



**NOTICE OF MEETING AND AGENDA  
PLANNING COMMISSION  
NOVEMBER 29, 2022 AT 7:00 P.M.**  
City Council Chambers  
110 South Main Street  
Springville, Utah 84663

The agenda will be as follows:

**Call to Order**

- Approval of the Agenda
- Approval of Minutes: October 25, 2022

**Consent Agenda**

*The Consent Agenda includes items that are administrative actions where no additional discussion is needed. When approved, the recommendations in the staff reports become the action of the Commission. A call for objection or comment will be made on the consent agenda items. If there is any opposition or comment, the item will be taken off the consent agenda and put on the regular administrative session meeting agenda for discussion. If there are no objections or comments, the item(s) will pass without further consideration*

**Administrative Session**

1. Approval of the 2023 Meeting Schedule

**Legislative Session – Public Hearing**

2. *Unified Business Alliance requests amendments to the Lakeside Landing Special District Overlay.*

**Adjournment**

THIS AGENDA SUBJECT TO CHANGE WITH A MINIMUM OF 24-HOURS NOTICE

This meeting was noticed in compliance with Utah Code 52-4-202 on November 23, 2022. Agendas and minutes are accessible through the Springville City website at [www.springville.org/agendas-minutes](http://www.springville.org/agendas-minutes). Planning Commission meeting agendas are available through the Utah Public Meeting Notice website at [www.utah.gov/pmn/index.html](http://www.utah.gov/pmn/index.html). Email subscriptions to Utah Public Meeting Notices are available through their website.

In compliance with the Americans with Disabilities Act, the City will make reasonable accommodations to ensure accessibility to this meeting. If you need special assistance to participate in this meeting, please contact the Community Development department at (801) 491-7861 at least three business days prior to the meeting.



# MINUTES

Planning Commission  
Regular Session  
Tuesday, October 25, 2022

## IN ATTENDANCE

**Commissioners Present:** Chair Karen Ellingson, Genevieve Baker, Michael Farrer and Brett Nelson

**Commissioners Excused:** Rod Parker and Kay Heaps

**City Staff:** Josh Yost, Community Development Director  
Carla Wiese, City Planner  
Heather Goins, Executive Assistant

**City Council:** Matt Packard

## CALL TO ORDER

Chair Ellingson called the meeting to order at 7:02 p.m.

## APPROVAL OF THE AGENDA

Commissioner Farrer moved to approve the agenda as written. Commissioner Anderson seconded the motion. The vote to approve the agenda was unanimous.

## APPROVAL OF THE MINUTES

***September 13, 2022***

Commissioner Anderson moved to approve the September 13, 2022 meeting minutes. Commissioner Farrer seconded the motion. The vote to approve the meeting minutes was unanimous.

## CONSENT AGENDA

***No Items***

## ADMINISTRATIVE SESSION

Josh Yost, Community Development Director, and Carla Wiese, City Planner, presented. They gave an update on the following current planning projects: Reframing Downtown, Active Transportation Plan, 1600 South Corridor Plan, Station Area Plan, General Plan, and North Main Street Plan. The presentation slides are attached.

Director Yost introduced plans and had the Planning Commissioners categorize them.

He said the things to be discussed tonight are in the General Plan and Master Plan areas. Some are specific and some are more general.

## **Reframing Downtown**

Carla Wiese, City Planner, presented. It is a small area plan for a small area in the City. The study goes from 400 N to 800 S. There are draft recommendations. There will be upcoming meetings with Design Workshop and the City, in November, but more likely in December. The Draft Plan is to come in early 2023.

She discussed survey results regarding Downtown. She proposed the question 'why now?' It will ensure Main Street is more than just a street. We have made changes in the last few years and there have been economic changes. Now we are at Stakeholder meeting #4.

Throughout the study, small-town feel came up a lot. This is defined as art, character, historic and food. Other top answers included more restaurants and entertainment downtown and making Art City more than just a name.

Chair Ellingson asked about Rivoli theater and SOS pharmacy. Ms. Wiese said Mellissa closed on the Rivoli. She has talked about the programming and what the building can be used for. Performance, music, and theater groups that are partnering with her to make it interesting. We are waiting to see what is going to happen there.

## **Active Transportation Plan**

Director Yost talked about the Active Transportation Plan. It started in the fall of 2020. Now we are working on addressing staff concerns and working to unite positions from the departments and staff members. It is a well-written plan and we are spending time to make sure it is feasible.

## **1600 S Corridor Plan**

Director Yost said we now have a draft plan. He showed graphics of the trails and road connections. There will be commercial uses adjacent to the freeway and 1200 W and 1600 S hub for the RC zone. SR- 51 and village mixed commercial surrounding those areas. To the very South, there will be lifestyle village-type uses. The Transportation Plan builds on the existing Transportation Master Plan.

Commissioner Baker asked if some of the lines on the iteration are trails. Director Yost said yes and explained the connections. Chair Ellingson asked about the trail on SR51. Director Yost said it will connect.

It will be January 2023 before this gets to Planning Commission.

Ms. Wiese presented the rest of the items.

## **Station Area Plan**

Ms. Wiese said the plans have their own geographic area or subject matter, but their synergy is crucial. When we talk about one plan, we discuss the others.

For the Modern Income Housing plan, the Station Area Plan has to be looked at in a ½ mile radius. UTA is leading the project. HB 462 requires station area plans. Then they say what you have to do in them.

100 The required elements are to have vision, a map and an implementation plan.

101  
102 We did the procurement and the contracting with the consultant.

103  
104 Chair Ellingson said if UTA is ready to put the station in, if the landowners aren't ready,  
105 does that change it? Ms. Wiese said that we are working together with them now. They  
106 come to biweekly meetings. Commissioner Nelson asked if they are amicable. Ms.  
107 Wiese said yes, they have been open and willing to express concerns. It has been  
108 amicable and a good working relationship. They wanted to be involved in the process.

### 109 110 **General Plan**

111 The RFP and general scope are finalized. The Community Board was the primary  
112 steering committee. The Mayor has requested this to start in Quarter one of 2023. This  
113 is the Granddaddy of all plans. We have a mandate from the State to have a scope for  
114 20-25 years and reviewed and updated every 5 years. General Plans have required  
115 components. One is a land use element. The other is a transportation element. We now  
116 have to include water and Modern Income Housing in the General Plan. We have  
117 presented that and it will be part of the larger planning effort.

### 118 119 **North Main Street/Gateway Small Area Plan**

120 MAG Technical Assistance to Government Grant. We had to submit a letter of intent.  
121 Invitations to apply were due December 2022. The award of funding will be in Spring  
122 2023. The funds will be disbursed in July 2023. There is a match of 13%. It runs from  
123 1400 N to 400 S.

124  
125 The money is not guaranteed yet, but we feel we will get some of it. Commissioner  
126 Farrer said his understanding is they have a limited amount of money and it has to be  
127 spent over all the communities in Utah. Ms. Wiese said they have a limited amount of  
128 money, but they have a good amount of money. Commissioner Farrer said it is \$50  
129 million. Ms. Wiese said it is a good chunk. That was their point of the letter of intent. To  
130 see what the requests would be and then decide how to divide it. We have had good  
131 discussions with MAG.

132  
133 Chair Ellingson asked about the timeline and when the Planning Commission will be  
134 dealing with these. Ms. Wiese said the Active Transportation Plan and Main Street Plan  
135 would be the soonest. One will be the initial draft and then the final draft for Active  
136 Transportation Plan. The Station Area Plan is a little way out. Probably start seeing that  
137 in chunks in the Spring. The General Plan will be at least a year before adoption. North  
138 Main Street will be as soon as we know more about it, we will be working on it, probably  
139 in the 3<sup>rd</sup> or 4<sup>th</sup> Quarter of 2023. The 1600 South project will be coming soon.

140  
141 Commissioner Nelson asked about the timeline for the 1600 S construction. Director  
142 Yost said UDOT is doing frontage roads and ramps in the Spring. They should be out  
143 and done by early 2026.

144  
145 Chair Ellingson asked if we get the money from MAG, when will we need to use it. Ms.  
146 Wiese said we want to use it soon.

147  
148 Director Yost announced news received yesterday. Ms. Wiese submitted projects to the  
149 APA and two were awarded. Ms. Wiese said she can't take credit they were done

150 before she got here. She just submitted them. The awards ceremony will be sometime in  
151 December and the time is set for 11:30 a.m. to 1:00 p.m. They were for the Westfields  
152 Central New Neighborhood Plan Lakeside Overlay on achievement and another project  
153 got one for merit.

154  
155 **LEGISLATIVE SESSION:**

156  
157 ***No Items***

158  
159 With nothing further to discuss, Commissioner Farrer moved to adjourn the meeting.  
160 Commissioner Anderson seconded the motion. Chair Ellingson adjourned the meeting  
161 at 7:54 p.m.



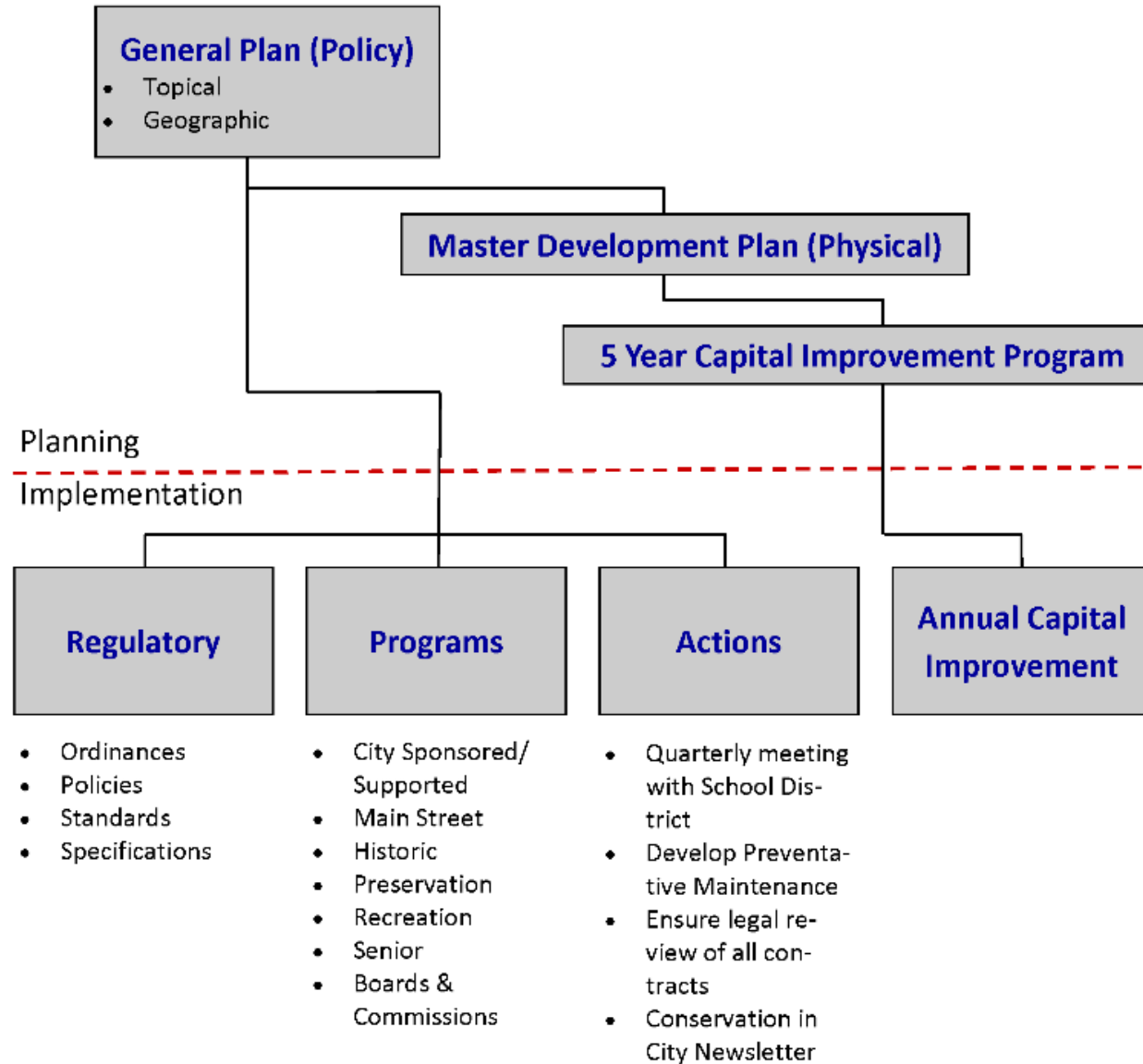
# PLANNING COMMISSION

OCTOBER 25, 2022



# PLANS

- General Plan
- Wastewater Management Plan
- Transportation Master Plan
- Moderate Income Housing Plan
- Public Works Facility Plan
- Downtown Main Street Plan
- Westfields Community Plan
- Historic Center Plan
- Parks, Recreation and Open Space Plan
- Public Arts Master Plan
- Culinary Water Management Plan

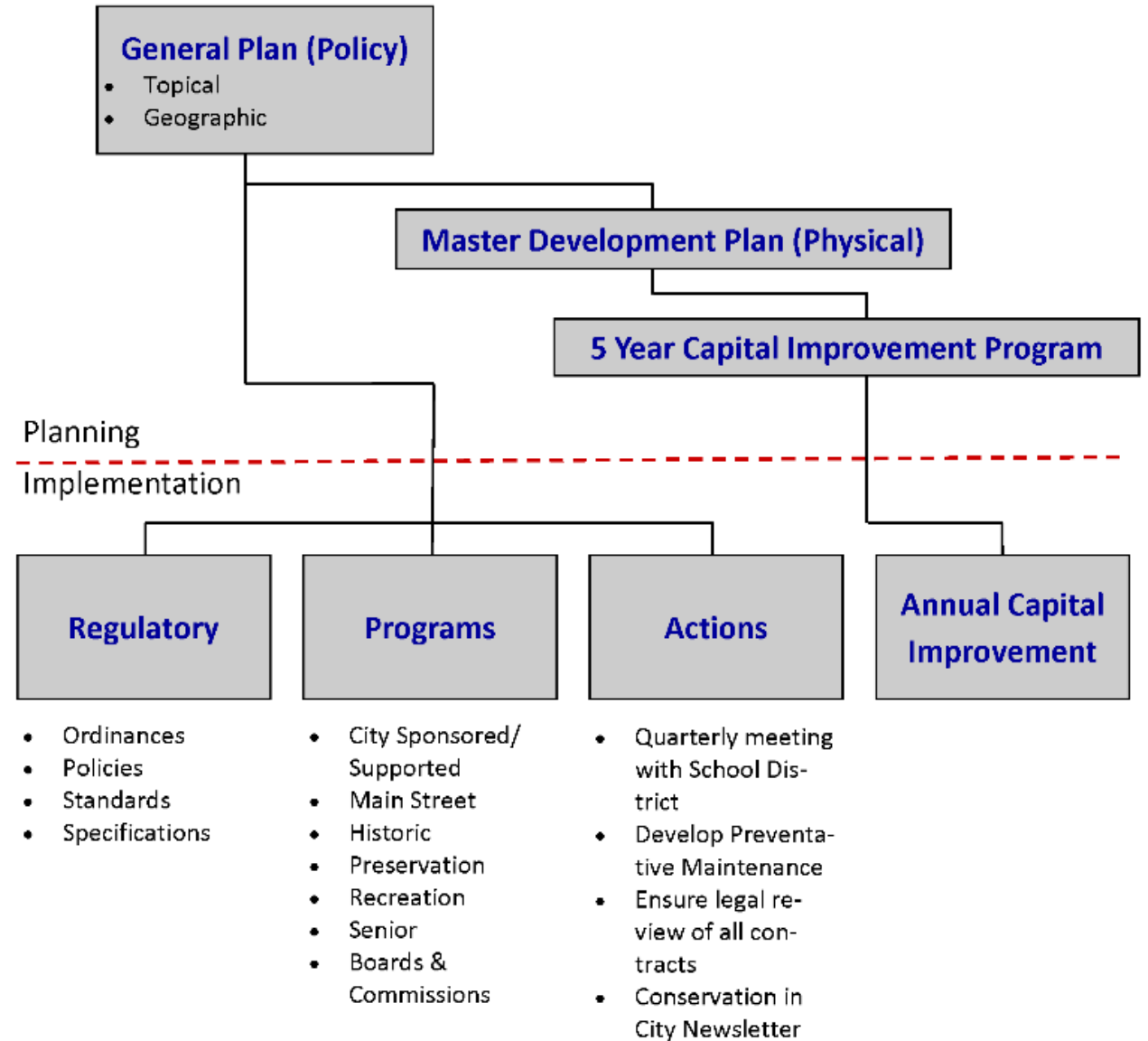


Master Plan  
Plant Master Plan  
Master Plan  
an  
d Plan  
in  
for Plan  
an  
Neighborhood



# WHERE DOES IT LIVE?

Park Construction Plans  
Moderate Income Housing Plan  
New Drama Program  
Building Maintenance Plan  
Off-street Parking Requirements  
Museum Exhibit Schedule  
PAR Board





# REFRAMING DOWNTOWN

- 400 North to 800 South
- Draft Recommendations
- Upcoming meetings with City (November?)
- Draft Plan early 2023



# REFRAMING DOWNTOWN INTRODUCTION

## WHAT IS REFRAMING DOWNTOWN?

Springville City is working toward a downtown plan that will guide future growth, preserve Springville's cultural identity, strategize economic resilience, and reframe Main Street from a downtown thoroughfare to a vibrant place for Springville residents and visitors near and far.



## WHY NOW?

Investments to improve the corridor have been made in recent years, but the city lacks a cohesive vision to connect recent and future improvements. This plan will ensure that Downtown Main Street is more than a street. It will ensure that Downtown Main Street is a vibrant PLACE that plays an integral role in the quality of life of Springville residents and business owners.

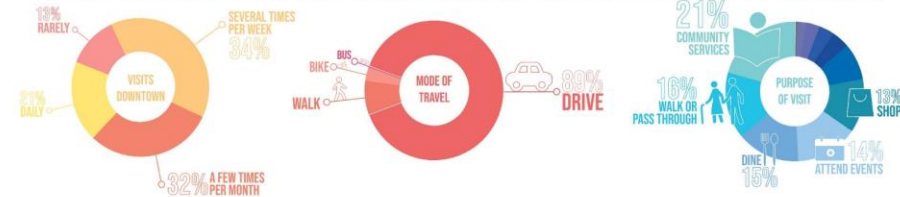
## WHERE HAVE WE BEEN? WHERE ARE WE GOING?

We have developed and engaged a project stakeholder group to help guide the project. In preparation for our public engagement event today, you helped contribute to the 1,380 survey responses! After listening to you today, we will work with the stakeholder group to confirm 'What We Heard' through community values, goals, opportunities and priorities. The next time we see you, we will bring you proposed solutions and recommendations that work toward a cohesive downtown vision.

