

MILL STREET CORRIDOR

Master Plan



Prepared for the City of Lewisville Texas



Economic Development

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TABLE OF CONTENTS

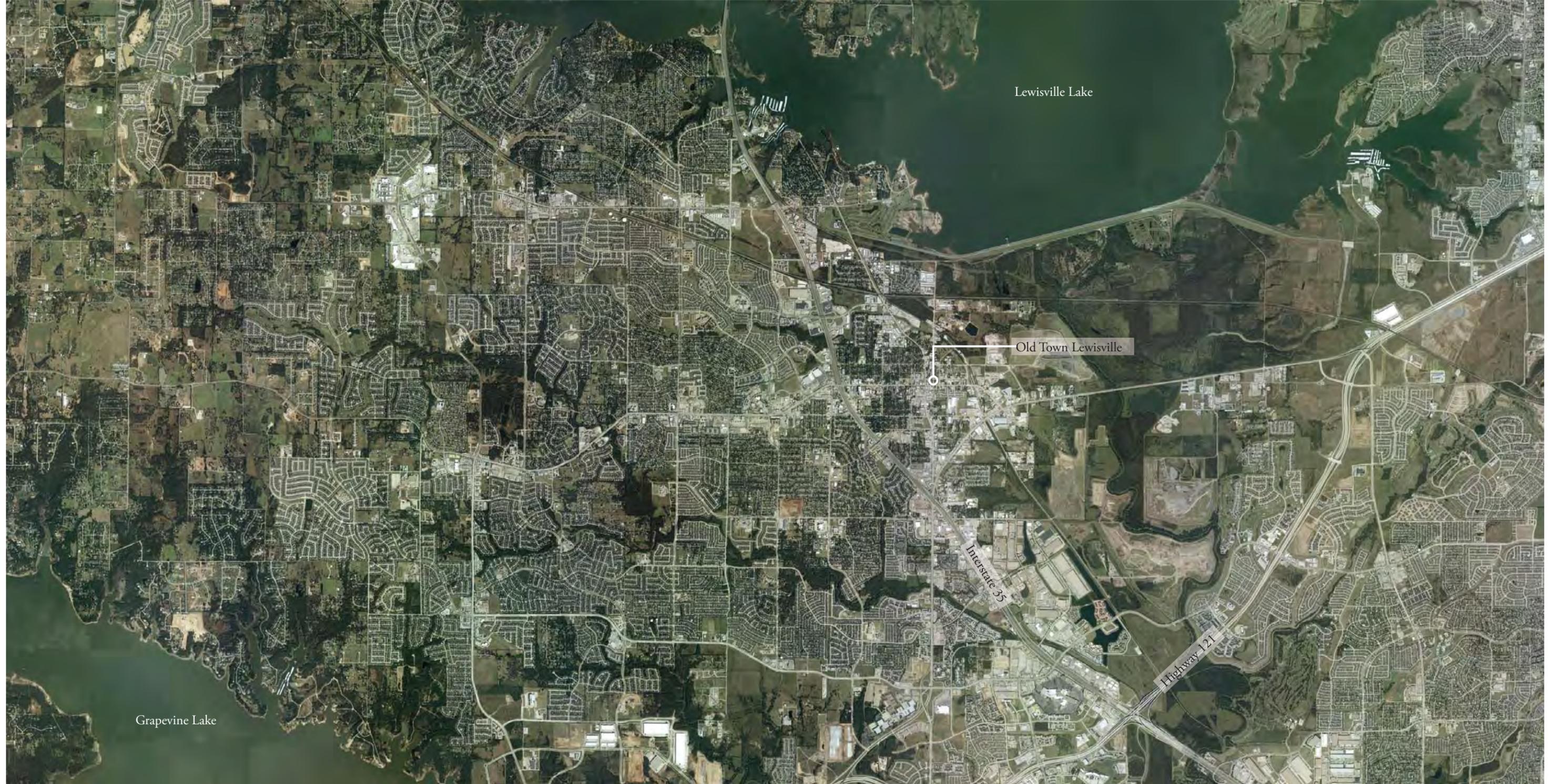
<p>INTRODUCTION</p> <ul style="list-style-type: none"> Context..... 1 Location Project Boundaries Challenge Vision Process Objectives <p>INVENTORY AND ANALYSIS</p> <ul style="list-style-type: none"> Analysis5 Surrounding Context Circulation Centers and Gateways Existing Land Uses Figure Foreground Existing Views <p>DEVELOPMENT OF ALTERNATIVES</p> <ul style="list-style-type: none"> Community Outreach13 Charrette Stakeholder Process Charrette Week Overview Charrette Conclusion Character Zones of Mill Street 15 Urban Thoroughfare Alternative 18 Community Comments on Urban Thoroughfare Alternative Couplet Alternative25 Community Comments on Couplet Alternative Street Cross-Sections from Charrette26 Typical Cross Section from Highway 121 Business to High School Drive Typical Section from High School Drive to Elm street Typical Section of old Town 	<p>PREFERRED ALTERNATIVE</p> <ul style="list-style-type: none"> The Phased Approach29 Couplet Benefits Couplet Constraints Illustrative Plan.....24 Circulation Plan26 Parking28 Signage29 Cost Estimates33 Proposed Streetscape Character36 1a: Two Way - Four Lane Traffic with no Median 1b: Two Way - Four Lane Traffic with Median / Turn Lane 2a: Two Way - Two Lane with Bike Lanes 2b: One Way - Two Lanes with Bike Lanes 2c: Two Way - Two Lanes Middle turn lane and Bike Lanes 3a: One Way - Three Lanes with Bike Lanes 3b: One Way - Two Lanes with Bike Lane and Two Side On-street Parking 3c: One Way - Three lanes with bike Lane and one-Side On-street Parking Stormwater Approach39 Bioretention Control of Stormwater Quantity Landscape Swales Street Swales Parking Swales Landscape Amenities.....40 Streetscape Planting Character
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Range of product types and densities add vitality and character to a streetscape.

