City of Buda

Austin Street Conceptual Design

September 29, 2023

LIONHEART

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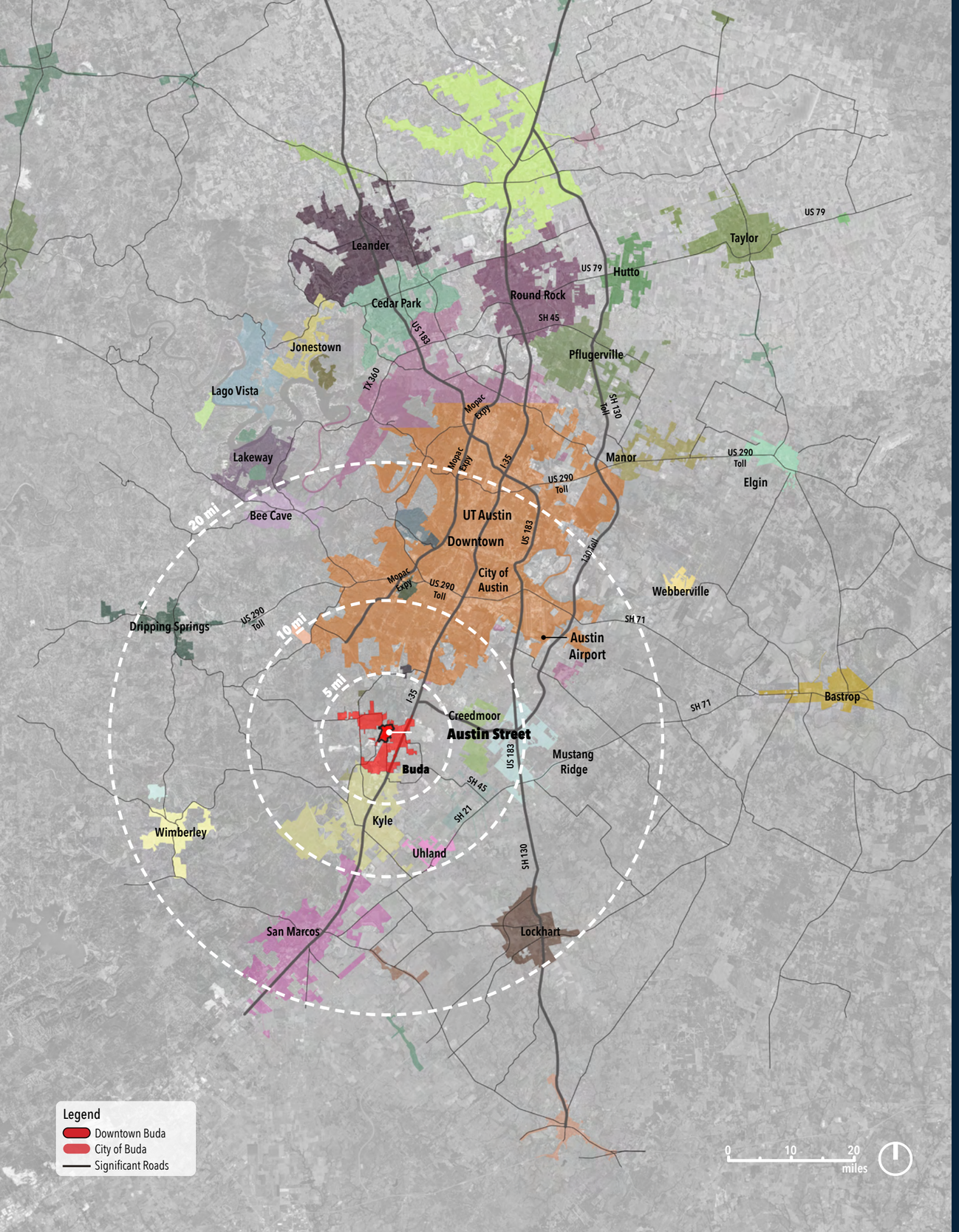
OUR BUDA DOWNTOWN PLAN

CITY OF BUDA



1.1. PROJECT INTRODUCTION AND BACKGROUND

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1.3. SHARED STREET CONCEPT

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1.1. Project Introduction and Background

Austin Street Reconstruction Goals

Currently Austin Street serves as the rear of properties fronting on Main Street and the front yard of residential, small office, and commercial properties on the west side of the street. This unique condition includes back of house services like delivery, parking lots, and dumpsters for businesses and front yards of homes that face each other across the street. Reconstruction of Austin Street will require a thoughtful approach in order to best serve the uses on both sides of the street.

A list of current elements and functions within Austin Street include:

- Commercial Back of House Services
- Delivery Access
- Dumpsters
- Parking Lots
- Large Oak Trees
- Power Lines
- Residential Properties
- Driveways
- Open Swales/Ribbon Curb
- Constrained ROW

The goal of the reconstruction project is to allow Austin Street to better serve current users and add new elements such as:

- On-street Parking
- Curb and Gutter Drainage
- Underground Electric
- Shared Dumpster Spaces
- Sidewalks
- Water Quality
- Tree Preservation
- New Commercial Development

Note: The information and drawings presented in the Austin Street concept design proposal are based on a Google Earth image and are for conceptual purposes only. A precise survey is required to ensure accurate drawings and design specifications.

