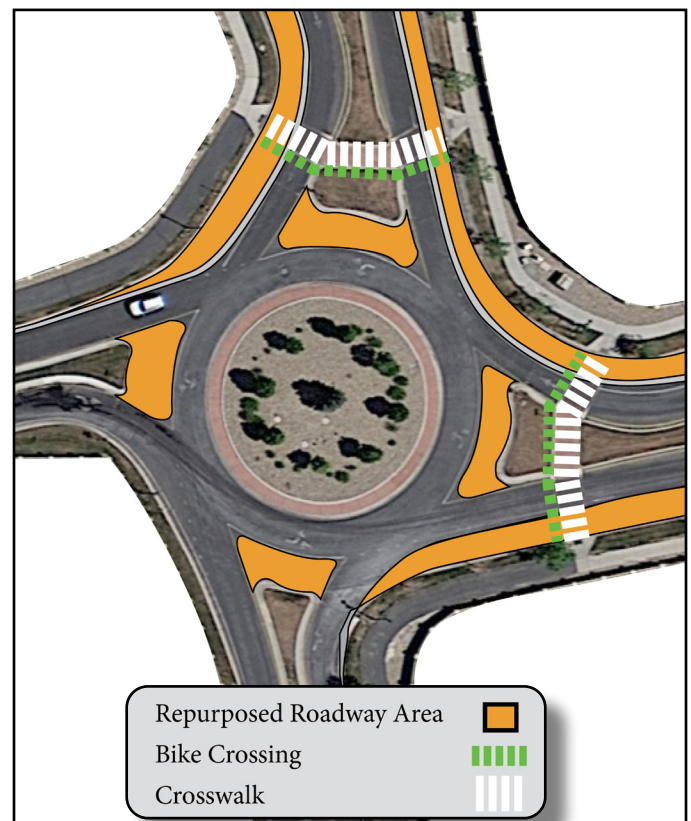


PHASE III - ROUNDABOUT IMPROVEMENTS

The multi-lane roundabout at Center Street presents a significant opportunity to adjust existing roadway allocation to provide a safer roadway environment for all roadway users while maintaining traffic operations. Based on preliminary analysis utilizing 2040 projected volumes (Hales Engineering, 2022), the Center Street roundabout would likely support a redesigned configuration with a single lane on each approach.

Applying a single lane design, as shown to the right, would repurpose existing roadway space to create shorter crossing distances for pedestrians, formalized crossing for bicyclists, and markings throughout the roundabout for those comfortable traversing the through as a vehicle. Additionally, repurposing underutilized space within the roundabout will maintain low vehicle speeds through the intersection while continuing to support large vehicle traffic.

Roundabout design should follow the standard single lane roundabout design in [Appendix 4](#).



02

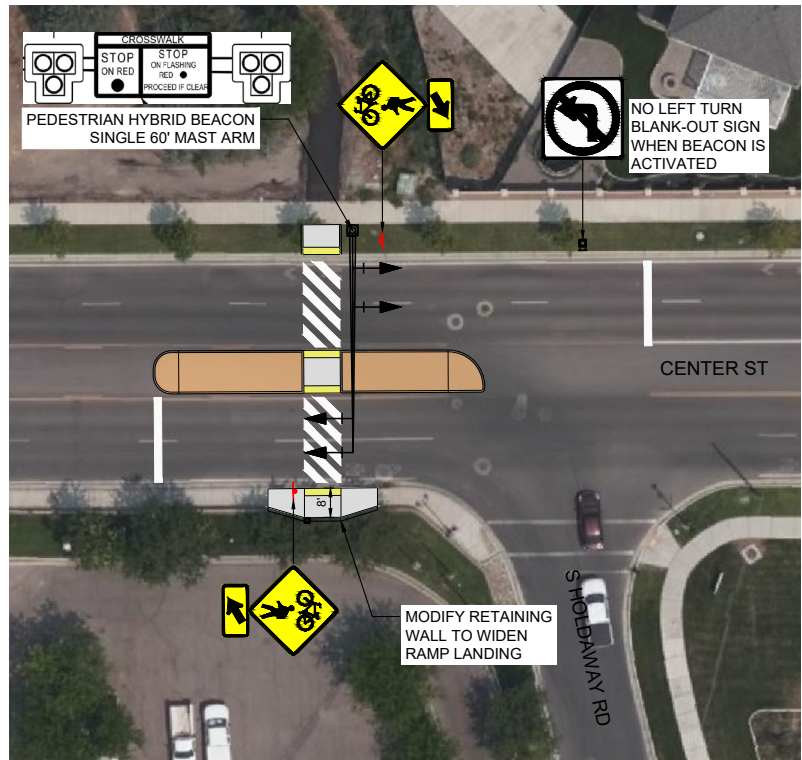
A5.2: CENTER STREET CROSSING IMPROVEMENT