CHAPTER ONE

INTRODUCTION



Location map of Old Town Lewisville

Context

Location

Located 20 minutes northwest of Dallas in Denton County, Mill Street has served the City of Lewisville as the primary local north-south thoroughfare. Mill Street connects I-35, Highway 121 Business interchange, and Lewisville Lake, with Old Town Lewisville located at the center of the corridor.

The City of Lewisville has grown rapidly since the opening of the Dallas-Fort Worth International Airport in 1974. The current population of 95,250 (2009) continues to increase, thereby increasing traffic and circulation congestion in the city. As the region's population has increased, the Mill Street corridor has become increasingly used as a bypass to avoid traffic congestion along I-35 and Highway 121 Business. As a result the historic corridor has transformed into an automobile oriented streetscape and development environment.

Project Boundaries

The project boundary begins at the I-35/ Highway 121 Business interchange to the south and ends at College Street to the north. The focus of the project is to improvements within the public right-of-way and did not include a new land-use plan, although the adjacent land uses did inform the location and intensity of proposed improvements. Intersecting streets and pedestrian connections were an influence on this study, but were not included in the scope of work.

Challenge

The Mill Street corridor has varied character. The southern end lacks characteristics of the community and pedestrian amenities. The central portion provides a mix of retail, industrial, office, and residential uses. The northern end, known as Old Town, lacks pedestrian amenities and adequate human comfort to make this a successful pedestrian environment. The goal will be to encourage traffic to use Mill Street in route to the proposed Transit Oriented Development and Old Town while providing the amenities necessary to facilitate a safe, attractive, and comfortable pedestrian environment.

Vision

Mill Street will reinvent itself as a pedestrian friendly and safe streetscape through the use of streetscape enhancements and pedestrian amenities. Mill Street will represent the desired character of Lewisville and will help to attract new residents, new business, and redevelopment.

As the area has grown, the demand on infrastructure in Lewisville has changed. Much of the infrastructure of Lewisville is constantly being repaired and replaced to meet the needs of the current and future growth of the city. The Mill Street corridor is an example of infrastructure that has struggled to keep up with the changing demands. While the corridor has the potential to be the primary gateway into the City and Old Town from the south, it does not project a good first impression of the community. Due to the high speed of traffic and minimal safe pedestrian routes, Mill Street lacks the pedestrian appeal that is needed to support successful businesses and attract new development to the city. Mill Street should include all the elements that make a streetscape attractive and complete such as wide and clearly defined sidewalks, shade, safe automobile lanes, bike

lanes (where appropriate), vegetation, seating, and lighting. While all these elements should be found along the corridor, the location and intensity of these change depending on the intended use and function of the sections. Due to its proximity to I-35, the southern section of Mill Street will continue to attract auto-dependent businesses and therefore pedestrian infrastructure will not be as intensely used as compared to the northern section near Old Town.

The area around Old Town should focus and support a pedestrian oriented environment. The improved Mill Street will be an attractive, safe, and vibrant corridor attracting new residents, new development, and provide multiple means of transportation.



Project Boundary

Process

The City of Lewisville engaged Design Workshop as the consultant team for the design of streetscape and associated improvements to create a master plan design for the Mill Street corridor. Early in the process City staff, DCTA, and utility providers were engaged to confirm the project issues. The City confirmed the vision, goals and objectives. A site visit also confirmed existing conditions. Communication networks were established to ensure a clear, transparent, and efficient process.

Throughout the design process, an intensive community outreach program involved the City and the public. A week long public charrette resulted in two alternatives. Working closely with the City a refined preferred alternative was created which set the base for moving the project forward and seeking capital improvement funds.

Objectives

The following objectives were developed with the City staff to guide the design of Mill Street. These objectives were presented to the public at the charrette:

- Reduce vehicular speeds without negatively impacting traffic movement and circulation.
- Create a streetscape that is safe for both pedestrian and vehicular circulation.
- Provide the streetscape amenities necessary to provide a comfortable pedestrian experience.
- Create a gateway corridor into Old Town that reflects the desired identity of Lewisville.
- Provide vegetation to add visual interest, reduce the heat island effect, and buffer parking lots.
- Utilize existing public realm and street dimensions to minimize cost of purchasing additional right-of way.
- Provide clear and attractive signage and wayfinding along the corridor.
- Position Lewisville to obtain grant funds.
- Make Mill Street a viable corridor to access the Old Town and the future Transit Oriented Development.