Existing Conditions


Back of the lot parking and existing trees


Drainage issues on the street


Dumpsters in the right of way


Power lines and residential properties


Existing driveways to residential lots


Parking lots behind commercial / retail

Figure 1: Austin Street Existing Conditions Map

1.2. Existing Conditions Analysis

Driveways

Most of the residential lots have direct driveway access to Austin Street, with the exception of a few that have side street or alley access. Some commercial lots also have driveway access to Austin Street, used primarily for parking or servicing purposes.

32 Parcels with Direct Driveway Access to Austin Street

14 Parcels without Direct Driveway Access to Austin Street

Figure 2: Existing Driveways

Trees

The existing tree canopy along Austin Street consists primarily of live oaks and pecans, along with other select species eligible as "protected" within the City of Buda Tree Ordinance (depending on caliper size). Other trees include those considered "exempted" from preservation—these are not indicated as being removed by default, but rather are eligible to be removed should they pose an impediment to proposed street improvements.

70 Trees in/along the Austin Street ROW that are to be preserved

30 Trees in/along the Austin Street ROW that are exempt from preservation

Figure 3: Existing Trees

1.3. Shared Street Concept

A shared street design concept for the Austin Street reconstruction project will involve transforming the street into a pedestrian-oriented space that prioritizes the safety and comfort of all users. It would integrate various elements such as traffic calming measures, reduced vehicle speeds, enhanced crosswalks, and shared spaces for pedestrians, cyclists, and vehicles.

By sharing space between different users and functions it will help Austin Street achieve all of the goals of the reconstruction project within the existing 60’ of right-of-way.

Reconstructing an existing street poses unique challenges and considerations compared to building a new street from scratch. Each block will need to be considered independently and may look different based on the following key considerations. Here are some of the key factors to take into account:

Align Austin Street with current and future land use. The reconstruction should be designed to support the current and future land use plans for downtown Buda, promoting mixed-use development and pedestrian-friendly design.

Preserve existing trees. Consideration should be given to the preservation of existing trees along the street, as they contribute to the aesthetics, shade, and environmental benefits of the area.

Manage dumpster placement. Proper planning for dumpster locations is important to ensure efficient waste management while minimizing the visual impact on the streetscape.

Encourage alley access and minimize driveways where possible. Design the reconstruction to accommodate alley access and minimize existing driveways by sharing commercial back-of-house access with pedestrians. This will ensure convenient and safe access for businesses and property owners, while preserving and enhancing the pedestrian environment on the street.

Address water quality and drainage. The reconstruction of Austin Street should prioritize addressing existing drainage issues to mitigate flooding, improve stormwater management, and water quality in the area.

Incorporate street parking. The reconstruction should consider the addition of street parking spaces and plan to accommodate the parking needs of residents, businesses and visitors in downtown Buda.

Shared Street elements example.

Planting zone with understory vegetation and adjacent utilities.

Understory plantings beautify the streetscape while delineating the pedestrian and vehicular realms.


Visually designated parking areas with pedestrian lights.


French drains and colored concrete is used in place of typical curb and gutter.

Shared Streets with laydown curbs provide spaces for water quality within the street, along with narrow travel lanes and signages.

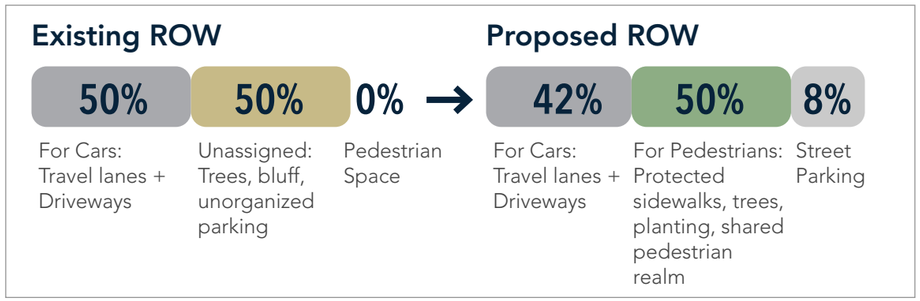
1.4. Proposed Austin Street Plan

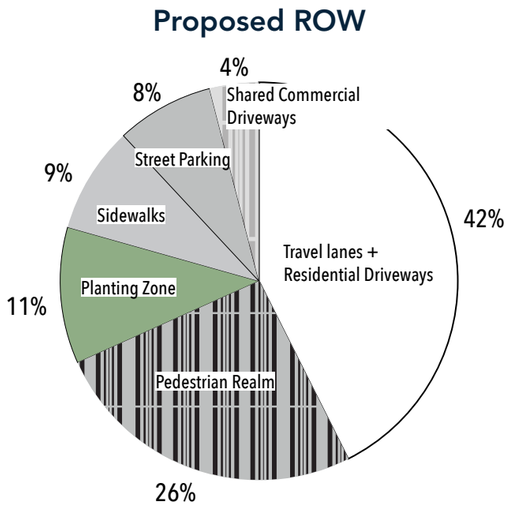
Some key design features of the proposed shared street design are:

