



VINEYARD BICYCLE ADVISORY COMMISSION (BAC) MEETING

**Vineyard City Hall, 125 S Main Street, Vineyard, Utah
Thursday, May 12, 2022, at 5:30 p.m.**

1. CALL TO ORDER

2. OPEN SESSION

3. MINUTES REVIEW AND APPROVAL

3.1 December 9, 2021

3.2 March 31, 2022

4. BUSINESS ITEMS:

4.1 Bike Month (May 2022)

Anna Nelson, Development Services Technician, will provide details on the purpose of Bike Month and City Activities going on in the month of May.

4.2 The Purpose of the BAC

A member of the BAC will provide an overview of the purpose of the Commission.

4.3 Meet the Members of the BAC

Members of the BAC will introduce themselves and their background and involvement with the BAC.

4.4 Overview of Current BAC Projects and Initiatives

Briam Perez, City Planner, will give an overview of current and future biking projects in and around Vineyard City.

4.5 Bicycle Safety Presentation by Sergeant Holden Rockwell, Utah County Sheriff's Department

Sergeant Rockwell will present on the importance of bicycle safety.

5. WORK SESSION:

5.1 Update on Active Transportation Plan (ATP) and Community Engagement Activity, by David Foster, with Alta Planning and Design,

- Mr. Foster will provide residents an update on the Active Transportation Plan. He will also lead a community engagement activity regarding the ATP using a variety of maps and surveys.

5.2 Bike Town Hall Raffle

- Anna Nelson will hold a raffle for those in attendance. Participants will have the opportunity to win a \$100 gift card from Al's Sporting Goods.

6. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE

None.

7. ADJOURNMENT

The next regularly scheduled meeting is scheduled for July 21, 2022 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 Briam Amaya Perez, Planner II, at least 24 hours prior to the meeting by calling (801) 226-1929.

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: May 9, 2022

NOTICED BY: /s/ Briam Amaya Perez

Briam Amaya Perez, Planner II

VINEYARD BICYCLE ADVISORY COMMISSION MEETING

Vineyard City Hall, 125 S Main Street, Vineyard, Utah
Thursday, December 09, 2021, at 5:30 p.m.

1.  **CALL TO ORDER**
2.  **OPEN SESSION**
3.  **MINUTES REVIEW AND APPROVAL**

None.

4. BUSINESS ITEMS:

4.1 **Assignment of a New Chair and Vice Chair of the Vineyard Bicycle Advisory Commission **This business item took place *after* the Work Session.**

The duties and responsibilities were explained to the commissioners that were present. Commissioner Anthony Jenkins explained the nomination and selection process.

 **Motion:** COMMISSIONER CADEN RHOTON MOVED TO NOMINATE HIMSELF AS CHAIR OF THE VINEYARD BICYCLE ADVISORY COMMISSION. COMMISSIONER JENKINS SECONDED THE MOTION. COMMISSIONERS JENKINS, RHOTON, AND TERRY VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

Commissioner Andrew Terry expressed a desire to serve as the Vice-chair of the Vineyard Bicycle Advisory Commission.

 **Motion:** COMMISSIONER ANDREW TERRY MOVED TO NOMINATE HIMSELF AS THE VICE-CHAIR OF THE VINEYARD BICYCLE ADVISORY COMMISSION. COMMISSIONER CADEN RHOTON SECONDED THE MOTION. COMMISSIONERS JENKINS, RHOTON, AND TERRY VOTED AYE. THE MOTION CARRIED UNANIMOUSLY.

A discussion ensued about the need for another Bicycle Advisory Commission member. They expressed that anyone with interest would be welcome, regardless of interest or experience in bicycling and/or volunteering in local government.

4.2 **Preparation of the Bicycle Advisory Commission Calendar for 2022.**

 **Motion:** COMMISSIONER ANTHONY JENKINS MOVED FOR THE BICYCLE ADVISORY COMMISSION TO MEET EVERY OTHER MONTH ON EACH THIRD THURSDAY OF THE MONTH AT 5:30 PM STARTING ON JANUARY 20, 2022. COMMISSIONER CADEN RHOTON SECONDED THE MOTION. COMMISSIONERS JENKINS, RHOTON, AND TERRY VOTED AYE. THE MOTION CARRIED UNANIMOUSLY. THE MOTION CARRIED UNANIMOUSLY.

5. WORK SESSION:

5.1 Active Transportation Plan, David Foster, *ALTA Planning and Design*

David Foster, Principal Landscape Architect with ALTA, will provide an update on public feedback their organization has received through the first round of public engagement regarding the Active Transportation Plan.

Mr. Foster spoke about the first round of public engagement their company has been conducting over the last few months. He spoke about the public survey and map that has been posted and shared on the Vineyard City homepage. David shared data from the survey and map.

The data indicated that a relatively small percentage of Vineyard residents bike to commute or for small trips. Forty-five percent of Vineyard residents requested for more pathways, connectivity, signage, and on street bike-lanes. In terms of demographics, most survey respondents came from Lakefront at TC, Sleepy Ridge, and The Preserve; more females responded to the survey (60/40 split); most participants were between 25-44 years of old, and from higher income families—predominantly white Caucasian.