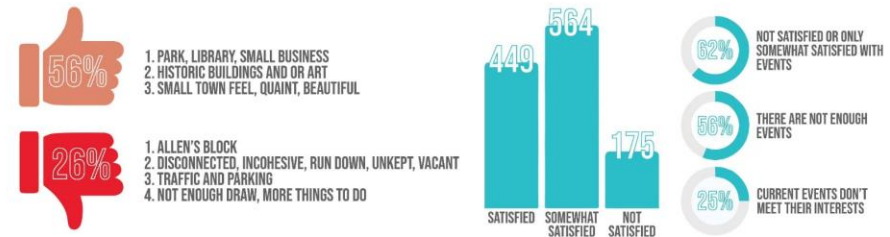


## WHAT WE'VE HEARD SO FAR

### How is Springville using its Downtown Main Street?



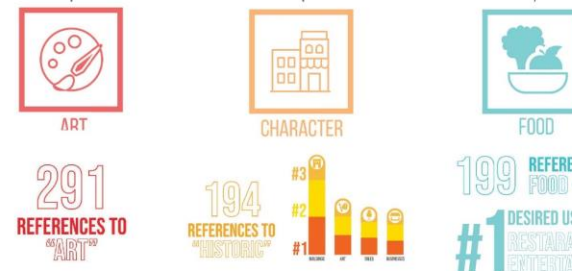
### Is Springville satisfied with Downtown?



### What makes Springville, Springville?

#### 373 MENTIONS OF "SMALL TOWN FEEL"

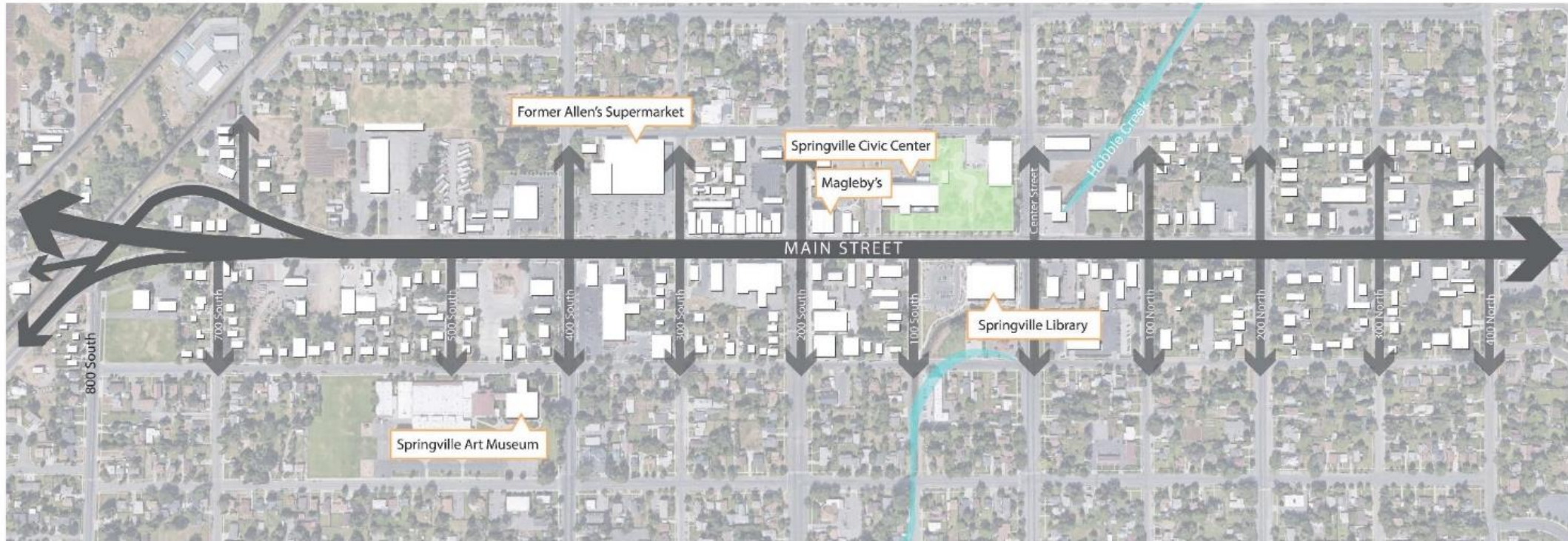
#### HOW IS SPRINGVILLE'S 'SMALL TOWN FEEL' DEFINED?





# WHAT IS REFRAMING DOWNTOWN?

Springville City is working toward a downtown plan that will guide future growth, preserve Springville's cultural identity, strategize economic resilience, and reframe Main Street from a downtown thoroughfare to a vibrant place for Springville residents and visitors near and far.





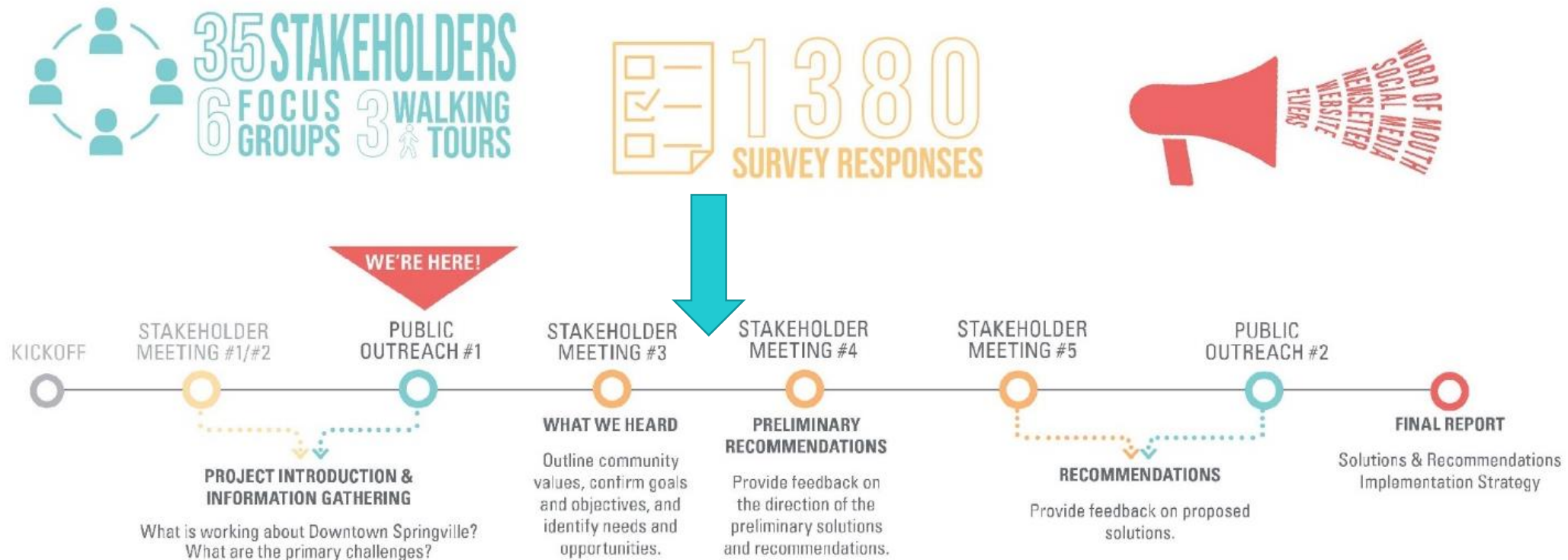
## WHY NOW?

Investments to improve the corridor have been made in recent years, but the city lacks a cohesive vision to connect recent and future improvements. This plan will ensure that Downtown Main Street is more than a street. It will ensure that Downtown Main Street is a vibrant PLACE that plays an integral role in the quality of life of Springville residents and business owners.



# WHERE HAVE WE BEEN? WHERE ARE WE GOING?

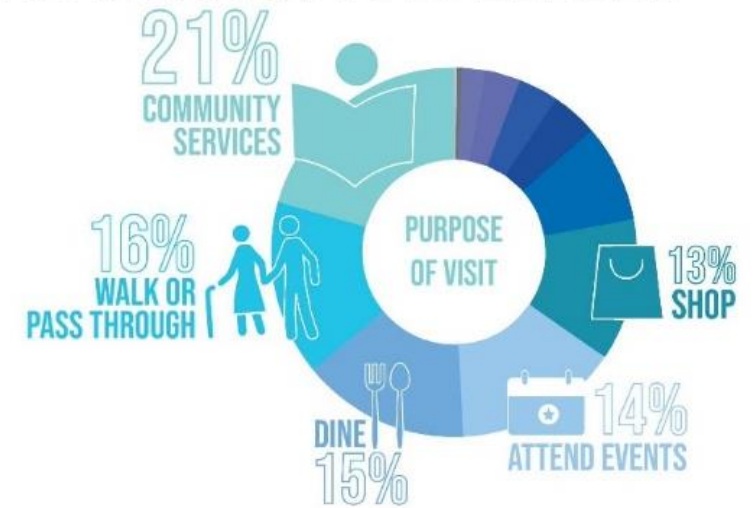
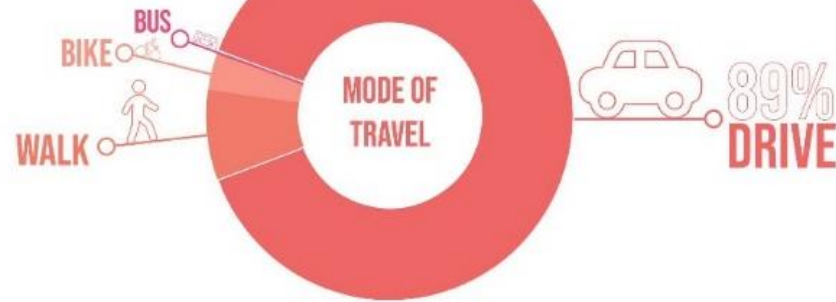
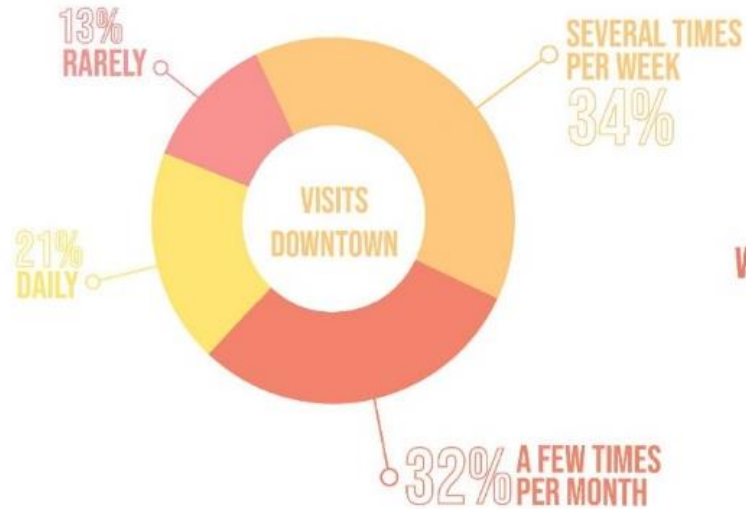
We have developed and engaged a project stakeholder group to help guide the project. In preparation for our public engagement event today, you helped contribute to the 1,380 survey responses! After **listening to you today, we will work with the stakeholder group to confirm ‘What We Heard’** through community values, goals, opportunities and priorities. The next time we see you, we will bring you proposed solutions and recommendations that work toward a cohesive downtown vision.





# WHAT WE'VE HEARD SO FAR

## How is Springville using its Downtown Main Street?





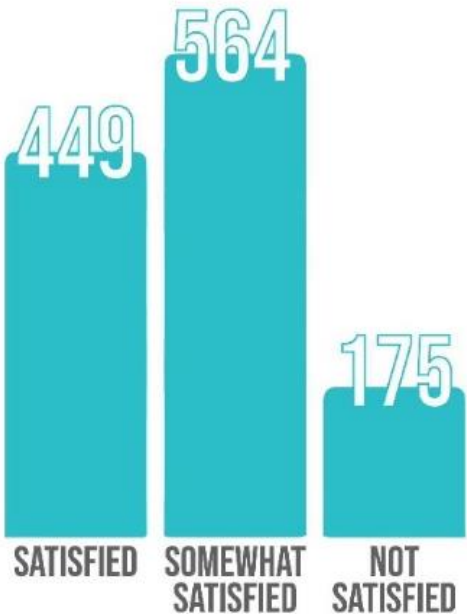
# Is Springville satisfied with Downtown?



- 1. PARK, LIBRARY, SMALL BUSINESS
- 2. HISTORIC BUILDINGS AND OR ART
- 3. SMALL TOWN FEEL, QUAIN, BEAUTIFUL



- 1. ALLEN'S BLOCK
- 2. DISCONNECTED, INCOHESIVE, RUN DOWN, UNKEPT, VACANT
- 3. TRAFFIC AND PARKING
- 4. NOT ENOUGH DRAW, MORE THINGS TO DO



NOT SATISFIED OR ONLY SOMEWHAT SATISFIED WITH EVENTS



THERE ARE NOT ENOUGH EVENTS



CURRENT EVENTS DON'T MEET THEIR INTERESTS



# What makes Springville, Springville?

---

**373 MENTIONS OF**

**“SMALL TOWN FEEL”**

**HOW IS SPRINGVILLE'S 'SMALL TOWN FEEL' DEFINED?**



**ART**



**CHARACTER**

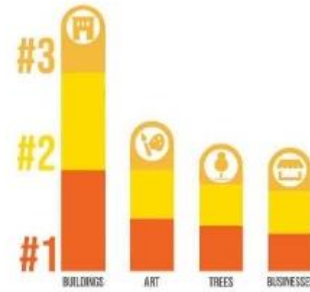


**FOOD**



291  
REFERENCES TO  
"ART"

194  
REFERENCES TO  
"HISTORIC"



199 REFERENCES TO  
FOOD + DRINK

#1 DESIRED USE  
RESTAURANTS &  
ENTERTAINMENT



# ACTIVE TRANSPORTATION PLAN

## **SPRINGVILLE** ***ACTIVE TRANSPORTATION PLAN***

---





## THE PROPOSED NETWORK

Figure 4.1 Recommended facilities by type and additional mileage

2.8  
Miles



**Bike Lanes** are typically 4-7 feet in width and designate space for bicyclists with 6" white striping

17.2  
Miles



**Buffered Bike Lanes** are similar to bike lanes, but also include an additional striped buffer to provide more visual separation.

28.3  
Miles



**Shared Use Paths**, or trails, are paved off-street pathways, completely separated from roadways and are designed to accommodate two-way, non-motorized travel.

8  
Miles



- \* **Separated Bikeways** include a physical barrier between bicyclists and adjacent vehicular travel lanes. These can be located at street level or sidewalk level (raised bike lanes).

25.1  
Miles



- \* **Bicycle Boulevards** are quiet neighborhood streets that have low vehicle volumes and speeds. Bicyclists are prioritized by managing vehicle speeds and volumes through the use of curb bulbouts, chicanes, pinch points, traffic circles, and other traffic calming elements. Signage and pavement markings are also incorporated.

8.3  
Miles



Routes that **Need Further Study** are important routes for the overall bike network, but need further study to determine appropriate facility type.

- \* *Facility types new to Springville*



# RECOMMENDED NETWORK

Springville Active Transportation Plan

PROPOSED FACILITIES

- Bike Lane
- Buffered Bike Lane
- Separated Bikeway
- Signed Route with Sharrow
- Bicycle Boulevard
- Shared Use Path
- Future Vision; Needs Further Study

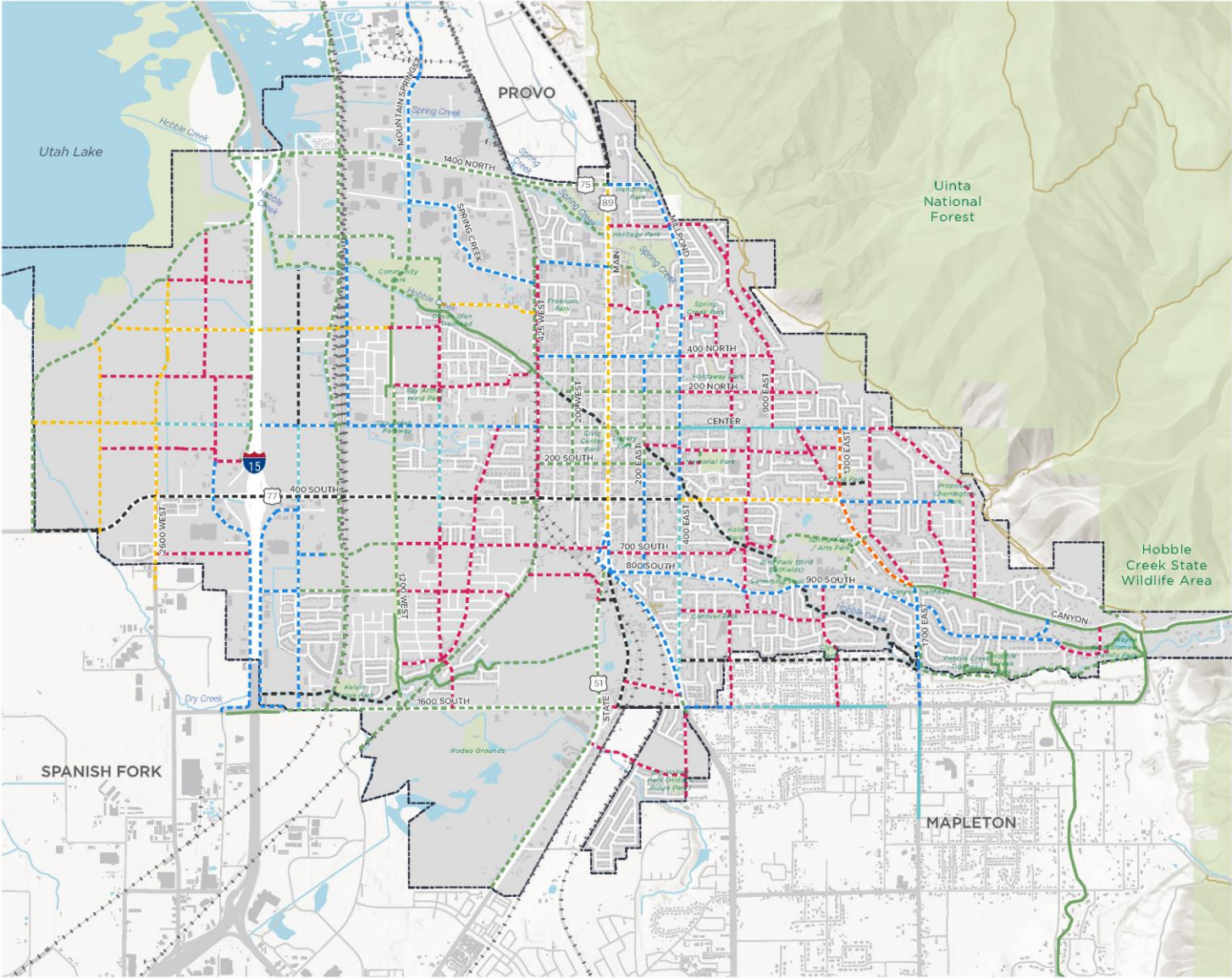
EXISTING FACILITIES TO REMAIN

- Bike Lane
- Shared Use Path

BASEMAP FEATURES

- Natural Surface Trail
- Railroad
- Waterway
- Water Body
- Parks & Open Space
- Springville City Limit