- Travel lanes are marked with paint or different colored concrete and are designed to meander slowing traffic and accommodating existing trees.
- No curb is included on the commercial side allowing access when needed for delivery, trash trucks, shared dumpsters, and utilities while still providing a nice space for people to walk.
- Spaces for restaurant or retail functions, landscaping, and parking are included in the right of way, signaling vehicles that this is a shared space.

Key Metrics:

Number of Parking Spaces	+81
Existing Trees Preserved	All (meandering travel lanes allow the preservation of all trees)
Number of New Street Trees Planted	+90
Linear Feet of Sidewalks	+2000ft
Linear Feet of Pedestrian Realm Added	+1600ft





Austin Street Section: 60’ Right of Way allocation

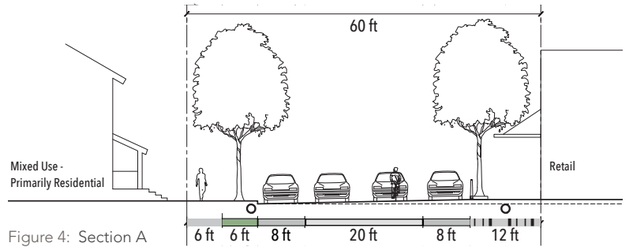


Figure 4: Section A

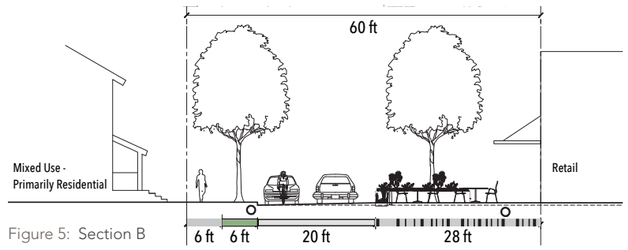


Figure 5: Section B

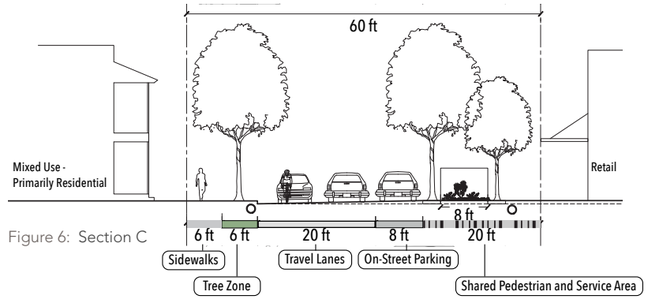


Figure 6: Section C

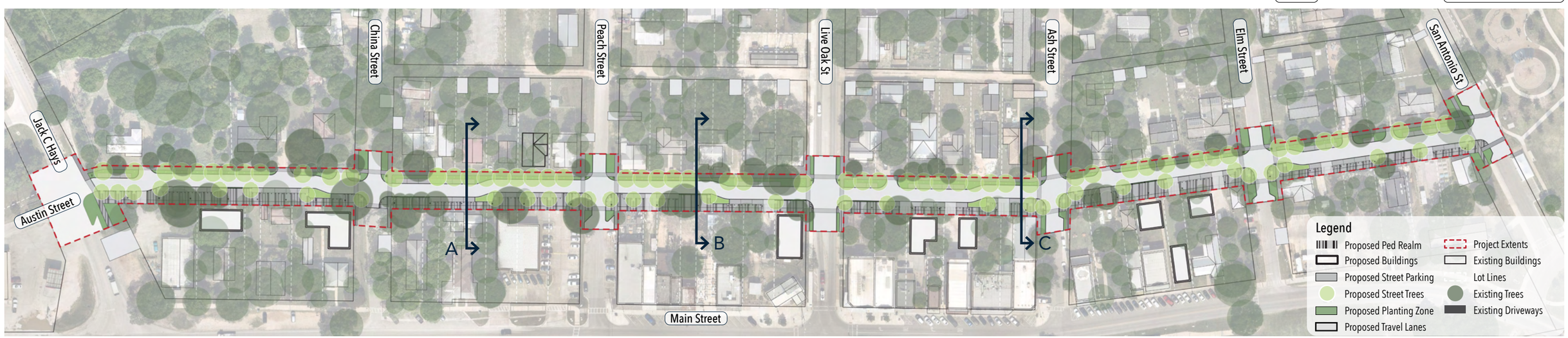


Figure 7: Proposed Concept Plan

Driveways

The driveways on the residential side of Austin Street have been retained and incorporated into the new street, while a few of them merit future study for their change potential as the Austin Street streetscape evolves. The commercial driveways have been retained as well and converted into shared driveways along the pedestrian realm facing those lots. They may be used for service access when required and double up as a sidewalk when not.

