

Jackson Town Council
WORKSHOP
Monday, April 16, 2018
3:00 PM
Council Chambers

NOTICE: THE VIDEO AND AUDIO FOR THIS MEETING ARE STREAMED TO THE PUBLIC VIA THE INTERNET AND MOBILE DEVICES WITH VIEWS THAT ENCOMPASS ALL AREAS, PARTICIPANTS AND AUDIENCE MEMBERS

PLEASE SILENCE ALL ELECTRONIC DEVICES DURING THE MEETING

- I. CALL TO ORDER AND ROLL CALL**
- II. TOWN SQUARE PEDESTRIAN ZONE PILOT PROJECT** (Brian Schilling, 20 Minutes)
- III. SNOW KING AVENUE BICYCLE IMPROVEMENT PROJECT** (Brian Schilling, 20 Minutes)
- IV. DOWNTOWN CORE PEDESTRIAN SIGNALING** (Brian Schilling, 20 Minutes)
- V. SET NEXT WORKSHOP AGENDA**
 - A. 5/21 North King Traffic Study and Alternatives (Brian Lenz, 30 Minutes)
 - B. 5/21 Reducing Plastic Bag Waste (Roxanne Robinson, 30 Minutes)
 - C. 5/21 Sign Code (Audrey Cohen-Davis, 60 Minutes)
 - D. 5/21 Non-Discrimination Ordinance Discussion (Audrey Cohen-Davis, 60 Minutes)
 - E. 5/21 Residential Rental Ombudsman Program (Audrey Cohen-Davis, 60 Minutes)
- VI. ADJOURN** to executive session to discuss the selection of a site or the purchase of real estate when the publicity regarding the consideration would cause a likelihood of an increase in price in accordance with Wyoming Statute 16-4-405(a)(vii) and to discuss personnel matters in accordance with Wyoming Statute 16-4-405(a)(x).

Please note that at any point during the meeting, the Mayor and Council may change the order of items listed on this agenda. In order to ensure that you are present at the time your item of interest is discussed, please join the meeting at the beginning to hear any changes to the schedule or agenda.

Concilio del Pueblo de Jackson

TALLER

LUNES, 16 de abril del 2018

3:00 PM

Cámaras del Ayuntamiento

AVISO: EL VIDEO Y AUDIO DE ESTA REUNIÓN SE TRANSMITEN AL PÚBLICO A TRAVÉS DE DISPOSITIVOS DE INTERNET Y MÓVILES CON OPINIONES QUE COMPRENDEN TODAS LAS ÁREAS, PARTICIPANTES Y MIEMBROS DE LA AUDIENCIA

POR FAVOR, SILENZAR TODOS LOS DISPOSITIVOS ELECTRÓNICOS DURANTE LA REUNIÓN

I. LLAMADA DE ROLL Y ANUNCIOS

II. PROYECTO PILOTO DE LA ZONA DE LA PLAZA PEDESTAL (Town Square) (Brian Schilling, 20 Minutos)

III. PROYECTO DE MEJORAMIENTO DE LA BICICLETA SNOW KING AVE (Brian Schilling, 20 Minutos)

IV. SENALIZACION DEL CORRO CENTRAL DEL PUEBLO (Brian Schilling, 20 Minutos)

V. PONER SIGENTE AGENDA DE TALLER

- A. 5/21 Estudio y alternativas de tráfico sobre Norte King (Brian Lenz, 30 Minutos)
- B. 5/21 Reducir el desperdicio de bolsa de plástico (Roxanne Robinson, 30 Minutos)
- C. 5/21 Código de señal (Audrey Cohen-Davis, 60 Minutos)
- D. 5/21 Discusión sobre la Ordenanza de No-Discriminación (Audrey Cohen-Davis, 60 Minutos)
- E. 5/21 Programa de Ombudsman de alquiler residencial (Audrey Cohen-Davis, 60 Minutos)

VI. APLAZAR A la sesión ejecutiva para discutir la selección de un sitio o la compra de bienes en propiedad cuando la publicidad con respecto a la consideración causaría una probabilidad de un aumento en el precio de acuerdo con el Estatuto de Wyoming 16-4-405 (a) (vii) y para discutir el personal asuntos de acuerdo con el Estatuto de Wyoming 16-4-405 (a) (x).

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TOWN COUNCIL

WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: April 12, 2018
MEETING DATE: April 16, 2018

SUBMITTING DEPARTMENT: Department of Public Works
DEPARTMENT DIRECTOR: Larry Pardee
PRESENTER: Larry Pardee and Brian Schilling

SUBJECT: Downtown Pedestrian Signals/Crossings Project

PURPOSE OF WORKSHOP ITEM

The purpose is to discuss the potential for planning and installing signals or other pedestrian crossing features in several downtown locations and seek Council input and direction.

DESIRED OUTCOME

The desired outcome is to have Council direct staff to explore solutions for improving safety and pedestrian access at the various locations and to develop recommendations for Council on location and crossing types.

BACKGROUND/ALTERNATIVES

During the February 2018 Town Council Retreat we briefly discussed a potential Downtown Pedestrian Signaling project to address pedestrian crossing safety and vehicle traffic flow at several downtown locations. Council recommended placing the item on a workshop to discuss further. The Public Works staff made numerous observations on traffic flow and pedestrian movements while doing manual traffic control with crossing guards during the eclipse last summer.

The discussion should establish what problem(s) we are trying to solve—i.e. is the goal to improve flow for motor vehicles, increase speeds for motor vehicles, reduce delay for pedestrians, improve safety for pedestrians, improve the walkability and accessibility in downtown, or something else? The discussion should also explore the range of solutions that are available.

Study Locations and Known Factors

(All intersections are signed 25 mph and have one travel lane in each direction unless noted otherwise)

1. East Broadway at Center Street
 - a. Local jurisdiction (not WYDOT) – currently a marked crosswalk on the east leg
 - b. Emergency access route, high pedestrian activity, entry point to Town Square area
2. North Cache at Deloney Avenue
 - a. WYDOT control – currently a marked crosswalk on the north leg
 - b. High volume vehicle traffic, high pedestrian activity, entry point to Town Square, gateway feature
 - c. One of the most accessible crossing points for pedestrians to get across Cache in the downtown
3. West Broadway at Glenwood Street
 - a. WYDOT control, two travel lanes each direction (classic “double threat” scenario)
 - b. No refuge island/median – currently a marked crosswalk on the east leg
 - c. High volume vehicle traffic, medium high pedestrian activity, on the cusp of the Town Square.
 - d. Cars typically slowing down but still moving fast enough to hurt

- e. Equipped with pedestrian “surrender flags”
 - f. Barrier prohibiting ped crossing on west leg considered bad practice for walkable downtowns.
4. West Broadway at Jackson Street
- a. WYDOT, two travel lanes each direction (classic “double threat” scenario), center turn lane
 - b. No refuge island/median – currently a marked crosswalk on the east leg
 - c. High volume vehicle traffic, medium to low pedestrian activity.
 - d. Difficult crossing for peds – cars typically moving faster than 25 mph despite signed speed limit, long crossing distance, gaps in traffic can be infrequent.
5. West Broadway mid-block crossing at El Abuelito/Painted Buffalo
- a. WYDOT, two travel lanes each direction (classic “double threat” scenario), center turn lane
 - b. Has the sole refuge island/median on Broadway, marked crosswalk
 - c. High volume vehicle traffic, medium to low pedestrian activity.
 - d. Difficult crossing for peds – cars typically moving faster than 25 mph despite signed speed limit, double threat factor, gaps in traffic can be infrequent.
6. Mercill Avenue at North Glenwood
- a. Local jurisdiction – currently a marked crosswalk on all the west leg
 - b. Truck route, medium high vehicle traffic, low pedestrian activity

Safety for pedestrians has long been an issue at these intersections, notably #3, 4, and 5 where the higher vehicle speeds and multiple lane crossings create a higher risk of injury or death. The crossings at locations #1 and 2 typically see much slower vehicle speeds, and the risk of serious injury is low. The issue here seems to be more a matter of drivers being inconvenienced by having to wait for pedestrians to cross the street. Given that these are the central crossing areas in the primary downtown shopping area and have by far the highest volume of pedestrian activity in the entire town, these crossings have slightly different characteristics and challenges than the others. High vehicle speeds are typically the biggest threat to pedestrian safety and the factor that most degrades the walkability and access of a place, so one of the primary strategies for a walkable downtown should be to decrease vehicle speeds and increase pedestrian visibility.

The Federal Highway Administration (FHWA) recently released a Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations which would be a useful tool for all the proposed locations. While each intersection has its own unique characteristics, the guide provides helpful guidance for different street cross sections, traffic volumes, and vehicle speeds. (A link to the Guide is included below). “Uncontrolled” intersections are intersections where there is no traffic control device present, such as a traffic signal or stop sign. Some options for improving pedestrian safety at uncontrolled crossings include:

- Crosswalk visibility enhancements – high-visibility striping and signage
- Raised crosswalks – extension of the sidewalk through the intersection. Effective for slowing down vehicles, not typically used on emergency access or truck routes.
- Advance Yield/Stop lines – sets the stopping line 30’-50’ back from the marked crossing area. Helps address the “double threat” risk on 4-lane roads.
- In-street pedestrian crossing sign – already have these at some locations
- Curb extensions – reduces the crossing distance and puts peds waiting to cross in a protected, more visible location
- Pedestrian refuge islands – allows peds to cross in two stages, only having to navigate traffic from one direction at a time.
- Pedestrian hybrid beacon (RRFB or HAWK)

- **Rapid Rectangular Flashing Beacon (RRFB)** and **High-Intensity Activated crossWalK (HAWK)** beacons are pedestrian activated signals that activate overhead or side-mounted lights to warn drivers of crossing pedestrians. Can be set up as warning lights (warns drivers, but does not require drivers to stop) or stop lights (same legal requirement to stop as at a red traffic light). Allows free flow of vehicles when not activated.
- Road diet – change cross section from 4-lane (2-lane each direction) to a 3-lane (1-lane each direction with 2-way center turn lane). Shortens crossing distance and eliminates “double threat” risk.

Table 1 below from the FHWA Guide indicates the following:

- Locations 1, 2, and 6: recommends most options as eligible, except for the Pedestrian Hybrid Beacon or Road Diet. Raised crosswalks would likely not be recommended since each location is on either a truck or emergency route.
- Locations 3, 4, and 5 (West Broadway): these are all eligible for, and would be good candidates for, the Pedestrian Hybrid Beacon. Some of the other available options have already been tried, but these are difficult locations, as West Broadway falls into the category of “stroad” which is generally a hostile place for pedestrians.

Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Speed Limit								
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
2 lanes*	1 2 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
3 lanes with raised median*	1 2 3 4 5	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7	1 3 4 5 7	1 3 5 7	1 3 5 7
3 lanes w/o raised median†	1 2 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7	1 3 4 5 6 7	1 3 5 6 7	1 3 5 6 7
4+ lanes with raised median‡	1 3 5	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7	1 3 5 7
4+ lanes w/o raised median‡	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8	1 3 5 6 7 8

*One lane in each direction †One lane in each direction with two-way left-turn lane ‡Two or more lanes in each direction

Given the set of conditions in a cell,

- # Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restriction on crosswalk approach, adequate nighttime lighting levels
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Pedestrian Hybrid Beacon
- 8 Road Diet

This table was developed using information from: Zegeer, C. V., Stewart, J. R., Huang, H. H., Lagerwey, P. A., Feaganes, J., & Campbell, B. J. (2005), *Safety effects of marked versus unmarked crosswalks at uncontrolled locations: Final report and recommended guidelines* (No. FHWA-HRT-04-100); *Manual on Uniform Traffic Control Devices, 2009 Edition, Chapter 4F, Pedestrian Hybrid Beacons*; the *Crash Modification Factors (CMF) Clearinghouse website* (<http://www.cmfclearinghouse.org/>); and the *Pedestrian Safety Guide and Countermeasure Selection System (PEDSAFE) website* (<http://www.pedbikesafe.org/PEDSAFE/>).

We recommend that Council direct staff to develop proposals for each location (which would involve reaching out to WYDOT and key stakeholders), and possibly consulting with a licensed traffic engineer to assist with the recommendations. Staff would then bring back the recommendations for Council review prior to proceeding with detailed design.

STAKEHOLDER ANALYSIS

Stakeholder outreach will involve local businesses, planners, WYDOT, and should include representation for drivers, pedestrians and other interested parties to be defined.

FISCAL IMPACT

Fiscal impacts have not been fully identified and would depend on the measures that are selected. At the low end of the cost range are things like crossing visibility enhancements (striping, signage), in-street crossing signs, and advance yield/stop lines (in the under \$1,000 range). Curb extensions, refuge islands, and raised crossings are considerably more expensive (in the \$5,000 to \$15,000 range depending on the extent of the work). Hybrid signals are the most expensive option and can run \$15,000-\$30,000 or more.

STAFF IMPACT

Staff impact to explore appropriate options and develop recommendations will be relatively low (10-20 hours). There will be far more impact associated with the permitting process and outreach process. This will require substantial staff time from multiple employees.

LEGAL ISSUES

There are not any known legal issues that currently need input.

ATTACHMENTS

1. Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations link:
https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/guide_to_improve_uncontrolled_crossings.pdf



TOWN COUNCIL

WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: April 4, 2018
MEETING DATE: April 16th, 2018

SUBMITTING DEPARTMENT: Department of Public Works
DEPARTMENT DIRECTOR: Larry Pardee
PRESENTER: Brian Schilling, and Jack Koehler, FOP

SUBJECT: Snow King Ave. Bicycle Improvement Project

PURPOSE OF WORKSHOP ITEM

The purpose of the workshop is to seek Town Council input on improving the safety, comfort and convenience of people traveling the Snow King Corridor by bicycle.

DESIRED OUTCOME

The desired outcome is to increase the bicycling mode share in town through implementation of the "short term" improvements proposed by transportation design firm, Mobycon for the Snow King corridor.

BACKGROUND/ALTERNATIVES

Since the implementation of the 2013 Bicycle Improvement Plan for the Town of Jackson, user counts of people traveling Snow King Avenue by bicycle have increased greatly. The daily average count for June-August last year was 771, with 1,727 cyclist counts on the 4th of July. Despite this, many people are still not willing to ride a bicycle on Snow King, particularly the jog at Scott and Maple, due to a perception of unsafe conditions and a lack of self-assurance pedaling adjacent to traffic. Bike lanes and shared routes work well for confident cyclists but are not inviting enough for many others – i.e. families traveling with kids or trailers, school aged children, new cyclists, or people using adaptive cycling equipment. There is an untapped majority of citizens in Jackson who want to use a bicycle to travel around town and would do so under different conditions. Accommodations to town streets could expand the invitation to ride bikes to a greater number of town citizens and visitors.

To accomplish this, the Town and Friends of Pathways jointly contracted Mobycon, a transportation design firm with roots in the Netherlands, to devise a simple, low-cost plan for improving the Snow King Ave. corridor to be more appealing to cyclists of all ages and abilities. The design was delivered in early March this year and included;

- Visually separating the bike lanes from the traffic lanes using 3' tall plastic delineator posts;
- Increasing areas of green paint;
- Improving the predictability of cyclist travel at the jog at Scott Lane.
- Positioning the bike lane between the parking lanes on Maple Way, so that parked cars provide a physical barrier between the vehicle traffic and people on bikes.
- Extending the bike lane on Snow King from its current terminus at Milward, up to Cache St. and the corner of the current Snow King Ball Field. The bike lane extension will require the removal of 25 parking spaces on Snow King Ave. between Milward and Cache Streets. Friends of Pathways conducted an informal survey of the number of vehicles parked along this section during the

summer of 2017. The survey indicated that there were between 4 and 8 vehicles, with an average of 5 vehicles parked during daylight hours. One of the vehicles was a drift boat on a trailer.

The effectiveness of the projected will be evaluated through measuring the number of bike trips on Snow King Ave, surveys of people biking in the corridor, and assessment of the comfort and perceived safety of riding on Snow King.