Source: City of Springville, Utah County, Utah AGRC, UDOT  
Date: May 2021





# RECOMMENDED SPOT IMPROVEMENTS

Springville Active Transportation Plan

## SPOT IMPROVEMENTS

- Enhanced Intersection
- Mid-block Crossing
- Grade-Separated Crossing
- Railroad Crossing
- Trail Access

Note: Specific treatment to be determined based on engineering analysis

## PROPOSED BIKEWAYS & TRAILS

- Proposed Bikeways & Trails

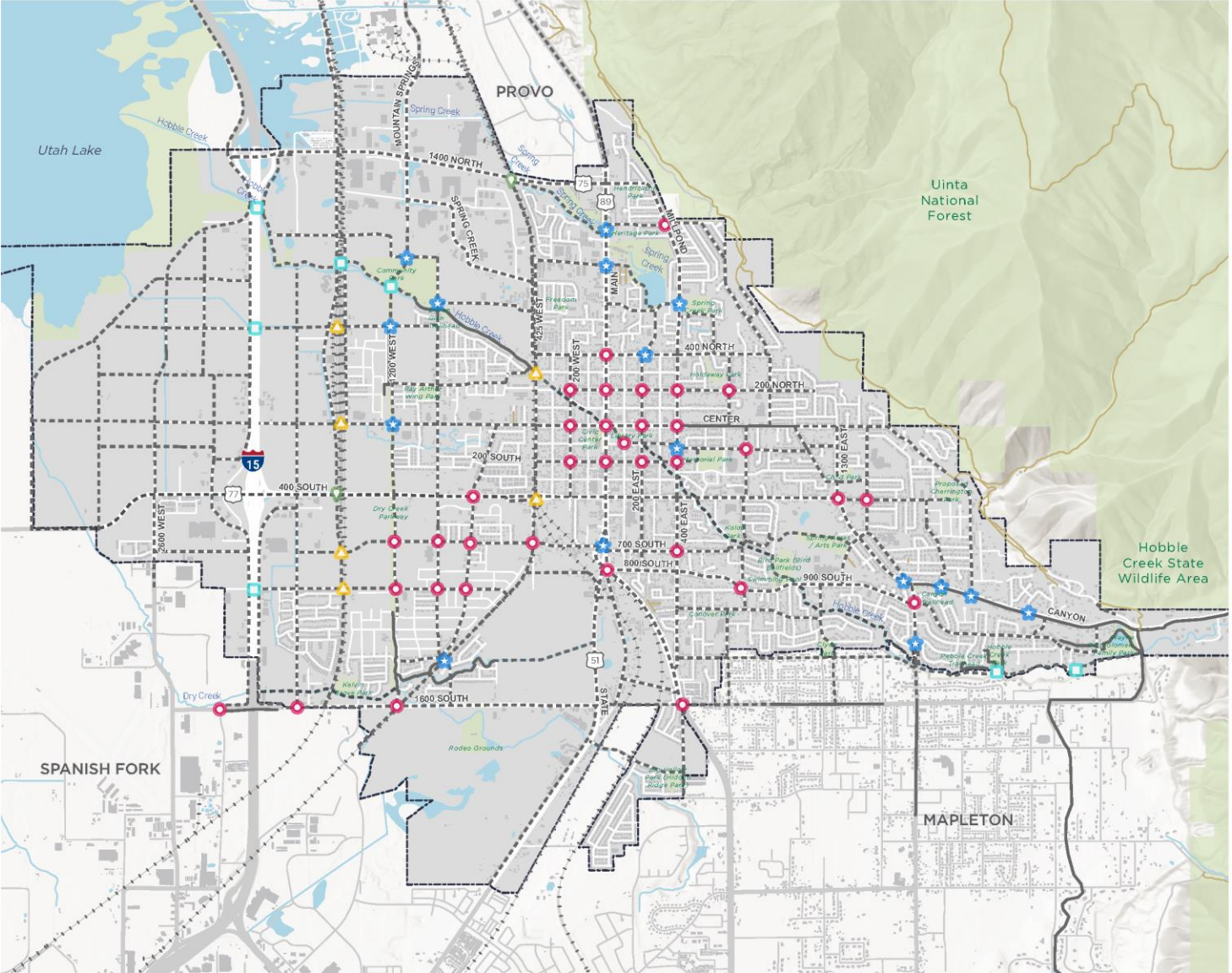
## EXISTING FACILITIES TO REMAIN

- Existing Facilities to Remain

## BASEMAP FEATURES

- Natural Surface Trail
- Railroad
- Waterway
- Water Body
- Parks & Open Space
- Springville City Limits

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





# 1600 SOUTH CORRIDOR PLAN

## Regulating Plan



## Regulating Plan

The regulating plan is a roadmap for a successful mix of land uses along the corridor and will be tied to an implementation strategy outline such as the WFRM Form-Based Code. All deliverables requested are tied to this outline. The Form-Based Code Outline is a key deliverable of this plan.

- Land Use Categories (recommended as land use types with design guidelines or as form-based code sub districts) including selection of Natural and Open Spaces.
  - Categories may be tied to existing land uses in general plan or new ones as part of an updated general plan.
  - If a form-based code is adopted, the general plan may identify study area as one zone and defer to code for district descriptions.
  - Phasing Plan/Incremental Development

**Urban Form and Character**  
Plan for Neighborhood of lasting value  
Identify unique elements of Study Area to establish character and Identity: Frontage & Setbacks, Site Layout & Form, Parking, Building Massing & Orientation, Color and Texture Aesthetics, Signage

| Uses                                         | Districts                    |                          |                           |                          |
|----------------------------------------------|------------------------------|--------------------------|---------------------------|--------------------------|
|                                              | Commercial/Retail Strip Mall | Commercial-Village/Mixed | Residential - Medium High | Residential - Medium Low |
| <b>Residential &amp; Lodging</b>             |                              |                          |                           |                          |
| Residential                                  | ●                            | ●                        | ●                         | ●                        |
| Hotel & Inn                                  | ●                            |                          |                           |                          |
| Residential Care                             |                              | ●                        | ●                         |                          |
| <b>Civic</b>                                 |                              |                          |                           |                          |
| Assembly                                     | ●                            | ●                        | ●                         | ●                        |
| Transit Station                              | ●                            | ●                        | ●                         |                          |
| Hospital & Clinic                            | ●                            |                          | ●                         |                          |
| Library/Museum/Post Office (no distribution) |                              | ●                        | ●                         |                          |
| Police & Fire                                |                              | ●                        | ●                         | ●                        |
| School                                       |                              | ●                        | ●                         | ●                        |
| <b>Retail</b>                                |                              |                          |                           |                          |
| Neighborhood Retail                          | ●                            | ●                        | ●                         | ●                        |
| General Retail                               | ●                            | ○                        |                           |                          |
| Outdoor Sales Lot                            | ○                            |                          |                           |                          |
| <b>Service</b>                               |                              |                          |                           |                          |
| Neighborhood Service                         |                              | ●                        | ●                         | ●                        |
| General Service                              |                              | ●                        |                           |                          |
| Vehicle Service                              |                              | ○                        | ○                         | ○                        |
| <b>Office &amp; Industrial</b>               |                              |                          |                           |                          |
| Office                                       | ●                            | ●                        | ○                         | ○                        |
| Craftsman Industrial                         | ●                            | ●                        | ●                         | ●                        |
| <b>Infrastructure</b>                        |                              |                          |                           |                          |
| Parking Lot                                  | ●                            | ●                        | ○                         |                          |
| Parking Structure                            | ●                            | ●                        |                           |                          |
| Utility & Infrastructure                     |                              |                          |                           |                          |
| Open Space                                   | ●                            | ●                        | ○                         | ●                        |
| <b>Accessory Uses</b>                        |                              |                          |                           |                          |
| Home Occupation                              |                              |                          | ●                         | ●                        |
| Outdoor Storage of Goods                     |                              |                          |                           |                          |
| Parking Lot                                  | ●                            | ●                        | ○                         |                          |
| Parking Structure                            | ●                            | ●                        |                           |                          |

**LEGEND**

- Permitted
- Permitted in Upper Stories Only
- Permitted with Development Standards
- Requires a Conditional Use Permit

## Regulating Plan







# STATION AREA PLAN

- HB 462 Requires Station Area Plans
- HB 462 Objectives
  - increasing the availability and affordability of housing
  - promoting sustainable environmental conditions
  - enhancing access to opportunities
  - increasing transportation choices and connections.
- Required Elements
  - Vision
  - Map
  - Implementation Plan



# STATION AREA PLAN

- ½ mile radius from potential station area
- Partnership with UTA, Property Reserve Inc
- Internal Kick-off meeting held on October 5



# GENERAL PLAN

- RFP and general scope finalized
- Community Board as primary steering committee
- Mayor has requested to start in Q1 2023



# NORTH MAIN STREET/GATEWAY SMALL AREA PLAN

- MAG Technical Assistance to Government Grant
  - Letter of Intent
  - Invitations to apply-December 2022
  - Award of funding Spring 2023
  - Funds disbursed July 2023
  - Match of 13%
- 1400 North to 400 North



Letter of Recommendation to City Council  
Springville Board Name:  
**Planning Commission**

|                                                                  |                                                                                                                |                                           |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <b>Applicant:</b><br>Josh Yost<br>Community Development Director | <b>Request:</b><br>Approve the meeting schedule of the Springville City Planning Commission for the year 2023. | <b>Date of Meeting:</b> November 29, 2022 |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------|

|                   |                   |
|-------------------|-------------------|
| <b>Motion by:</b> | <b>Second by:</b> |
|-------------------|-------------------|

|                       |                          |                |                          |                   |                          |               |
|-----------------------|--------------------------|----------------|--------------------------|-------------------|--------------------------|---------------|
| <b>RECOMMENDATION</b> | <input type="checkbox"/> | <b>APPROVE</b> | <input type="checkbox"/> | <b>DISAPPROVE</b> | <input type="checkbox"/> | <b>OTHER:</b> |
|-----------------------|--------------------------|----------------|--------------------------|-------------------|--------------------------|---------------|

**CONDITIONS OF APPROVAL:**

Springville City Planning Commission 2023 Meeting Schedule:  
January 10, 24  
February 28  
March 14, 28  
April: 11, 25  
May: 9, 23  
June: 13, 27  
July: 11, 25  
August: 8, 22  
September: 12, 26  
October: 10, 24  
November: 14, 28  
December: 12

Time: 7:00 pm  
Day: Tuesday  
Place: Civic Center City Council Chambers  
How Often: Bi-Monthly  
Meetings may be cancelled due to holidays or lack of agenda items.

**Voting Record:**

| Member Name     | APPROVE | DENY | ABSTAIN |
|-----------------|---------|------|---------|
| Karen Ellingson |         |      |         |
| Michael Farrer  |         |      |         |
| Kay Heaps       |         |      |         |
| Rod Parker      |         |      |         |
| Brett Nelson    |         |      |         |
| Genevieve Baker |         |      |         |
| Ann Anderson    |         |      |         |

|                       |             |
|-----------------------|-------------|
| <b>Chair/Director</b> | <b>Date</b> |
|-----------------------|-------------|



## PLANNING COMMISSION STAFF REPORT

Agenda Item 2  
November 29, 2022

November 23, 2022

TO: Planning Commission Members

FROM: Josh Yost

RE: *Unified Business Alliance requests amendments to the  
Lakeside Landing Special District Overlay.*

---

**Petitioner:** Unified Business Alliance

---

### Summary of Issues

---

Do the proposed amendments comply with the intent and advance the objectives of the Lakeside Landing Special District Overlay?

### Background

---

Springville City, Pel-Ona Architects and Urbanists, Unified Business Alliance, and Lakeside Landing Partners have been working together through the last year to advance the development of Lakeside Landing. As with any new plan or code, continually refinement is necessary throughout the development process. Three categories of potential amendments have become apparent as this work has progressed. These three categories are amendments to correct errors in drafting the code, amendments to improve or facilitate development implementation, and amendments to fill in regulatory gaps in the code. While Unified Building Authority, the parent company of Davies Design Build, has submitted the application, the request is the result of collaboration between all parties described above. Community Development assisted with the drafting of some of the amendments, particularly those related to active transportation implementation and related street standards. Staff also drafted the procedural amendment regarding the allocation of residential units between application phases.

These proposed amendments can also be grouped into three topical categories for analysis. These three categories are Lot Standards, Parking Lot Design and Thoroughfare Standards, and Procedural Standards. These categories are used in the following analysis section. Staff has worked with internal stakeholders, including Public Works, and Administration to present this coordinated and unified recommendation.

### Analysis

---

Each proposed amendment is listed below by topical category and including analysis from Korkut Onaran of Pel-Ona and from staff. Korkut's analysis is in blue italics and staff's analysis and recommendations are in green italics. Included as an attachment is a summary table which is color coded based on staff's recommendation, green for positive, red for negative and white for neutral.

### LOT TYPES

---

1. Page 38, 5. Cottage Lot Type:  
*Revise the rear zone side street setback as 6 feet minimum. (Currently this setback is listed as 12 feet minimum.)*

*There is no reason for the garage or ancillary building should have deeper setback than the front building. (This is just a mistake the applicant's consultant made.)*

*Staff concurs with consultant's analysis.*  
**Recommend Approval**

2. Page 50, 17. Courtyard apartment Building Lot type:  
*Delete Note 1 that refers to a rear zone.*

*There is no rear zone on this lot type. ( This is just a mistake the applicant's consultant made.)*

*Staff concurs with consultant's analysis.*  
**Recommend Approval**

3. Page 53, 20. Main Street Slot Townhouse Lot Type  
*Delete Note 7*

*Asking for extra setback at the rear will make this lot type undesirable for many builders. This lot type may not be employed because of this restriction, even though the applicant thinks that it is a good prototype that increases diversity and provides business opportunities, especially along Lakeside Avenue.*

*Staff agrees that making more lot types more useable in more areas is desirable.*  
**Neutral**

4. Page 57, 24. Compact Urban Townhouse Lot Type  
*Reduce the minimum lot size to 1,000 s.f. and minimum frontage to 14 feet*

*Some builders (such as SEGO Homes) have an interesting townhouse they built at Daybreak. It is 14 feet wide. It provides an affordable way to achieve density within T5, T5i and T6 Transects. It employs either a tandem two-car garage or a single-car garage with the second car parked in tandem on surface. The applicant believes that suggested revision will add a relatively affordable townhouse option to the housing choices at Lakeside Landing.*

*Staff is concerned that without specific criteria for the implementation of this lot type, it may be overused, reducing the diversity of single family attached lot types.*  
**Recommend Denial**

5. Page 59, 26. Liner Building Lot Type:  
*Revise the height requirement as 2 stories / 32 feet max. (Currently it is 1 ½ stories /32 feet max.)*

*Liner building type is being employed to screen the large surface parking lots at blocks where taller and larger apartment buildings are located. As such, the applicant sees no justification for limiting the height to 1 ½ stories, as the code currently states.*

*Staff concurs with consultant's analysis. The numerical height limit doesn't change.*  
**Recommend Approval**

6. Page 60, 27. Neighborhood Store, Restaurant, or Civic Building Lot Type:  
*Eliminate the minimum lot size, minimum street frontage and depth requirements. Revise the building setback at street as 4 feet minimum.*

*The current restrictions prevent this lot type to be employed for small retail buildings along Lakeside Avenue. Businesses such as tiny coffee houses, diner size restaurants, small stores, and small professional offices with a few employees are essential in creating a thriving community. If the suggested revisions are made to this lot type, it can easily be employed to accommodate such businesses (note that this lot type is not permitted within T4 and T3 Transects).*

*Staff concurs with consultant's analysis. Making this lot type easier to use is a substantial benefit for achieving a granular mix of uses within the permitted transects.*  
**Recommend Approval**

7. Page 61a:  
*Add the attached new lot type: 29. Parking Structure Lot Type and permit it within T5, T5i and T6 Transects.*

*This will clarify to all parties the restrictions of any parking structure permitted within Lakeside Landing. It will encourage best practices.*

*Parking structures were not anticipated in the original drafting of the code. They may now be used and we want to make sure the code contains the necessary parameters to implement parking structures property.*  
**Recommend Approval**

## THOROUGHFARE STANDARDS

---

1. Page 93a - 93e:  
*Incorporate the attached "11-9-803 Parking Layouts" pages as part of the Article 8 - Thoroughfare Standards.*

*The suggested additional standards will enable and encourage best practices such as flat edge curbs and detached sidewalks along parking stalls. The additional standards accommodate the tandem parking layouts and dimensions as well, which are needed because Lakeside Landing Special District Overlay permits use of tandem parking at many of the lot types.*

*Staff has worked iteratively with the consultant to reach consensus on these changes. Staff agrees that the additional standards will permit implementation of best practices, create more efficient and more hospitable parking lots, and facilitate low impact storm water handling that will be crucial to flattening the rate of stormwater runoff in this area with significant engineering hurdles to traditionally engineered solutions.*  
**Recommend Approval**

2. Page 93f-93o:

*Incorporate the attached “11-9-804 Intersection Design” pages as part of the Article 8 - Thoroughfare Standards.*

*The suggested additional standards will encourage and ensure best practices in intersection design that balance well multiple modes of transportation; a design principle that Lakeside Landing follows.*

*Staff was the primary driver of these new standards. It is the city’s desire to implement the best practices for intersection design at Lakeside Landing, where they can be employed and analyzed in a limited area without making wholesale changes to the city’s general standards. This area will serve to inform changes to the City’s overall standards and practices in the future.*

***Recommend Approval***

3. Page 93p:

*Create a page called additional parking measures that includes the following:*

**a. MID-BLOCK SHARED PARKING**

Instead of providing off-street parking on each lot, a shared mid-block parking lot is permitted to be employed on an outlot.

When such parking solution is employed, the minimum lot depth and minimum lot size requirements shall not be applied to the lots located on the block, as long as the total reduction on lot sizes shall be equal or less than the size of the parking outlot. Also, if multiple lot zones are stated for any of the lot types on the block, front zone requirements shall be applied to all zones (the lot shall be treated as one zone) and the rear setback shall be 5 feet minimum.

**b. INTEGRATED ON LOT STRUCTURE PARKING**

Within T5i and T6 Transects, solutions such as tuck-under parking and podium parking are not only permitted but highly recommended. However, no such parking, however how enclosed, shall be permitted within 25 feet of any street right-of-way.