7 Parcels with direct driveway access to Austin Street

13 Parcels with driveway access to side streets

11 Parcels with shared driveways within the pedestrian realm

10 Parcels with proposed driveway access from the alley

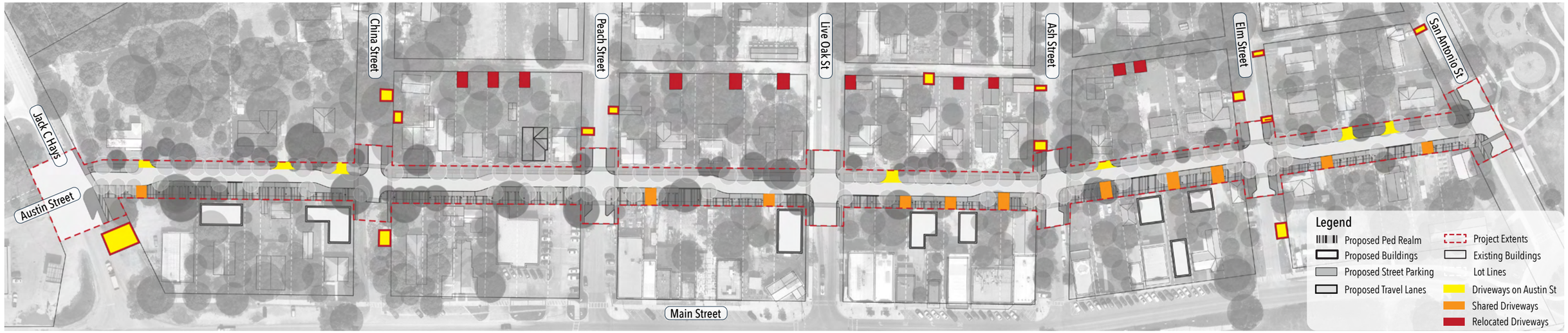


Figure 8: Proposed Driveways

Street Parking

As the street curves around existing trees, it also opens up opportunities on one or both sides of it to include street parking. 73 additional street parking spots were incorporated in this conceptual plan.

81 Street Parking added to Austin Street

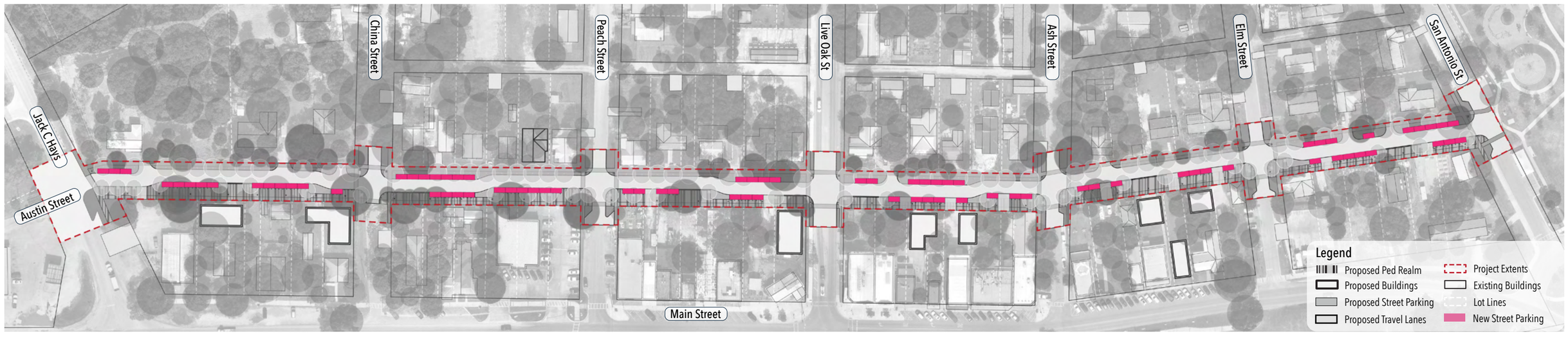
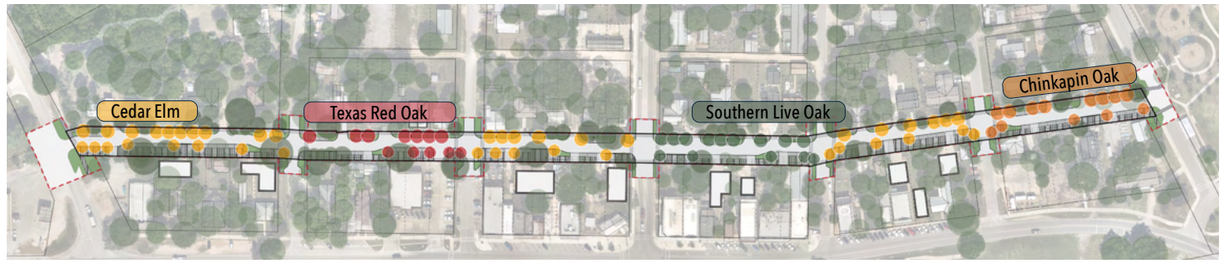