STAKEHOLDER ANALYSIS

The Town Council is the final decision maker on whether this project moves forward in whole or in part. This project was conceived to support the realization of the vision contained in Section 7 of the Comprehensive Plan, Specifically:

- Principle 7.1 - Meet future transportation demand through the use of alternative modes.
 - Policy 7.1.c: Increase the capacity for the use of alternative transportation modes
 - Policy 7.1.d: Discourage the use of single occupancy motor vehicles
- Principle 7.2 - Create a safe, efficient, interconnected multi-modal transportation network.
 - Policy 7.2.a: Create a transportation network based on "complete streets" and "context sensitive" solutions

Implementation of the project will affect the community broadly. The creation of the network of pathways in Teton County has been a significant undertaking and has provided significant results. However, the pathway network in the Town is disconnected. To improve connectivity, and to act on the above principles and policies, some town streets require change. Snow King Avenue is the major route that connects the pathway network, serving the south and west portion of the Valley, from heavily visited recreation facilities at Snow King to the center of Town.

Improving the bike lanes on the Snow King corridor will encourage more mode shift from automobiles to bicycles, but may also affect individuals who live adjacent to or near the blocks where parking is proposed to be reduced. Such impacts may be minor due to the amount a parking available on adjacent side streets or nearby areas and could be offset by improved bicycle connectivity to their properties.

The proposal has been reviewed and is supported by Friends of Pathways staff and the FoP Pathway Committee (made up of FoP board and other community members), as well as the Pathways Task Force Board.

FISCAL IMPACT

It is estimated that the fiscal impact of the project is a one-time cost of \$35,000 for physical improvements, and a recurring annual cost of \$17,000. The recurring costs are for paint and contract labor to annually maintain painted marking and for supplies required to replace the delineators each spring.

STAFF IMPACT

It will take up to ten days, annually, for the Public Works street crew to maintain the painted markings and place and store the delineators.

LEGAL ISSUES

Staff is not aware of any legal issues at this time.

[ATTACHMENTS](#)

1. Memo_Final Designs_Jackson Streets_March 28. (13 pages)
 2. Snow King Short Term Design (8 pages)
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Memo

Subject : Designs of Snow King, Maple Way, and Stilson Ranch
To : Brian Schilling and Jack Koehler
From : Dick van Veen and Mary Elbech
Date : March 21, 2018

The Town of Jackson, WY is working to improve safety and connectivity in and around downtown Jackson. In fulfilling their vision for a more bicycle-friendly, better connected network that appeals to all ages and abilities of bicyclists, they are looking to temporary tactics to help build consensus and support for long-term change in Jackson.

To enable this vision, this memo provides an overview of the short term and long term approaches Mobycon took to redesigning Maple Way, Snow King Avenue, and Stilson Ranch Road.

Several key principles have guided our designs:

1. The streets' function in the network and road categorization helps determine our recommendations and designs that will encourage the desired road user behavior.
2. The principle of speed as outlined in Sustainable Safety supports our decision for when to separate bicycles from traffic and when it's safe to mix. The rule of thumb being that at design speeds lower than 20 mph, all modes are able to mix safely on the road, and at speeds higher than 20 mph, vulnerable users like bicyclists and pedestrians should be separated from motorized traffic. All of the recommendations in the following memo are for separated facilities.
3. The short term designs aim to find the balance between a relatively quick and easy implementation while also offering the community a glimpse of how the long-term designs would look and feel.
4. The long term designs formalize the short term recommendations. The biggest changes are to shift the protected bike lanes from on-street facilities, to a position that is most often more synonymous with a side path. Intersections become further protected with extended curbs, and crossing distances become shorter.

There are a variety of materials to choose from for this temporary implementation. The cross sections included in the memo below feature multiple solutions for separating and defining the bikeable space. While the majority of physical barriers available for temporary installation can play a positive role in helping the community envision the improvements, we recommend a mix of bolt-on curbs, rollover curbs and planters.

Snow King Avenue, between Scott and Cache

Overview

Despite a posted speed limit of 25 mph, Snow King has relatively high vehicle speeds and volumes. It is also the primary east-west corridor for bicyclists. We want to maintain and even enhance Snow King as a priority route for both drivers and bicyclists. To do this, east-west flowing traffic is prioritized at most intersections.

For the route, we designed two different options: a quick and relatively cheap design option which can be implemented 'overnight', and a long term, more permanent and higher quality option.

For both these short and long-term designs, the bicycle facilities are separated (the speed difference between bicyclists and motorists is deemed too high to be safe to mix on the street), and people traveling on this street are given right-of-way. Extra consideration is given at conflict points including driveways, mid-block crossings, small intersections and large intersections.

Challenges and opportunities/ideas that are addressed.

Challenges

- Safety – Unprotected bike lane on Snow King is unsafe; high volume
- Political – there is a need to get key stakeholders on board, emergency services; transit; elected officials on board; fair-grounds; public works yard.
- Financial – no funding identified
- Technical – Some side streets and intersections. Utilities, transit route, school bus route. Existing street trees.

Opportunities and Ideas

- Good opportunity for quick/light/cheap demo project
- Strong connection to the library, particularly for kids
- Protected bike lane on both sides of street
- Continuous sidewalks on both sides

Below are descriptions of how the design features vary in the short and the long term.

Short Term

- Upgrade the existing bike lanes to protected bike lanes on both the north and south side of the street, using either double lines with tubular markers like bollards or flexi posts, or a double curb
- Additional paint buffers on the south side of the street
- Dashed green paint at conflict zones, like intersections and major driveways
- Green paint is also used at bus stops to signal awareness and indicate mixed traffic areas
- Busier intersections feature bike lanes that bend out slightly (about 6 ft)
- Visually narrowed driveways and crossings
- Mid-block crossings, at bus stops

Long Term

- Grade separated cycle tracks along the corridor
- Continuous sidewalks on both sides
- Buffer protected intersections
- Intersections bend out between 6.5 to 15 feet, depending on the size of the intersection
- Physically narrowed driveways and (minor) crossings, with continuous sidewalk and cycle paths
- Cycle track becomes protected by green medians at some points, street trees added where possible

Snow King Ave, West of Virginian Lane

As can be seen in Figure 1, the cross-section design for the short-term below, vehicle lanes are at 10', sided by standard 6' protected bike lanes. These 6' are not including the gutter, next to the curb, as that surface is not suitable for comfortable riding. Both north and south lanes are protected, but are shown with two different types of buffer options to choose from: curbs (right-hand side) or painted buffers with vertical posts (left-hand side). In the cross section the bike lanes are shown in red, to indicate paint at the intersections (we presume a dashed green will be used).



Figure 1: Cross Section Snow King Ave, west of Virginian Lane, Short Term



Figure 2: Bike lane delineator



Figure 3: Double-sided tapered curb

In the long term, Figure 4 shows a further decreasing of vehicles lanes to 9'. Narrow lanes make for a lower design speed, assisting in keeping the design speed correctly balanced with the posted speed. Safety and accessibility is greatly enhanced by this, while it creates additional space which can be used for better cycling and walking infrastructure or more green spaces. A new gutter and curb help define this narrowed roadway.

In this long-term design, the bicycle lanes (or paths, as they are fully separated from the road) are again 6', with sidewalk width the same as currently, or, when no sidewalk is present, minimally 5'. The bike lanes are grade separated from the roadway, level with the green boulevard and sidewalk. Where a boulevard is present on the roadside of the existing sidewalk, the cycle tracks are on the roadside of the boulevard. Where there is

no boulevard, the cycle tracks are directly adjacent to the sidewalk, separated by material and color only (green asphalt versus grey concrete). Between the cycle lanes and the roadside curb a buffer of at least 1' is present, at most locations 3', which can be used for street signage, light posts and planters.



Figure 4: Cross Section Snow King Ave, Long Term

Through increasing the visual width of the bike lanes in both scenarios, and effectively reducing the travel lanes, the overall design speed along Snow King, west of Virginian, should see a drop.

Snow King Ave, East of Karns Meadow Drive

In Figure 5, the short-term design for the corridor east of Karns Meadow Drive can be seen. In this design, the vehicle lanes are 10', paralleled by separated bicycle lanes of 6' bike lanes. The bike lanes do not include the 1' gutter, because that surface is deemed not suitable for riding. The buffer between bike lanes and car lanes is a minimum painted buffer of 1.5', or a double curb, back to back. The design applications for the short term do not vary significantly along the corridor.

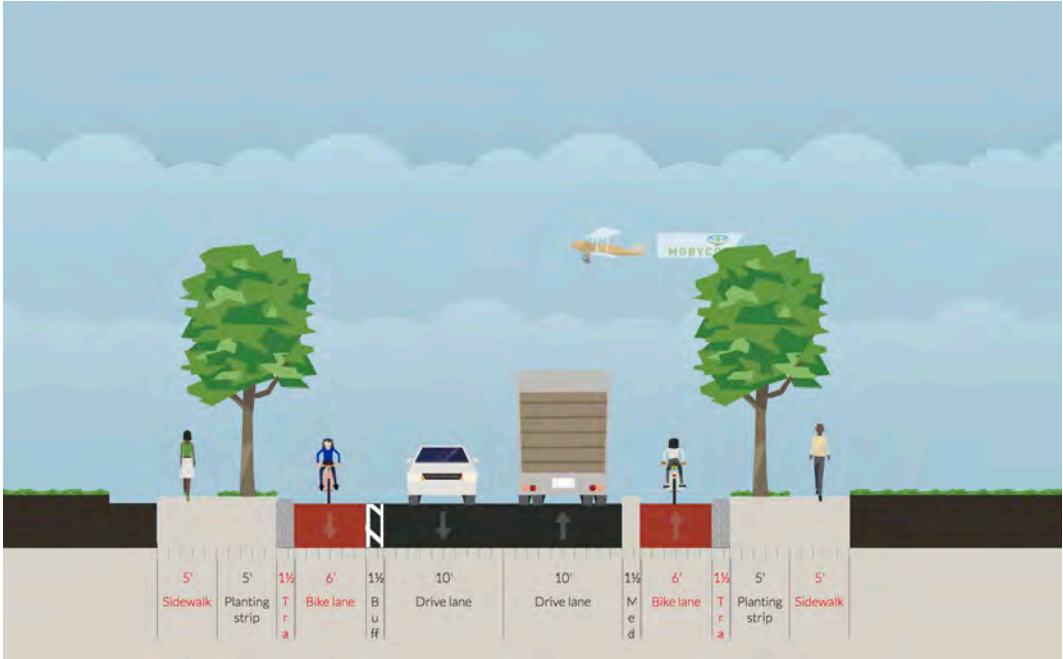


Figure 5: Cross Section Snow King Ave, East of Karns Meadow Drive, Short Term

In the long term, however, we see more opportunity for the cycle tracks to weave from one side of the planting strip to the other, providing a trail or path-like experience. This is visible in the plan view drawings. Again, driving lanes are reduced to 9' and the barrier between bikes and traffic increases to a base of 4' – using planting strips and traffic exclusion domes.

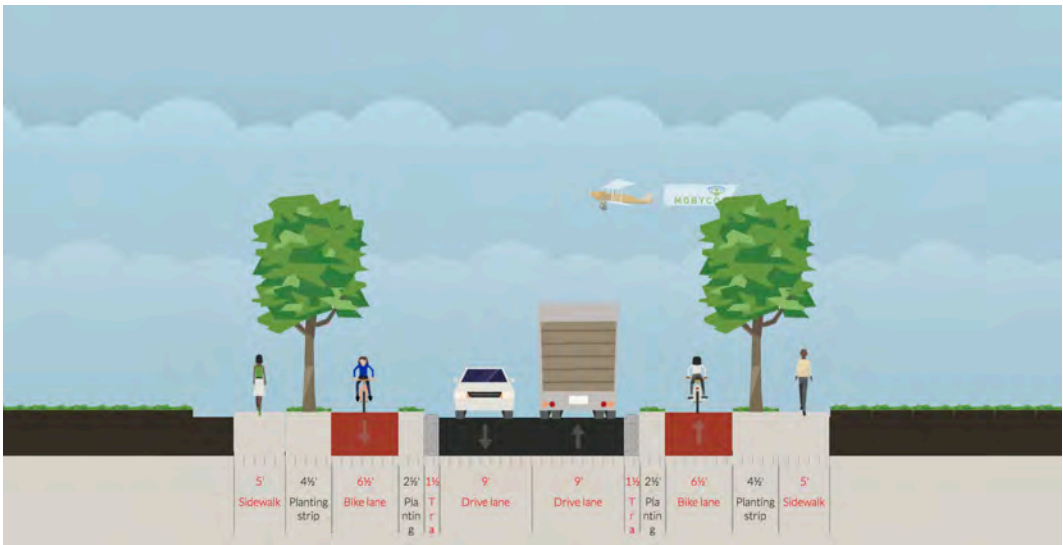


Figure 6: Cross Section Snow King Ave, East of Karns Meadow Drive, Long Term

Snow King Ave, east of Flat Creek Drive

In Figure 7, the short-term design for Snow King Ave east of Flat Creek Drive can be seen. In this design, the vehicle lanes are 10', including an additional 10' center turn lane, paralleled by separated bicycle lanes of 6' bike lanes. The bike lanes are not including the gutter of 1', because that surface is deemed not suitable for riding. Again, the buffer between bike lanes and car lanes is a minimum painted buffer of 1.5', or a double curb, back to back.

The entrance to the fairgrounds is visually narrowed. The area surrounding the bus stops is identified with green dashed markings to indicate mixing traffic, and pedestrians are offered an additional crossing and refuge island to make crossing three lanes more feasible.

Further east of the bus stops, the center lane disappears. The intersections of Milward and Cache become modified protected intersections, paving the way for fully protected intersections in the long-term designs.



Figure 7: Cross Section Snow King Ave, at Flat Creek Drive, Short Term

Where the center turn lane is deemed unnecessary to maintaining traffic flow, this creates an opportunity for increased green space and buffers separating motor traffic from bicycle and pedestrian traffic in the long term. In Figure 8, we see that the cycle track is level with the sidewalk.



Figure 8: Cross Section Snow King Ave, at Flat Creek Drive, Long Term

The intersection of Snow King and Flat Creek introduces a four-way crossing for bicyclists and pedestrians. For those bicyclists traveling east on Snow King, wishing to turn north on Flat Creek Dr., we have included a left turn box. Left turns off and on of Glenwood are also made possible with a left turn box. The intersections of Milward and Cache have been formalized as protected intersections, primarily through extending the curb to create safe spaces for cyclists and pedestrians, and through pulling the stop line back for vehicles to bend out bike/ped crossings and increase visibility.

Additional Recommendations

- Work with emergency services once tactical implementations are in place – test drive areas of concern with them to see if/how any changes should be made for a more permanent solution.
- Key destinations like the library were considered. For this, we recommend engaging the community in creating a unique and inviting gateway that both encourages traffic to slow down around the library, and presents an opportunity for low-cost, colorful, tactical treatments.

Maple Way Intersections

Overview

Heading east to west, there is a left turn at Scott Lane that conflicts with right turning cars on Snow King and cross traffic on Scott. There is also a tight corner on the right turn from Scott to Maple, where cyclists can get pinched by right turning vehicles, and narrow bike lanes on Scott and Maple. Tricky merges and left turns exist from Maple to Elk Run.

Heading west to east, there is a narrow bike lane on Maple, a potential conflict on the left turn onto Scott, and vehicle encroachment into bike lane at right turn from Scott on to Snow King.

The multi-intersection bayonet from Maple Way – Scott – Snow King becomes a continuous priority route, and intersecting streets are given either yielding or stopping conditions.

Parking remains a political challenge, however on-street parking on the north side of Maple Way, between Highway 191 and Scott Lane is maintained. Parked cars act as a buffer to the bike lane.

Implementing physical barriers, whether bollards in the short term or plants and grade separation in the long term, addresses vehicle encroachment into bike lanes and turns are made more slowly.

The design elements are a continuation of those used along the Snow King corridor, and include the following approaches.

- In the short term, intersections are all in green, and are dashed. No intersections on this street are large enough to require bending out.
- In the long term, minor intersections are bump overs for cars, continuous routes for bikes.
- Larger intersections are protected
- No additional care is necessary at one-household driveways, they are marked by a dashed line instead of a through line
- Parking bays on Maple create a parking-protected bike lane, with flower pots or similar treatment to help define the space.

Challenges and opportunities/ideas that are addressed.