Legend

-  DCTA Stations
-  Crossing Improvements
-  Major Parks and Open Space
-  Off-Street Trails
-  On-Street Bicycle Paths
-  Railroad
-  Primary Vehicular Circulation



CHAPTER TWO

**INVENTORY AND
ANALYSIS**



Mill Street leads to Lewisville Lake's Southern Shore.

Analysis

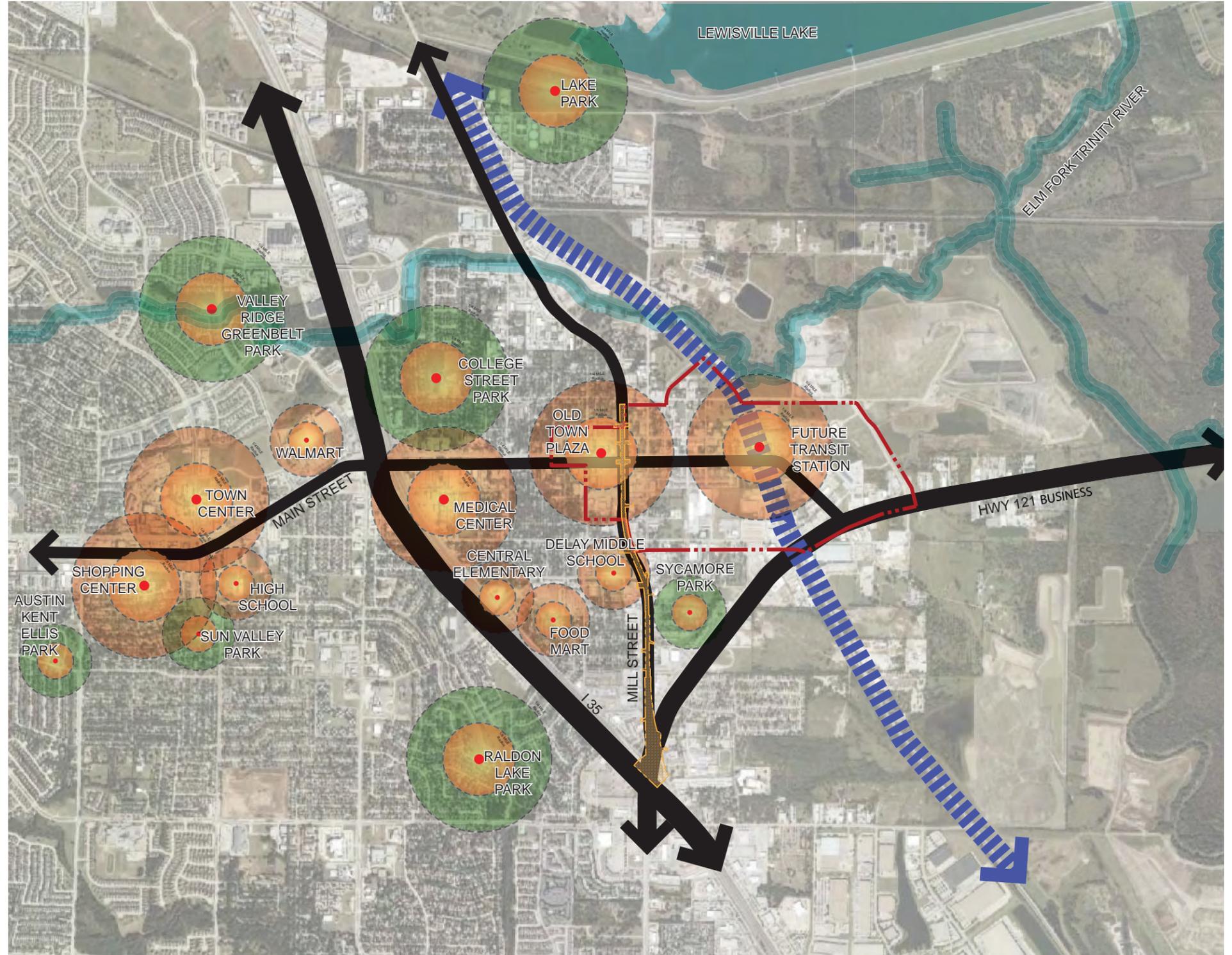
Surrounding Context

I-35 and Highway 121 Business are the two major highway thoroughfares providing access and circulation around Lewisville. Main Street and Mill Street are the key connectors from I-35 and Highway 121 Business into Old Town. Main Street provides the east-west link between Highway 121 Business and I-35 and extends west toward Flower Mound. Mill Street extends from the I-35 and Highway 121 Business interchange northbound, through Old Town, towards Highland Village and Lewisville Lake. Mill Street is the historic central north-south spine in Lewisville with Old Town Lewisville at its core.

Three amenity centers are located along Mill Street. First is the Old Town Center District which will contain the future Old Town Plaza represents the historic and cultural heart of the community.

Central Elementary and Delay Middle School create a smaller node of influence because of the employment base. This section of Mill Street is physically characterized by a bend in the road and the Purnell Street intersection.