Issues revealed by the survey: Main Street pedestrian crossings, hybrid beacon on Main St and 400 N are not understood well; the beacon cannot be activated on the south side of the intersection, presenting a substantial inconvenience.

Naseem Ghandour, City Engineer, spoke about a traffic impact study that was recently conducted that showed that the intersection at Main St. and 400 N merited a four-way traffic signal. Furthermore, the survey revealed that many residents desired an increase in formalized crosswalks along Vineyard Loop Road:

Alta Planning will explore opportunities to make Holdaway Road a more pedestrian and bike-friendly road. City Council had directed staff to investigate this topic further.

Mr. Foster informed the BAC that residents requested more connections to the Utah Lake Shoreline Trail throughout the waterfront.

Commissioner Andrew requested that Alta Planning focus on making connections to 400 N over the Provo main line. Perhaps a pedestrian overcrossing could be accomplished. Commissioner Anthony Jenkins requested pedestrian refuges, sidewalk ramps to allow for getting on and off sidewalks. He also requested a higher focus on Center Street and Holdaway Rd. crossing. He suggested a stop bar further back at the intersection of E Vineyard Loop and Center Street. Furthermore, Commissioner Jenkins made a statement regarding a need for increased clarity for pedestrian and cyclists' path of travel within the roundabout at Main St. and Center St.

Next Steps:

Mr. Foster spoke about "Next Steps" in the Active Transportation Plan:

1. Recommendations phase to begin in January/February 2022. Mr. Foster stated that he would like to discuss their recommendations with the Vineyard Steering Committee towards the end of February. Preliminary recommendations will be sent a few weeks ahead of time.

5.2 **Grant for Streetlight Transportation Data, Chris Wiltsie, Bike Utah**

Bike Utah uses Streetlight Data to measure transportation activity on streets and analyze travel patterns between vehicles. Chris Wiltsie, Program Director at Bike Utah, will discuss how Streetlight Data can inform Vineyard's transportation plans.

A discussion regarding best practices in active transportation planning will take place.

Streetlight data includes the use of machine learning to determine what mode of transportation individual users are using.

MDSS DATA GRANT

Spin issued a grant to Provo City, Utah. This grant allowed for various data analyses. A lot of consultant groups are using STRAVA data—data used on apps that are used only for recreational trips.

Provo Study: STRAVA data showed that many bicycle trips were being taken within Provo's urban cores. A lot of low-income people rode for practical purposes. Many cities are unconsciously prioritizing recreational bicycle riding instead of practical riding. Many trips being taken by riders mimic car trips—trips to job centers, schools, etc. Time-of-day data generated by users in automobiles looks very similar to users on bikes. Lesson learned: if cities choose to induce demand somewhere—in this case on the periphery of the urban core, make sure to implement safety elements. Research data showed that 37% of all bicycle trips in Provo were to local destinations.

Mr. Wiltsie provided a lesson on bicycle safety and infrastructure.

6. **COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE**

City Planner, Briam Perez updated the Commission on progress City Staff and consultants FFKR and EDSA have made on the Waterfront Master Plan. He invited those present and the public to attend the upcoming open house on December 16, 2021 at 6-9pm.

City Engineer, Naseem Ghandour, provided information on a traffic study conducted regarding 400 N and Main St. A four-way intersection is to be installed here in the upcoming year. Regarding the Vineyard Downtown, he informed the Commission that blacktop and other infrastructure has been effectively installed on the north side of Vineyard Connector leading to the future Vineyard Frontrunner Station. Mr. Ghandour also explained work being conducted to install

7. **ADJOURNMENT**

The next regularly scheduled meeting is yet to be determined.

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 Briam Amaya Perez, Planner II, at least 24 hours prior to the meeting by calling (801) 226-1929.

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: December 07, 2021

NOTICED BY: /s/ Briam Amaya Perez

Briam Amaya Perez, Planner II

**VINEYARD BICYCLE ADVISORY
COMMISSION MEETING**

**Vineyard City Hall, 125 S Main Street, Vineyard, Utah
Thursday, March 31, 2022, at 5:30 p.m.**

1. CALL TO ORDER

2. OPEN SESSION

3. MINUTES REVIEW AND APPROVAL

Minutes from the December 9, 2022, BAC meeting were not approved.

4. BUSINESS ITEMS:

None

5. WORK SESSION:

5.1 Overview of BYU 510 Student Project regarding Mill Rd and 400 N

The BYU 510 student group gave their presentations. The BAC provided feedback and asked questions. The students will present their projects in the upcoming Planning Commission meeting on April 6, 2022.

5.2 Introduction of Orem City's proposed Mountain to Shoreline Trail Project

Matthew Taylor present ideas for trail connections. Orem City will coordinate with Vineyard officials on branding, wayfinding, and routes.