Challenges

- Facility – Tricky jog from Snow King bike lane to Elk Run Ave on Scott Lane and Maple Way. Narrow bike lanes, lots of turning movements and potential conflicts, vehicle encroachment into bike lanes, and left turn merge across car traffic.
- Political – On-street parking, heavy vehicle traffic, change. Need to get elected officials on board. TOJ owned street, but need to coordinate with START (transit)
- Financial – Have some funding collected for planning and design, but not for this specifically (for the street realignment)
- Technical – Narrow right of way, lots of traffic and turning movements. Existing houses close to street. Tight turning radius on Scott to Maple.

Opportunities and Ideas

- Corridor is also slated for possible street realignment.
- Perhaps a small roundabout.
- 2-way cycle track with ped space on one side of street
- one-way cycle tracks on both sides with ped sidewalk on one side, and improved crossing at Elk Run for westbound cyclists

Maple Way, between Powderhorn Lane and Scott Lane

There is a need for westbound bicyclists to be able to enter and exit Elk Run safely. In the cross section, we see Maple Way looking west toward Elk Run. In the plan view, we can see that the parking lane – that serves as a protective buffer for the bike lane on the north side of the street – also creates an additional safety feature by minimizing the crossing distance for cyclists turning left onto/off of Elk Run.



Figure 9: Cross Section Maple Way, at Elk Run, Short Term

It is important to remember that when the design speed is above 20 mph, vulnerable road users like bicyclists and pedestrians must be separated from motor vehicle traffic. This is done to some extent in the short term, but this approach becomes more clear in the long term designs by further separating bike lanes from vehicle traffic. Through both vertical and horizontal separation from the drive lanes, the bikeway becomes more similar to the sidewalk – a move that will increase safety and comfort for all road users.

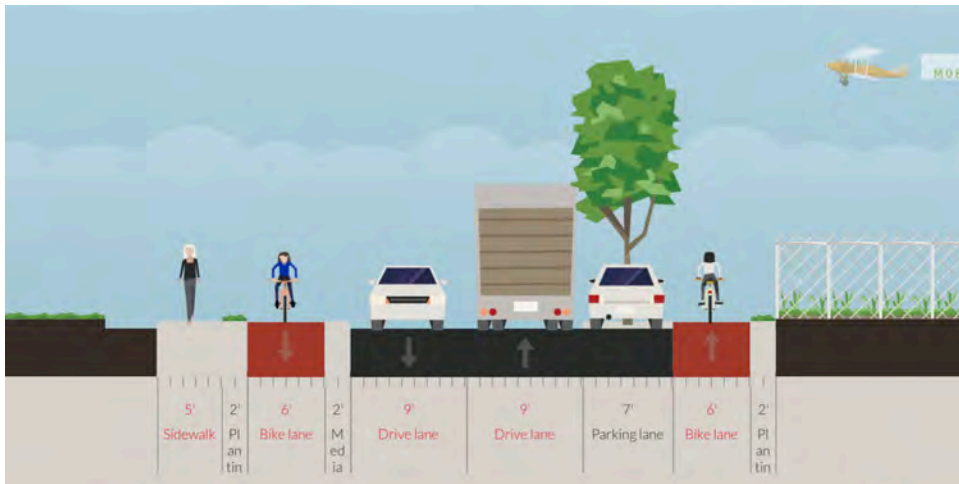


Figure 10: Cross Section Maple Way, at Elk Run, Long Term

The cycle track and sidewalk along Maple Way remain level and continuous, and tabled crossings are introduced for people turning onto, and off of, Maple Way.



*Figure 11: Cycle track continues
Level across driveways*



*Figure 12: Tabled crossings slow cars and
give priority to cyclists*

Scott Lane, between Snow King Avenue and Maple Way

Scott Lane, between Snow King and Maple, varies slightly from the Maple and Snow King corridors due to a lack of space. Buffers are not currently feasible in this situation. To make it safe enough for both cars and bikes, corners become protected. The primary Scott/Maple/Snow King intersection also becomes protected, and in the long term, minor intersections feature raised crossings to encourage slower turns for cars.

In the short-term images below, we see vehicle lanes at 10', and 6' bike lanes. The applications for the short term do not vary significantly along the corridor. Corners and crossings are protected with physical barriers.

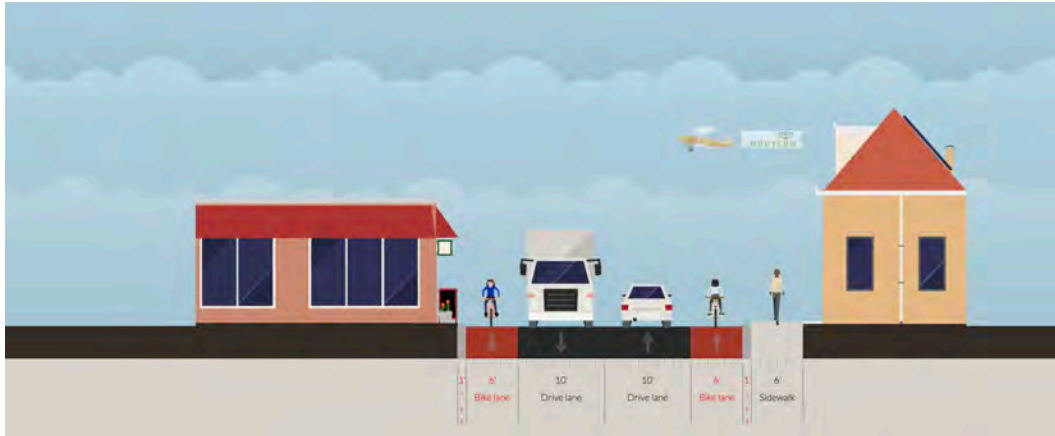


Figure 13: Scott Lane, Short Term

In the long term, bike lanes become grade-separated cycle tracks, adjacent to the sidewalk. These can be differentiated through paving materials, or through creating slightly different grades between the cycle track and sidewalk. Desire lines (or elephant paths, as they're called in the Netherlands) can be seen on the west side of the street. These are formalized by adding a sidewalk on the west side.



Figure 14: Scott Lane, Long Term

Additional Recommendations

- Discuss narrowing the travel lanes on Scott Lane, so there is room to protect the bike lanes.
- If funding is available, planters are recommended for the parking bays along Maple in both the short and long term to encourage desired parking behavior.
- Work with emergency services once tactical implementations are in place – test drive areas of concern with them to see if/how any changes should be made for a more permanent solution. In areas where turn radii are too small for larger vehicles, dual apron solutions are also an option. Figure 15 below shows an example of how the buffers between cycle track and drive lanes in the protected roundabout feature two aprons – one broader barrier to help narrow the road and slow the majority of vehicles (rough enough to discourage regular use, but low enough for emergency vehicles and busses to mount if needed), and one smaller to indicate the larger radii larger trucks and emergency vehicles have to travel through.

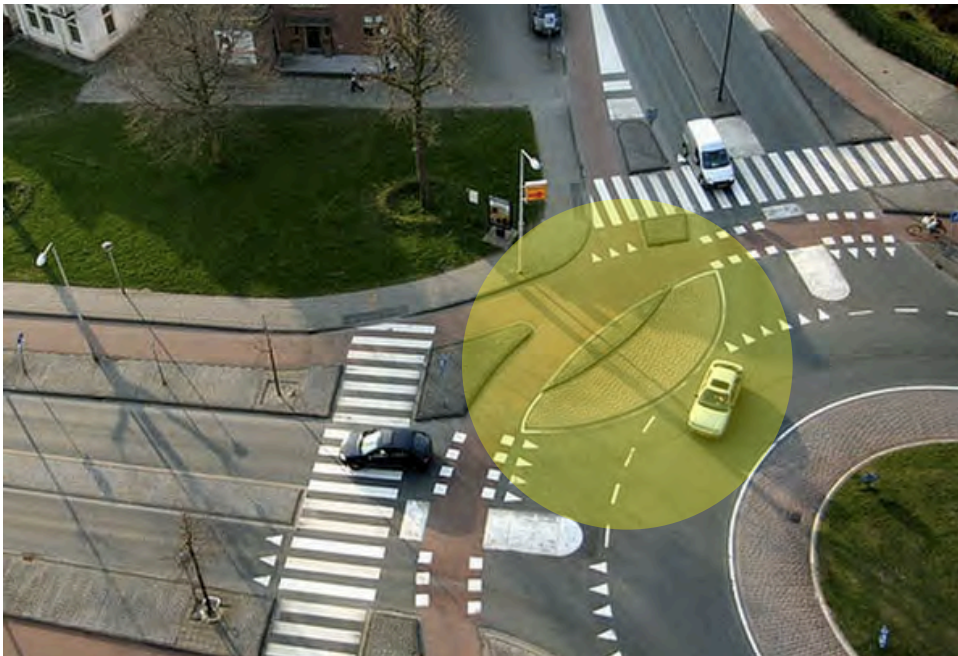


Figure 15: Dual aprons slow regular traffic, while still allowing large trucks and emergency vehicle access

Stilson Ranch Intersection

Overview

Three pathways cross at the intersection of Beckley Parkway and Stilson Ranch Road creating multiple conflict points on a busy pathway. Beckley Parkway serves transit, overflow parking for Teton Village (seasonal), and some cut-through traffic between WY390 and WY22. Stilson Ranch Rd. is used mainly by local residents and service vehicles to a small subdivision. Vehicle and pathway traffic flow is not clearly delineated and there is a difficult sight line on at least one leg.

Design Solutions

The first challenge to address was limiting the volume and speed of vehicles turning into Beckley Parkway. This was done by:

- Narrowing the entry radius from Moose Wilson Road to address turning speed
- Adding speed tables and yielding conditions to the bike paths, so Beckley is a less appealing through way for vehicles heading toward Teton Pass Highway while safety at conflict locations (the crossings) is enhanced because of lower driving speeds.

The second challenge was to increase the safety at the conflict points between cyclists and car drivers: the crossing locations. This is done by:

- Easing up the complex situation of intersections and crossings by closing off the bicycle crossing closest to Moose Wilson Road. Cyclists in a north-south direction experience a minimal delay by a less direct route, while the overall safety is increased. The closed-off crossing is where vehicles drive the fastest (high speeds off Moose Wilson Road) and their sightlines are the worst (cyclists coming out of the green at a difficult sightline angle for cars driving to the south on Stilson Ranch Rd. This also increases safety by providing better sight lines and more stopping time for vehicles to yield to cyclists in the remaining crossing.
- Adding green surface treatments to crossing approaches, increasing the visibility of the crossings and raising the awareness of drivers
- Making crossings perpendicular to the roadway. This also involves changing the angle of approach for the pathway from the east-southeast. Sightlines are the best and crossing lengths the shortest, making this an addition to the overall road safety.

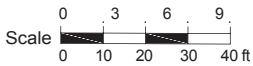
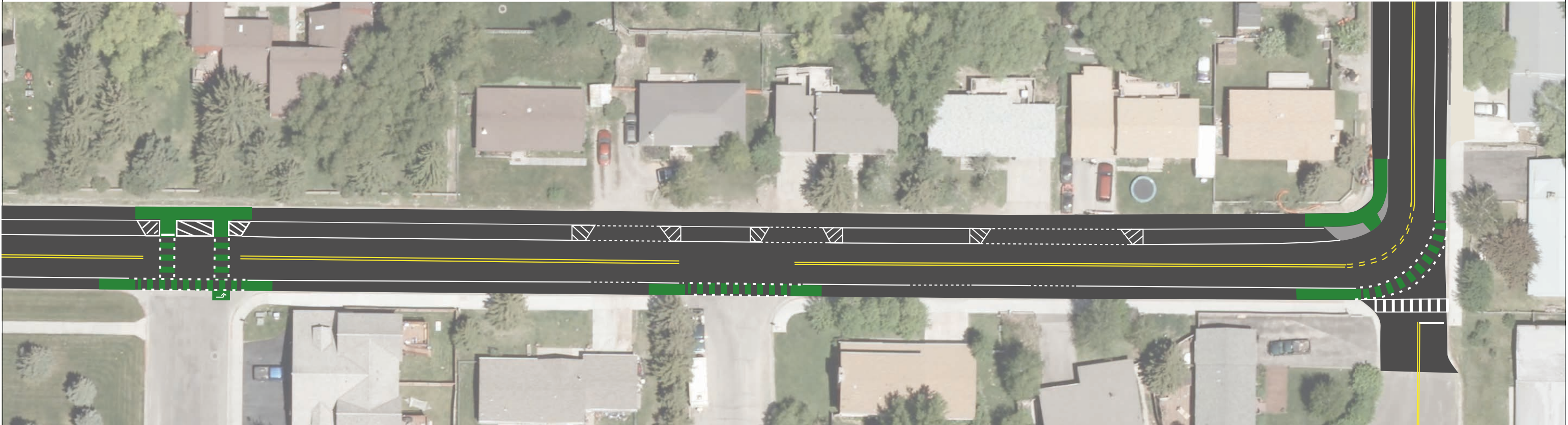
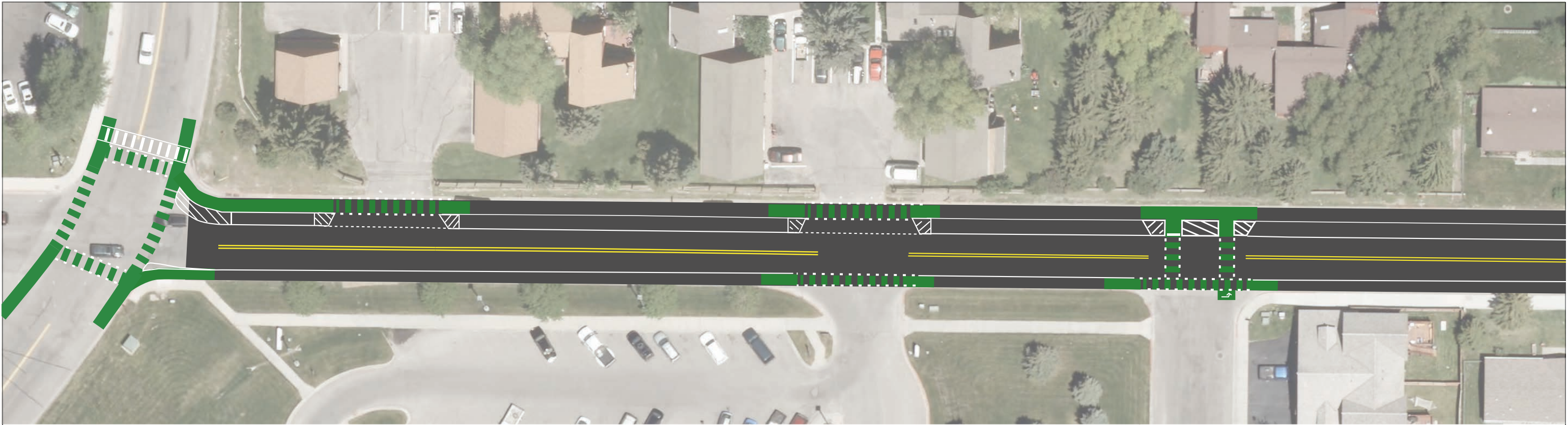
Challenges and opportunities/ideas that are addressed.