Figure 9: Proposed Street Parking

Trees

Four species of street tree were chosen to supplement the existing tree canopy on Austin Street. They are grouped based on seasonal color interest and existing tree species composition. Cedar elms, currently least represented in the existing canopy, are maximized for their seasonal interest and proven resiliency in the streetscape along with additional oak species that diversify the canopy currently dominated by live oaks and pecans. Collectively, these street trees will shade the streetscape, creating a more comfortable environment for pedestrians and mitigating the urban heat island effect. Understory plantings of different colors and textures beautify the streetscape and delineate the pedestrian and vehicular realms.



57 Additional Street Trees along the residential side

34 Additional Street Trees along the commercial side

15,000 sqft Planting zone added

Proposed Tree Species


Cedar Elm


Texas Red Oak


Southern Live Oak


Chinkapin Oak

Understory Planting


Understory Planting Character


Understory Planting Character

Figure 10: Proposed Trees

Lighting

In the City of Buda's Form Based Code, Austin Street is designated as an Active Street—designed to "balance the needs of pedestrians, cyclists, moving vehicles and parked vehicles"and "intended for vibrant areas." Only post and column lights are considered appropriate on an Active Street.

The pedestrian lighting that currently exists on the south side of Main Street fits this character, while the current "cobra head" lighting fixtures on Main's north side are only considered appropriate for larger boulevards in the Form Based Code. The existing vehicular lights on Main Street are on approximately 60' spacing, while the existing pedestrian lights are on 60-75' spacing.

New lighting fixtures should be posts or columns that fit the Active Street character, as designated in the Form Based Code. Brighter, taller vehicular fixtures are proposed for the northern, more residential side of Austin Street, currently proposd at all intersections as shown in the diagram below. There is scope to incorporate pedestrian lights on 50'-75' spacing in the future as the lots redevelop. Smaller, less bright pedestrian fixtures are proposed on 50'-75' spacing along the southern, "active" edge of Austin Street and primary pedestrian realm. This suggested spacing is conceptual, and exact spacing of lighting will be based on targeted light levels for the specific light fixtures that are chosen.

Existing Pedestrian Lighting - Main Street, Buda

PNWLTS Lighting - "Modern Architectural" (Pedestrian Post)

Existing Vehicular Lighting - Main Street, Buda

PNWLTS Lighting - "Valmont" (Vehicular Post)

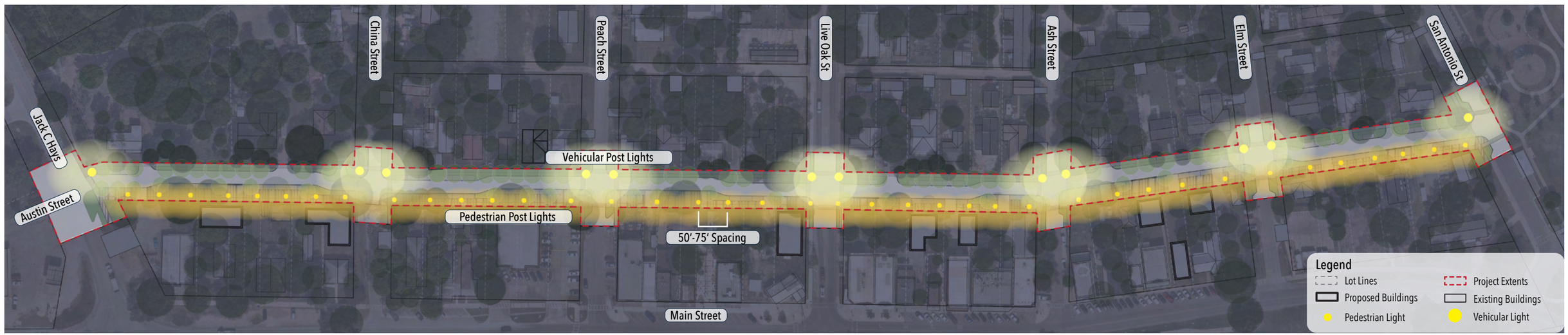


Figure 11: Proposed Street Lights

Dumpsters

One of the key challenges to solve with the reconstruction of Austin St. is to organize and minimize the number of dumpsters located and / or visible on the street. This challenge will require a combination of physical design solutions, policy solutions related to new or modified dumpsters, and programmatic solutions that involve coordination between property owners and/or TDS for shared dumpster sites.

Physical design solutions:
Restaurants are typically the heaviest users of trash service and many require frequent pick-up and good accessibility by both restaurant users and TDS for pick-up. Due to the frequency in use, it is recommended that restaurants will primarily need their own dumpsters and may not be able to share. The conceptual design below has indicated the ideal locations for these dumpsters based on current users and current frequency in use. Because the shared street does not have a curb, access is made simpler for the trash truck as there can be a wider opening without a set turning radius. The plan still denotes specific access points that will be located between pedestrian bollards.