5.3 BAC Participation in Bike Month

The BAC will support weekly activity and efforts that will be shared on social media. Anna Nelson, Development Services Technician will set up a Vineyard group on lovetoride.net, and on Strava data. BAC Chair, Caden Rhoton will help with Facebook groups and livestreams. BAC Vicechair, Anthony Jenkins, will lead a bicycle tour of Vineyard City on May 24, 2022.

5.4 Holdaway Road Bicycle Boulevard Petition

BAC will provide input in writing to Briam regarding their thoughts and concerns. Staff will take action to get resident, David Lauret, in front of city council in an April meeting.

5.5 Discussion regarding the Alta Planning recommendations for the Active Transportation Plan

Briam Perez, Planner II, presented the item on active transportation. Action: have staff review general plan and code and update as needed based on recommendations so that we build properly moving forward. Work to fix problem areas (i.e., where trails join with roads there should be a curb cut out ramp).

5.6 Funding for Bike and Skate Park

Briam presented item 5.5 to ask BAC if they had identified funding sources. BAC shared inputs and Briam will follow up.

6. COMMISSION MEMBERS' REPORTS AND EX PARTE DISCUSSION DISCLOSURE

Vice Chair, Jenkins, shared that Troy Huebner is a bike race organizer and would be interested in getting rides going through Vineyard or even small rides for kids on our trails starting at our parks.

7. ADJOURNMENT

BIKE TOWNHALL



BIKE MONTH

FUTURE OF BIKING IN VINEYARD

MAY 12TH @5:30PM

125 S MAIN STREET
VINEYARD, UTAH 84059

WIN A \$100
DOLLAR GIFT
CARD!

RECOMMENDATIONS

INTRODUCTION

Approach Used to Develop Recommendations

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 should guide the recommendations made for both network development 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 NETWORK

PROPOSED FACILITIES

As discussed in **Chapter 2: Existing Conditions**, Vineyard currently has 18.5 miles of active transportation facilities, comprised of sidepaths & shared use paths, buffered bike lanes, and standard bike lanes. In the network recommendations made for Vineyard, these existing facility types, in addition to several new facility types, are recommended, adding 33.1 miles to the active transportation network. These new facilities are detailed below and shown in **Figure 4.1 and Maps 4.1, 4.2, and 4.3**.

Bike Boulevards

Bike boulevards are low-volume, low-speed neighborhood streets that create safe environments for biking. Minimal physical infrastructure is needed to create a bike boulevard, and they often provide comfortable alternatives to busier roadways, creating safe routes for biking that are also effective in the continuation of a strong active transportation network. Some elements that should be implemented along a bike boulevard corridor include shared lane markings (sharrows), signage, and traffic-calming elements to ensure vehicle speeds are kept in check.

Separated Bike Lanes

Separated bike lanes can take many forms, but are generally similar to buffered bike lanes. They provide a buffer between through traffic and the space for bikes, but unlike a buffered bike lane, there is some type of vertical protection preventing 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

An unspecified facility shown on the map is 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