Challenges

- Facilities – Multiple legged intersection is confusing for car drivers and pathway users
- Political – must coordinate Teton County, Jackson Hole Mountain Resort (ski area), Stilson Ranch subdivision, START Bus (transit)
- Financial – no funding identified
- Technical – utilities, irrigation, possibly requires mitigation if removing trees or vegetation

Opportunities and Ideas

- elevated intersection
- priority to pathway users
- path circle
- delineation and direction



TOWN OF JACKSON
CYCLE ROUTE
IMPROVEMENT

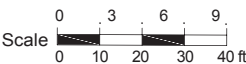
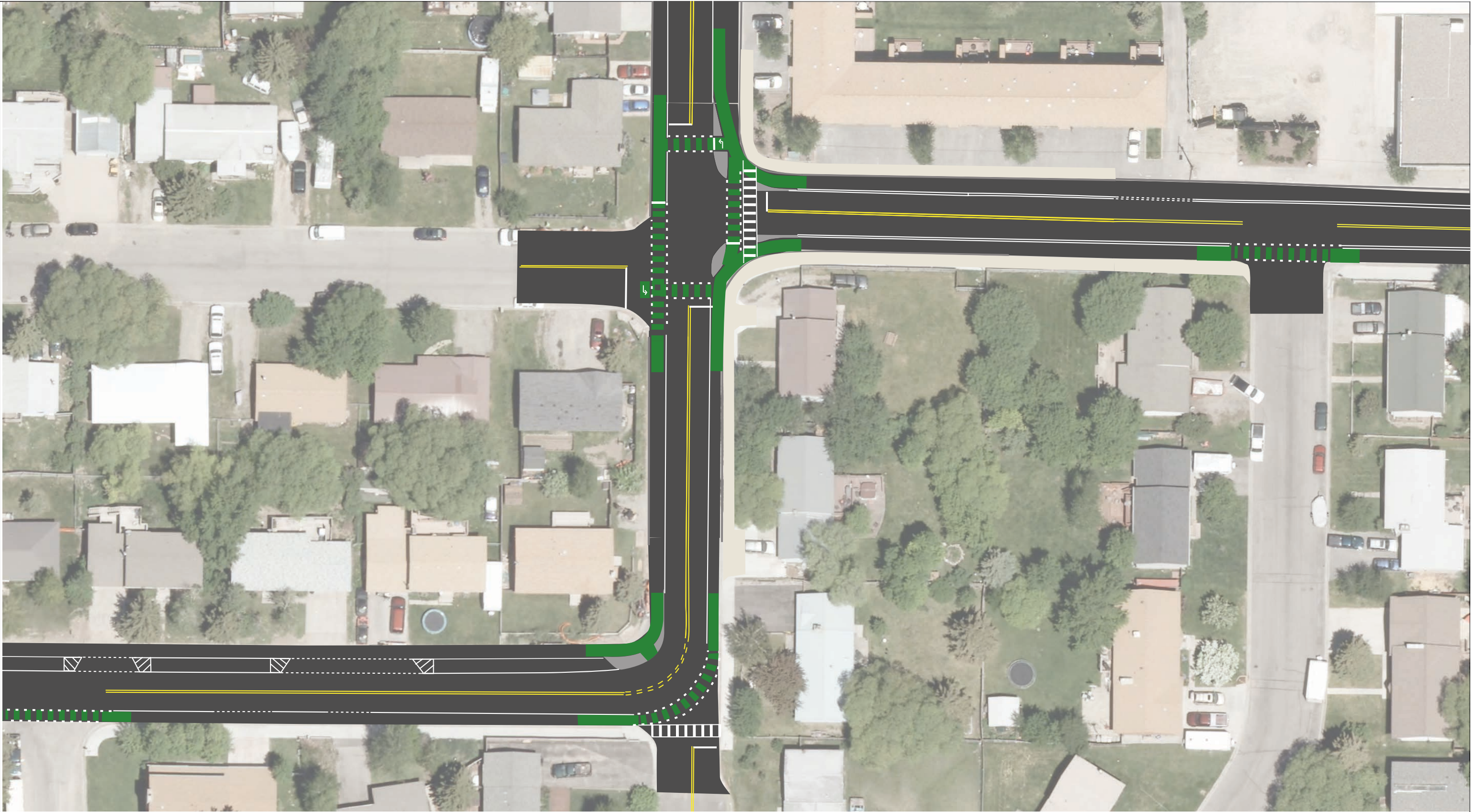
Drawn: D. van Veen, M. Hudson Elbech
Designed: D. van Veen, M. Hudson Elbech

Date: March 10, 2018

MAPLE WAY / SNOW KING
COMPLETE STREET
CONCEPTUAL DESIGN
SHORT TERM

Drawing No.

Sheet No.

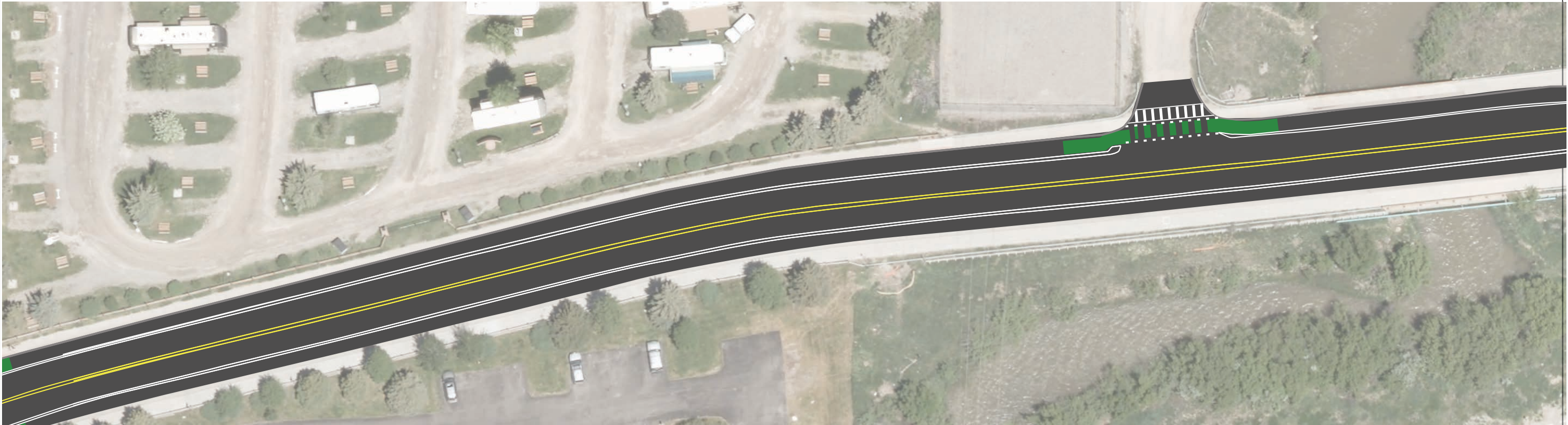
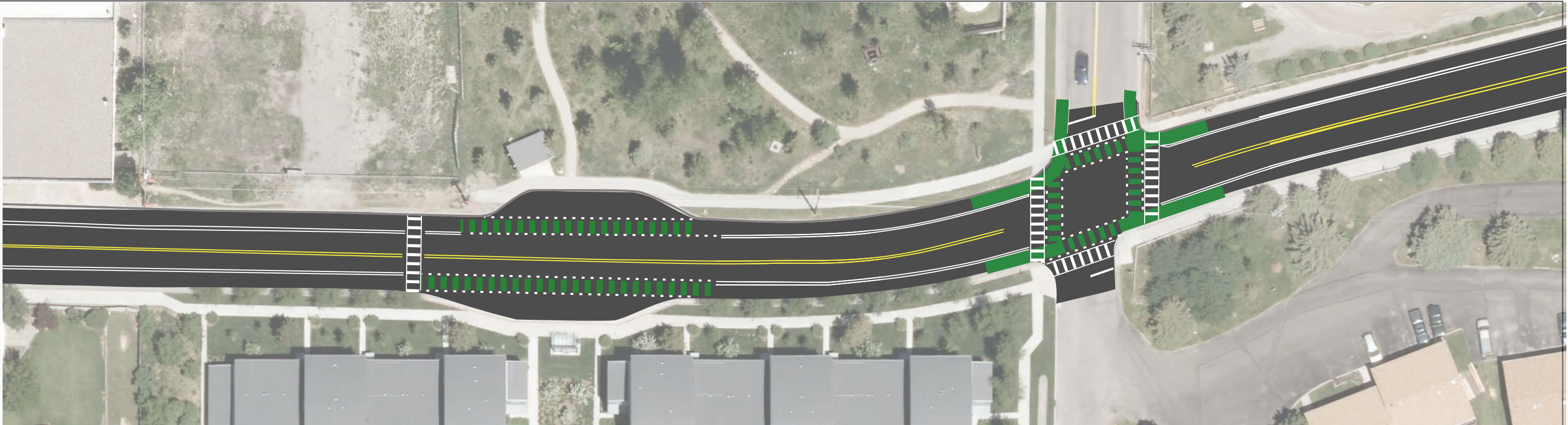


TOWN OF JACKSON	
CYCLE ROUTE IMPROVEMENT	
Drawn: D. van Veen, M. Hudson Elbech	Date: March 10, 2018
Designed: D. van Veen, M. Hudson Elbech	

MAPLE WAY / SNOW KING
COMPLETE STREET
CONCEPTUAL DESIGN
SHORT TERM

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CYCLE ROUTE
IMPROVEMENT

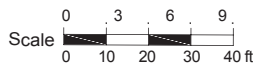
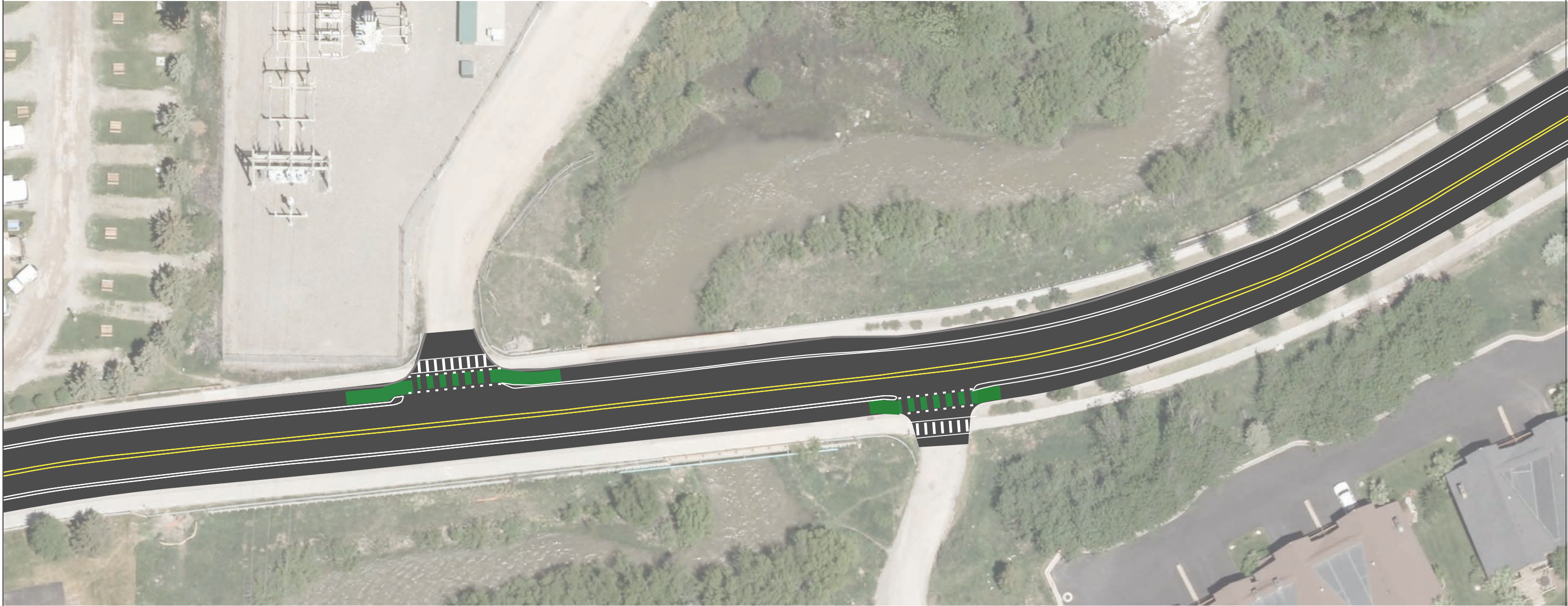
Drawn: D. van Veen, M. Hudson Elbech
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MAPLE WAY / SNOW KING
COMPLETE STREET
CONCEPTUAL DESIGN
SHORT TERM

Drawing No.

Sheet No.



TOWN COUNCIL

WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: April 4, 2018

MEETING DATE: April 16th, 2018

SUBMITTING DEPARTMENT: Department of Public Works

DEPARTMENT DIRECTOR: Larry Pardee

PRESENTER: Brian Schilling, and Jack Koehler, FOP

SUBJECT: Snow King Ave. Bicycle Improvement Project

PURPOSE OF WORKSHOP ITEM

The purpose of the workshop is to seek Town Council input on improving the safety, comfort and convenience of people traveling the Snow King Corridor by bicycle.

DESIRED OUTCOME

The desired outcome is to increase the bicycling mode share in town through implementation of the "short term" improvements proposed by transportation design firm, Mobycon for the Snow King corridor.

BACKGROUND/ALTERNATIVES

Since the implementation of the 2013 Bicycle Improvement Plan for the Town of Jackson, user counts of people traveling Snow King Avenue by bicycle have increased greatly. The daily average count for June-August last year was 771, with 1,727 cyclist counts on the 4th of July. Despite this, many people are still not willing to ride a bicycle on Snow King, particularly the jog at Scott and Maple, due to a perception of unsafe conditions and a lack of self-assurance pedaling adjacent to traffic. Bike lanes and shared routes work well for confident cyclists but are not inviting enough for many others – i.e. families traveling with kids or trailers, school aged children, new cyclists, or people using adaptive cycling equipment. There is an untapped majority of citizens in Jackson who want to use a bicycle to travel around town and would do so under different conditions. Accommodations to town streets could expand the invitation to ride bikes to a greater number of town citizens and visitors.

To accomplish this, the Town and Friends of Pathways jointly contracted Mobycon, a transportation design firm with roots in the Netherlands, to devise a simple, low-cost plan for improving the Snow King Ave. corridor to be more appealing to cyclists of all ages and abilities. The design was delivered in early March this year and included;

- Visually separating the bike lanes from the traffic lanes using 3' tall plastic delineator posts;
- Increasing areas of green paint;
- Improving the predictably of cyclist travel at the jog at Scott Lane.
- Positioning the bike lane between the parking lanes on Maple Way, so that parked cars provide a physical barrier between the vehicle traffic and people on bikes.
- Extending the bike lane on Snow King from its current terminus at Milward, up to Cache St. and the corner of the current Snow King Ball Field. The bike lane extension will require the removal of 25 parking spaces on Snow King Ave. between Milward and Cache Streets. Friends of Pathways conducted an informal survey of the number of vehicles parked along this section during the

summer of 2017. The survey indicated that there were between 4 and 8 vehicles, with an average of 5 vehicles parked during daylight hours. One of the vehicles was a drift boat on a trailer.

The effectiveness of the projected will be evaluated through measuring the number of bike trips on Snow King Ave, surveys of people biking in the corridor, and assessment of the comfort and perceived safety of riding on Snow King.

STAKEHOLDER ANALYSIS

The Town Council is the final decision maker on whether this project moves forward in whole or in part. This project was conceived to support the realization of the vision contained in Section 7 of the Comprehensive Plan, Specifically:

- Principle 7.1 - Meet future transportation demand through the use of alternative modes.
 - Policy 7.1.c: Increase the capacity for the use of alternative transportation modes
 - Policy 7.1.d: Discourage the use of single occupancy motor vehicles
- Principle 7.2 - Create a safe, efficient, interconnected multi-modal transportation network.
 - Policy 7.2.a: Create a transportation network based on "complete streets" and "context sensitive" solutions

Implementation of the project will affect the community broadly. The creation of the network of pathways in Teton County has been a significant undertaking and has provided significant results. However, the pathway network in the Town is disconnected. To improve connectivity, and to act on the above principles and policies, some town streets require change. Snow King Avenue is the major route that connects the pathway network, serving the south and west portion of the Valley, from heavily visited recreation facilities at Snow King to the center of Town.

Improving the bike lanes on the Snow King corridor will encourage more mode shift from automobiles to bicycles, but may also affect individuals who live adjacent to or near the blocks where parking is proposed to be reduced. Such impacts may be minor due to the amount a parking available on adjacent side streets or nearby areas and could be offset by improved bicycle connectivity to their properties.

The proposal has been reviewed and is supported by Friends of Pathways staff and the FoP Pathway Committee (made up of FoP board and other community members), as well as the Pathways Task Force Board.

FISCAL IMPACT

It is estimated that the fiscal impact of the project is a one-time cost of \$35,000 for physical improvements, and a recurring annual cost of \$17,000. The recurring costs are for paint and contract labor to annually maintain painted marking and for supplies required to replace the delineators each spring.

STAFF IMPACT

It will take up to ten days, annually, for the Public Works street crew to maintain the painted markings and place and store the delineators.

LEGAL ISSUES

Staff is not aware of any legal issues at this time.