One block east of Mill Street is Sycamore Park. This park is part of a drainage system that creates a small greenway through the residential neighborhoods and Mill Street.



Context and Centers Map



Analysis

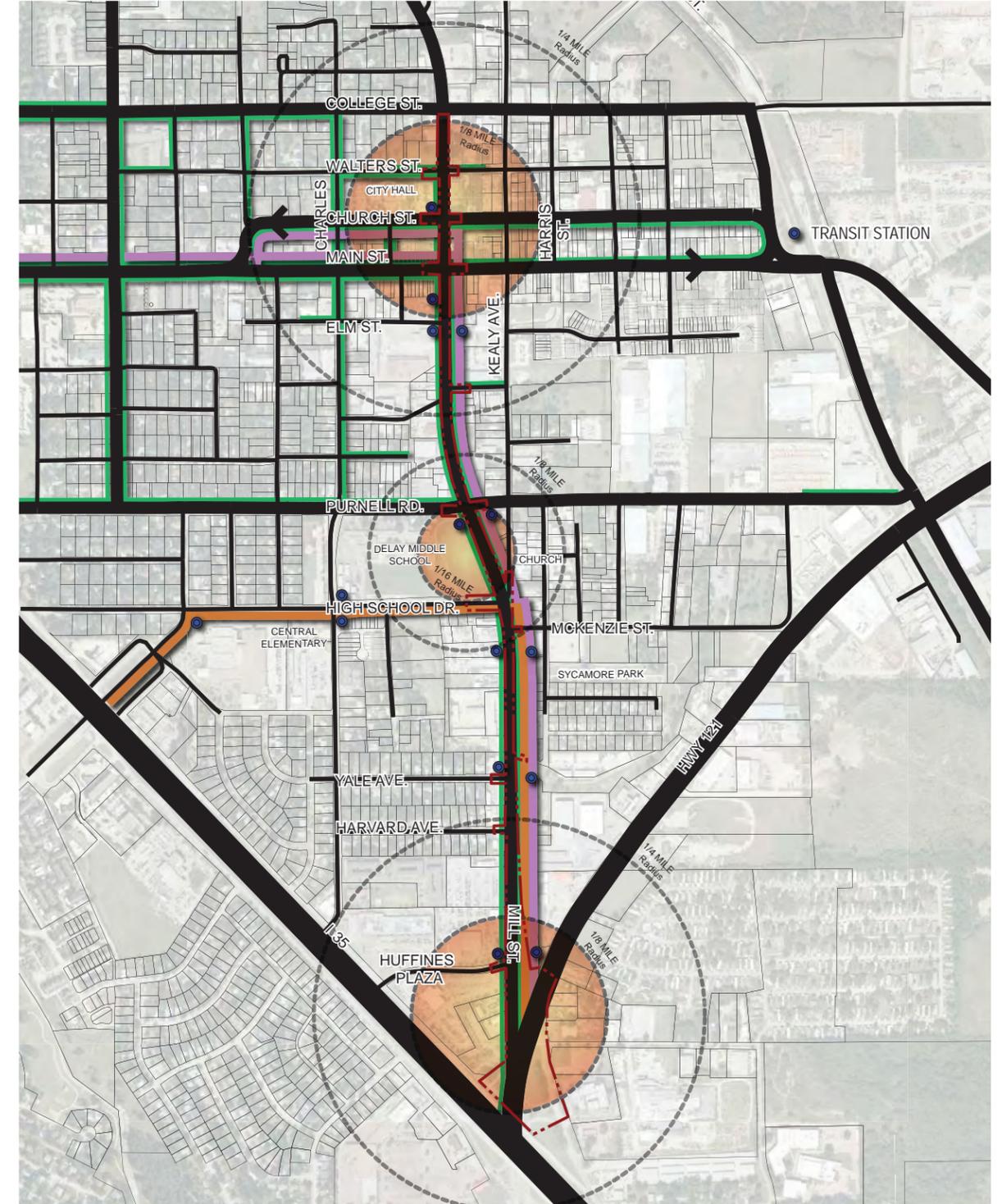
Circulation

Mill Street is currently a 4-lane, 2-way, undivided corridor. The exception to this condition is at the I-35/ Highway 121 Business Interchange where a median divides the 4 lanes. On-street parking is currently not allowed on Mill Street except for limited areas around Old Town. The speed at the south end is 30 mph, and 40 mph north of Walters Street. The majority of those traveling north on Mill Street come from the I-35/Highway 121 Business interchange. Travelers heading south on Mill Street are primarily coming from Highland Village, Lewisville Lake, Valley Ridge Boulevard, or Main Street. Many are using Mill Street to bypass I-35 traffic.

Main Street becomes one way circulation from Herod Street to N. Railroad Street couplet heading east with Church Street heading west. This couplet provides a major circulation connection between the Old Town and the future Old Town transit station. Main Street is bisected by Mill Street. The future extension of Valley Ridge Boulevard from Highway 121 Business to I-35 is anticipated to alleviate traffic congestion that would support a more pedestrian-friendly streetscape along Mill Street.