In terms of properly locating the dumpsters on-site the following considerations should be made:

1) Trash trucks must be able to pull straight in to access the dumpster enclosure. All trucks are front loading and will need proper clearance. When possible, dumpsters should be located deep into the lot to avoid spillover and negative effects on the street.
2) If not possible to locate the dumpsters deep into the lot, they should be located on private property and angled toward the street. A dumpster enclosure that includes a masonry wall for screening should be constructed.

Policy Solutions:
A requirement of either a change of use Certificate of Occupancy or new construction permit within the Downtown should be required to prove that they have a location set aside that can be serviced by TDS.

Programmatic Solutions:
As part of the Austin Street Reconstruction project the City should coordinate with TDS and property owners to find the best solutions to locate shared dumpsters. Alternatives like trash compactors or more frequent pickups can also be explored.

	Description	Recommended Single Site Dumpsters	Recommended Shared Dumpsters
		●	●
Block 1	Currently there is one restaurant in Block 1. Dumpsters can be serviced from the existing driveway on Jack C Hays. If additional dumpsters are needed they should be provided on-site.	1	-
Block 2	The current dumpster location for Garcia's appears to be encroaching into the Austin St. ROW. Care should be taken to move this dumpster back as much as possible, provide better screening, and consider making it a shared dumpster site to serve additional properties.	1	1
Block 3	Block 3 currently has three different restaurants with additional restaurants anticipated on the block. Existing dumpsters that are non-conforming should be upgraded to meet specifications. Opportunities to convert one of these to a shared dumpster site should be pursued and any new restaurant should be required to find a solution on-site prior to opening.	2	1
Block 4	Block 4 currently has two restaurants with dumpsters. Existing dumpster sites that are non-conforming should be upgraded and opportunities to convert one dumpster location to a shared site should be pursued.	1	1
Block 5	Block 5 currently has one dumpster location which could be converted to a shared dumpster location. If that is not possible consider reserving one more site for a shared dumpster location.	1	
Block 6	Block 6 includes 2 food truck locations with dumpsters. These dumpster locations should be made conforming to the greatest extent possible and should be transitioned to shared dumpster sites if possible.	2	

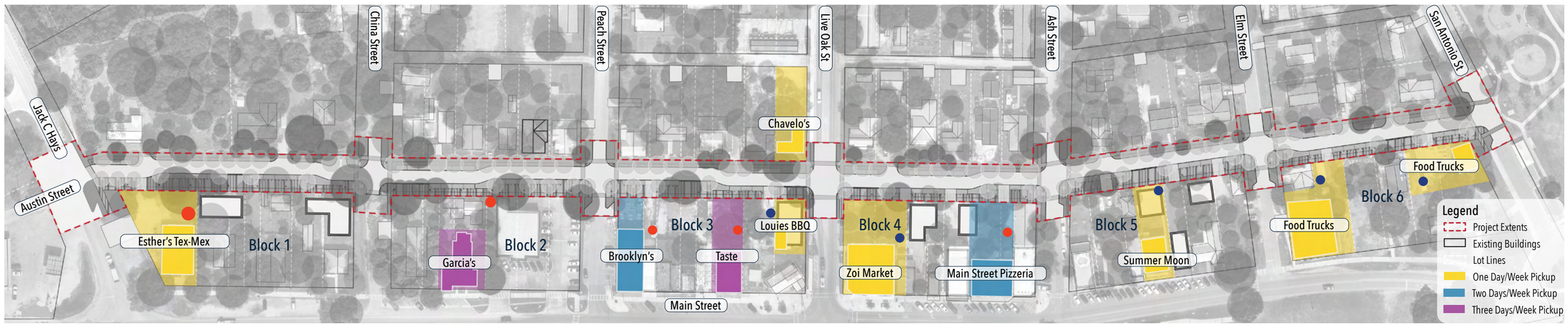


Figure 12: Restaurant Trash Pickup Frequency

Electric Duct Bank Layout

Underground utilities, such as electric, reduce visual clutter and improve the overall aesthetic experience of the streetscape. A joint duct bank, for underground utilities, is planned from Peach Street to San Antonio Street, while at-grade infrastructure will serve Austin Street from Peach Street to Jack C. Hays. When utilities infrastructure are at-grade, decorative screens and/or vegetation may be used to soften their visual impact on the streetscape. The below figure illustrates a preliminary layout, which identifies potential proposed easement locations for necessary submersible and at-grade electrical infrastructure.