ATTACHMENTS

1. Memo_Final Designs_Jackson Streets_March 28. (13 pages)
 2. Snow King Short Term Design (8 pages)
-

Synopsis for PowerPoint (120 words max): *The information entered in this section will be displayed on the monitors in the Council Chambers during meetings. In 120 words or less, provide a brief synopsis of the agenda documentation and any relevant information that should be displayed on the monitors, for example, purpose, background, or fiscal impact.*

Purpose:

Background:

Fiscal Impact:



Memo

Subject : Designs of Snow King, Maple Way, and Stilson Ranch
To : Brian Schilling and Jack Koehler
From : Dick van Veen and Mary Elbech
Date : March 21, 2018

The Town of Jackson, WY is working to improve safety and connectivity in and around downtown Jackson. In fulfilling their vision for a more bicycle-friendly, better connected network that appeals to all ages and abilities of bicyclists, they are looking to temporary tactics to help build consensus and support for long-term change in Jackson.

To enable this vision, this memo provides an overview of the short term and long term approaches Mobycon took to redesigning Maple Way, Snow King Avenue, and Stilson Ranch Road.

Several key principles have guided our designs:

1. The streets' function in the network and road categorization helps determine our recommendations and designs that will encourage the desired road user behavior.
2. The principle of speed as outlined in Sustainable Safety supports our decision for when to separate bicycles from traffic and when it's safe to mix. The rule of thumb being that at design speeds lower than 20 mph, all modes are able to mix safely on the road, and at speeds higher than 20 mph, vulnerable users like bicyclists and pedestrians should be separated from motorized traffic. All of the recommendations in the following memo are for separated facilities.
3. The short term designs aim to find the balance between a relatively quick and easy implementation while also offering the community a glimpse of how the long-term designs would look and feel.
4. The long term designs formalize the short term recommendations. The biggest changes are to shift the protected bike lanes from on-street facilities, to a position that is most often more synonymous with a side path. Intersections become further protected with extended curbs, and crossing distances become shorter.

There are a variety of materials to choose from for this temporary implementation. The cross sections included in the memo below feature multiple solutions for separating and defining the bikeable space. While the majority of physical barriers available for temporary installation can play a positive role in helping the community envision the improvements, we recommend a mix of bolt-on curbs, rollover curbs and planters.

Snow King Avenue, between Scott and Cache

Overview

Despite a posted speed limit of 25 mph, Snow King has relatively high vehicle speeds and volumes. It is also the primary east-west corridor for bicyclists. We want to maintain and even enhance Snow King as a priority route for both drivers and bicyclists. To do this, east-west flowing traffic is prioritized at most intersections.

For the route, we designed two different options: a quick and relatively cheap design option which can be implemented 'overnight', and a long term, more permanent and higher quality option.

For both these short and long-term designs, the bicycle facilities are separated (the speed difference between bicyclists and motorists is deemed too high to be safe to mix on the street), and people traveling on this street are given right-of-way. Extra consideration is given at conflict points including driveways, mid-block crossings, small intersections and large intersections.

Challenges and opportunities/ideas that are addressed.

Challenges

- Safety – Unprotected bike lane on Snow King is unsafe; high volume
- Political – there is a need to get key stakeholders on board, emergency services; transit; elected officials on board; fair-grounds; public works yard.
- Financial – no funding identified
- Technical – Some side streets and intersections. Utilities, transit route, school bus route. Existing street trees.

Opportunities and Ideas

- Good opportunity for quick/light/cheap demo project
- Strong connection to the library, particularly for kids
- Protected bike lane on both sides of street
- Continuous sidewalks on both sides

Below are descriptions of how the design features vary in the short and the long term.

Short Term

- Upgrade the existing bike lanes to protected bike lanes on both the north and south side of the street, using either double lines with tubular markers like bollards or flexi posts, or a double curb
- Additional paint buffers on the south side of the street
- Dashed green paint at conflict zones, like intersections and major driveways
- Green paint is also used at bus stops to signal awareness and indicate mixed traffic areas
- Busier intersections feature bike lanes that bend out slightly (about 6 ft)
- Visually narrowed driveways and crossings
- Mid-block crossings, at bus stops

Long Term

- Grade separated cycle tracks along the corridor
- Continuous sidewalks on both sides
- Buffer protected intersections
- Intersections bend out between 6.5 to 15 feet, depending on the size of the intersection
- Physically narrowed driveways and (minor) crossings, with continuous sidewalk and cycle paths
- Cycle track becomes protected by green medians at some points, street trees added where possible

Snow King Ave, West of Virginian Lane

As can be seen in Figure 1, the cross-section design for the short-term below, vehicle lanes are at 10', sided by standard 6' protected bike lanes. These 6' are not including the gutter, next to the curb, as that surface is not suitable for comfortable riding. Both north and south lanes are protected, but are shown with two different types of buffer options to choose from: curbs (right-hand side) or painted buffers with vertical posts (left-hand side). In the cross section the bike lanes are shown in red, to indicate paint at the intersections (we presume a dashed green will be used).



Figure 1: Cross Section Snow King Ave, west of Virginian Lane, Short Term



Figure 2: Bike lane delineator



Figure 3: Double-sided tapered curb

In the long term, Figure 4 shows a further decreasing of vehicles lanes to 9'. Narrow lanes make for a lower design speed, assisting in keeping the design speed correctly balanced with the posted speed. Safety and accessibility is greatly enhanced by this, while it creates additional space which can be used for better cycling and walking infrastructure or more green spaces. A new gutter and curb help define this narrowed roadway.

In this long-term design, the bicycle lanes (or paths, as they are fully separated from the road) are again 6', with sidewalk width the same as currently, or, when no sidewalk is present, minimally 5'. The bike lanes are grade separated from the roadway, level with the green boulevard and sidewalk. Where a boulevard is present on the roadside of the existing sidewalk, the cycle tracks are on the roadside of the boulevard. Where there is

no boulevard, the cycle tracks are directly adjacent to the sidewalk, separated by material and color only (green asphalt versus grey concrete). Between the cycle lanes and the roadside curb a buffer of at least 1' is present, at most locations 3', which can be used for street signage, light posts and planters.



Figure 4: Cross Section Snow King Ave, Long Term

Through increasing the visual width of the bike lanes in both scenarios, and effectively reducing the travel lanes, the overall design speed along Snow King, west of Virginian, should see a drop.

Snow King Ave, East of Karns Meadow Drive

In Figure 5, the short-term design for the corridor east of Karns Meadow Drive can be seen. In this design, the vehicle lanes are 10', paralleled by separated bicycle lanes of 6' bike lanes. The bike lanes do not include the 1' gutter, because that surface is deemed not suitable for riding. The buffer between bike lanes and car lanes is a minimum painted buffer of 1.5', or a double curb, back to back. The design applications for the short term do not vary significantly along the corridor.

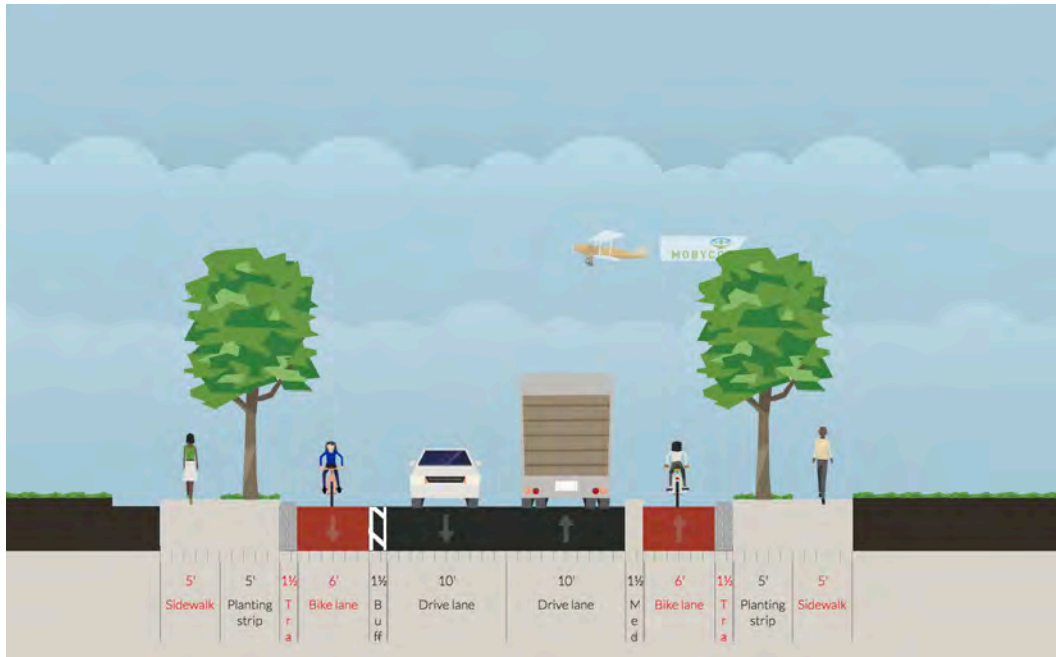


Figure 5: Cross Section Snow King Ave, East of Karns Meadow Drive, Short Term

In the long term, however, we see more opportunity for the cycle tracks to weave from one side of the planting strip to the other, providing a trail or path-like experience. This is visible in the plan view drawings. Again, driving lanes are reduced to 9' and the barrier between bikes and traffic increases to a base of 4' – using planting strips and traffic exclusion domes.

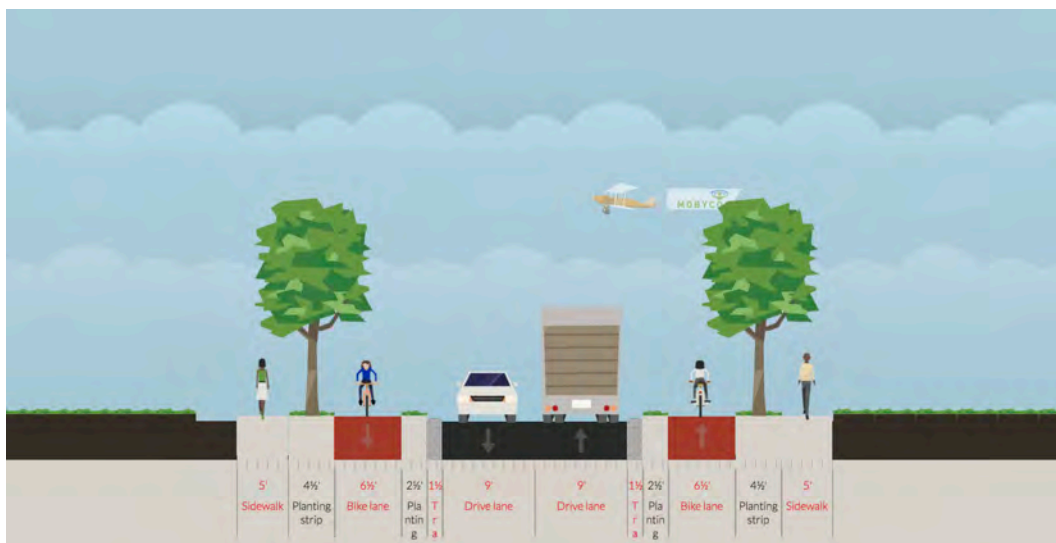


Figure 6: Cross Section Snow King Ave, East of Karns Meadow Drive, Long Term

Snow King Ave, east of Flat Creek Drive

In Figure 7, the short-term design for Snow King Ave east of Flat Creek Drive can be seen. In this design, the vehicle lanes are 10', including an additional 10' center turn lane, paralleled by separated bicycle lanes of 6' bike lanes. The bike lanes are not including the gutter of 1', because that surface is deemed not suitable for riding. Again, the buffer between bike lanes and car lanes is a minimum painted buffer of 1.5', or a double curb, back to back.

The entrance to the fairgrounds is visually narrowed. The area surrounding the bus stops is identified with green dashed markings to indicate mixing traffic, and pedestrians are offered an additional crossing and refuge island to make crossing three lanes more feasible.

Further east of the bus stops, the center lane disappears. The intersections of Milward and Cache become modified protected intersections, paving the way for fully protected intersections in the long-term designs.



Figure 7: Cross Section Snow King Ave, at Flat Creek Drive, Short Term

Where the center turn lane is deemed unnecessary to maintaining traffic flow, this creates an opportunity for increased green space and buffers separating motor traffic from bicycle and pedestrian traffic in the long term. In Figure 8, we see that the cycle track is level with the sidewalk.



Figure 8: Cross Section Snow King Ave, at Flat Creek Drive, Long Term

The intersection of Snow King and Flat Creek introduces a four-way crossing for bicyclists and pedestrians. For those bicyclists traveling east on Snow King, wishing to turn north on Flat Creek Dr., we have included a left turn box. Left turns off and on of Glenwood are also made possible with a left turn box. The intersections of Milward and Cache have been formalized as protected intersections, primarily through extending the curb to create safe spaces for cyclists and pedestrians, and through pulling the stop line back for vehicles to bend out bike/ped crossings and increase visibility.

Additional Recommendations

- Work with emergency services once tactical implementations are in place – test drive areas of concern with them to see if/how any changes should be made for a more permanent solution.
- Key destinations like the library were considered. For this, we recommend engaging the community in creating a unique and inviting gateway that both encourages traffic to slow down around the library, and presents an opportunity for low-cost, colorful, tactical treatments.

Maple Way Intersections

Overview

Heading east to west, there is a left turn at Scott Lane that conflicts with right turning cars on Snow King and cross traffic on Scott. There is also a tight corner on the right turn from Scott to Maple, where cyclists can get pinched by right turning vehicles, and narrow bike lanes on Scott and Maple. Tricky merges and left turns exist from Maple to Elk Run.

Heading west to east, there is a narrow bike lane on Maple, a potential conflict on the left turn onto Scott, and vehicle encroachment into bike lane at right turn from Scott on to Snow King.

The multi-intersection bayonet from Maple Way – Scott – Snow King becomes a continuous priority route, and intersecting streets are given either yielding or stopping conditions.

Parking remains a political challenge, however on-street parking on the north side of Maple Way, between Highway 191 and Scott Lane is maintained. Parked cars act as a buffer to the bike lane.

Implementing physical barriers, whether bollards in the short term or plants and grade separation in the long term, addresses vehicle encroachment into bike lanes and turns are made more slowly.

The design elements are a continuation of those used along the Snow King corridor, and include the following approaches.

- In the short term, intersections are all in green, and are dashed. No intersections on this street are large enough to require bending out.
- In the long term, minor intersections are bump overs for cars, continuous routes for bikes.
- Larger intersections are protected
- No additional care is necessary at one-household driveways, they are marked by a dashed line instead of a through line
- Parking bays on Maple create a parking-protected bike lane, with flower pots or similar treatment to help define the space.

Challenges and opportunities/ideas that are addressed.

Challenges

- Facility – Tricky jog from Snow King bike lane to Elk Run Ave on Scott Lane and Maple Way. Narrow bike lanes, lots of turning movements and potential conflicts, vehicle encroachment into bike lanes, and left turn merge across car traffic.
- Political – On-street parking, heavy vehicle traffic, change. Need to get elected officials on board. TOJ owned street, but need to coordinate with START (transit)
- Financial – Have some funding collected for planning and design, but not for this specifically (for the street realignment)
- Technical – Narrow right of way, lots of traffic and turning movements. Existing houses close to street. Tight turning radius on Scott to Maple.

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- Corridor is also slated for possible street realignment.
- Perhaps a small roundabout.
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- one-way cycle tracks on both sides with ped sidewalk on one side, and improved crossing at Elk Run for westbound cyclists

Maple Way, between Powderhorn Lane and Scott Lane

There is a need for westbound bicyclists to be able to enter and exit Elk Run safely. In the cross section, we see Maple Way looking west toward Elk Run. In the plan view, we can see that the parking lane – that serves as a protective buffer for the bike lane on the north side of the street – also creates an additional safety feature by minimizing the crossing distance for cyclists turning left onto/off of Elk Run.



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It is important to remember that when the design speed is above 20 mph, vulnerable road users like bicyclists and pedestrians must be separated from motor vehicle traffic. This is done to some extent in the short term, but this approach becomes more clear in the long term designs by further separating bike lanes from vehicle traffic. Through both vertical and horizontal separation from the drive lanes, the bikeway becomes more similar to the sidewalk – a move that will increase safety and comfort for all road users.