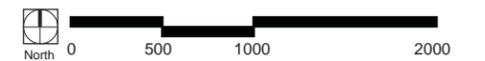
Centers and Gateways

The intersections at Mill Street and Main Street in Old Town creates a primary energy center along the Mill Street corridor. Recent improvements to this intersection reflects the importance of the center to the identity of Old Town. A secondary energy center along Mill Street is created with offices, school, park and religious uses between Purnell Road and High School Drive. The open space at this center is important to preserve and enhance because it will strengthen the visual connection between the I-35/ Highway 121 Business interchange and Old Town, by preserving the view to the City Hall dome. Purnell Road currently connects Highway 121 Business to I-35 with Mill Street at its core. The I-35/Highway 121 Business Interchange is another major center on Mill Street serving as a primary gateway into the city. The visual quality of the existing signage and plantings does not reflect the desired identity of the community and merits major improvements.



- Legend
- Mill Street Study Area
 - Energy Centers
 - Bus Stops
 - Pedestrian Path
 - Bus Route 23
 - Bus Route 22
 - Major Streets and Highways

Existing Circulation



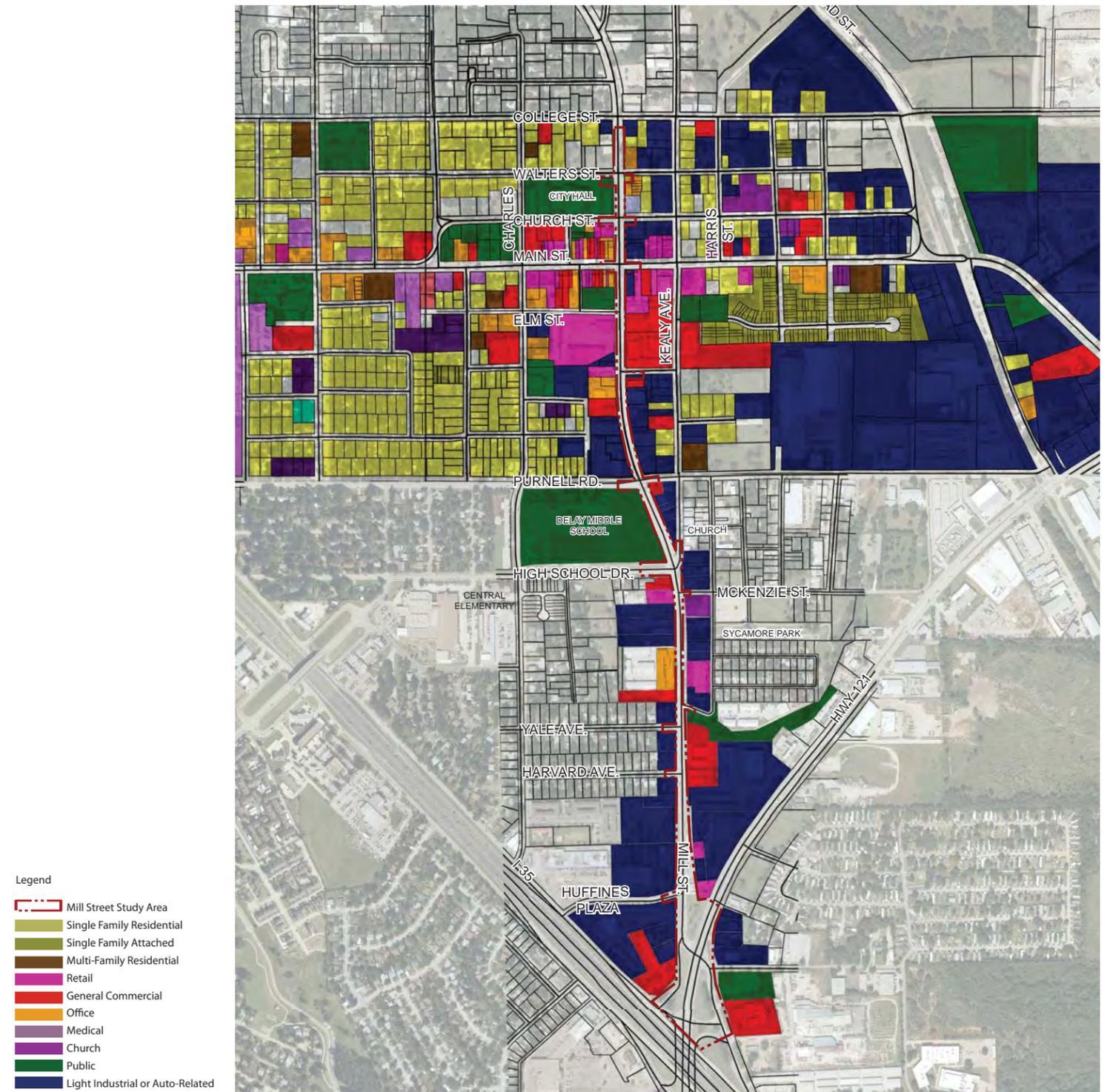
Analysis

Existing Land Uses

Although adjacent land uses will help inform the Mill Street corridor design, the focus of the project was streetscape improvements within the public right-of way. The current land uses to the south are primarily auto-dependent and include auto repair shops, car lots, car washes, industrial, and commercial development. A few residential neighborhoods are located within walking distance to Mill Street and are tucked behind these uses along Harvard Avenue and McKenzie Street.