33 Miles Proposed + 18.5 Miles Existing
= 51.6 Miles Active Transportation Facilities



Map 4.1 City-Wide Proposed Network

NETWORK RECOMMENDATIONS

Vineyard Active Transportation Plan

SPOT IMPROVEMENTS

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

PROPOSED FACILITIES

- 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

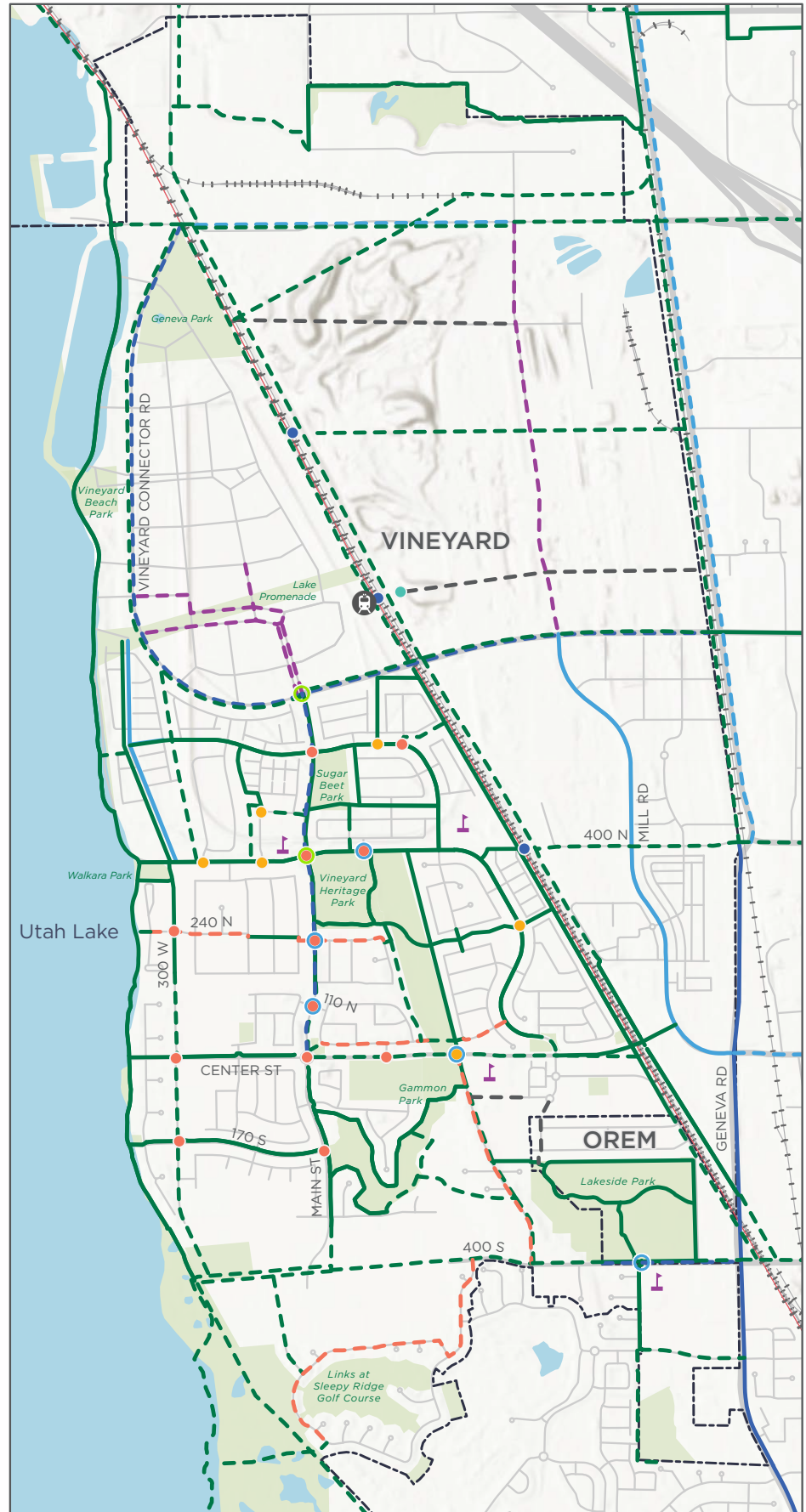


alta

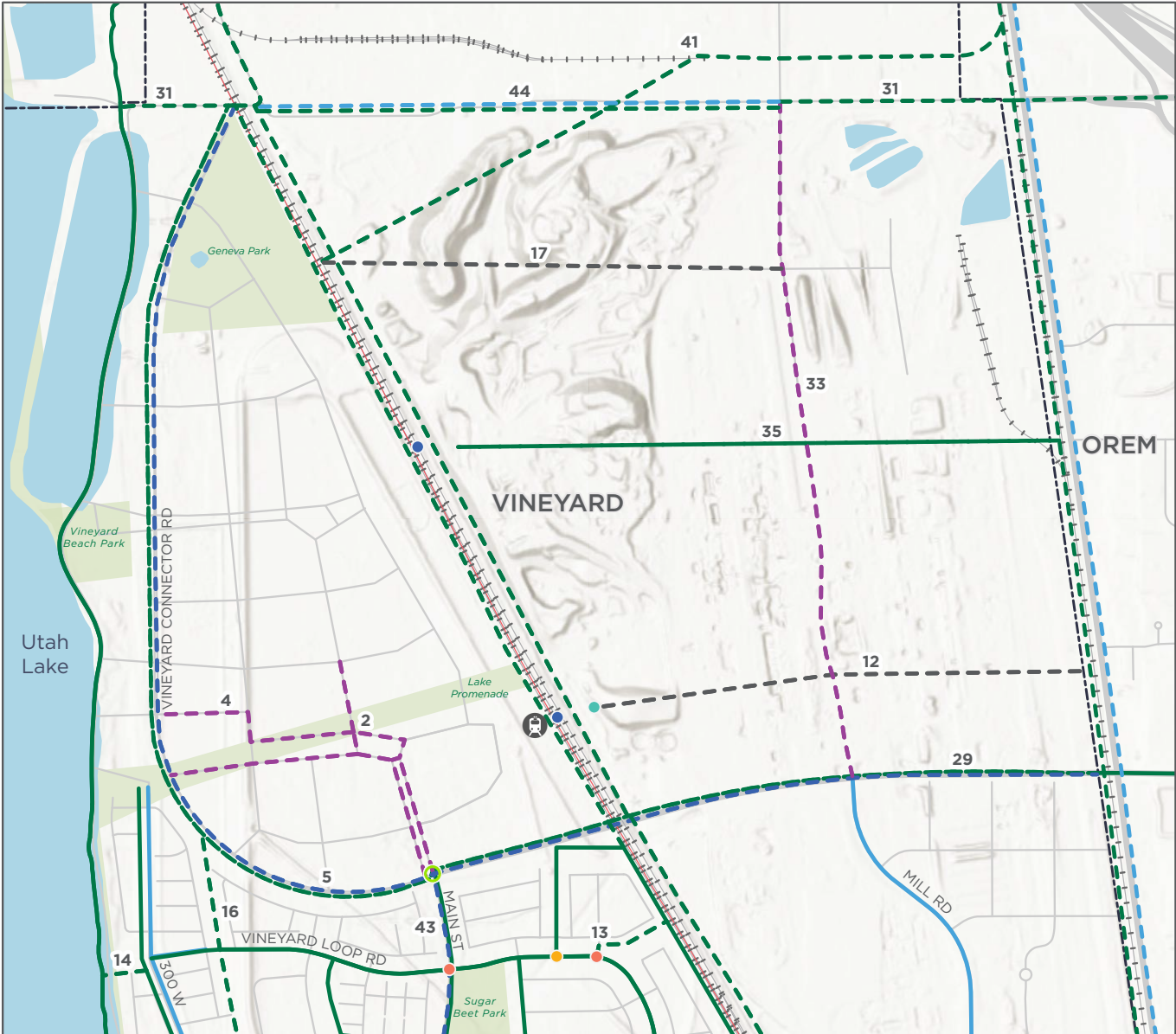
Source: City of Vineyard; Utah County; Utah AGRC; UDOT
Date: February 2022