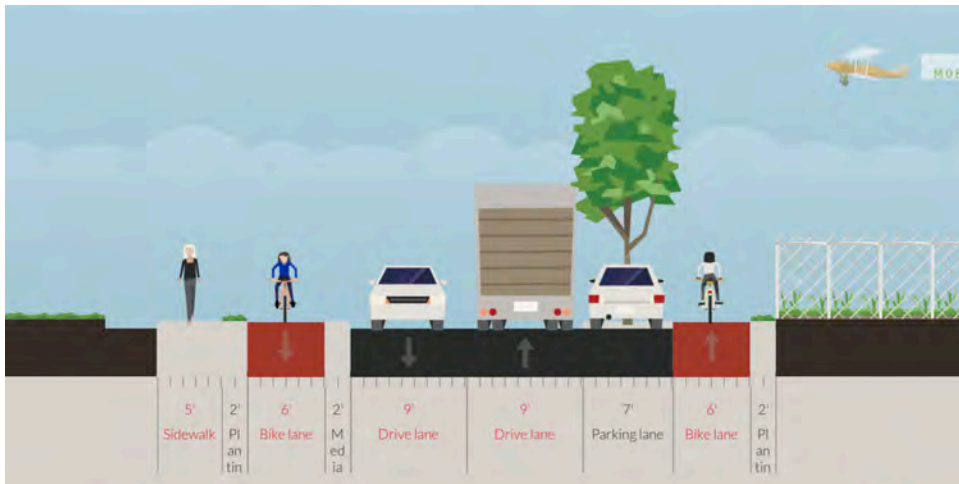


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Level across driveways*



*Figure 12: Tabled crossings slow cars and
give priority to cyclists*

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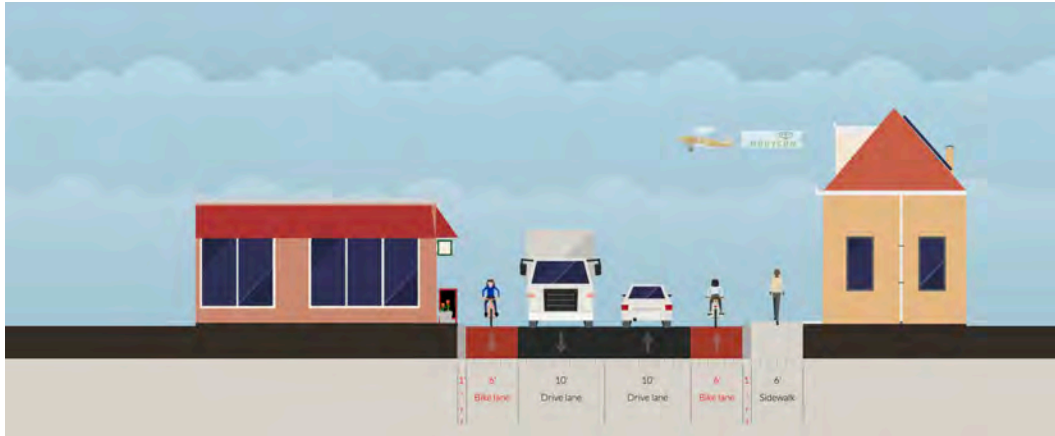


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In the long term, bike lanes become grade-separated cycle tracks, adjacent to the sidewalk. These can be differentiated through paving materials, or through creating slightly different grades between the cycle track and sidewalk. Desire lines (or elephant paths, as they're called in the Netherlands) can be seen on the west side of the street. These are formalized by adding a sidewalk on the west side.



Figure 14: Scott Lane, Long Term

Additional Recommendations

- Discuss narrowing the travel lanes on Scott Lane, so there is room to protect the bike lanes.
- If funding is available, planters are recommended for the parking bays along Maple in both the short and long term to encourage desired parking behavior.
- Work with emergency services once tactical implementations are in place – test drive areas of concern with them to see if/how any changes should be made for a more permanent solution. In areas where turn radii are too small for larger vehicles, dual apron solutions are also an option. Figure 15 below shows an example of how the buffers between cycle track and drive lanes in the protected roundabout feature two aprons – one broader barrier to help narrow the road and slow the majority of vehicles (rough enough to discourage regular use, but low enough for emergency vehicles and busses to mount if needed), and one smaller to indicate the larger radii larger trucks and emergency vehicles have to travel through.

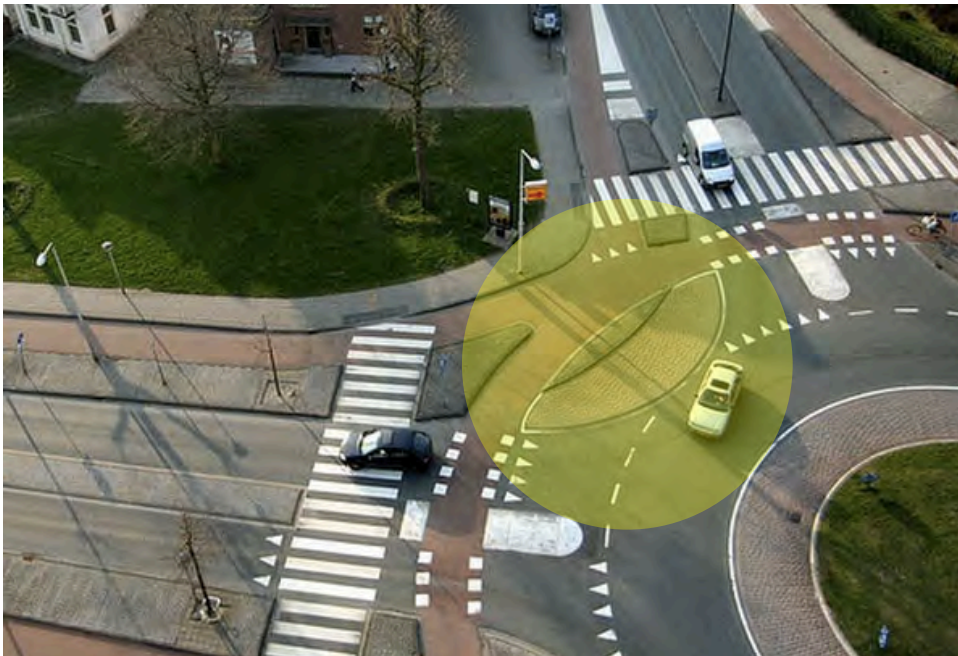


Figure 15: Dual aprons slow regular traffic, while still allowing large trucks and emergency vehicle access

Stilson Ranch Intersection

Overview

Three pathways cross at the intersection of Beckley Parkway and Stilson Ranch Road creating multiple conflict points on a busy pathway. Beckley Parkway serves transit, overflow parking for Teton Village (seasonal), and some cut-through traffic between WY390 and WY22. Stilson Ranch Rd. is used mainly by local residents and service vehicles to a small subdivision. Vehicle and pathway traffic flow is not clearly delineated and there is a difficult sight line on at least one leg.

Design Solutions

The first challenge to address was limiting the volume and speed of vehicles turning into Beckley Parkway. This was done by:

- Narrowing the entry radius from Moose Wilson Road to address turning speed
- Adding speed tables and yielding conditions to the bike paths, so Beckley is a less appealing through way for vehicles heading toward Teton Pass Highway while safety at conflict locations (the crossings) is enhanced because of lower driving speeds.

The second challenge was to increase the safety at the conflict points between cyclists and car drivers: the crossing locations. This is done by:

- Easing up the complex situation of intersections and crossings by closing off the bicycle crossing closest to Moose Wilson Road. Cyclists in a north-south direction experience a minimal delay by a less direct route, while the overall safety is increased. The closed-off crossing is where vehicles drive the fastest (high speeds off Moose Wilson Road) and their sightlines are the worst (cyclists coming out of the green at a difficult sightline angle for cars driving to the south on Stilson Ranch Rd. This also increases safety by providing better sight lines and more stopping time for vehicles to yield to cyclists in the remaining crossing.
- Adding green surface treatments to crossing approaches, increasing the visibility of the crossings and raising the awareness of drivers
- Making crossings perpendicular to the roadway. This also involves changing the angle of approach for the pathway from the east-southeast. Sightlines are the best and crossing lengths the shortest, making this an addition to the overall road safety.

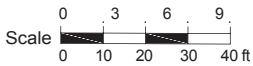
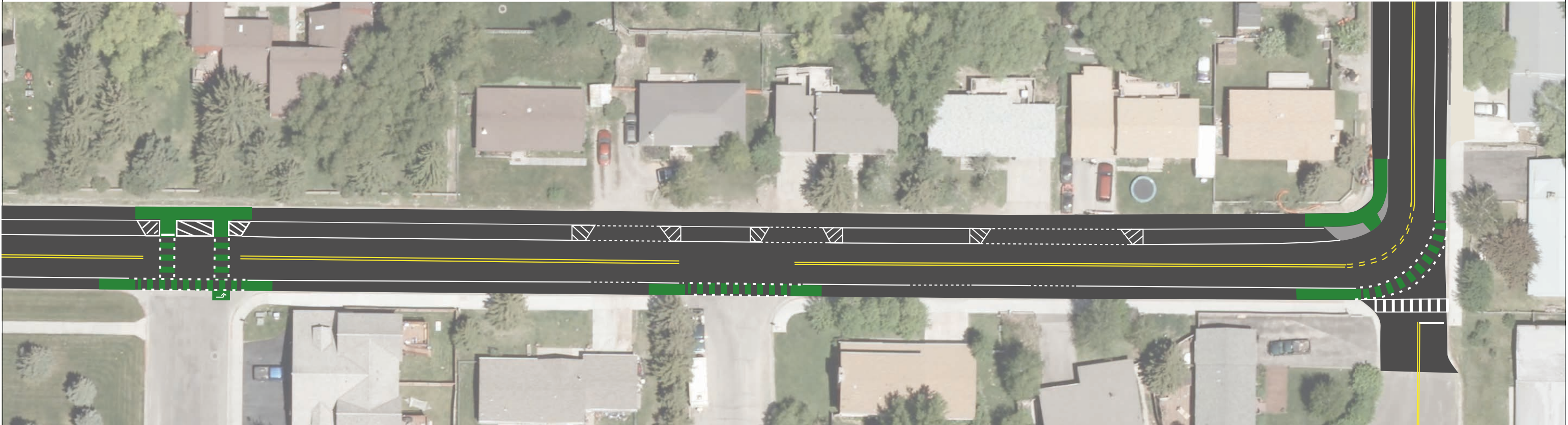
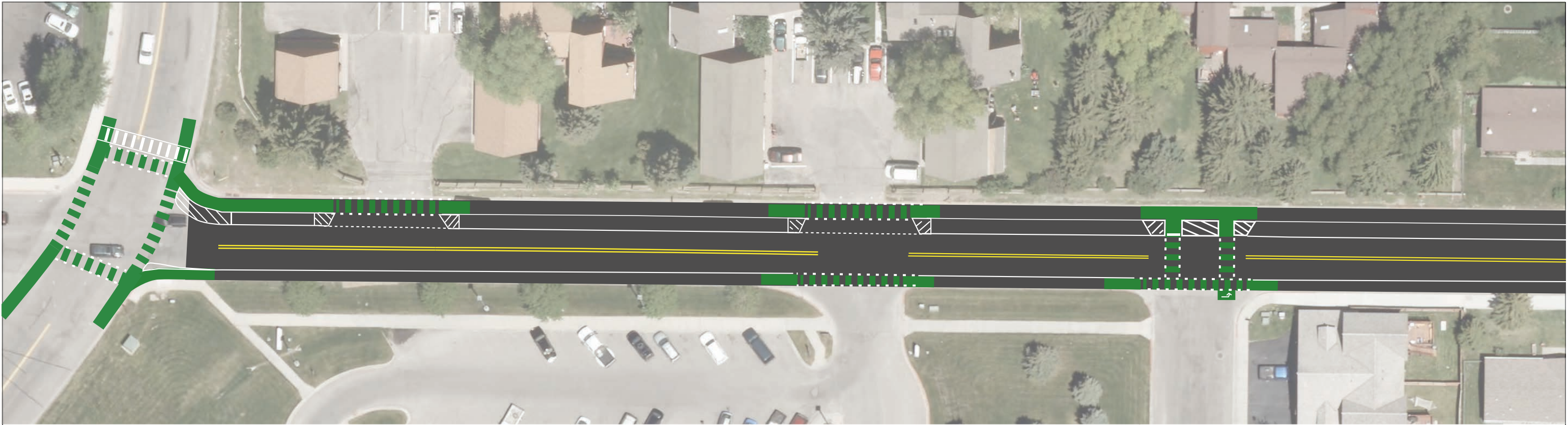
Challenges and opportunities/ideas that are addressed.

Challenges

- Facilities – Multiple legged intersection is confusing for car drivers and pathway users
- Political – must coordinate Teton County, Jackson Hole Mountain Resort (ski area), Stilson Ranch subdivision, START Bus (transit)
- Financial – no funding identified
- Technical – utilities, irrigation, possibly requires mitigation if removing trees or vegetation

Opportunities and Ideas

- elevated intersection
- priority to pathway users
- path circle
- delineation and direction



TOWN OF JACKSON
CYCLE ROUTE
IMPROVEMENT

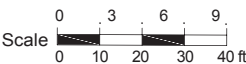
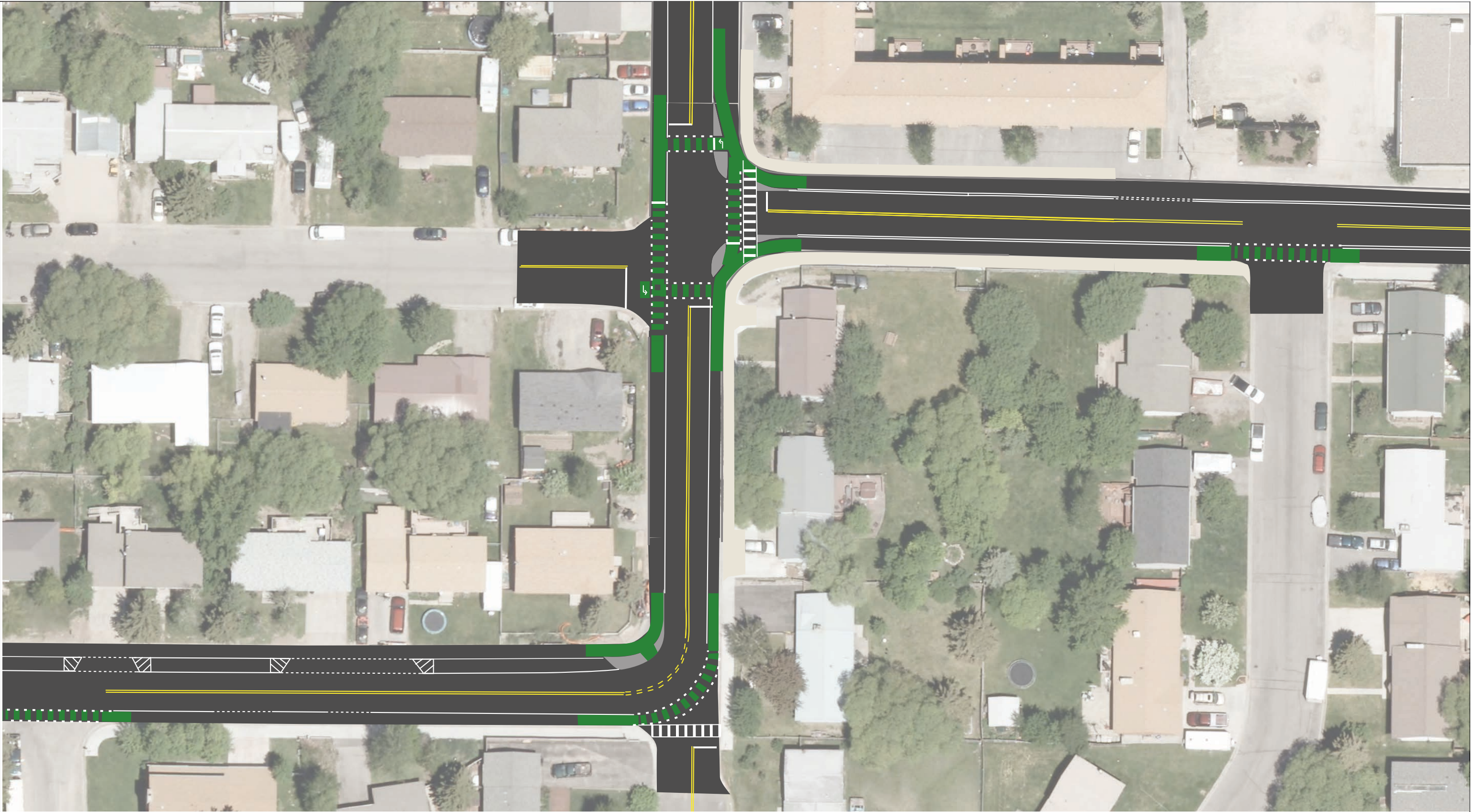
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Designed: D. van Veen, M. Hudson Elbech