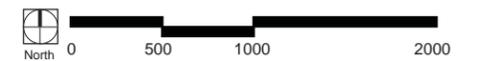
Heading north on Mill Street just past High School Road, the corridor jogs slightly to the left, creating odd shaped parcels between Kealy Avenue and Purnell Road. The odd shaped parcels are primarily used for light industrial activity to the east with public school uses on the west side of Mill Street. Land uses adjacent to Mill Street in Old Town include a mix of restaurants and other commercial and governmental uses.

With Mill Street increasingly used as a bypass road, it has leached development resulting in several deteriorating and empty buildings along the corridor. This predominately automobile-oriented corridor and development pattern has become aged and run down.



- Legend
- Mill Street Study Area
 - Single Family Residential
 - Single Family Attached
 - Multi-Family Residential
 - Retail
 - General Commercial
 - Office
 - Medical
 - Church
 - Public
 - Light Industrial or Auto-Related

Existing Land Use



Analysis

Figure Foreground

The development pattern along the 1.25 mile corridor reflects a transect from pedestrian-oriented (north Mill Street) to automobile-dependent (south Mill Street). In the southern half of the study area, from High School Drive to the I-35/Highway 121 Business interchange, buildings are generally larger and set back from the right-of-way. The average setback in this area exceeds 40 feet. From the streetscape design perspective, the corridor feels open and incomplete. The road lacks definition and pedestrian space is insignificant.

From High School Drive to Elm Street, the appearance of the corridor closes in because buildings become smaller, have more articulation, and they are set closer to the street. The typical setback in this area is 10-15 feet from the property line.

North of Elm Street buildings are generally closer to the right-of-way with a setback averaging 0-10 feet. This helps bring the scale of the corridor in and slows traffic. Pedestrians have a more significant role in this environment.