CENTER ST AND HOLDAWAY RD INTERSECTION

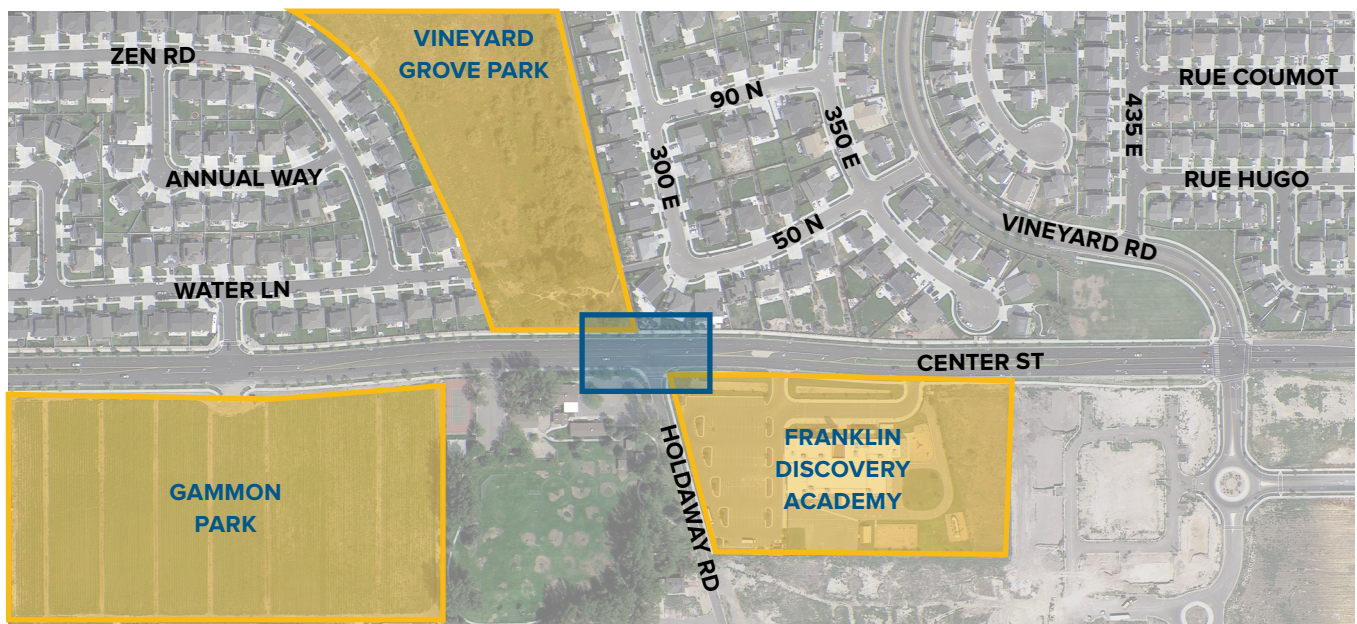
PROJECT DESCRIPTION

With upcoming plans to further develop Gammon Park to include additional community amenities and community interest in allowing students to safely walk or bike to from school (In this case, Franklin Discovery Academy), adding a safe pedestrian crossing at Center St and Holdaway Rd will become important. Adding a crossing in this location will also create a strong, safe north-south active transportation connection by way of the proposed shared use path along Holdaway Rd and the existing trail along Vineyard Grove Park.

This crossing should be placed west of the Center St/Holdaway Rd intersection, and include a Pedestrian Hybrid Beacon, striped crosswalk, and a median refuge island to allow pedestrians to cross one direction of traffic at a time.