Date: March 10, 2018

MAPLE WAY / SNOW KING
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CONCEPTUAL DESIGN
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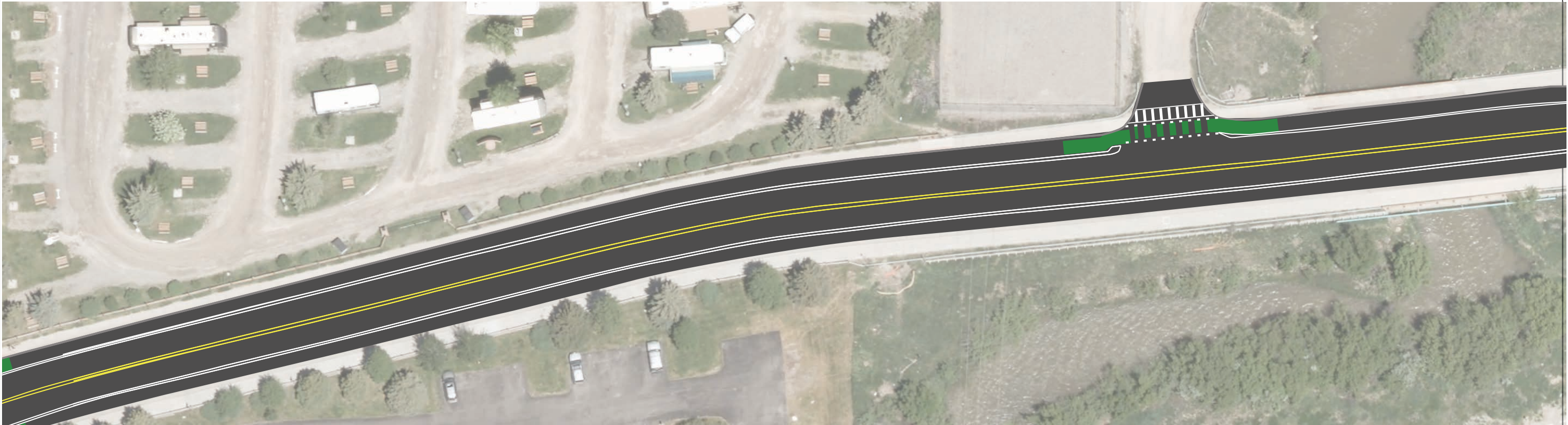
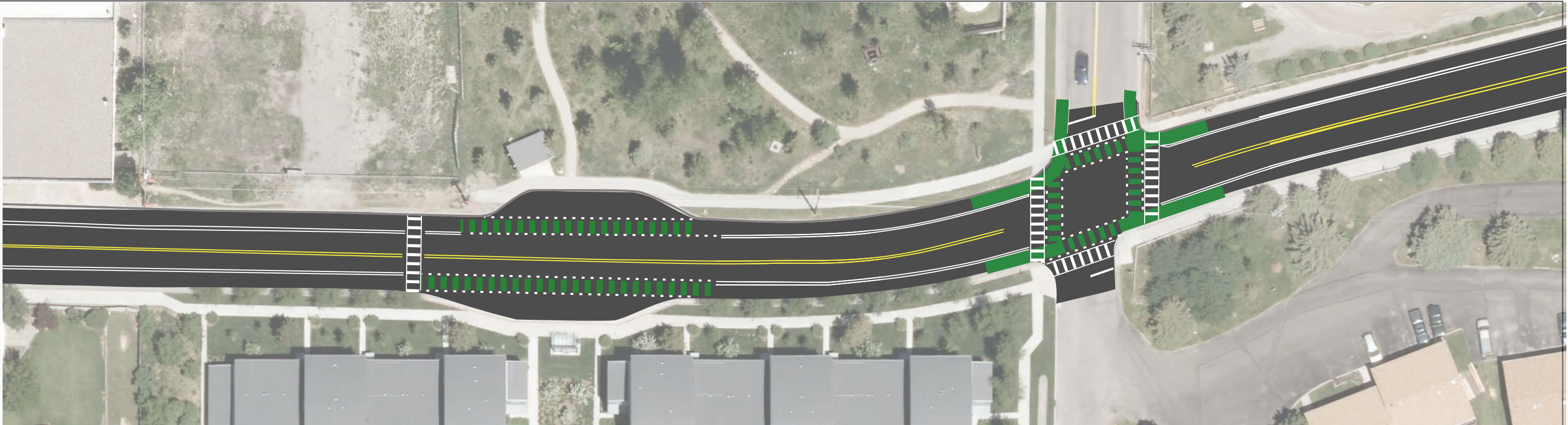


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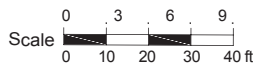
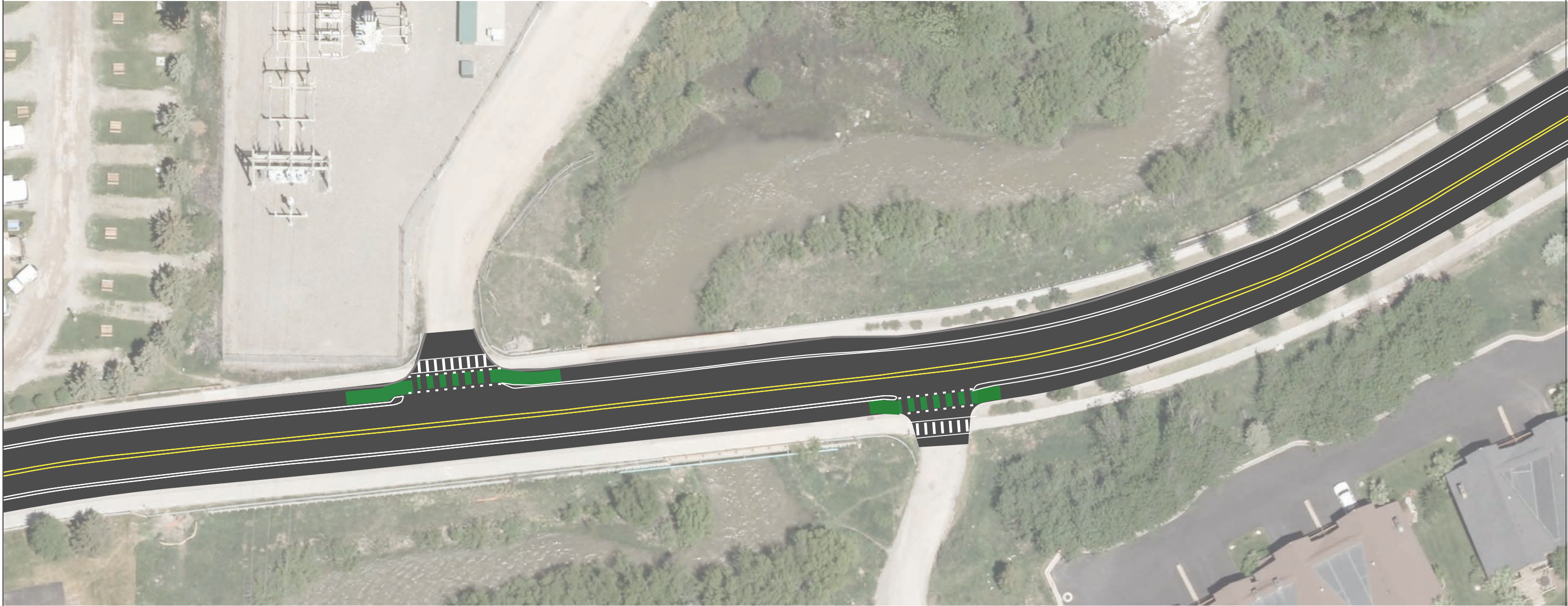
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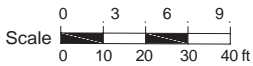
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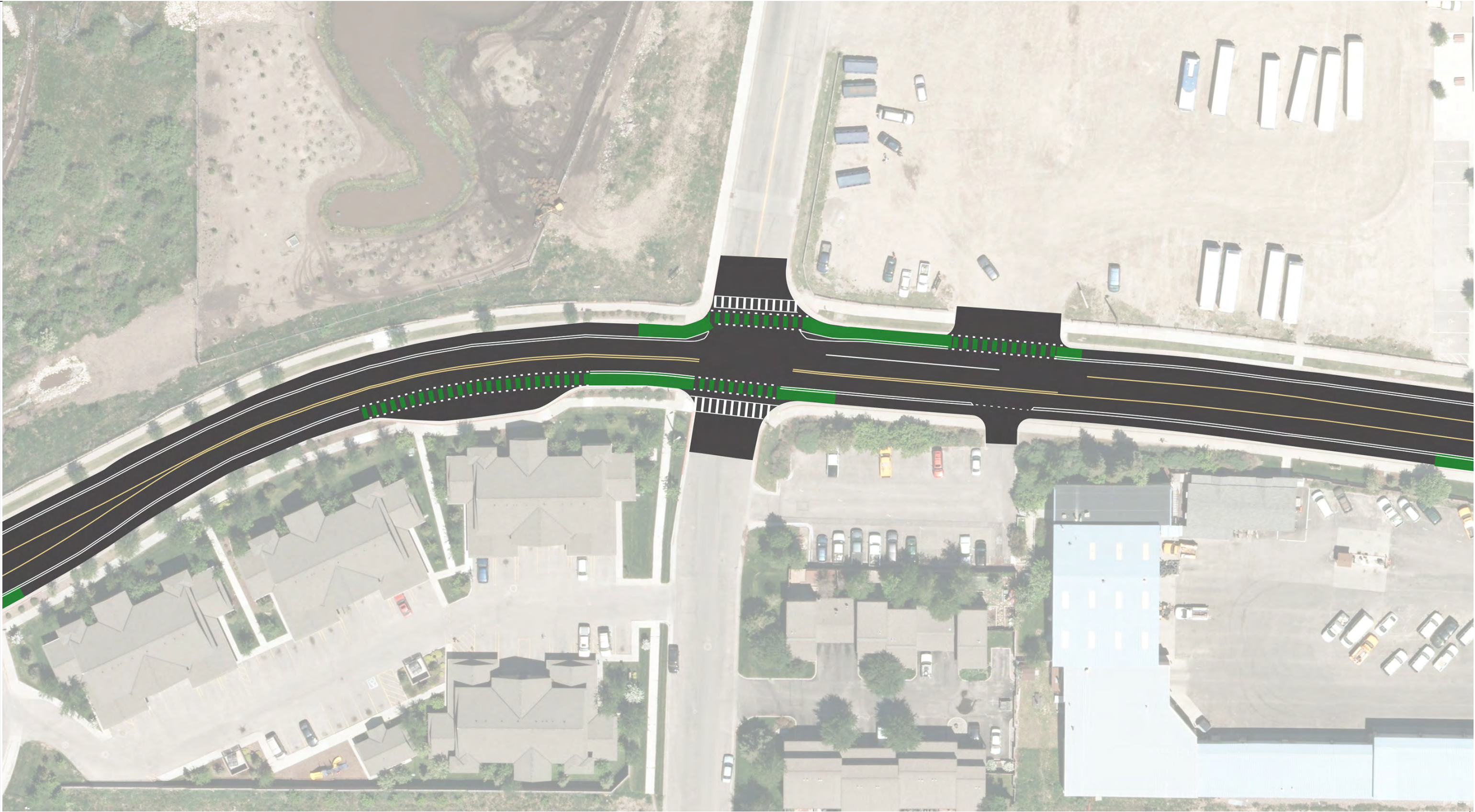
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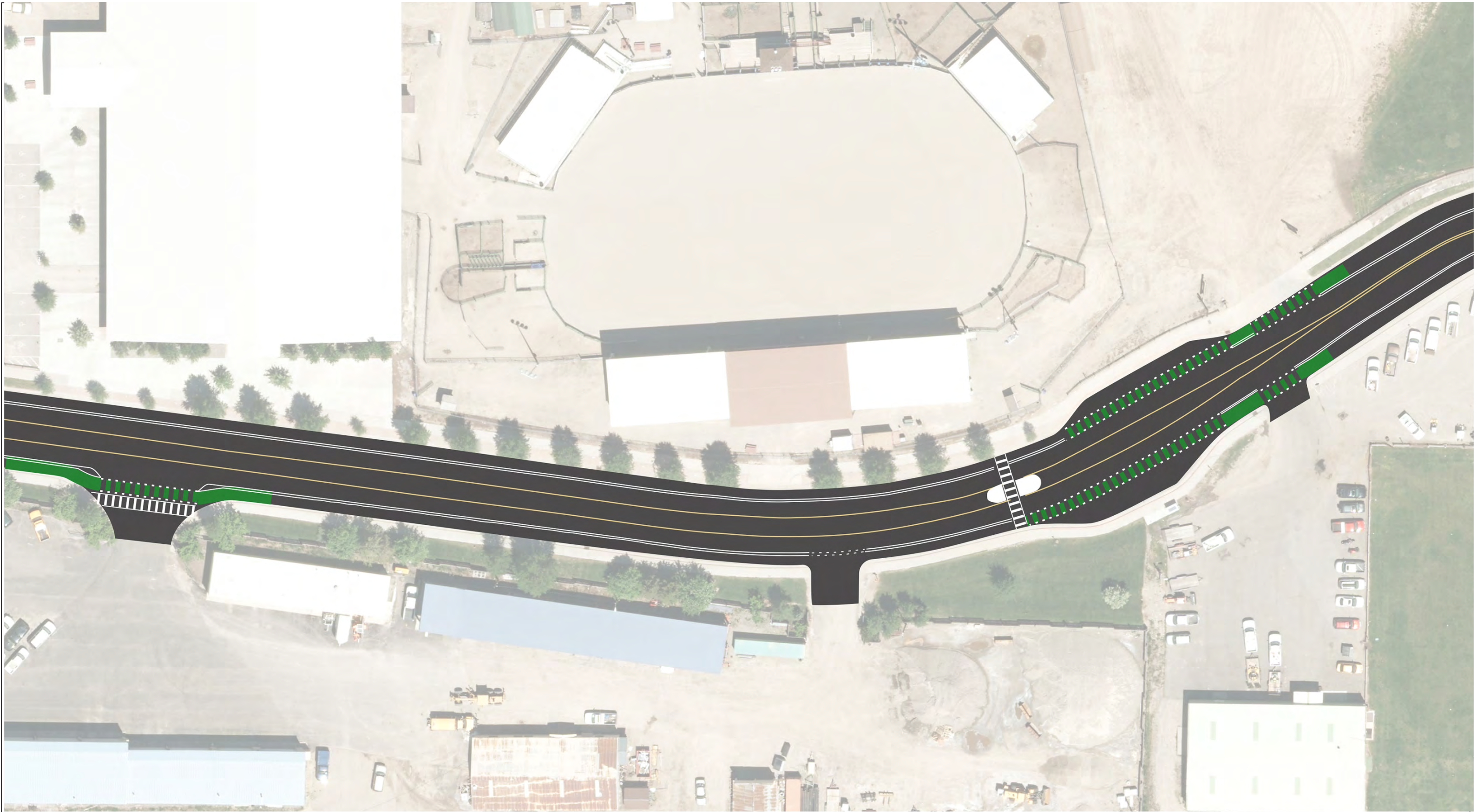
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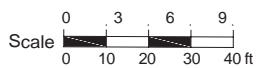
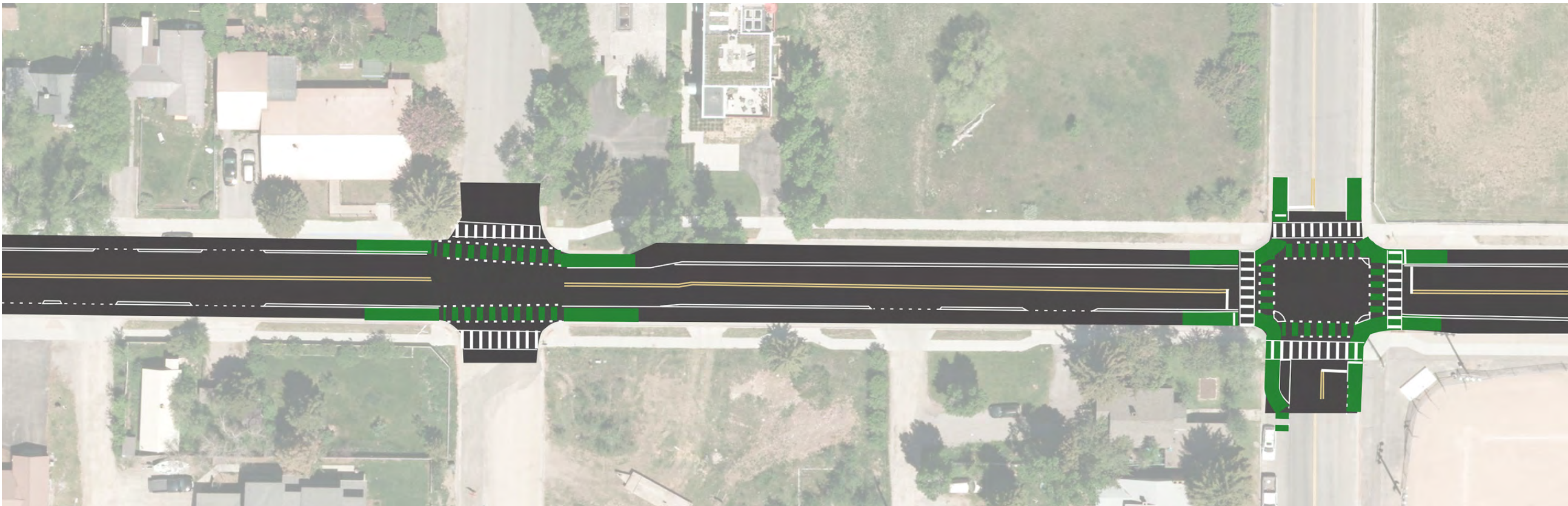
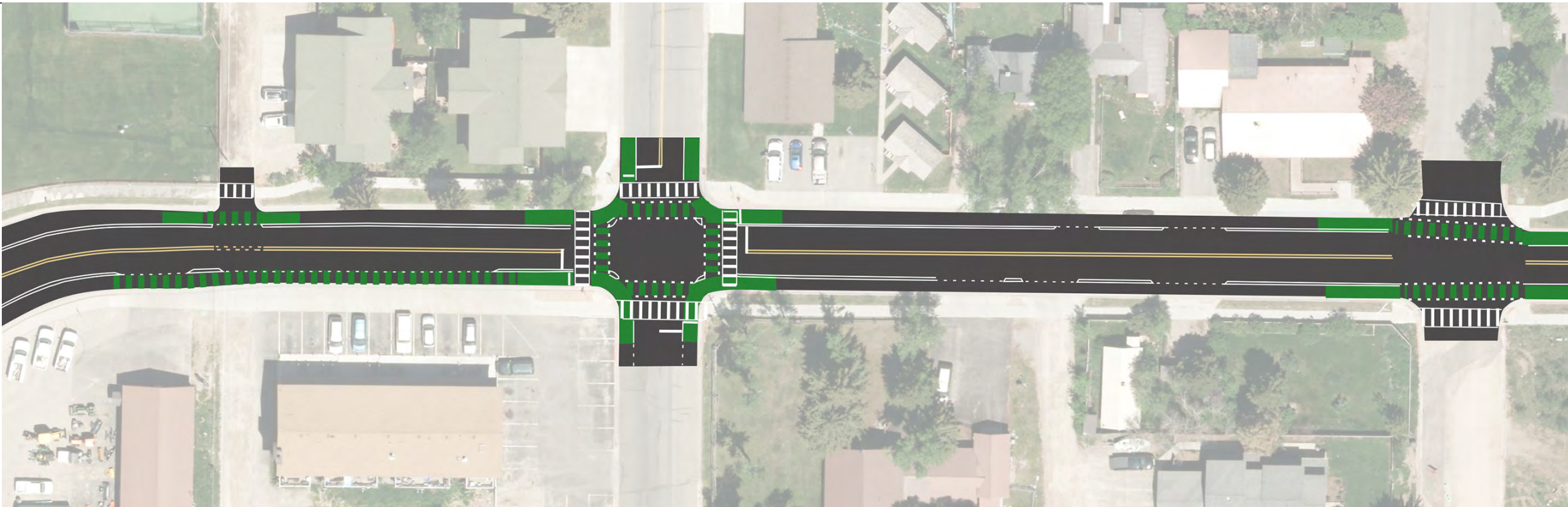
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TOWN COUNCIL