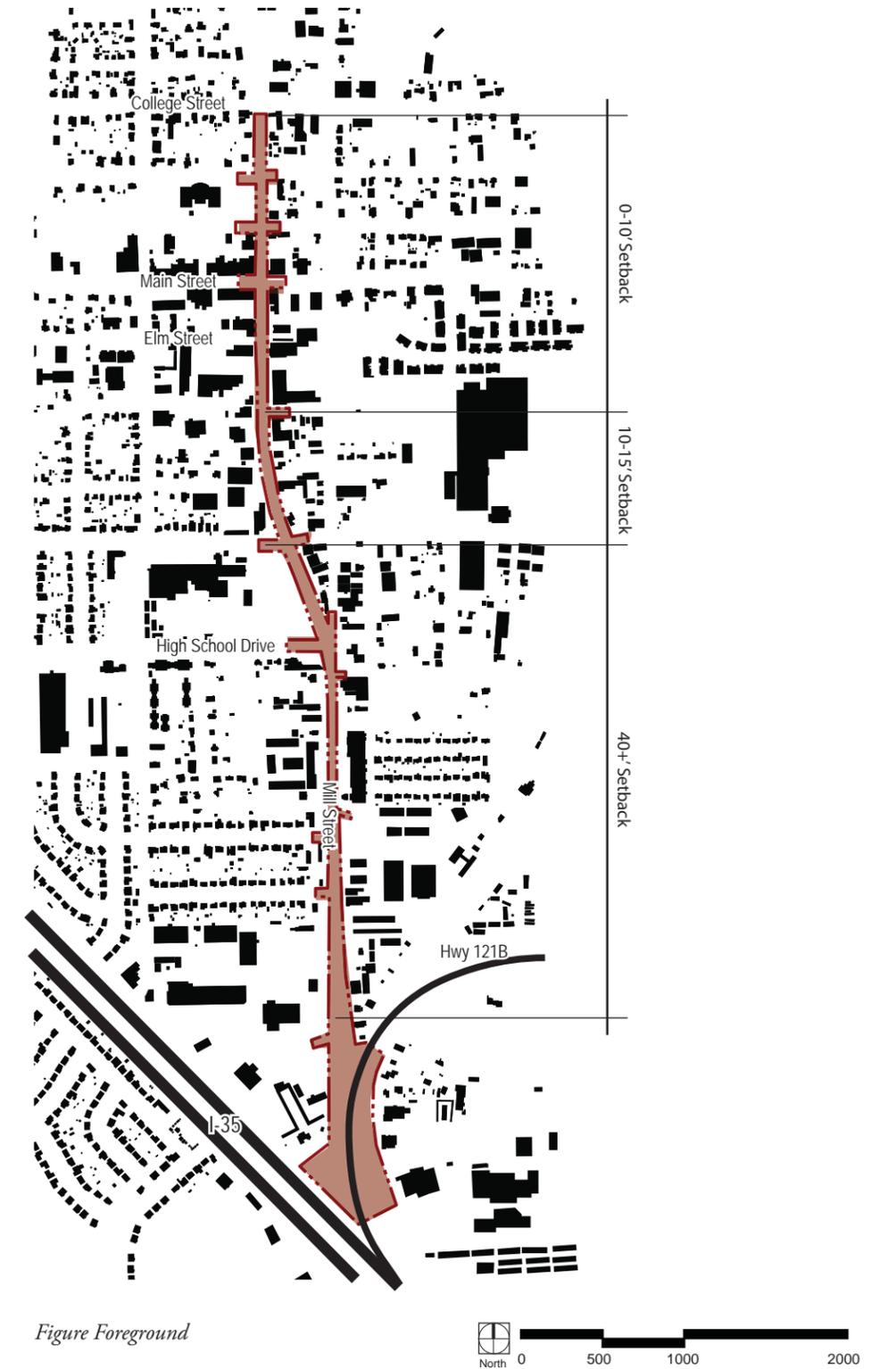


Figure Foreground

Analysis

Existing Views

The images to the right are a guide to the current views that a person in a vehicle or a pedestrian would experience as they travel on Mill Street. For a passersby on Highway 121 Business and people exiting I-35, the I-35/Highway 121 Business intersection offers the first view of Mill Street. This view should clearly identify the route to the Old Town and should reflect the desired identity of Lewisville. Limited signage and planting currently exist at this entry. However, the signage is too small to be recognized from an automobile.

When a northbound traveler on Mill Street passes High School Drive they have the first view to the dome of City Hall. This view serves as a landmark for Old Town and should be preserved. Southbound travelers have an initial view of the City Hall dome as soon as they pass College Street. This view is important to preserve so travelers have time to realize that they are entering Old Town.

Images A through M show existing conditions throughout the project area. Major issues identified by the visual analysis to the right focus primarily on pedestrian safety and the conditions of existing architecture along Mill Street.

Image A shows a relatively comfortable pedestrian area adjacent to City Hall, but as is the case in most other sections of Mill Street, the width and speeds of the roadway are greatly out of scale. Many of the other images (B and H) show a sidewalk in a back-of-curb condition. Paired with high speeds and a wide roadway, this is not a particularly safe or pedestrian-friendly condition. Some

areas (images C and G) show conditions where the pedestrian zone is no longer legible and the commercial frontage appears to be only for parking use. In general, there are very few existing amenities (trees, furnishings, landscaping, signage, etc.) that provide pedestrian comfort and safety along Mill Street.

Many of the existing structures along Mill Street appear to be deteriorating, unused, set back great distances from the roadway, and generally uninviting to pedestrian activity. Development that incorporates parking along the street facade of the building (B,C,E,G,and K) cause both pedestrian issues and problems related to vehicles entering the roadway through unregulated curb-cuts. The quality of signage and architectural materials (D, F, G, I, and J) is of generally poor quality and condition. It can be assumed that this is a direct deterrent for new investment in the area and pedestrian activity.



A View of Lewisville City Hall Down Church Street



B Office Building - No Planting Buffer



C Commercial Use - Lacking Defined Parking Landscape Buffer



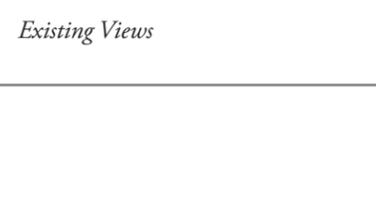
D Light Industrial Land Use along Mill Street



E School Conversion to Office Use



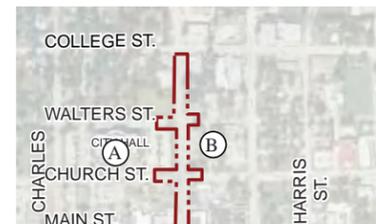
F Empty Commercial Building - Intersection Facing



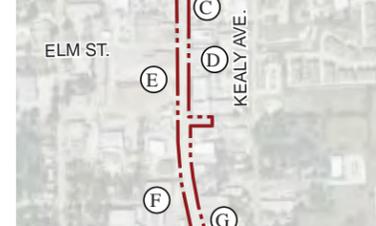
G South on Mill Street - Large R.O.W.



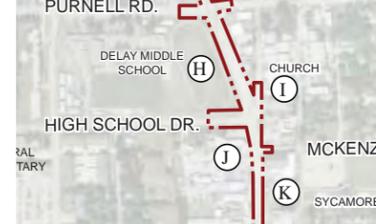
H Auto Service - Indistinguishable Sidewalk



I Commercial - Multi-Tenant Building



J Commercial Buildings - Large Setback



K Commercial Signage - Outdated and Abandoned



L Commercial Multi-Tenant Building - No Planting Buffer



M Car Lot - Large Vehicle Frontage



North Not to Scale

Existing Views



Mill Street improvements should anticipate green stormwater practices, as shown in this sketch.

CHAPTER THREE

DEVELOPMENT
OF ALTERNATIVES



The charrette concluded with an open house that was attended by many members of the community.

Community Outreach

Buy-in from key stakeholders and the community is important to the success of Mill Street and the commercial uses along this corridor. This buy-in started early in the process and became an integral part of the design approach. The charrette established consensus among all parties involved and built social capital around the proposed concepts and improvements.