0 0.4 0.8
Miles



Map 4.2 North Vineyard Proposed Network



NETWORK RECOMMENDATIONS - NORTH VINEYARD

Vineyard Active Transportation Plan

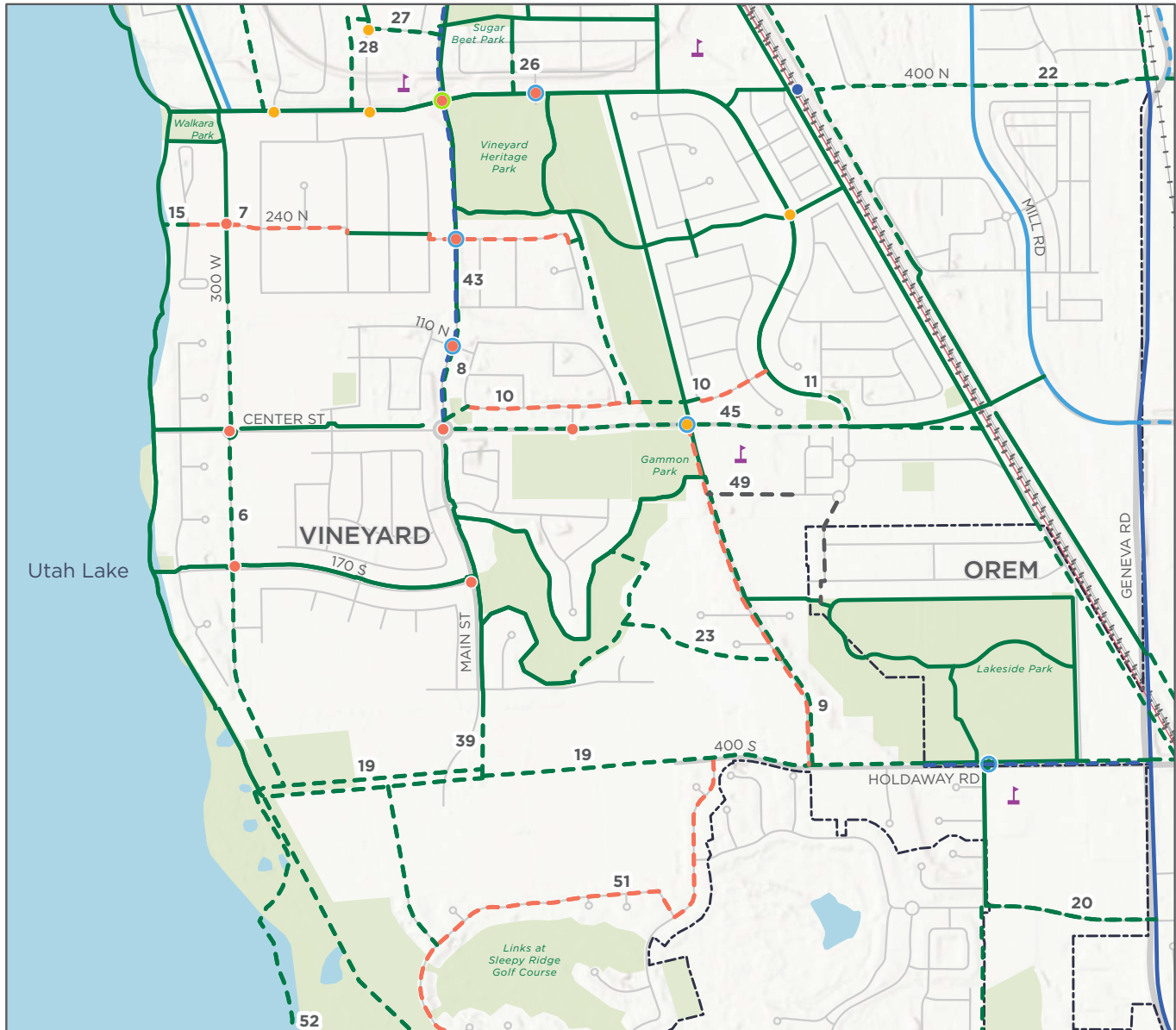
SPOT IMPROVEMENTS	PROPOSED FACILITIES	EXISTING FACILITIES	BASEMAP FEATURES
Physical Intersection Improvements	Bicycle Boulevard	Bike Lane	School
Midblock Crossing	Bike Lane	Buffered Bike Lane	Frontrunner Station
Mobility Hub	Buffered Bike Lane	Shared Use Path	Commuter Rail
Pedestrian Bridge	Separated Bike Lane		Railroad
Active Transportation Signal or Beacon	Shared Use Path		Water Body
Planned Traffic Signal	Unspecified Facility		Park
			Vineyard