*These measures clarify that parking can be placed in a common parking lot, outside of the boundaries of individual lots and held in common to fulfill the minimum parking requirement for each unit. Placing parking in a single lot on the block interior has shown to be a much more elegant solution than contorting the lot boundaries of each surrounding lot to include a piece of the parking lot.*

***Recommend Approval***

4. Page 103 E. Pedestrian Green Street

*Add the following rule as #4 to the list:*

**4. Along the Pedestrian Green Street, building setbacks to street shall be 12 feet minimum within T3 and T4, 10 feet minimum, within T5, and 8 feet minimum within T5i and T6 Transects; the porch setbacks to the street shall be 4 feet minimum within T3 and T4, 2 feet minimum, within T5, and 0 feet minimum within T5i and T6 Transects.**

*The current setbacks are tailored with a regular street on mind, accommodating vehicular traffic; they are deeper to provide more distance between the running traffic and the porches. When located along the pedestrian green street the applicant sees no need for deeper setbacks. Many pedestrian green streets shown on the current Regulating Plan are wider than the required minimum of 40 feet width.*

*Reduced front setbacks are appropriate where a lot fronts onto a common greenway, and could create a unique sense of place on these streets by creating a more intimate space and bringing the life and activity of each house close to the green street.*

***Neutral***

## PROCESS

---

Page 18: Revise rule 2 to read:

2. Densities shall be calculated per application, per transect. In the Southern Part (shown on this page), up to 15% of the maximum permitted yield of units within any development phase may be carried forward (sent) to future (receiving) phases within the Southern Part subject to the following conditions.
  - a. The carried forward units must be identified and located on an overall unit plan included with the LLSDO Preliminary Plan application for the sending phase and then utilized on an application for the receiving phase within five years from approval of the Preliminary Plan for the sending phase.
  - b. No block into which units are carried forward may exceed its maximum permitted unit count by more than 15%.
  - c. The total unit count for the Southern Part shall not exceed that maximum unit count established in the regulating plan.
  - d. All other requirements of the LLSDO shall be met by the sending and receiving phases. No density transfers are permitted across transects, but allowed within an application between the blocks within the same transect.

*Staff drafted this language to address a logistical concern in the simplest way possible. In short, if Unified Building Authority applied for site plan approval for their whole project at once, it complies with all the density requirements of the code. Instead UBA is phasing their development to spread out the costs of detailed engineering design and the installation of public improvements. Their phase one, taken alone, doesn't use all of the possible residential density within the phase area, primarily because they are providing more commercial in phase one than originally anticipated. Under the current standards, they would not be able to capture or use these unutilized units in any other phase of the development. This amendment allows them to carry them forward while still meeting all other requirements, and mitigating the unnecessary loss of units caused by phase lines. Staff asserts that this does not represent a material change in the overall intent of the LLSDO, but simply provides for phasing of development, and allows UBA to provide more commercial, which is an important outcome for the city.*

***Recommend Approval***

## Staff Recommendation

---

Staff finds that the amendments recommended for approval, as described above, comply with the intent and advance the objectives of the Lakeside Landing Special District Overlay.

This recommendation represents the involvement and consensus of staff from Community Development, Public Works, and Administration.

## **Recommended Motion**

---

Move to recommend approval of Unified Business Alliance's requested amendments to the Lakeside Landing Special District Overlay as listed by the numbers listed in the analysis above.

| Lot Type Amendments | Parking Lot Design and Thoroughfare Standards | Process |
|---------------------|-----------------------------------------------|---------|
| 1                   |                                               | 1       |
| 2                   | 1                                             |         |
| 5                   | 2                                             |         |
| 6                   | 3                                             |         |
| 7                   |                                               |         |

## **Attachments**

---

1. Proposed Amendments to Parking Layouts and Thoroughfare Standards.
2. Amendment Summary Table

## **Attachment 1**

Proposed Amendments to Parking Layouts and Thoroughfare Standards.

## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*The parking layouts included in this subsection aimed at reducing excessive pavement and preventing formation of heat islands. Even though providing adequate parking is essential in creating a well-served neighborhood, there are ways to maximize landscaped areas and decrease the paved areas that create heat islands easily in Springville's climate zone in summer months. Following are few design solutions that achieve this. The layouts corresponding these solutions and the dimensional standards provided here shall guide the parking lot design within Lakeside Landing Special District Overlay.*

## FLAT EDGE INSTEAD OF REGULAR CURB

*Employing flat edges instead of regular curbs not only decreases the amount of pavement, but also, and more importantly, allows creating landscape islands easily (as illustrated on the pictures included on this page). It also simplifies drainage solutions by decreasing the amount of run off water by allowing landscape islands to absorb a larger portion of the run off water.*

When employed, the planting islands between the sidewalk and the parking shall be a minimum of two (2) feet wide.

## ALLOWING BUMPER ENCROACHMENTS

*When flat edge is employed at head-in parking it is advised to provide a narrow (2 to 4 feet) planting strip in between sidewalk and parking pavement. This provides shoulder room at sidewalk and thus allows sidewalk to be sized narrower (4 feet is advised). It also breaks the pavement and allows simple drainage solutions as shown in the pictures below). This arrangement also allows cars' bumpers to encroach to the green and thus reduces the pavement size. All the layout solutions included here employ a twelve-inch bumper encroachment reduction in the parking space lengths. All the above mentioned solutions make a reduces the amount of pavement significantly especially where larger parking lots are employed at blocks with apartment buildings.*



*An alley with flat concrete edge with concrete head-in parking spaces that employs several landscape islands.*



*Flat concrete edge allows employment of landscape islands easily. The small ornamental trees that can grow in these islands reduces the formation of heat islands significantly.*



*A narrow landscape strip between parking spaces and sidewalk provides a break in pavement and allows employment of simple drainage solutions. On the figure right, notice the flagstone mini bridge break in the concrete pavement where a mini ditch allows the water in the narrow landscape island to drain into the larger landscape island's open drainage system created by attractive mini ditches.*

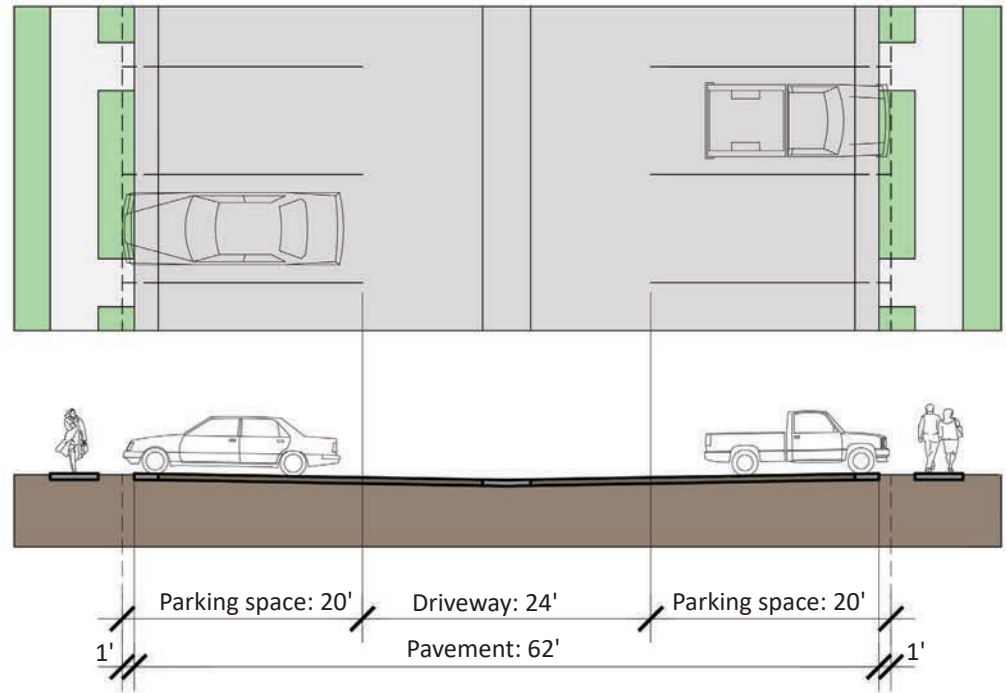


## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

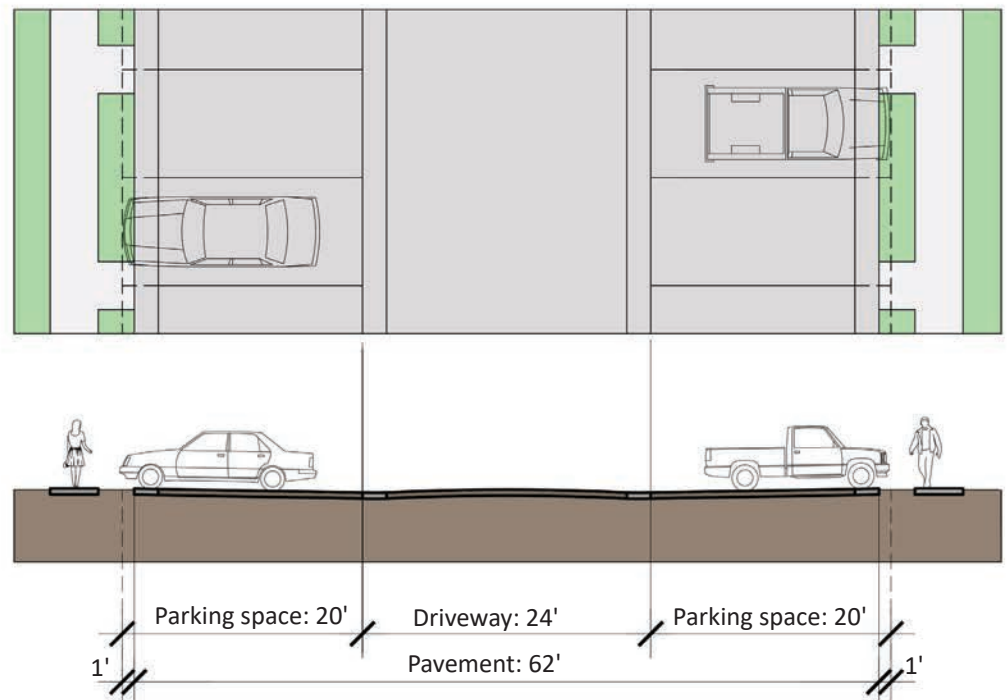
## A. HEAD-IN PARKING WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS - CENTRAL DRAINAGE

*This solution works well at large parking lots. A single concrete drainage channel placed at the center provides drainage. In heavy downfall events water may reach the landscape islands, which is desired since it reduces the amount of run off. Considering that the high volume run-off from large parking lots not only contributes to the flash floods, but also contaminates the water sources, reducing it should be taken as a serious public benefit objective.*



## B. HEAD-IN PARKING WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS - DRAINAGE ON TWO SIDES

*This solution works well where an alley or a driveway needs to be constructed before the parking spaces. The alley or the driveway has its own flat concrete edges and parking spaces are added later, if desired. The slope of the pavement may be adjusted to the desired run-off capacity and the availability of the surrounding landscape areas that can absorb water. This layout reduces the perceived scale of the pavement, as shown on the pictures provided on the previous page.*

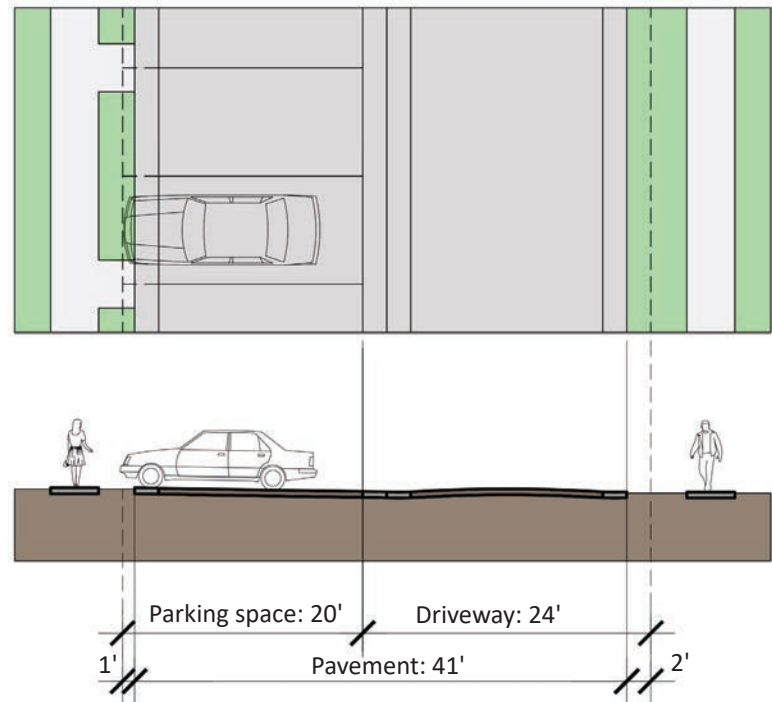


## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## C. HEAD-IN PARKING ON ONE SIDE WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS

*At some locations, due to the restrictions of the context, parking may be employed on only one side of the driveway. This layout addresses that particular condition.*



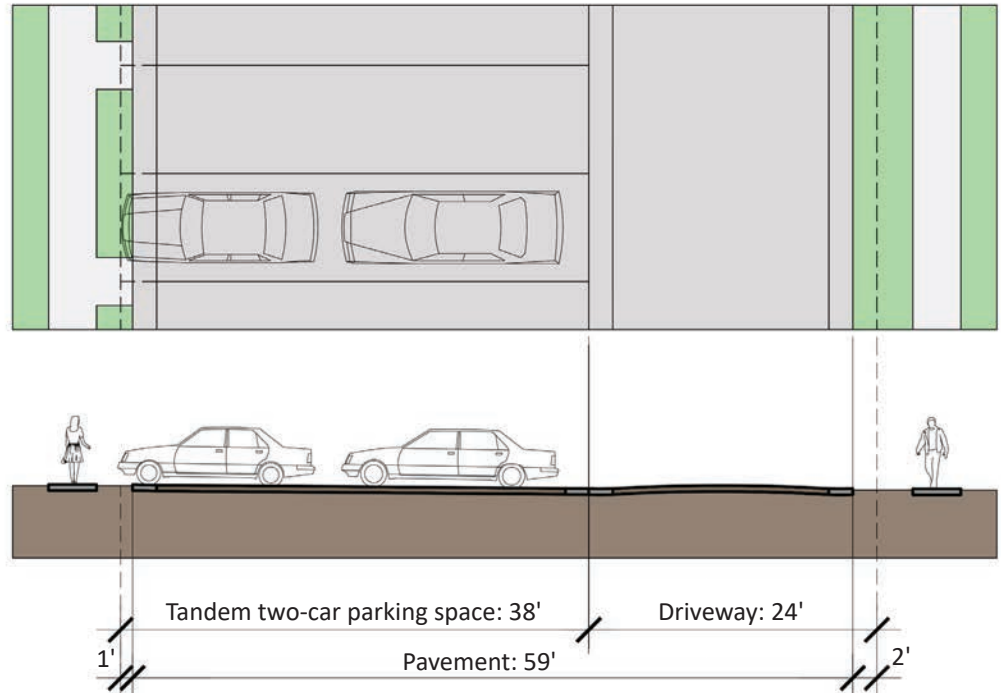
*An alley with flat concrete edges and flat edge parking spaces. Flat edges make it easier to employ landscape islands in various sizes. The modest landscaping employed in these islands create a lush environment and prevents formation of heat islands.*

## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

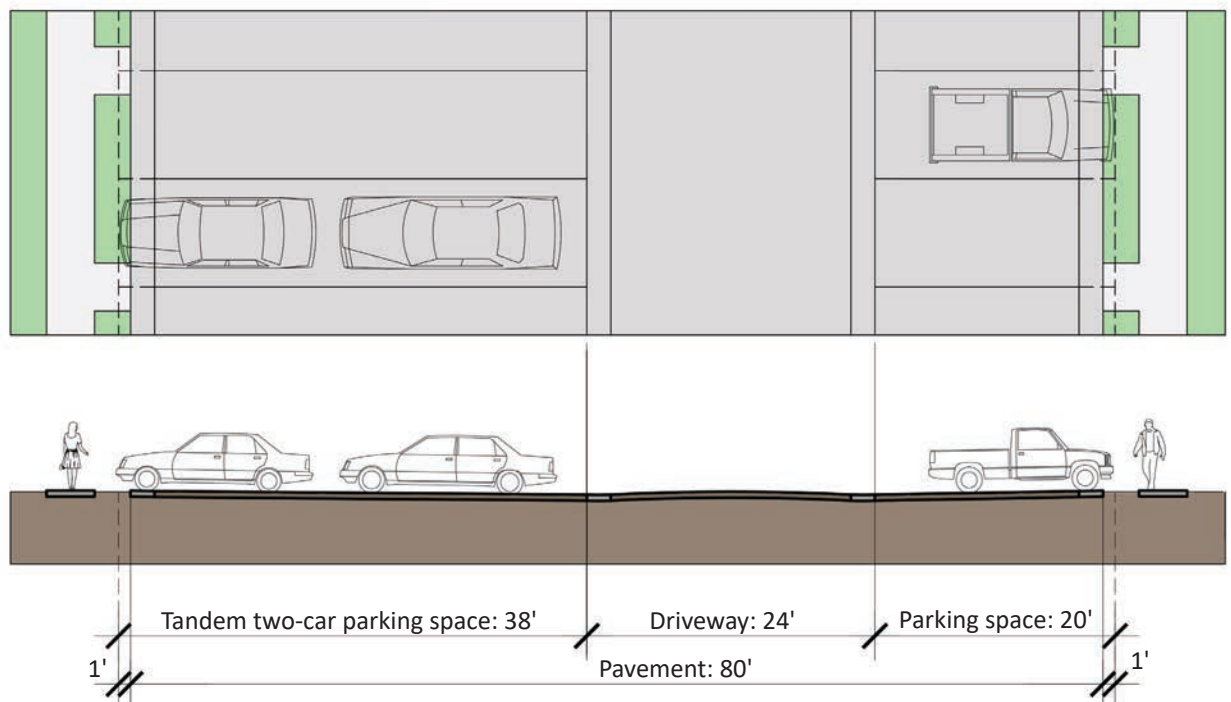
## D. HEAD-IN TANDEM PARKING ON ONE SIDE ONLY WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS

*Tandem parking is a solution that is permitted and encouraged at Lakeside Landing Special District Overlay. This layout is a good solution for a several lot types where a large number of spaces are needed within limited area on the lot. Tandem parking works well when both spaces are assigned to the same residential unit or business suite.*



## E. HEAD-IN PARKING ON ONE SIDE REGULAR PARKING ON THE OTHER SIDE

*This layout is included here to prevent confusion about parking space lengths when tandem parking is employed on one side regular head-in parking on the other.*



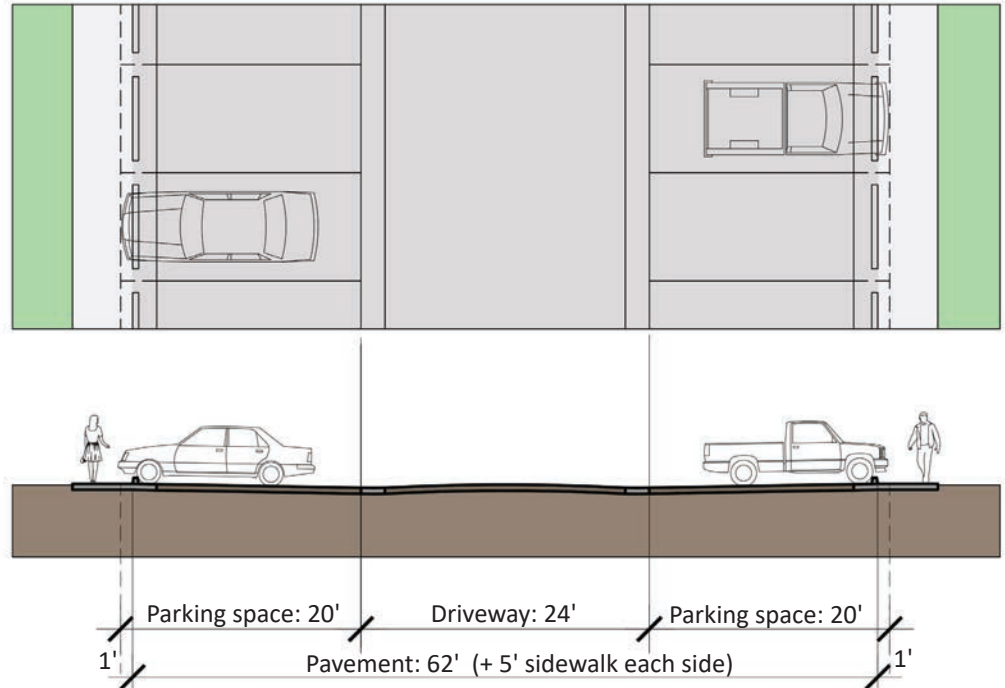
## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## F. HEAD-IN PARKING WITH ATTACHED SIDEWALKS AND NO CURBS

Head-in parking with attached sidewalks shall be used only when buildings are close to the driveway or the alley and shall not be used where the buildings are placed at thirty (30) feet or farther than the driveway or the alley.