Underground Utility Vault

Decorative Transformer Screen (if above-ground utilities)

Larger Utility and Vegetative Screening

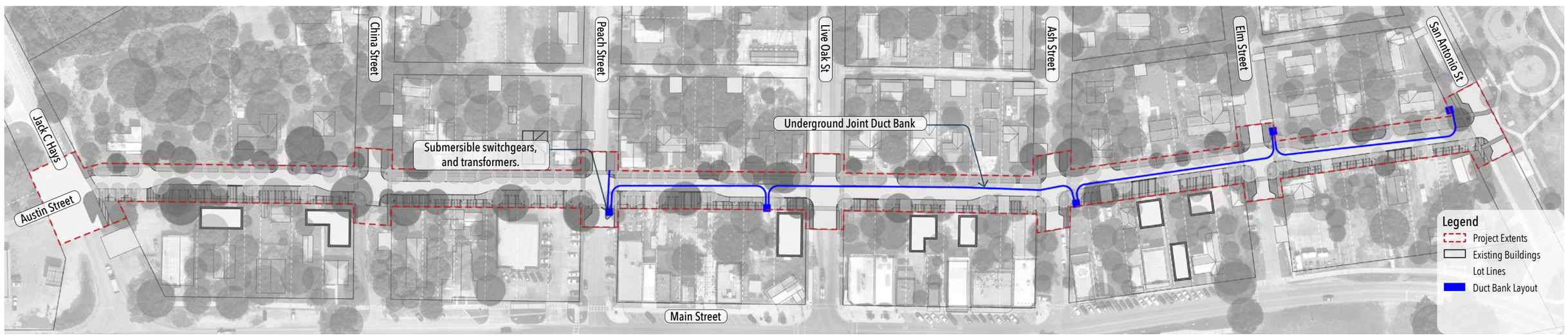


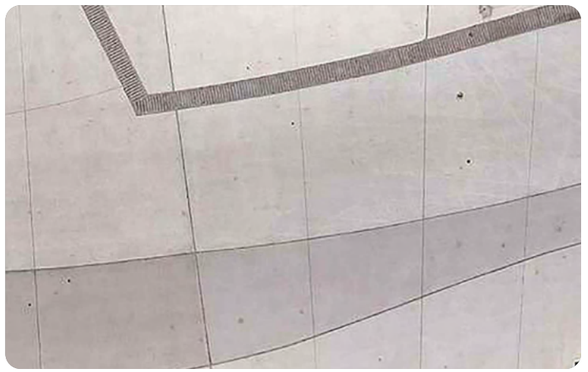
Figure 13: Electric Duct Bank Layout

1.5. Block Level Design

Material Palette

Materials are a key feature of the shared street design: colored or decorative concrete subtly separates the pedestrian and vehicular realms in lieu of a raised curb, while visually slowing the street down and improving drainage via french drains. Bollards further separate parking lanes from areas for gathering or circulating through the pedestrian realm; such gathering areas, for restaurant or retail functions, signal to vehicles that the street is a shared space, albeit one that still retains service vehicle/utility access on the commercial side of Austin Street due to the curbless design.

Decorative Concrete



Decorative Concrete

Tree Grate

Street Furnishings

French Drain

Bollards

Figure 14: Block Level Plan

Intersection Safety Enhancements

Adding to the traffic-calming benefits of Austin Street's shared street elements are various safety enhancements, which will increase safety and comfort of pedestrians and bicyclists at intersections. HAWK (High Intensity Activated Crosswalk) beacons signal vehicles to come to a stop when a pedestrian pushes a button, ensuring safe crossing while not impeding the flow of traffic when pedestrians are not present. Other, lower-cost measures signal drivers to yield to pedestrians through visual traffic calming, subtle grade/material changes, or signage.

HAWK Pedestrian Beacon

Pedestrian Crossing Signs

Table Intersection

Enhanced Crosswalk

Figure 15: Block Level Plan

1.6. Cost Estimates

Note: the Austin Street project boundary has been extended from the boundary originally included in the Buda Downtown Master Plan. The below cost estimates reflect that extension. Costs for dumpster pads and enclosures have been excluded, since dumpsters are requested to be stored on private property.

This statement was prepared utilizing standard cost and/or quantity estimating practices. It is understood and agreed that this is a statement and opinion of probable cost and the design team shall not be liable to the Owner or to any Third Party for any failure to accurately estimate the cost and/or quantities for the project, or any part thereof.