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



Map 4.3 South Vineyard Proposed Network



NETWORK RECOMMENDATIONS - SOUTH VINEYARD

Vineyard Active Transportation Plan

SPOT IMPROVEMENTS

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

PROPOSED FACILITIES

- 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



VINEYARD
STAY CONNECTED

alta

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

0 0.25 0.5
Miles



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.



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 along long blocks (longer than 600 ft.) where destinations and locations with heavy pedestrian traffic

A pedestrian crossings at a mid-block location may consist 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.

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 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.

Active Transportation Signal or Beacon

ACTIVE WARNING BEACONS (RRFBS)

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)

Hybrid beacons are used to improve non-motorized crossings of major streets. A hybrid beacon 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



Rectangular rapid flashing beacon



Pedestrian Hybrid Beacon

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, shared services such as a Uber or Lyft, Mobility hubs provide nodes where people can easily and confidently access these modes and transfer between them. Mobility hubs especially provide places to transfer between longer distance transit service, such as Frontrunner, to local services such as bus or “first-last mile” connections. 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
information &
other shared
mode information

PARKING AND CHARGING SERVICES



Electric vehicle
charging
(including
bicycles &
scooters)



Short term bike
parking



Long term bike
parking



Bikeshare &
scootershare
parking



Freight
loading/
unloading area



Carshare
parking and
access points

PRIORITY ACCESS



Prioritized
walkways



Prioritized
bike and
micromobility
access



Safe bicycle
and pedestrian
crossings



Community
space



Complementary
retail



Activated
furnishing
zone with
appropriate
support
infrastructure

AMENITIES

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

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.

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.

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. While a complete summary of the methods and results can be found in the appendix, 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.
- » The Vineyard Road / Main Street intersection is anticipated to operate at LOS F in the 2040 condition. A traffic signal is currently planned for

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

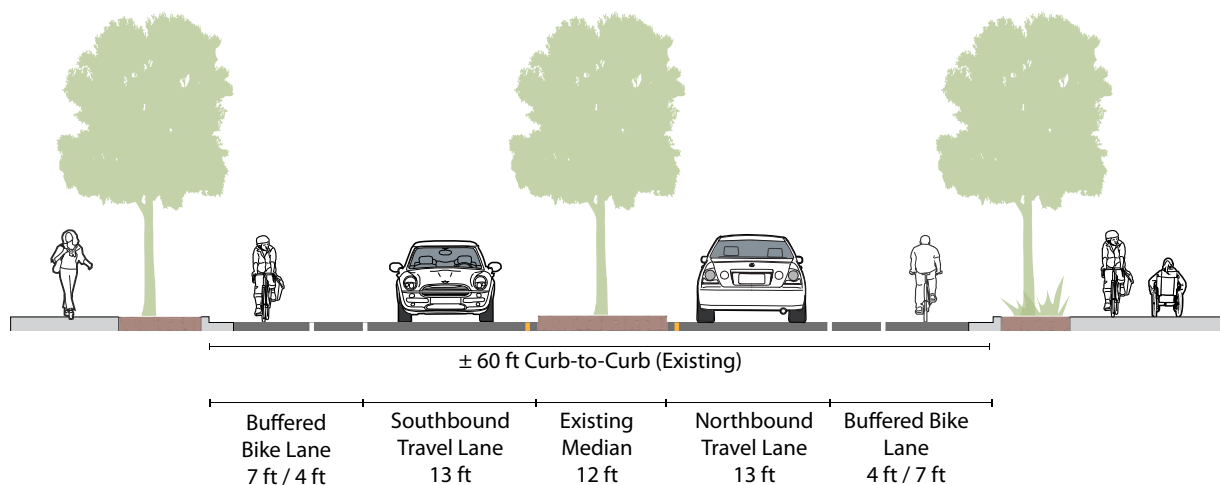
this intersection and would address this issue as shown in the 2040 build condition.

- » 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.