*When detached sidewalk is not desirable, nor feasible, it is advised to attach the sidewalk at same grade and use wheel stoppers to delineate the parking space. This layout allows to switch to the detached sidewalk easily, when there is space. The sidewalk needs to be at least five feet wide when attached, because the bumper of the parked car is permitted to encroach to the sidewalk up to twelve inches.*



## SCREENING SURFACE PARKING ALONG THE STREET

*Surface parking visible from the sidewalk creates an unfriendly streetscape for pedestrians, therefore it should be avoided as much as possible. The following rules are intended (a) to avoid excessive parking along the street, and when parking is placed along the street, (b) to provide appropriate screening.*

- Along 70 (seventy) feet of the street frontage at any block face, surface parking shall have a setback of a minimum of 12 (thirty) feet to the street right-of-way. Along the rest of the frontage of block face, surface parking shall have a setback of a minimum of 30 (thirty) feet to the street right-of-way.
- There shall be no surface parking within twelve (12) feet of the street right-of-way.
- When surface parking is located closer than twenty (20) feet to the sidewalk, an opaque fence of a minimum of sixty (60) inches and a maximum of sixty six (66) inches tall, shall be installed along the parking spaces. A landscaping island with a minimum depth of five (5) feet shall be provided on the street side with a minimum of 1 SP of plant material employed for every 4 feet of fence. The initial plant material shall be chosen from the species approved by the City of Springville.



*Here, because of the limited space in front an entrance, detached sidewalk is not feasible. A wheel stopper is employed to delineate the parking space.*

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*This section provides guidance for infrastructure design that can help bicyclists and pedestrians safely navigate intersections and street crossings. The considerations outlined in this section are to serve as a guide. Each intersection and crossing design will vary in geometry and dimensions based on the specific context of any given location. The drawings, diagrams, and photos in this section serve the purpose of illustrating general design principles to be considered in the design and engineering process, and should not be literally translated and applied to intersections and crossings within Lakeside Landing without engineering analysis and design.*

*No matter what bikeway or trail types are being considered, the primary principles at intersections are:*

- *Slow turning speeds*
- *Maximize visibility*
- *Maintain pedestrian and bicycle priority*

### Basis for Guidance

*The guidance outlined in this section is based on the following sources, which are freely available online and should be consulted for more information and guidance:*

- *NACTO's Urban Bikeway Design Guide*
- *NACTO's Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*
- *FHWA's Separated Bike Lane Planning and Design Guide*

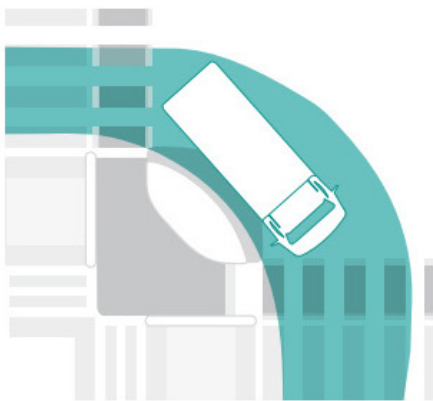
## ENHANCED AND PROTECTED INTERSECTIONS

### KEY CONSIDERATIONS

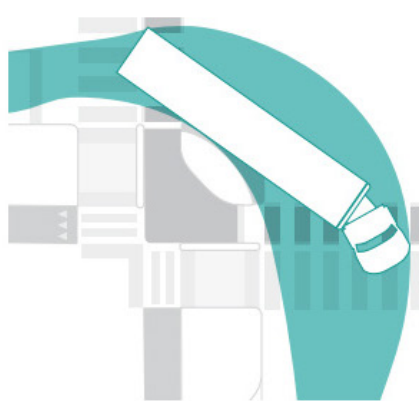
*Corner Turn Radius: The corner radius is the primary method to reduce vehicle turning speed. Some considerations:*

- *Radii should be small enough that passenger cars are discouraged from turning at speeds faster than 10 mph; this can be accomplished with an effective turn radius less than 18', usually resulting from a 10' to 15' curb radius*
- *May have a mountable override area (e.g., truck apron) to accommodate larger vehicles.*

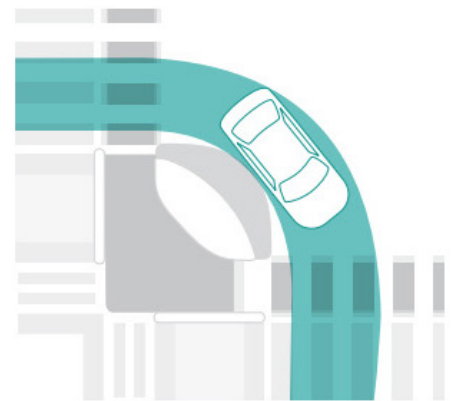
### Design Vehicle



### Control Vehicle



### Managed Vehicle



*Source: NACTO Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*

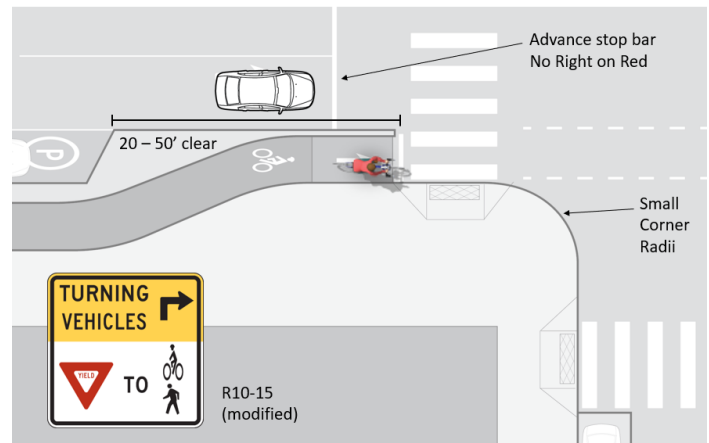
## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

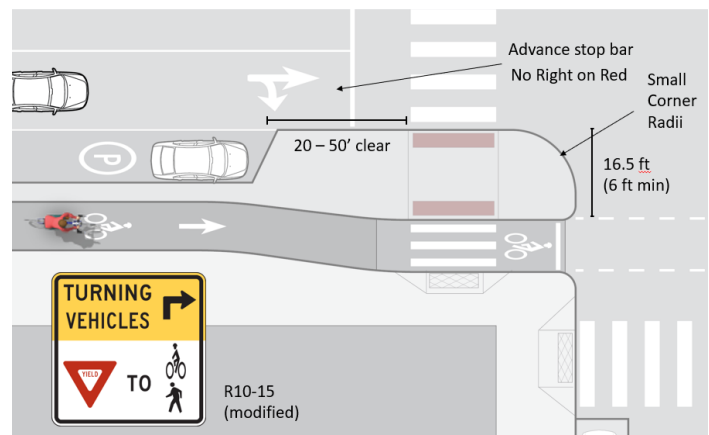
*Bikeway Approach: Bend-in or Bend out*

As a raised or separated bikeway approaches an intersection, it may be appropriate to taper it in towards the curb line or out away from the curb line; this is referred to as “bend-in” and “bend-out”

- *Tapering in puts vehicles and bicyclists in a similar field of vision for motorists on side streets and less space is required; a potential disadvantage is it puts bicyclists in close proximity to through and right turning vehicle traffic*



- *Tapering out allows right turning motorists to queue out of the way of rear through traffic while yielding to cyclists and positions right-turning motorists at an increased angle to more easily see cyclists; potential disadvantages are that this design is less familiar, requires more space, and increases chances of cyclist/pedestrian conflicts*



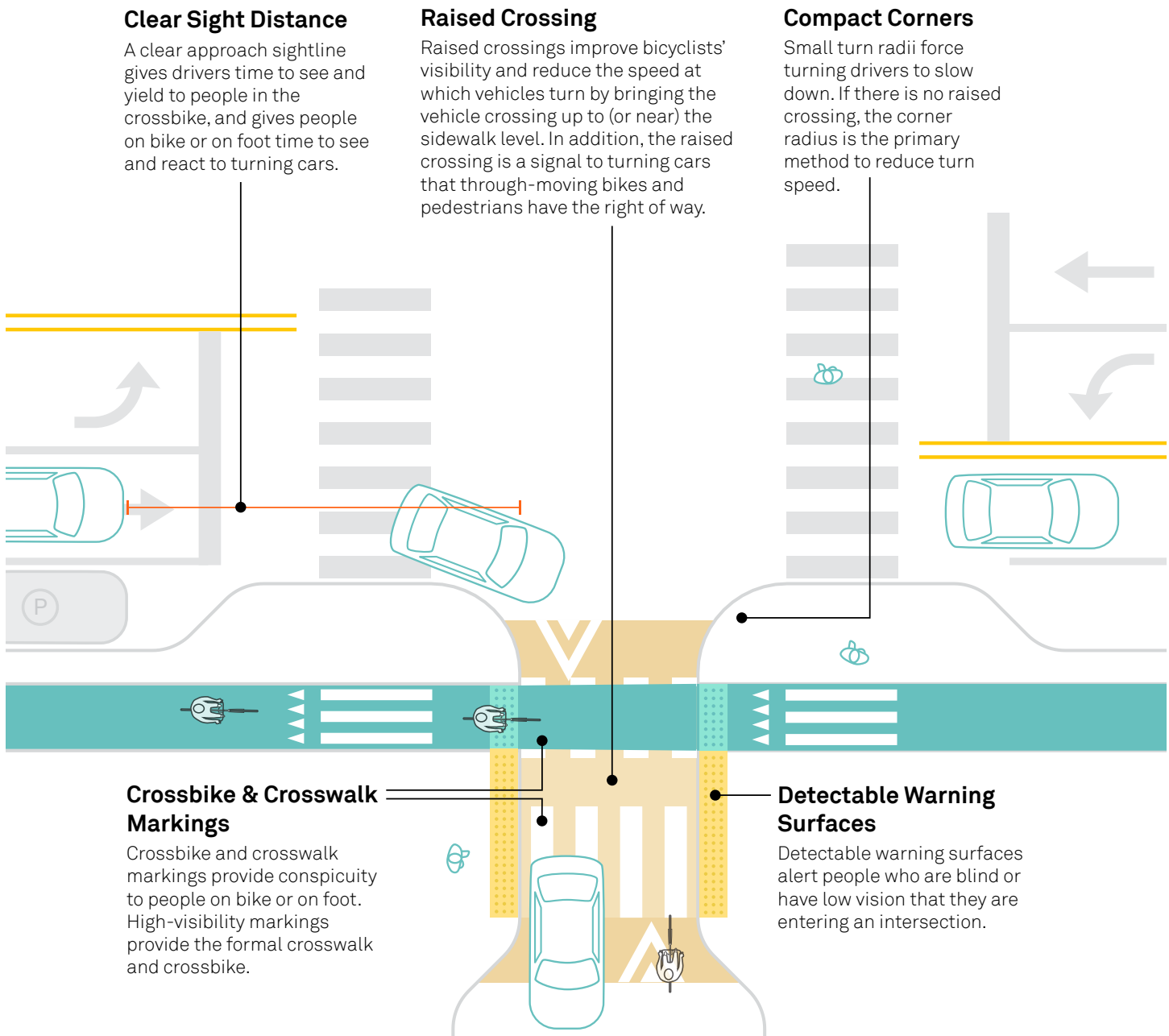
Source: FHWA Separated Bike Lane Planning & Design Guide

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Raised Crossings*

*It may be appropriate to incorporate raised crossings for raise bike lanes or sidepaths at intersections with minor streets in order to prioritize pedestrians and bicyclists and manage through and turning vehicle speeds.*



Source: NACTO *Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Crossbike / Bike Lane Line Extensions*

*Broken or skipped white lines with green bars can increase visibility and motorist yielding at intersections, further prioritizing bicyclists at intersections and crossings.*



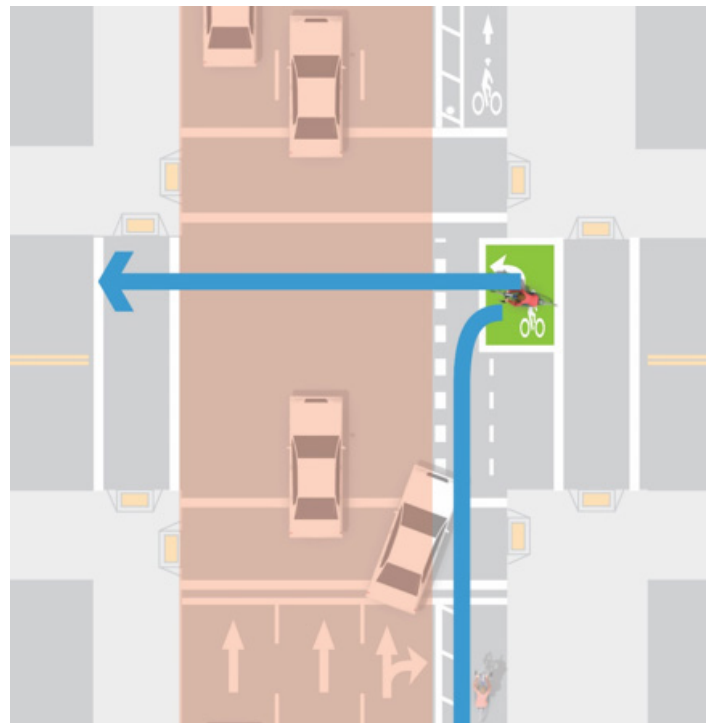
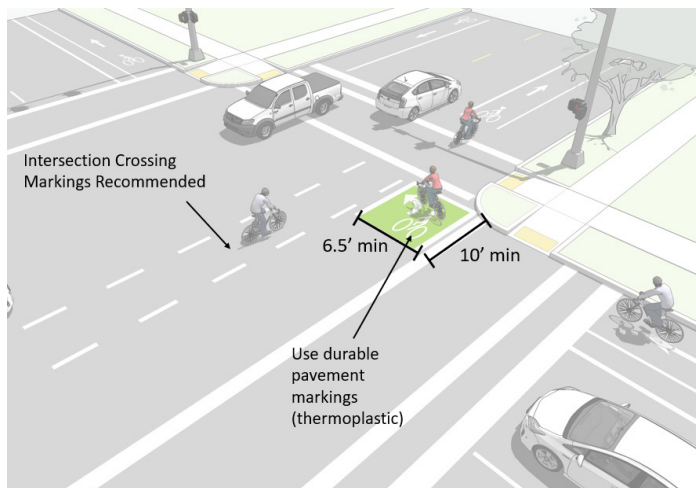
## BICYCLE LEFT TURNS

*Making left turns at intersections can present several conflicts for cyclists. This is especially true when multiple lanes are present and, under traditional circumstances where no special accommodations are made, cyclists are required to merge across one or more traffic lanes prior to the intersection.*

*Two-Stage Turn Queue Box*

*Two-stage turn queue boxes offer bicyclists a safe way to make left turns at single or multi-lane intersections from a right side separated bike lane or bike lane. The basic premise of the two-stage turn queue box is that bicyclists make left turns at intersections in two stages (see below illustrations). This lets bicyclists avoid conflicts with through vehicles by eliminating the need to merge across one or multiple lanes when approaching the intersection; however, this configuration typically results in increased delay for bicyclists, especially at signalized intersections, where bicyclists need to receive two separate green signal indications.*

*An added benefit of two-stage turn queue boxes is that bicyclists can be properly aligned with whatever facility exists on the crossing street. If intersecting a bicycle boulevard, the box can be placed in line with the crossing travel lane to ensure that cyclists are prioritized through the intersection. If intersecting a bike lane, the box can be placed to align cyclists with the crossing bike lane.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

### BICYCLE BOULEVARDS AT INTERSECTIONS

*Bicycle boulevards in Lakeside Landing are recommended along thoroughfares that should be designed to maintain low vehicle volumes and speeds. However, special considerations should be made at intersections. These corridors intersect with major and minor streets, and depending on if the intersection is controlled or not will dictate the appropriate treatment for getting bicyclists safely through the intersection. Controlled intersections are those that have 4-way stops or full traffic signals that give equal opportunity for vehicular, bicycle, and pedestrian traffic to move through the intersection without needing to find gaps in crossing traffic. Uncontrolled intersections commonly occur when minor streets cross major streets with a two-way stop.*

#### Bicycle Boulevards at Controlled Intersections

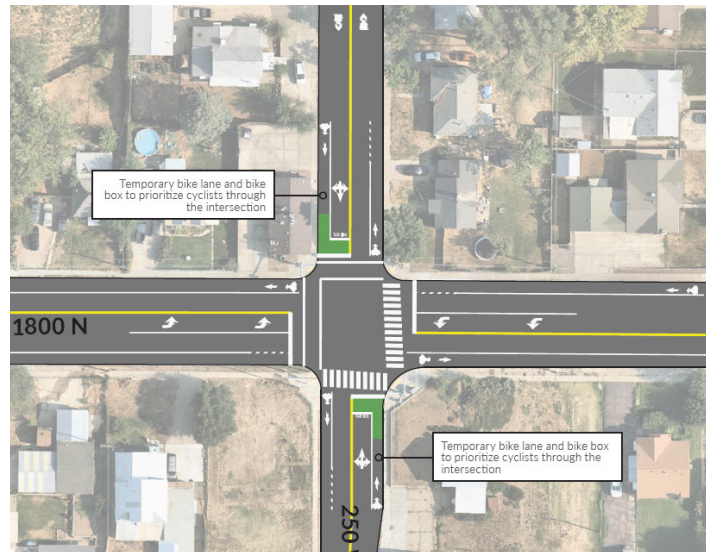
##### Bike Boxes

*Bike boxes are typically indicated by a green painted area placed in front of the stop bar of through vehicular travel lanes, behind the crosswalk. Bike boxes prioritize bicyclists through the intersection by positioning them in front of motorists. This configuration is especially important when a bike lane terminates at an intersection, and a share street or bicycle boulevard continues on the other side of the intersection.*