Preliminary Estimate of Probable Construction Costs

A1 - Austin Street					
Item	**Description**	**Quantity**	**Unit**	**Unit Price**	**Total**
Demolition & Site Preperation					
Site Preparation	Clearing vegetation/preparing soil and stormwater pollution protection	22	STA	$ 4,000.00	$ 88,000.00
Concrete Removal	Concrete driveways and sidewalks	1850	SF	$ 10.00	$ 18,500.00
Drainage Pipe Removal	Existing drainage pipes	665	LF	$ 50.00	$ 33,250.00
Drainage Structure Removal	SET, area inlets, concrete flumes	36	EA	$ 2,500.00	$ 90,000.00
Asphalt Road Removal	15" Removal of asphalt and existing base	3,500	CY	$ 21.00	$ 73,500.00
Roadway					
Flexible Base (12")	Crushed stone	2920	CY	$ 83.75	$ 244,550.00
Embankment	Fill for intersections and removal of roadside ditches along Austin St	3000	CY	$ 7.50	$ 22,500.00
Concrete Curb and Gutter	Raised curb along northern edge, ribbon curb along southern edge	6100	LF	$ 27.00	$ 164,700.00
HMAC Roadway Paving and Parking	Drivelane paving, parking spots paving; assumed 2" depth	8300	SY	$ 24.00	$ 199,200.00
Lime Stabilize Subgrade	Assumed 8" depth, 5% lime	8300	SY	$ 15.00	$ 124,500.00
Concrete Driveways	Redo concrete driveways that needed to be demo'd	2500	SF	$ 20.00	$ 50,000.00
Concrete Sidewalks	6' sidewalk (Residential side)	15000	SF	$ 9.25	$ 138,750.00
Pedestrian Realm	Varied width (12'-28') - refer drawing. Includes commercial driveway demarcations	28000	SF	$ 20.00	$ 560,000.00
Pedestrian Street Crossings	2 ADA curb ramps per crossing	24	EA	$ 3,450.00	$ 82,800.00
Signing and Striping	73 new parking spaces, road pavement markings, road signage	1	LS	$ 60,000.00	$ 60,000.00
Drainage					
18" DIA RCP CLASS III	Conduit for trunk line and laterals	1040	LF	$ 110.00	$ 114,400.00
24" DIA RCP CLASS III	Conduit for trunk line	520	LF	$ 115.00	$ 59,800.00
48" DIA RCP CLASS III	Conduit for trunk line	520	LF	$ 300.00	$ 156,000.00
Inlet, Standard Type I (10')	Standard curb inlets	14	EA	$ 6,500.00	$ 91,000.00
Standard Precast Manhole	Storm drain manholes (Varying)	4	EA	$ 7,250.00	$ 29,000.00
Drainage Outfalls	Safety End Treatment (SET) outfall into existing roadside ditch	4	EA	$ 4,500.00	$ 18,000.00
Filterra Units	Water Quality to be informed by the downtown drainage study	10	EA	$ 70,000.00	$ 700,000.00
Streetscape					
Streetscape Elements (Allowance)	Benches, waste receptacles	1	LS	$ 40,000.00	$ 40,000.00
Streetscape Lighting	Pedestrian light w/pole and foundation spaced every 50' - 75' on south edge and vehicular light poles at 75'-100' on the north edge at stub street entrance, conduit, groundboxes, electric panels	50	EA	$ 15,000.00	$ 750,000.00
Street Trees	Native Ornamental Tree (10' height X' Spacing 3" Caliper)	90	EA	$ 1,250.00	$ 112,500.00
Irrigation (Allowance)		1	LS	$ 25,000.00	$ 25,000.00
Landscaping	8' vegetative buffer: topsoil and sodding (residential side), mixed planting (commercial side)	2500	SY	$ 40.00	$ 100,000.00
Bollards	Pipe Bollard	200	EA	$ 975.00	$ 195,000.00
Utilities					
Duct Bank	Proposed duct bank	1750	LF	$ 125.00	$ 218,750.00
PVC Conduits	Schedule 40 Conduits (3" Assumed 10 Total)	17500	LF	$ 7.00	$ 122,500.00
Service Connection Conversion	Conversion for existing service connections & Ground Boxes	21	EA	$ 6,000.00	$ 126,000.00
UG Vault	Underground vault & lid	4	EA	$ 18,550.00	$ 74,200.00
Transformer Pad	Concrete pad	3	EA	$ 1,350.00	$ 4,050.00
Wastewater Service Adjustments	Adjustments due to proposed storm, pavement, and/or utilities	30	EA	$ 2,000.00	$ 60,000.00
Water Service Adjustments	Adjustments due to proposed storm, pavement, and/or utilities	32	EA	$ 5,000.00	$ 160,000.00
Relocate Fire Hydrant	Adjustments due to proposed storm, pavement, and/or utilities	7	EA	$ 3,000.00	$ 21,000.00
WW Line Adjustments	Assumed relocation Peach to FM 967 and Ash to San Antonio	900	LF	$ 225.00	$ 202,500.00
Relocate WW Manhole	Adjustments due to proposed storm, pavement, and/or utilities	7	EA	$ 6,000.00	$ 42,000.00
WL Adjustments	Assumed relocation Ash to San Antonio	600	LF	$ 200.00	$ 120,000.00
Adjust or Relocate Water Valve	Adjustments due to proposed storm, pavement, and/or utilities	22	EA	$ 1,500.00	$ 33,000.00

ESTIMATED CONTSTRUCTION COST	**$ 5,524,950.00**
EROSION CONTROL (2.5%)	$ 138,123.75
TRAFFIC CONTROL	$ 35,000.00
MOBILIZATION	$ 250,000.00
CONTINGENCY (25%)	$ 1,381,237.50
SOFT COSTS (10%)	$ 552,495.00
PEC Fees (Assumed)	$ 100,000.00
Total Cost	**$ 7,981,806.25**