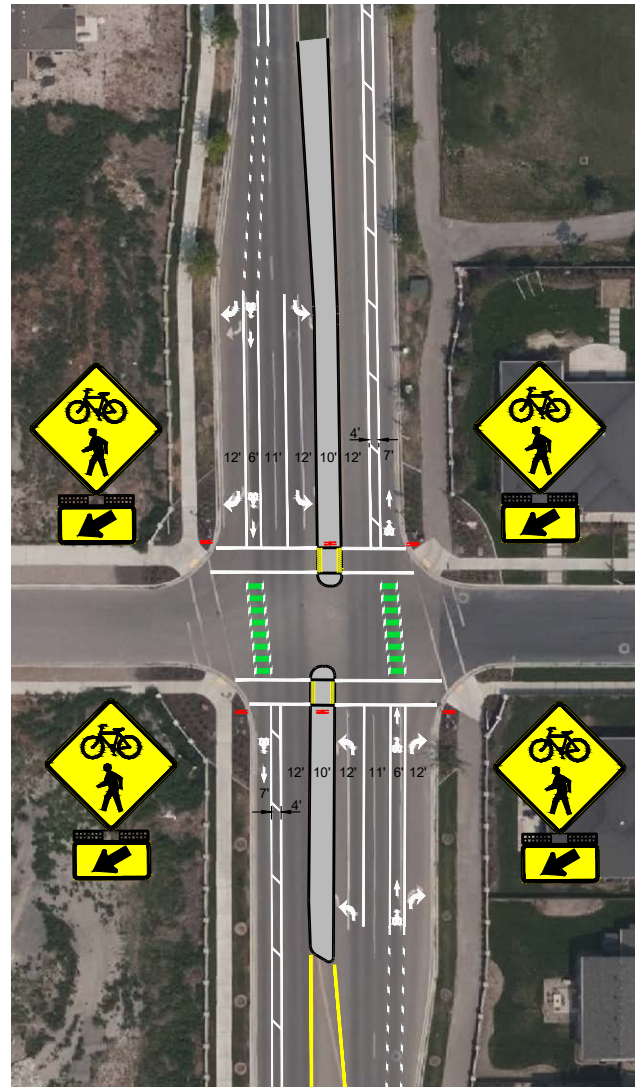
Removing a travel lane in each direction on Main Street would allow for the inclusion of on-street buffered bike lanes. This would create a seamless and convenient connection for commuting bicyclists traveling to and from Downtown. Main Street bike lanes would also limit conflicts with bicyclists who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

Proposed Main Street Cross-section (mid-block)



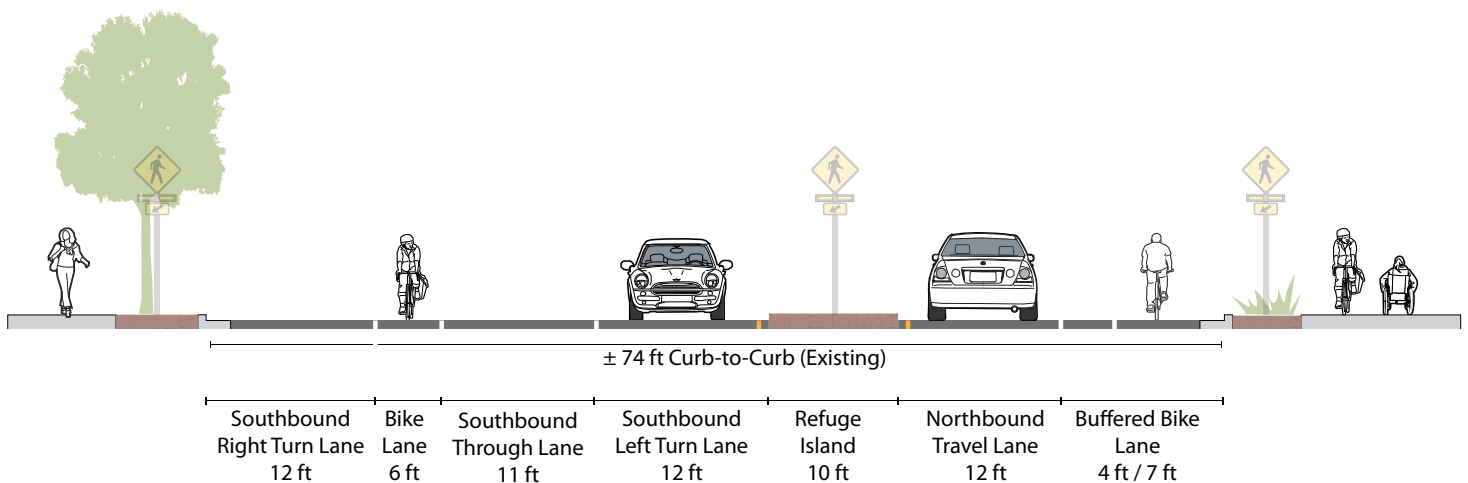
ENABLES SAFE PEDESTRIAN CROSSINGS:

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 Cross-section at intersections

Proposed Main Street Plan View at Intersections



POLICY + PROGRAM RECOMMENDATIONS

POLICIES

The following policies are general recommendations that can provide Vineyard with guidance for adopting policies tailored specifically to the community's needs. In addition to adding new policies, Vineyard should consider revisiting existing city policies to add up-to-date best practices and opportunities to improve active transportation conditions.