##### Bike Lane Approach

*Alternative to - or in conjunction with - bike boxes, short bike lane (50-100 ft) segments can be incorporated at the approach and exit of the intersection if space allows. This can organize modes through the intersection. In the case of a bike lane terminating, short bike lanes can allow bicyclists to worry about merging into a shared street once they've cleared the intersection as opposed to doing it in the middle of the intersection.*



#### Toucan Crossings

*Toucan crossings can be implemented at both controlled and non-controlled intersections. The name is derived from the fact that “two can” (meaning bicyclists and pedestrians) cross at the same time with a dedicated signal. Toucan crossings are often implemented in conjunction with traffic diverters to allow bicyclists/pedestrians to travel through, while vehicles can only make right-in / right-out turns, thus reducing potential conflicts and lowering the overall through traffic volumes along the corridor. Toucans require passive or active forms of bicycle detection.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Bicycle Boulevards at Non-controlled Intersections*

The appropriate treatment for getting bicyclists across streets at unsignalized intersections and mid-block crossings will vary depending on the characteristics of the cross street, including width (number of lanes) and traffic speeds and volumes. The decision matrix below outlines some basic guidance, but each crossing should be analyzed on a case by case basis.

| BIKE BOULEVARD CROSSING<br>CONTEXTUAL GUIDANCE<br>at unsignalized locations | Local Streets<br>15-25 mph |        | Collector Streets<br>25-30 mph |                                 |        | Arterial Streets<br>30-45 mph |                                 |        |        |                                 |        |        |                                 |
|-----------------------------------------------------------------------------|----------------------------|--------|--------------------------------|---------------------------------|--------|-------------------------------|---------------------------------|--------|--------|---------------------------------|--------|--------|---------------------------------|
|                                                                             |                            |        |                                |                                 |        |                               |                                 |        |        |                                 |        |        |                                 |
|                                                                             | 2 lane                     | 3 lane | 2 lane                         | 2 lane with<br>median<br>refuge | 3 lane | 2 lane                        | 2 lane with<br>median<br>refuge | 3 lane | 4 lane | 4 lane with<br>median<br>refuge | 5 lane | 6 lane | 6 lane with<br>median<br>refuge |
| FACILITY TYPE                                                               |                            |        |                                |                                 |        |                               |                                 |        |        |                                 |        |        |                                 |
| Warning Signage Only                                                        | EJ                         | EJ     | ✓                              | ✓                               | ✓      | EJ                            | EJ                              | EJ     | X      | X                               | X      | X      | X                               |
| Active Warning Beacon<br>(RRFB)                                             | X                          | EJ     | ✓                              | ✓                               | ✓      | ✓                             | ✓                               | ✓      | X      | ✓                               | X      | X      | X                               |
| Hybrid Beacon                                                               | X                          | X      | EJ                             | EJ                              | EJ     | EJ                            | ✓                               | ✓      | ✓      | ✓                               | ✓      | ✓      | ✓                               |

## LEGEND

|                       |    |
|-----------------------|----|
| Most Desirable        | ✓  |
| Engineering Judgement | EJ |
| Not Recommended       | X  |

*Warning Signage Only*

If cross street traffic volumes and speeds are low enough or if enough gaps in traffic are present, then crossing with warning signage only can be simple. Enhancing the crossing with medians, refuge islands, and crossing markings can improve visibility and prioritize people on bikes.

*Rectangular Rapid Flashing Beacons (RRFBs)*

RRFBs are active flashing beacons that are typically push button activated, but can also be activated by a passive sensor. Typically used in conjunction with warning signage, a marked crosswalk, and sometimes median refuge islands, RRFBs result in a higher motorist yield rate than just a signage and crosswalk markings alone, especially in lower-light situations. RRFBs are appropriate for minor streets and some major streets if medians can be incorporated and vehicle speeds are low enough. Where possible, a raise or protected waiting area that is accessible to the push button should be provided.



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

### Hybrid Beacon

*If the number of travel lanes and vehicle speeds require additional crossing safety and comfort, hybrid beacons should be considered. Hybrid beacons may be mid-block or at unsignalized intersections and stop traffic along the major street when pedestrians or bicyclists are present. Many hybrid beacon crossings are consolidated to one side, requiring bicyclists to move to one side of the street to cross the cross street, as shown in the image at right.*



### Traffic Circles

*Traffic circles are primarily traffic calming elements, but can be used at intersections of minor streets to enhance comfort and safety of people walking and biking.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## BICYCLE BOULEVARDS AT INTERSECTIONS

*Lakeside Landing proposes a robust pedestrian network, including a series of “pedestrian green streets”, which essentially function as linear parks that limit access by motor vehicles. These corridors often cross driveways, alleys, and minor and major streets at mid-block locations. The development plan includes the intent that raised crosswalks and pavement material changes should be used when pedestrian green streets cross driveways and alleys. This review recommends that similar attention be given to crossings of minor and major cross streets to extend the pedestrian green street network beyond single blocks. This also applies to paved trails that cross streets at mid-block locations.*

*The crossing treatments outlined for bicycle boulevard crossings also apply to pedestrian and trail mid-block crossings, and the principles for determining treatment type based on width and speed thresholds remain the same. In addition to the treatments previously covered, raised crossings, curb extensions, and pedestrian refuge islands may be incorporated.*

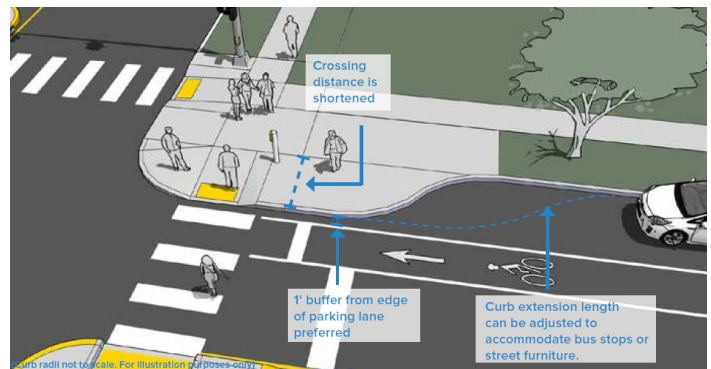
*Raised Crossings*

*Raised crossings prioritize pedestrians and bicyclists by slowing cross street traffic and allowing people crossing to remain at sidewalk level through the intersection. Raised crossings can be incorporated in conjunction with warning signage, RRFBs, and hybrid beacons.*

*Curb Extensions*

*Curb extensions, or bulb-outs, can be installed at intersection corners or mid-block crossings. They narrow the road to encourage slower through and turning speeds and shorten the crossing distance for bicyclists and pedestrians.*

*This review recommends that curb extensions should be implemented at all intersections and mid-block crossings, where feasible.*



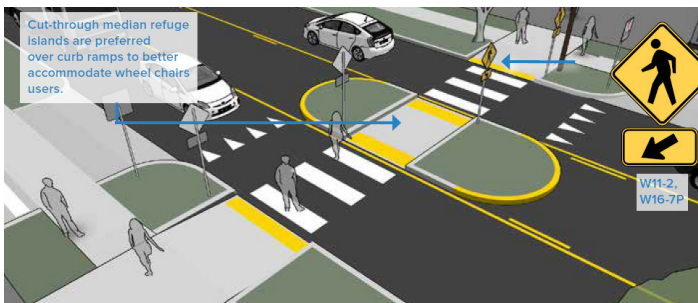
## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Refuge Island*

*Refuge islands are painted or physical medians that a) shorten crossing distances and b) allow pedestrians and bicyclists to focus on only one direction of cross traffic at a time.*

- *Refuge islands must meet accessibility standards, preferably using at-grade passage as opposed to ramps and landings.*
- *Island should be at least 6 ft. wide (wider to accommodate larger pedal cycles) and 20 ft. long*
- *Median landscaping should not compromise the visibility of people crossing through the refuge island. Plantings no higher than 18" tall.*



## Intersection and Crossing Treatments

Intersection and crossing treatments shall be constructed as designated on the opposite map. Intersection recommendations are based on planning-level understanding of the street network and anticipated volumes. Engineering judgement should be exercised when final intersection design is completed, accounting for specific traffic patterns, intersection geometry, and site constraints.

## Legend

■ ■ ■ Raised or Separated Bike Lane

● ● ● Sidepath / Trail

— — — Bicycle Lane

■ ■ ■ Bicycle Boulevard

— — — Pedestrian Green Street

- (A) Raised Crosswalk
- (B) Enhanced/Protected Intersection
- (C) Toucan Crossing with Traffic Diverters
- (D) Traffic Signal
- (E) RRFB or Hybrid Beacon (TBD)

## Article 8 - THOROUGHFARE DESIGN STANDARDS



## **Attachment 2**

### **Amendment Summary Table**

**Lakeside Landing Special District Overlay**  
**Summary of Proposed Amendments**

Amendment Number    Document Location

Proposed Amendment

**Lot Types**

|   |                                                                          |                                                                                                                                                               |
|---|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Page 38, 5. Cottage Lot Type:                                            | <i>Revise the rear zone side street setback as <b>6 feet minimum</b>. (Currently this setback is listed as 12 feet minimum.)</i>                              |
| 2 | Page 50, 17. Courtyard apartment Building Lot type:                      | <i>Delete Note 1 that refers to a rear zone.</i>                                                                                                              |
| 3 | Page 53, 20. Main Street Slot Townhouse Lot Type                         | <i>Delete Note 7</i>                                                                                                                                          |
| 4 | Page 57, 24. Compact Urban Townhouse Lot Type                            | <i>Reduce the <b>minimum lot size to 1,000 s.f. and minimum frontage to 14 feet</b></i>                                                                       |
| 5 | Page 59, 26. Liner Building Lot Type:                                    | <i>Revise the <b>height requirement as 2 stories / 32 feet max.</b> (Currently it is 1 ½ stories /32 feet max.)</i>                                           |
| 6 | Page 60, 27. Neighborhood Store, Restaurant, or Civic Building Lot Type: | <i>Eliminate the <b>minimum lot size, minimum street frontage and depth requirements</b>. Revise the <b>building setback at street as 4 feet minimum</b>.</i> |
| 7 | Page 61a:                                                                | <i>Add the attached new lot type: <b>29. Parking Structure Lot Type</b> and permit it within <b>T5, T5i and T6 Transects</b>.</i>                             |

**Parking Lot Design and Thoroughfare Standards**

|   |                                     |                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Page 93a – 93e:                     | <i>Incorporate the attached “<b>11-9-803 Parking Layouts</b>” pages as part of the Article 8 – Thoroughfare Standards.</i>                                                                                                                                                                                                                                                                      |
| 2 | Page 93f-93o:                       | <i>Incorporate the attached “<b>11-9-804 Intersection Design</b>” pages as part of the Article 8 – Thoroughfare Standards.</i>                                                                                                                                                                                                                                                                  |
| 3 | Page 93p:                           | <i>Create a page called <b>additional parking measures</b> that includes the following:</i>                                                                                                                                                                                                                                                                                                     |
| 4 | Page 103 E. Pedestrian Green Street | <i>Add the following rule as #4 to the list: 4. Along the Pedestrian Green Street, building setbacks to street shall be 12 feet minimum within T3 and T4, 10 feet minimum, within T5, and 8 feet minimum within T5i and T6 Transects; the porch setbacks to the street shall be 4 feet minimum within T3 and T4, 2 feet minimum, within T5, and 0 feet minimum within T5i and T6 Transects.</i> |

**Process**

|   |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Page 18: Revise rule 2 to read: | <p>2. Densities shall be calculated per application, per transect. In the Southern Part (shown on this page), up to 15% of the maximum permitted yield of units within any development phase may be carried forward (sent) to future (receiving) phases within the Southern Part subject to the following conditions</p> <ul style="list-style-type: none"> <li>a. The carried forward units must be utilized and identified on a complete LLSDO Preliminary Plan application within five years from approval of the Preliminary Plan from which the units are being carried forward.</li> <li>b. No block into which units are carried forward may exceed its maximum permitted unit count by more than 15%.</li> <li>c. The total unit count for the Southern Part shall not exceed that maximum unit count established in the regulating plan.</li> <li>d. All other requirements of the LLSDO shall be met by the sending and receiving phases.</li> </ul> <p>No density transfers are permitted across transects, but allowed within an application between the blocks within the same transect.</p> |
|---|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Recommend Approval

Recommend Denial

Neutral

## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*The parking layouts included in this subsection aimed at reducing excessive pavement and preventing formation of heat islands. Even though providing adequate parking is essential in creating a well-served neighborhood, there are ways to maximize landscaped areas and decrease the paved areas that create heat islands easily in Springville's climate zone in summer months. Following are few design solutions that achieve this. The layouts corresponding these solutions and the dimensional standards provided here shall guide the parking lot design within Lakeside Landing Special District Overlay.*

## FLAT EDGE INSTEAD OF REGULAR CURB

*Employing flat edges instead of regular curbs not only decreases the amount of pavement, but also, and more importantly, allows creating landscape islands easily (as illustrated on the pictures included on this page). It also simplifies drainage solutions by decreasing the amount of run off water by allowing landscape islands to absorb a larger portion of the run off water.*

When employed, the planting islands between the sidewalk and the parking shall be a minimum of two (2) feet wide.

## ALLOWING BUMPER ENCROACHMENTS

*When flat edge is employed at head-in parking it is advised to provide a narrow (2 to 4 feet) planting strip in between sidewalk and parking pavement. This provides shoulder room at sidewalk and thus allows sidewalk to be sized narrower (4 feet is advised). It also breaks the pavement and allows simple drainage solutions as shown in the pictures below). This arrangement also allows cars' bumpers to encroach to the green and thus reduces the pavement size. All the layout solutions included here employ a twelve-inch bumper encroachment reduction in the parking space lengths. All the above mentioned solutions make a reduces the amount of pavement significantly especially where larger parking lots are employed at blocks with apartment buildings.*



*An alley with flat concrete edge with concrete head-in parking spaces that employs several landscape islands.*



*Flat concrete edge allows employment of landscape islands easily. The small ornamental trees that can grow in these islands reduces the formation of heat islands significantly.*



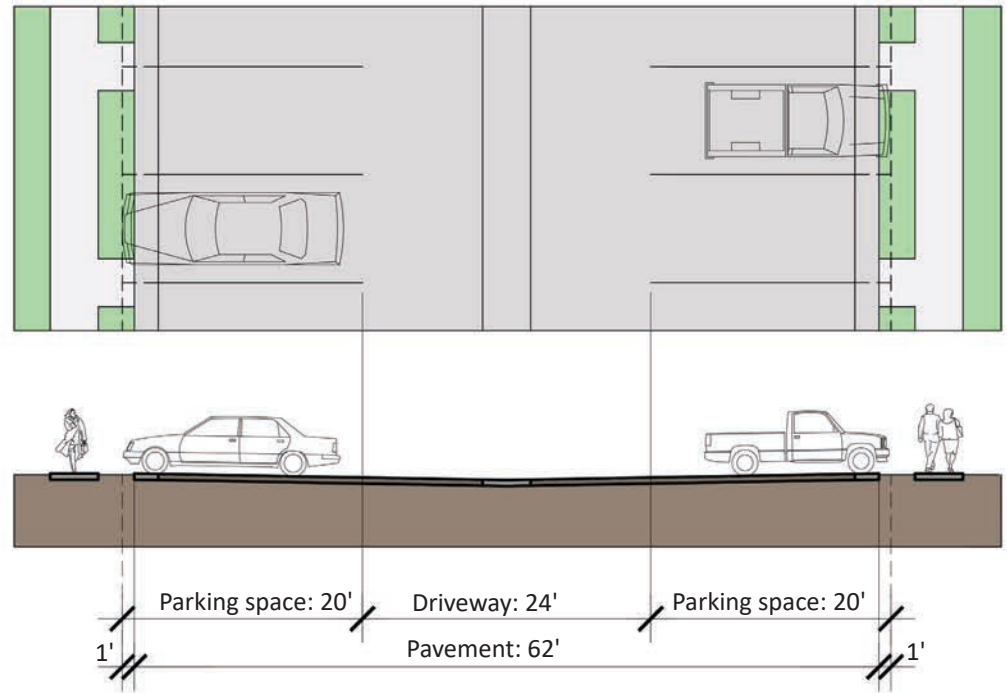
*A narrow landscape strip between parking spaces and sidewalk provides a break in pavement and allows employment of simple drainage solutions. On the figure right, notice the flagstone mini bridge break in the concrete pavement where a mini ditch allows the water in the narrow landscape island to drain into the larger landscape island's open drainage system created by attractive mini ditches.*

## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

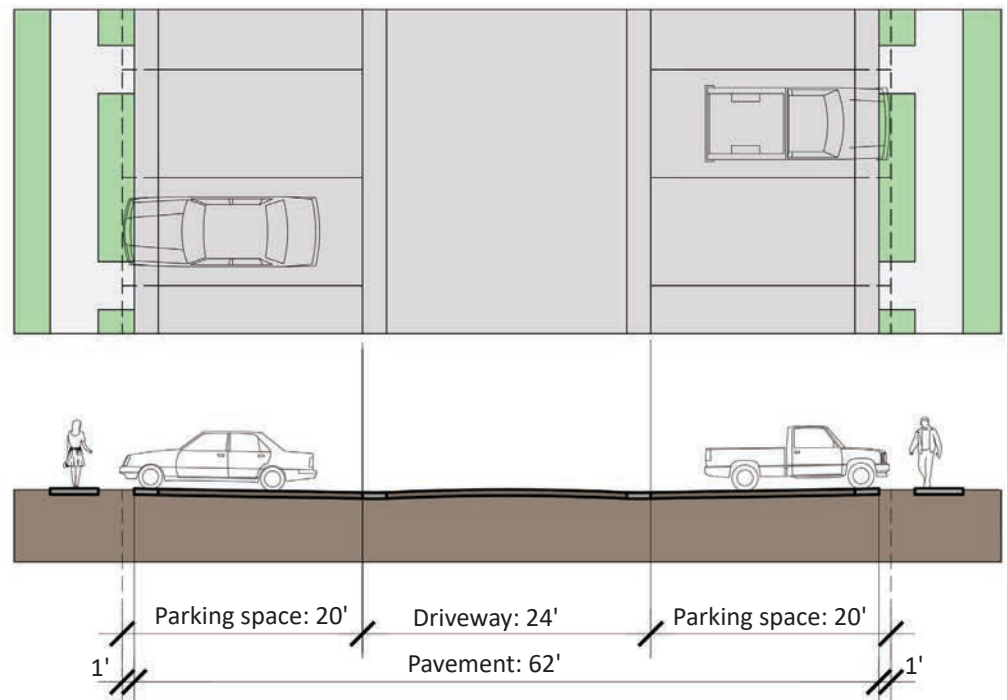
## A. HEAD-IN PARKING WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS - CENTRAL DRAINAGE