WORKSHOP AGENDA DOCUMENTATION

PREPARATION DATE: April 12, 2018
MEETING DATE: April 16, 2018

SUBMITTING DEPARTMENT: Public Works
DEPARTMENT DIRECTOR: Larry Pardee
PRESENTER: Larry Pardee and Brian Schilling

SUBJECT: Town Square Pedestrian Zone Pilot Project

PURPOSE OF WORKSHOP ITEM

The purpose is to seek Town Council input and direction on a temporary Town Square Pedestrian Zone Pilot Project for summer 2018.

DESIRED OUTCOME

The desired outcomes would be for Town Council to approve moving forward on the Pilot Project; to direct staff to develop recommendations for dates, appropriate locations, and amenities to be offered in and around the Town Square; and to direct staff to utilize outside resources, consultants, and local groups that specialize in placemaking in developing the Pilot Project.

BACKGROUND/ALTERNATIVES

Background:

During the February 2018 Town Council Retreat, the Council and staff briefly discussed the concept of doing a Pedestrian Zone Pilot Project in the vicinity of the Town Square for a limited time in the summer of 2018, and recommended that the item be placed on a Town Council workshop. The general purpose of doing a pilot project is to test out ideas that have the potential to enhance the Town Square and downtown retail shopping district in ways consistent with the vision and policies of the Comprehensive Plan. The Comp Plan notes existing and future desired characteristics for the Town Square (from 2012 Comprehensive Plan – Illustration of Our Vision):

- District 1 – Town Square
 - ...is the historic center of Jackson Hole and the central gathering space for residents and visitors alike...and plays an important role in defining our community's western heritage and overall community identity.
 - Future goals:
 - ...have *visitors and residents visit the area more often and stay longer*, increasing the vitality of the area and supporting the local economy.
 - ...create *great public spaces and amenities* for residents and visitors alike.
 - ...create a positive visitor experience that supports our local economy [and] continues the tradition of the Town Square as the gathering place for our community.
 - ...host a variety of events and community celebrations for residents and visitors.
 - ...encourage the *temporary closure of streets*, parking lots, parks and other public spaces to support such events.
 - ...the community should consider the *temporary and permanent closure of some streets to vehicles in order to create a vibrant pedestrian environment*.

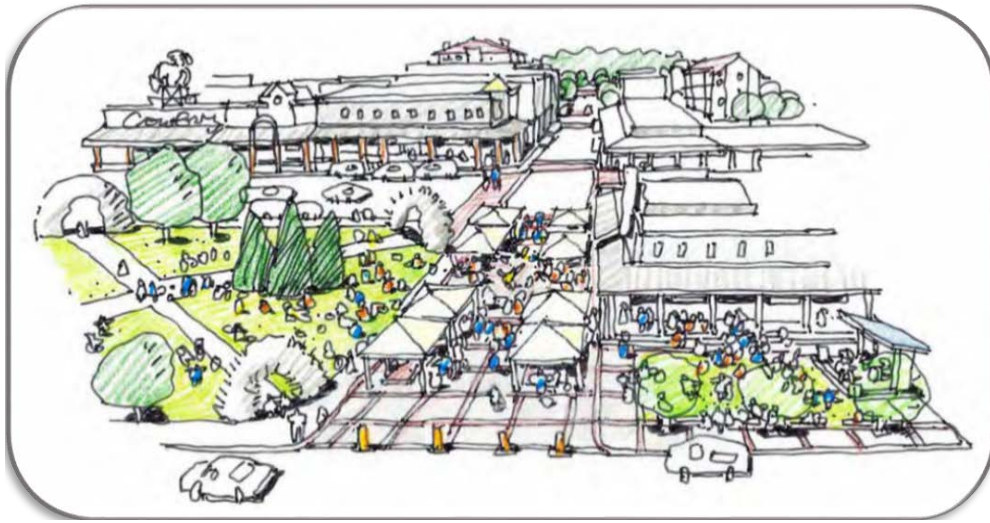


Figure 1. Town Square - 2012 Comprehensive Plan – Illustration of Our Vision

The principles and goals articulated in the Comp Plan for the Town Square can be broadly grouped under the concept of “placemaking,” which describes the collaborative process of collectively reimagining and activating public spaces for people and shaping the public realm in order to maximize shared value. Placemaking may ultimately involve changes in the design of a place, but really is about crafting a cohesive, shared vision for a public space and then translating that vision into a plan and program of uses.

Rather than deriving from a top-down, project-based approach, the placemaking process focuses on “observing, listening to, and asking questions of the people who live, work, and play in a particular space in order to understand their needs and aspirations for that space and for their community as a whole,” with the goal of creating a common vision for that place. The vision can evolve quickly into an implementation strategy, beginning with small-scale, often temporary improvements (pilot projects) that bring immediate benefits both to the spaces themselves and the people who use them. (Background materials on placemaking referenced from the Project for Public Spaces website and related articles).

Community engagement is key to a successful placemaking effort, and that is especially true when applied to place that is as important to the community as the Town Square. An effective placemaking process will identify and reach out to community stakeholders, spend time on-site, evaluate the space, and use this information to create a vision for the place. As noted in the Comp Plan (Policy 4.2.e):

Town Square is Jackson’s major tourism draw and can be described as the “heart of the heart.” As such, it is the area that evokes the greatest amount of sentiment and concern regarding architecture, scale and character...a variety of tools will be used to encourage and enhance pedestrian amenities to ensure this district remains the hub of the visitor experience and center of community life into the future.

Initial implementation does not, and should not, need to be in the form of permanent changes. Instead, implementation should begin with a “lighter, quicker, cheaper” (LQC) approach that allows for short-term experiments to test out simple, low-cost solutions and continues with ongoing evaluation of what has been done. LQC provides the ability to create and test a project immediately and with direct community involvement. Initial projects are often temporary, inexpensive alterations to a public space that take place while more long-range projects develop over time. The long-term success of a space depends on continued observation and analysis.

This LQC approach is precisely what is envisioned with the Pilot Project for the Town Square—as a test of some possible ideas that could showcase the potential for how the Town Square can function while increasing its economic vitality and shared value as a public space.

Proposed Alternatives:

The initial discussion for a Pilot Project has included a partial or complete pedestrian zone on the north and/or east sides of Town Square for a one- to two-week period in July or August. With Council approval to move forward on Pilot Project planning, staff will explore specifics for project location, timing, duration, amenities, and funding opportunities, and will bring recommendations back to the Council. Staff will also conduct preliminary stakeholder outreach and explore economic and other project benefits to report back to Council.

The Comprehensive Plan speaks extensively about improving the walkability of downtown streets and public spaces and the importance of pedestrian activity and community events for the continued success of the downtown retail shopping district. From Section 4 – *Town as the Heart of the Region*:

- **Policy 4.2.c – Create vibrant walkable mixed use subareas:** “The primary objective in downtown Jackson will be to enhance pedestrian amenities and connectivity to support a vibrant and walkable downtown core. To achieve this goal, Town will encourage public gathering places in both public and private developments in the downtown area. Public spaces within these subareas may take the form of parks, streetscape amenities and/or public/semi-public spaces provided by private property owners.”
- **Policy 4.4.a – Maintain and improve public spaces:** “Jackson’s public spaces and civic facilities should be interesting and memorable, and should reinforce our sense of community. The integration of fine arts professionals in the design of public spaces will be encouraged to create unique and visually engaging projects.”
- **Policy 4.4.c – Continue traditions and community events:** “The community will continue to sponsor and support community events in downtown Jackson that celebrate the character of the region and provide a strong sense of community for local residents. Year round community activities and cultural events will be encouraged to utilize the downtown to foster resident and visitor interaction.”

Alternatives:

- **Pilot Project Test**
 - *Concept:* Short term, low-cost repurposing of public streets around the Town Square to pedestrian-only (or pedestrian-priority) areas in order to test strategies that will enhance the public’s experience in downtown. Test strategies include providing an improved pedestrian environment that facilitates **access** to local businesses, a range of **activities** to engage people and encourage them to stay longer, and **amenities** such as seating to create spaces for people to interact and participate in community events.
 - *Permitting:* The Town may wish to handle this Pilot Project through a Special Event permit. Staff will work with the Planning Department and Town Administration as needed.
 - *Location:* North and east sides of the Town Square (Deloney and Center streets), similar to the Farmers’ Market. Other locations have not been proposed thus far.
 - *Closure:* Full (streets are blocked off completely to vehicles) or partial (streets allow vehicles at very low speeds, but are heavily prioritized to pedestrian use). A “full” closure would still provide for emergency access and special deliveries or other access. Would involve placing temporary barriers at the ends of streets to control vehicular access.
 - *Timing:* July or August. Staff likely to recommend August to allow additional lead time for planning and outreach.
 - *Duration:* One to two weeks. Likely recommendation of a minimum of a 9-day period starting on a Saturday and running to the following Sunday in order to allow for two Farmers’ Markets and sufficient time to get an impression of how a full or partial closure might work and to collect data and feedback from stakeholders.
 - *Amenities:* Temporary installations that provide places for people to sit, eat, socialize, and enjoy the public space. Could include:

- Picnic tables
- Café tables and chairs
- Planters with flowers, shrubs, small trees
- Public art
- Bike racks, parklets
- Food trucks and/or tents
- Little library
- *Activities:* Create uses that keep people engaged, interactive, and eager to spend time and return to the area. Possibilities include:
 - Music entertainment (both informal and scheduled performances)
 - Entertainment for kids (and adults) such as face painting
 - Games
 - Farmer's and/or People's Market
 - Dance, plays, or other performances
 - Arts and crafts activities
 - Senior activities
 - Shootout
- **No action/status quo** – Do not proceed with the Pilot Project. Streets will operate as they do currently with no temporary changes in activities or use.
- **Other?**

In order to implement this Pilot Project, staff recommends collaborating with local groups such as the Jackson Hole Chamber of Commerce, Jackson Hole Public Art (who have experience coordinating events and imaginative re-uses of the public space surrounding the Town Square), and perhaps seeking assistance from professional firms that specialize in placemaking. This would be extremely beneficial and contribute to the project's success in that staff's capacity to execute the project in the busy summer season may be challenged, and including partners to assist with planning and implementation would help greatly. Additionally, by using external resources and consulting with people and/or groups that have experience with projects like these, that will help us make good choices about what to include in the Pilot Project and conduct an effective stakeholder process and evaluation of what was successful. Specialists in this field will be in town to attend the Wyoming Bike/Walk Summit in mid-May and this could be a good opportunity to engage some of these resources.

ALIGNMENT WITH COUNCIL'S STRATEGIC INTENT

References to Comp Plan policies and strategies noted above. The project is relevant to and consistent with the Town's economic and "Town as Heart" policies.

STAKEHOLDER ANALYSIS

The stakeholder outreach process has not officially started. Preliminary analysis includes Chamber of Commerce, local businesses, local advocacy groups, and other interested parties yet to fully be defined. As mentioned above, stakeholder involvement to craft a shared vision is one of the cornerstones of a successful placemaking effort.

FISCAL IMPACT

Fiscal impacts will vary based on the extent and duration of amenities and activities scheduled for the Pilot Project. As part of the project planning, staff will develop cost estimates for each of the possible items and will also look for grant/partnership opportunities to help fund amenities and activities.

STAFF IMPACT

Impacts will vary depending on what is implemented and the extent of outreach that is done. Staff will actively look for partnerships with stakeholders and outside resources to help plan and execute the project. In any scenario, a week-long closure that includes multiple events, setup/disassembly, public outreach and information gathering, and would require involvement from the Town Public Works Department, Streets Crew, Pathways Coordinator, and Town Administration staff (Carl Pelletier).

LEGAL ISSUES

We are not aware of any legal issues at this time, but exploring that will be part of the outreach process.

ATTACHMENTS

None.