Roadway Design + Features

CURB RAMPS

Currently, Vineyard has many diagonal curb ramps, which direct pedestrians diagonally into the intersection instead of directly into the crosswalk. Although diagonal (apex) curb ramps might seem more efficient, as they only require one facility per corner, they create potential safety and mobility problems for pedestrians, particularly those using wheelchairs and vision-impaired pedestrians.

Instead, directional and perpendicular ramps should be included in the addition of new and repair of existing sidewalks. These ramps allow users to transition directly from the sidewalk into the crosswalk without having to realign themselves. Desirable curb ramp design is shown in **Figure 4.1**.

Vineyard should consider modifying their standards to promote the use of directional ramps and only allow diagonal ramps in retrofit situations or where ROW is limited.

STREET CONNECTIVITY STANDARDS

The most simple 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 a 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 implementing street connectivity requirements. Communities such as Lehi have implemented similar street connectivity standards and resources can be found below:

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

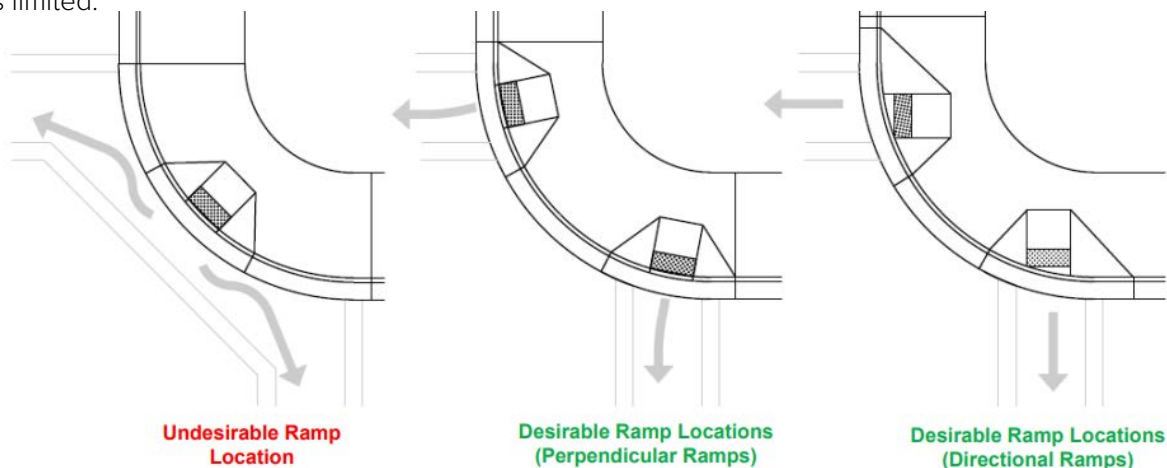


Figure 4.1 Curb Ramp Types. Source: CDOT Curb Ramp Designers Resource

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 door swing from parked cars. 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 the bike racks and adjacent property lines, and should typically be placed in the amenity zone. Recommended bike rack styles are shown in [Figure 4.2](#).

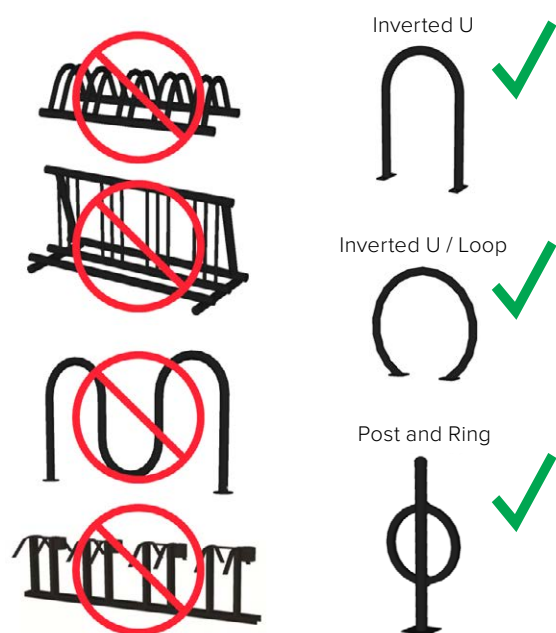


Figure 4.2 Bike Rack Recommendations

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.

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

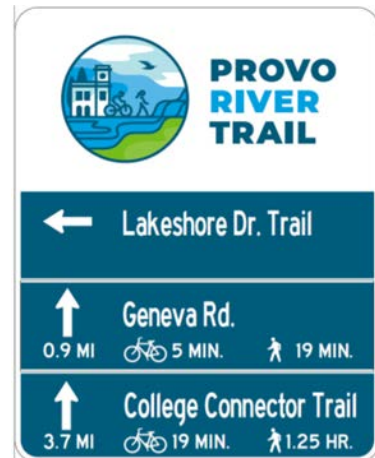
MAG developed a Wayfinding Guide for Multi-Use Paths along with a series of sign templates in 2020. This guide outlines the two goals of wayfinding for Utah County: increase awareness of the connectivity of trails and their amenities; and contribute to placemaking through branding and connectivity.

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 (see Figure 5.2)
- » 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



Decision 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