*This solution works well at large parking lots. A single concrete drainage channel placed at the center provides drainage. In heavy downfall events water may reach the landscape islands, which is desired since it reduces the amount of run off. Considering that the high volume run-off from large parking lots not only contributes to the flash floods, but also contaminates the water sources, reducing it should be taken as a serious public benefit objective.*



## B. HEAD-IN PARKING WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS - DRAINAGE ON TWO SIDES

*This solution works well where an alley or a driveway needs to be constructed before the parking spaces. The alley or the driveway has its own flat concrete edges and parking spaces are added later, if desired. The slope of the pavement may be adjusted to the desired run-off capacity and the availability of the surrounding landscape areas that can absorb water. This layout reduces the perceived scale of the pavement, as shown on the pictures provided on the previous page.*

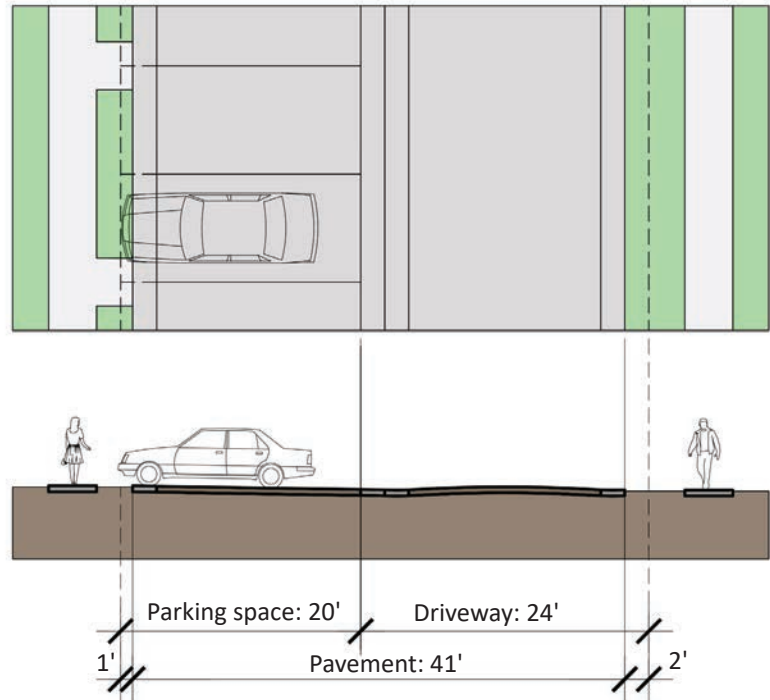


## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## C. HEAD-IN PARKING ON ONE SIDE WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS

*At some locations, due to the restrictions of the context, parking may be employed on only one side of the driveway. This layout addresses that particular condition.*



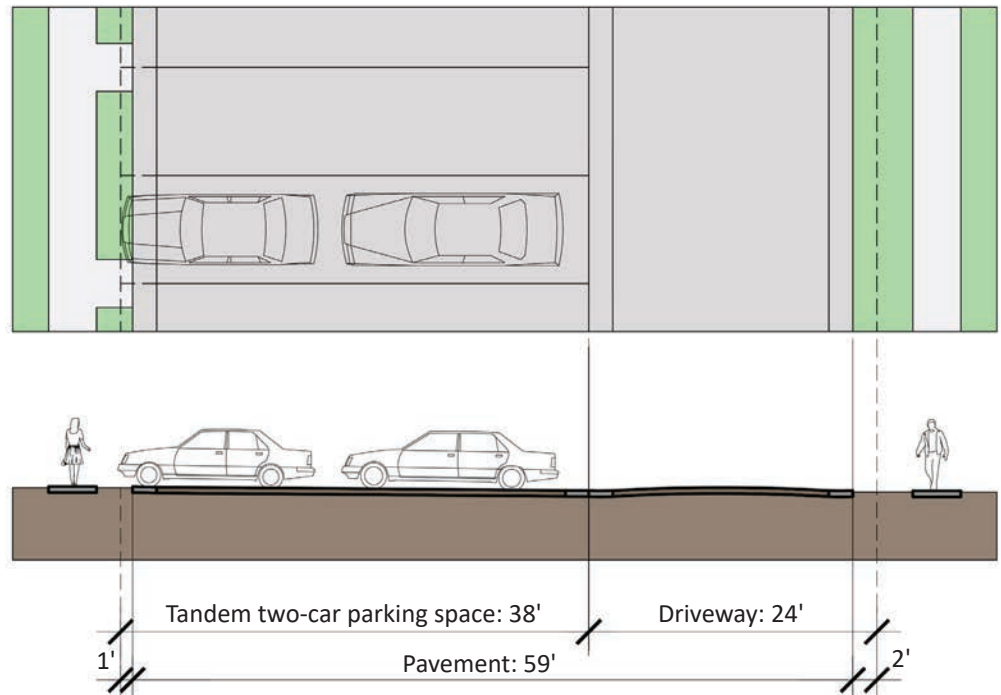
*An alley with flat concrete edges and flat edge parking spaces. Flat edges make it easier to employ landscape islands in various sizes. The modest landscaping employed in these islands create a lush environment and prevents formation of heat islands.*

## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

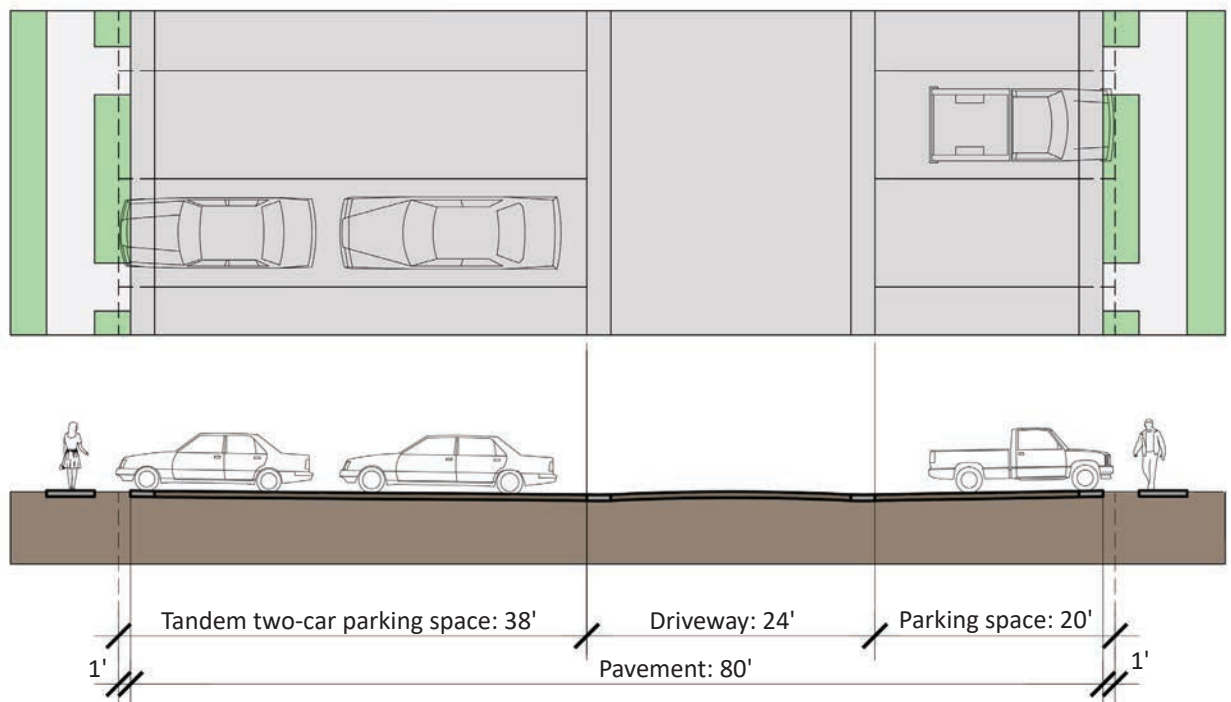
## D. HEAD-IN TANDEM PARKING ON ONE SIDE ONLY WITH FLAT CONCRETE EDGE AND DETACHED SIDEWALKS

*Tandem parking is a solution that is permitted and encouraged at Lakeside Landing Special District Overlay. This layout is a good solution for a several lot types where a large number of spaces are needed within limited area on the lot. Tandem parking works well when both spaces are assigned to the same residential unit or business suite.*



## E. HEAD-IN PARKING ON ONE SIDE REGULAR PARKING ON THE OTHER SIDE

*This layout is included here to prevent confusion about parking space lengths when tandem parking is employed on one side regular head-in parking on the other.*



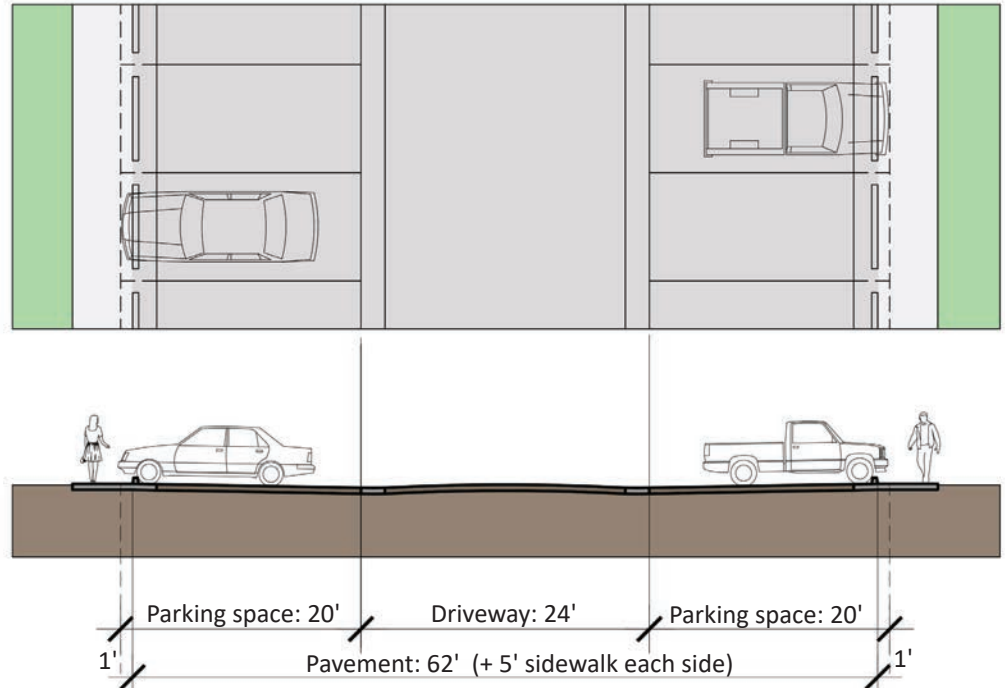
## 11-9-803 Parking Layouts

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## F. HEAD-IN PARKING WITH ATTACHED SIDEWALKS AND NO CURBS

Head-in parking with attached sidewalks shall be used only when buildings are close to the driveway or the alley and shall not be used where the buildings are placed at thirty (30) feet or farther than the driveway or the alley.

*When detached sidewalk is not desirable, nor feasible, it is advised to attach the sidewalk at same grade and use wheel stoppers to delineate the parking space. This layout allows to switch to the detached sidewalk easily, when there is space. The sidewalk needs to be at least five feet wide when attached, because the bumper of the parked car is permitted to encroach to the sidewalk up to twelve inches.*



## SCREENING SURFACE PARKING ALONG THE STREET

*Surface parking visible from the sidewalk creates an unfriendly streetscape for pedestrians, therefore it should be avoided as much as possible. The following rules are intended (a) to avoid excessive parking along the street, and when parking is placed along the street, (b) to provide appropriate screening.*

- Along 70 (seventy) feet of the street frontage at any block face, surface parking shall have a setback of a minimum of 12 (thirty) feet to the street right-of-way. Along the rest of the frontage of block face, surface parking shall have a setback of a minimum of 30 (thirty) feet to the street right-of-way.
- There shall be no surface parking within twelve (12) feet of the street right-of-way.
- When surface parking is located closer than twenty (20) feet to the sidewalk, an opaque fence of a minimum of sixty (60) inches and a maximum of sixty six (66) inches tall, shall be installed along the parking spaces. A landscaping island with a minimum depth of five (5) feet shall be provided on the street side with a minimum of 1 SP of plant material employed for every 4 feet of fence. The initial plant material shall be chosen from the species approved by the City of Springville.



*Here, because of the limited space in front an entrance, detached sidewalk is not feasible. A wheel stopper is employed to delineate the parking space.*

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*This section provides guidance for infrastructure design that can help bicyclists and pedestrians safely navigate intersections and street crossings. The considerations outlined in this section are to serve as a guide. Each intersection and crossing design will vary in geometry and dimensions based on the specific context of any given location. The drawings, diagrams, and photos in this section serve the purpose of illustrating general design principles to be considered in the design and engineering process, and should not be literally translated and applied to intersections and crossings within Lakeside Landing without engineering analysis and design.*

*No matter what bikeway or trail types are being considered, the primary principles at intersections are:*

- *Slow turning speeds*
- *Maximize visibility*
- *Maintain pedestrian and bicycle priority*

### Basis for Guidance

*The guidance outlined in this section is based on the following sources, which are freely available online and should be consulted for more information and guidance:*

- *NACTO's Urban Bikeway Design Guide*
- *NACTO's Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*
- *FHWA's Separated Bike Lane Planning and Design Guide*

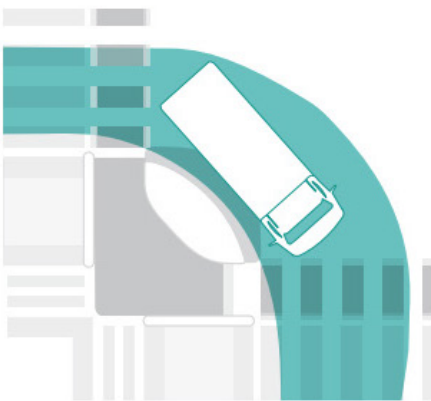
## ENHANCED AND PROTECTED INTERSECTIONS

### KEY CONSIDERATIONS

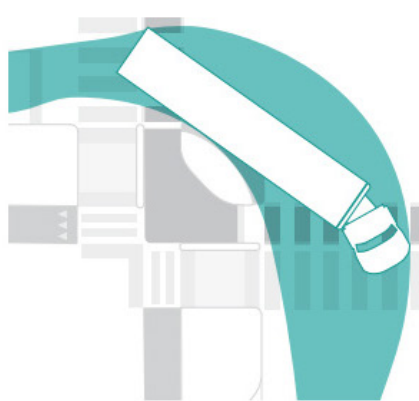
*Corner Turn Radius: The corner radius is the primary method to reduce vehicle turning speed. Some considerations:*

- *Radii should be small enough that passenger cars are discouraged from turning at speeds faster than 10 mph; this can be accomplished with an effective turn radius less than 18', usually resulting from a 10' to 15' curb radius*
- *May have a mountable override area (e.g., truck apron) to accommodate larger vehicles.*

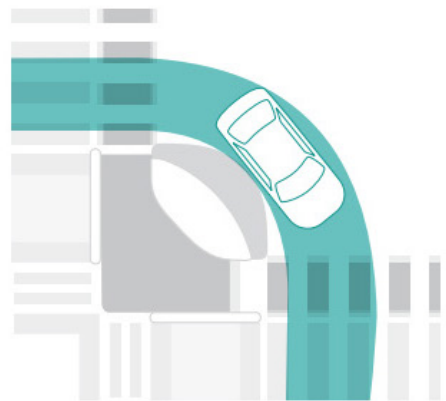
### Design Vehicle



### Control Vehicle



### Managed Vehicle



*Source: NACTO Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*

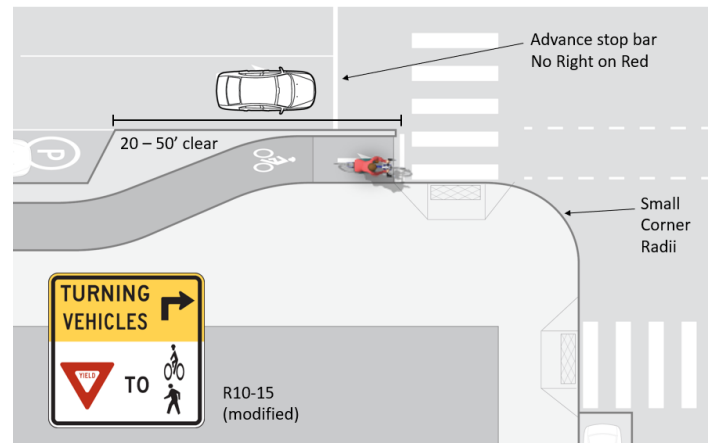
## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

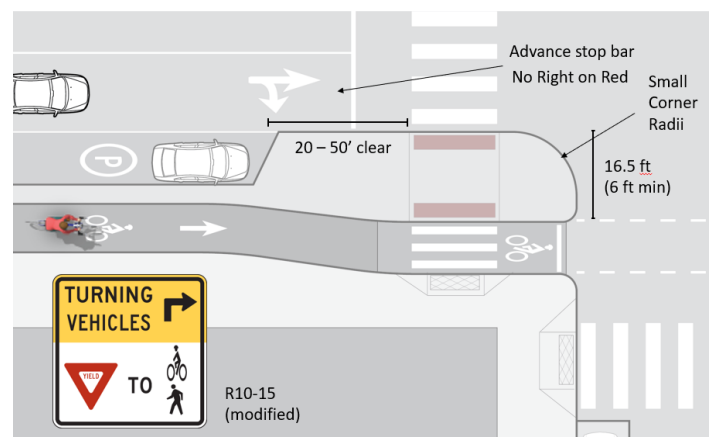
*Bikeway Approach: Bend-in or Bend out*

As a raised or separated bikeway approaches an intersection, it may be appropriate to taper it in towards the curb line or out away from the curb line; this is referred to as “bend-in” and “bend-out”

- *Tapering in puts vehicles and bicyclists in a similar field of vision for motorists on side streets and less space is required; a potential disadvantage is it puts bicyclists in close proximity to through and right turning vehicle traffic*



- *Tapering out allows right turning motorists to queue out of the way of rear through traffic while yielding to cyclists and positions right-turning motorists at an increased angle to more easily see cyclists; potential disadvantages are that this design is less familiar, requires more space, and increases chances of cyclist/pedestrian conflicts*