CONTEXT



03

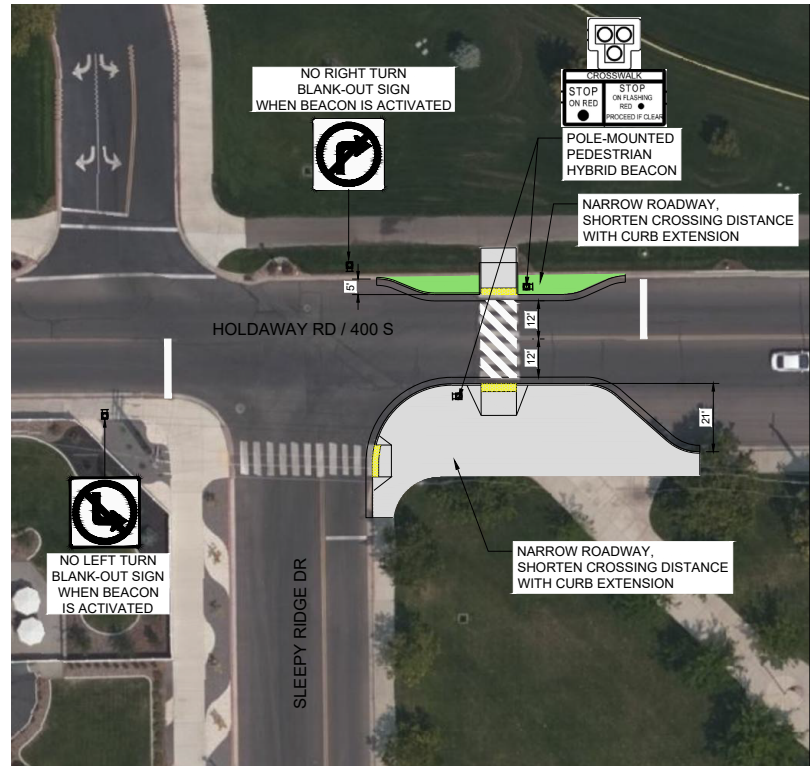
A5.3: 400 S CROSSING IMPROVEMENT

HOLDAWAY RD/400 S AND SLEEPYRIDGE DR INTERSECTION

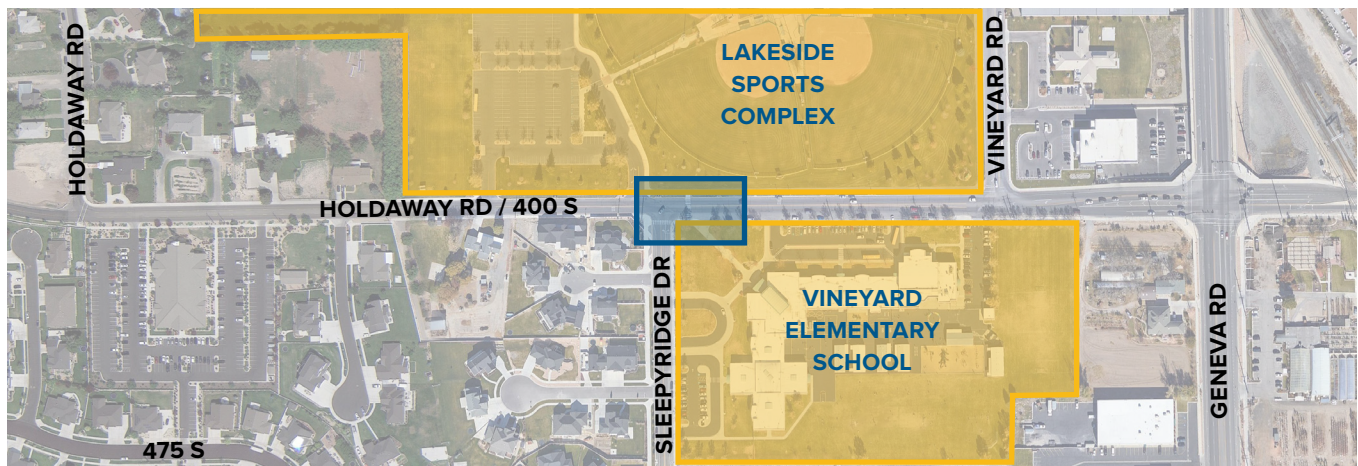
PROJECT DESCRIPTION

With Vineyard Elementary School and Lakeside Sports Complex, one of the largest parks in Vineyard, immediately across Holdaway Rd/400 S from each other, creating a highly visible, safe pedestrian crossing is critical to providing safe routes to both of these locations. While a crosswalk is currently marked just east of Sleepy Ridge Rd on Hideaway Rd/400 S, the crossing is not highly visible, and was indicated as a crosswalk needing attention during the community engagement process.

The proposed solution, as shown in the figure at right, is to bump out the curb line on either side of the street to create a shorter crossing distance, add Pedestrian Hybrid Beacons (PHBs) to require vehicles to stop while it is activated, and also include signage to prohibit right turns when activated.



CONTEXT



04

A5.4: TRAILSIDE ELEMENTARY RAILROAD CROSSING

EAST OF TRAILSIDE ELEMENTARY, TRAVERSING RAILROAD TRACKS AND LAKE BOTTOM CANAL

PROJECT DESCRIPTION

When the Utah Valley University (UVU) Vineyard campus opens and the rest of the east side of Vineyard continues to develop, providing more east-west accesses across the railroad tracks will become critical. Additionally, many Trailside Elementary School students live in close proximity to the school building, but are forced to take a lengthier route to access the building due to the uncrossable railroad

tracks. By adding a bike & pedestrian bridge across the railroad tracks at 400 N, Vineyard will become a much more continuous, connected community from east to west. This bridge will also connect to the proposed East Side Rail Trail along the railroad tracks, giving access to a new active transportation and recreation thoroughfare.

LEGEND

- Property Line
- Utility Equipment



CONTEXT