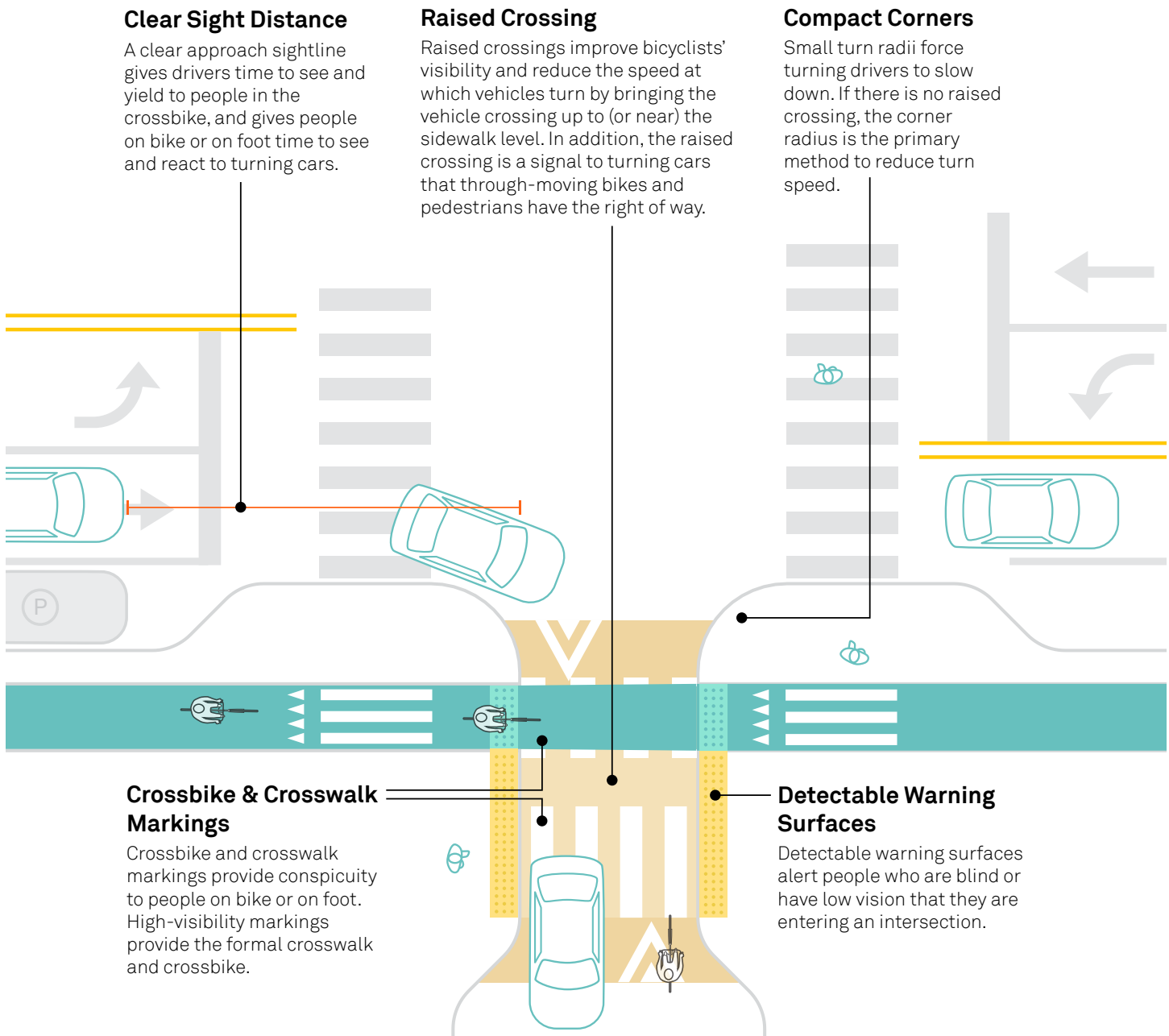
Source: FHWA Separated Bike Lane Planning & Design Guide

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Raised Crossings*

*It may be appropriate to incorporate raised crossings for raise bike lanes or sidepaths at intersections with minor streets in order to prioritize pedestrians and bicyclists and manage through and turning vehicle speeds.*



Source: NACTO *Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings*

## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Crossbike / Bike Lane Line Extensions*

*Broken or skipped white lines with green bars can increase visibility and motorist yielding at intersections, further prioritizing bicyclists at intersections and crossings.*



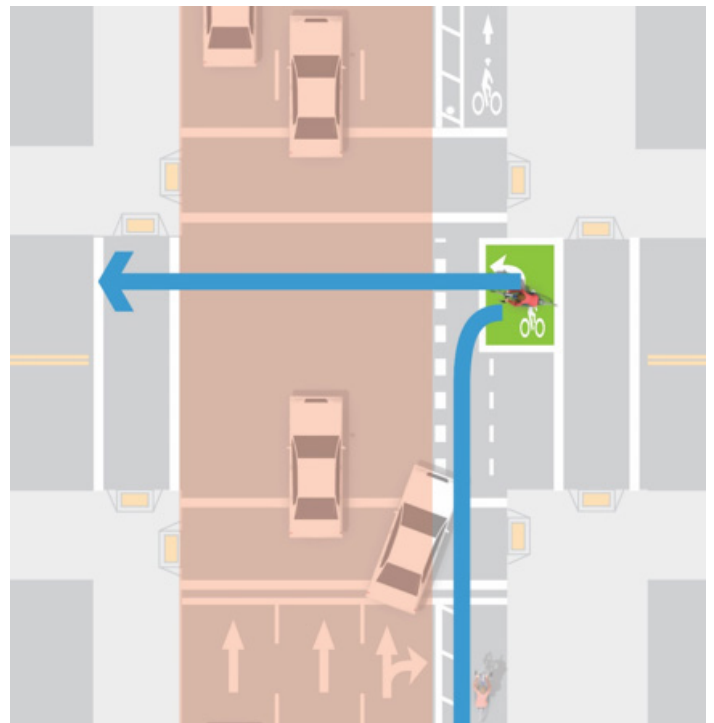
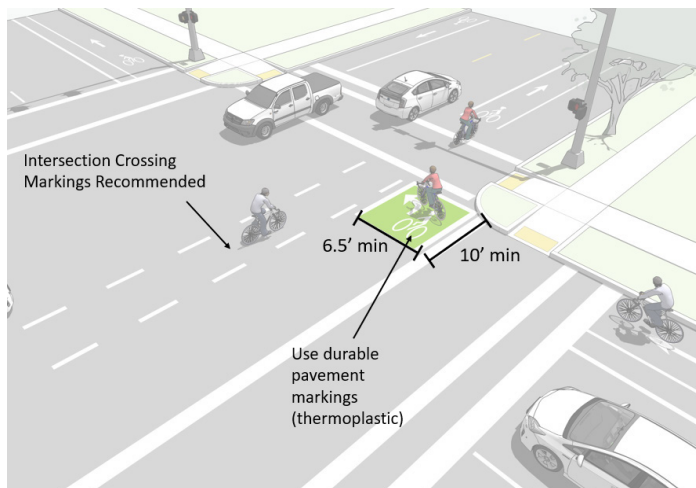
## BICYCLE LEFT TURNS

*Making left turns at intersections can present several conflicts for cyclists. This is especially true when multiple lanes are present and, under traditional circumstances where no special accommodations are made, cyclists are required to merge across one or more traffic lanes prior to the intersection.*

*Two-Stage Turn Queue Box*

*Two-stage turn queue boxes offer bicyclists a safe way to make left turns at single or multi-lane intersections from a right side separated bike lane or bike lane. The basic premise of the two-stage turn queue box is that bicyclists make left turns at intersections in two stages (see below illustrations). This lets bicyclists avoid conflicts with through vehicles by eliminating the need to merge across one or multiple lanes when approaching the intersection; however, this configuration typically results in increased delay for bicyclists, especially at signalized intersections, where bicyclists need to receive two separate green signal indications.*

*An added benefit of two-stage turn queue boxes is that bicyclists can be properly aligned with whatever facility exists on the crossing street. If intersecting a bicycle boulevard, the box can be placed in line with the crossing travel lane to ensure that cyclists are prioritized through the intersection. If intersecting a bike lane, the box can be placed to align cyclists with the crossing bike lane.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

### BICYCLE BOULEVARDS AT INTERSECTIONS

*Bicycle boulevards in Lakeside Landing are recommended along thoroughfares that should be designed to maintain low vehicle volumes and speeds. However, special considerations should be made at intersections. These corridors intersect with major and minor streets, and depending on if the intersection is controlled or not will dictate the appropriate treatment for getting bicyclists safely through the intersection. Controlled intersections are those that have 4-way stops or full traffic signals that give equal opportunity for vehicular, bicycle, and pedestrian traffic to move through the intersection without needing to find gaps in crossing traffic. Uncontrolled intersections commonly occur when minor streets cross major streets with a two-way stop.*

#### Bicycle Boulevards at Controlled Intersections

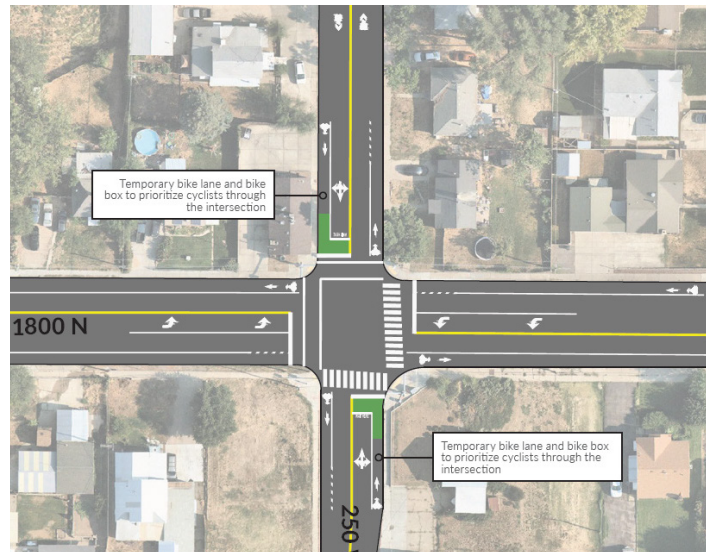
##### Bike Boxes

*Bike boxes are typically indicated by a green painted area placed in front of the stop bar of through vehicular travel lanes, behind the crosswalk. Bike boxes prioritize bicyclists through the intersection by positioning them in front of motorists. This configuration is especially important when a bike lane terminates at an intersection, and a share street or bicycle boulevard continues on the other side of the intersection.*



##### Bike Lane Approach

*Alternative to - or in conjunction with - bike boxes, short bike lane (50-100 ft) segments can be incorporated at the approach and exit of the intersection if space allows. This can organize modes through the intersection. In the case of a bike lane terminating, short bike lanes can allow bicyclists to worry about merging into a shared street once they've cleared the intersection as opposed to doing it in the middle of the intersection.*



#### Toucan Crossings

*Toucan crossings can be implemented at both controlled and non-controlled intersections. The name is derived from the fact that “two can” (meaning bicyclists and pedestrians) cross at the same time with a dedicated signal. Toucan crossings are often implemented in conjunction with traffic diverters to allow bicyclists/pedestrians to travel through, while vehicles can only make right-in / right-out turns, thus reducing potential conflicts and lowering the overall through traffic volumes along the corridor. Toucans require passive or active forms of bicycle detection.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Bicycle Boulevards at Non-controlled Intersections*

The appropriate treatment for getting bicyclists across streets at unsignalized intersections and mid-block crossings will vary depending on the characteristics of the cross street, including width (number of lanes) and traffic speeds and volumes. The decision matrix below outlines some basic guidance, but each crossing should be analyzed on a case by case basis.

| BIKE BOULEVARD CROSSING<br>CONTEXTUAL GUIDANCE<br>at unsignalized locations | Local Streets<br>15-25 mph |        | Collector Streets<br>25-30 mph |                                 |        | Arterial Streets<br>30-45 mph |                                 |        |        |                                 |        |        |                                 |
|-----------------------------------------------------------------------------|----------------------------|--------|--------------------------------|---------------------------------|--------|-------------------------------|---------------------------------|--------|--------|---------------------------------|--------|--------|---------------------------------|
|                                                                             |                            |        |                                |                                 |        |                               |                                 |        |        |                                 |        |        |                                 |
|                                                                             | 2 lane                     | 3 lane | 2 lane                         | 2 lane with<br>median<br>refuge | 3 lane | 2 lane                        | 2 lane with<br>median<br>refuge | 3 lane | 4 lane | 4 lane with<br>median<br>refuge | 5 lane | 6 lane | 6 lane with<br>median<br>refuge |
| FACILITY TYPE                                                               |                            |        |                                |                                 |        |                               |                                 |        |        |                                 |        |        |                                 |
| Warning Signage Only                                                        | EJ                         | EJ     | ✓                              | ✓                               | ✓      | EJ                            | EJ                              | EJ     | X      | X                               | X      | X      | X                               |
| Active Warning Beacon<br>(RRFB)                                             | X                          | EJ     | ✓                              | ✓                               | ✓      | ✓                             | ✓                               | ✓      | X      | ✓                               | X      | X      | X                               |
| Hybrid Beacon                                                               | X                          | X      | EJ                             | EJ                              | EJ     | EJ                            | ✓                               | ✓      | ✓      | ✓                               | ✓      | ✓      | ✓                               |

| LEGEND                |    |
|-----------------------|----|
| Most Desirable        | ✓  |
| Engineering Judgement | EJ |
| Not Recommended       | X  |

*Warning Signage Only*

If cross street traffic volumes and speeds are low enough or if enough gaps in traffic are present, then crossing with warning signage only can be simple. Enhancing the crossing with medians, refuge islands, and crossing markings can improve visibility and prioritize people on bikes.

*Rectangular Rapid Flashing Beacons (RRFBs)*

RRFBs are active flashing beacons that are typically push button activated, but can also be activated by a passive sensor. Typically used in conjunction with warning signage, a marked crosswalk, and sometimes median refuge islands, RRFBs result in a higher motorist yield rate than just a signage and crosswalk markings alone, especially in lower-light situations. RRFBs are appropriate for minor streets and some major streets if medians can be incorporated and vehicle speeds are low enough. Where possible, a raise or protected waiting area that is accessible to the push button should be provided.



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

### Hybrid Beacon

*If the number of travel lanes and vehicle speeds require additional crossing safety and comfort, hybrid beacons should be considered. Hybrid beacons may be mid-block or at unsignalized intersections and stop traffic along the major street when pedestrians or bicyclists are present. Many hybrid beacon crossings are consolidated to one side, requiring bicyclists to move to one side of the street to cross the cross street, as shown in the image at right.*



### Traffic Circles

*Traffic circles are primarily traffic calming elements, but can be used at intersections of minor streets to enhance comfort and safety of people walking and biking.*



## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

## BICYCLE BOULEVARDS AT INTERSECTIONS

*Lakeside Landing proposes a robust pedestrian network, including a series of “pedestrian green streets”, which essentially function as linear parks that limit access by motor vehicles. These corridors often cross driveways, alleys, and minor and major streets at mid-block locations. The development plan includes the intent that raised crosswalks and pavement material changes should be used when pedestrian green streets cross driveways and alleys. This review recommends that similar attention be given to crossings of minor and major cross streets to extend the pedestrian green street network beyond single blocks. This also applies to paved trails that cross streets at mid-block locations.*

*The crossing treatments outlined for bicycle boulevard crossings also apply to pedestrian and trail mid-block crossings, and the principles for determining treatment type based on width and speed thresholds remain the same. In addition to the treatments previously covered, raised crossings, curb extensions, and pedestrian refuge islands may be incorporated.*

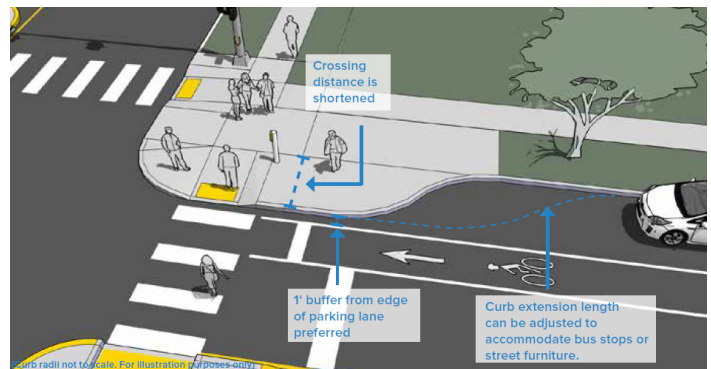
**Raised Crossings**

*Raised crossings prioritize pedestrians and bicyclists by slowing cross street traffic and allowing people crossing to remain at sidewalk level through the intersection. Raised crossings can be incorporated in conjunction with warning signage, RRFBs, and hybrid beacons.*

**Curb Extensions**

*Curb extensions, or bulb-outs, can be installed at intersection corners or mid-block crossings. They narrow the road to encourage slower through and turning speeds and shorten the crossing distance for bicyclists and pedestrians.*

*This review recommends that curb extensions should be implemented at all intersections and mid-block crossings, where feasible.*



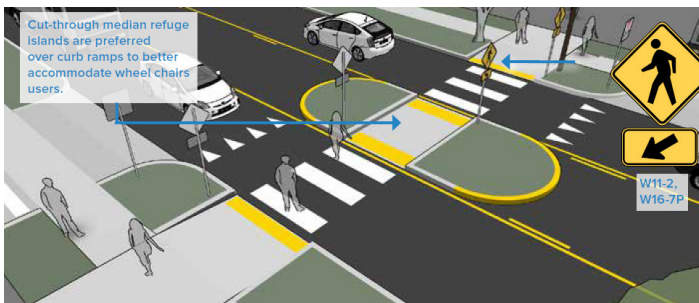
## 11-9-804 Intersection Design

## Article 8 - THOROUGHFARE DESIGN STANDARDS

*Refuge Island*

*Refuge islands are painted or physical medians that a) shorten crossing distances and b) allow pedestrians and bicyclists to focus on only one direction of cross traffic at a time.*

- *Refuge islands must meet accessibility standards, preferably using at-grade passage as opposed to ramps and landings.*
- *Island should be at least 6 ft. wide (wider to accommodate larger pedal cycles) and 20 ft. long*
- *Median landscaping should not compromise the visibility of people crossing through the refuge island. Plantings no higher than 18" tall.*



## Intersection and Crossing Treatments

Intersection and crossing treatments shall be constructed as designated on the opposite map. Intersection recommendations are based on planning-level understanding of the street network and anticipated volumes. Engineering judgement should be exercised when final intersection design is completed, accounting for specific traffic patterns, intersection geometry, and site constraints.

## Legend

■ ■ ■ Raised or Separated Bike Lane

● ● ● Sidepath / Trail

— — — Bicycle Lane

■ ■ ■ Bicycle Boulevard

— — — Pedestrian Green Street

- (A) Raised Crosswalk
- (B) Enhanced/Protected Intersection
- (C) Toucan Crossing with Traffic Diverters
- (D) Traffic Signal
- (E) RRFB or Hybrid Beacon (TBD)

## Article 8 - THOROUGHFARE DESIGN STANDARDS