Charrette Stakeholder Process

To implement streetscape improvements on Mill Street will require partnerships with the community, property owners, businesses, City of Lewisville, and other appropriate governmental services/agencies and utility companies. The process was specifically developed to create successful outcomes and deliverable, gain valuable input, and build consensus among the public and stakeholder interest groups.

The charrette process that took place allowed for the public and stakeholder groups (including commercial services along the corridor) to be involved over the course of the five-day event. An open house followed at the conclusion of the charrette.

Stakeholder meetings were concurrently conducted with each like-minded interest group (i.e. Businesses north of Main Street; Parks Department; Denton County Transit Authority; Mill Street business owners, etc.) allowing for meetings to be conducted in a constructive and non-confrontational atmosphere. Each facilitated stakeholder meeting lasted approximately 75 minutes. At the beginning of each stakeholder meeting, a brief presentation described the projects and identified “national best practices” for streetscape and corridor design standards and improvements. The purpose of the presentation was to familiarize the stakeholder group with the project, identify the process and rules for the work session, and to help the group generate discussion points. After the presentation, discussion was focused on the issues of the particular stakeholder group. For example, during the meeting with business owners along Mill Street, conversations were focused on maintaining access and parking availability. Simultaneously, while these meetings occurred, the team was developing design and phasing concepts that could be tested against one another along with comments gathered from the community.

Charrette Week Overview

At the charrette, ideas were developed that offered a balance between the needs of all interest groups in order to build consensus. Design concepts were tested against other proposed alternatives for consideration. Concepts for streetscape character were communicated through plans, sections, details, sketches, and elevations. Hand graphics were used for the proposed alternatives and street level character sketches presented the proposed design.

All members of the team were involved in the process for quality assurance purposes and to ensure all applicable areas of planning and design were being considered for elements affecting Mill Street. Team members included facilitators, landscape architects, planners, transportation planners, urban designers, environmental graphic designers (wayfinding and signage), and engineers.



Stakeholders prioritizing design issues



Idea generation by the design team



Presentation of charrette ideas to the community

Charrette Conclusion

At the end of the charrette process, the design team presented the findings of all the key stakeholder meetings, site inventory and analysis, and drawings created through the process. This open house allowed key stakeholders and citizens to review the proposed character of the streetscape environment created during the charrette. The design team explained the design objectives and concepts while also addressing additional comments. The open house allowed the community one more opportunity to bring forth comments and ideas before moving forward with the design process. The open house concluded with a dot voting exercise and questionnaire that allowed the community and key stakeholders to place value on what issues they saw as most critical for each project. Two alternatives for Main Street were produced and presented to charrette attendees and are explained in detail on the following pages.



Presentation of charette ideas to the community



Mill Street gateway concept produced at the charette

Character Zones of Mill Street

Mill Street is comprised of a series of zones each with their own unique characteristics as shown on the diagram on the following pages. The adjacent land uses, density, vegetation, and building form help delineate these zones. Urban design improvements should not be the same for all areas of Mill Street. The following proposed zones make up the entirety of Mill Street from south to north:

1-35/Highway 121 Business Interchange Enhancement Zone

Starting at the I-35 exit on Texas St., the first zone that is entered is the 1-35/Highway 121 Business Interchange Enhancement Zone. A signage and landscape plan needs to be created for this area since it is the primary gateway into Lewisville and Old Town. The landscaping in this zone should be loose and resemble a large open park with large massings of landscaping and Lewisville welcome signage. This area should be planted with large masses of grasses, wildflowers, and large trees.

Mill Street Gateway Zone

After passing through the Highway 1-35/121 Business intersection, the next immediate zone is the Mill Street Gateway Zone. This zone currently has large setbacks, large unused areas of pavement, and large areas of off street parking. This zone should establish the identity for the Mill Street Corridor through large masses of grasses and ornamental trees, buffered parking, and monument signage.

South General Business Zone

The South General Business Zone currently contains random sized lots of mixed commercial business and industrial uses. Parking is primarily located in the front yard setbacks. There is a lack of designated sidewalks, lighting, and landscaping. This zone has potential for a smaller sidewalk with large landscape buffers. Planting should be fairly simple and should be planted in large swaths. Street trees should be planted no wider than 50' on center. There are numerous opportunities for infill due to the number of empty and deteriorating buildings. Materials in this zone should be simple and should be designed for primary viewing from a vehicle.

Transition Zone

At High School Drive, Mill Street begins to curve slightly towards the City Hall. This zone acts as a transition between South Mill Street and North Mill Street. The open space on the west side and the odd shaped lots between Mill Street and Kealy Street could become an important gateway into Old Town. This zone would contain natural plantings and emphasize physical and visual connections to the open space. There should be a change in materials to identify the transition into Old Town. The street should become narrower to emphasize the pedestrian walkability of Old Town. Signage and streetscape amenities should be scaled for pedestrian comfort and safety.

North General Business Zone

The North General Business Zone provides the first glimpse of Old Town to the northbound traveler. In this section, the ease of pedestrian circulation is apparent through dedicated bike lanes, wide public sidewalks, enhancements to crosswalks, and closer street tree spacing for continuous shade. The planting in this area should reflect the more urban atmosphere and should be formal and more detailed than the south end of Mill Street.

Old Town Zone

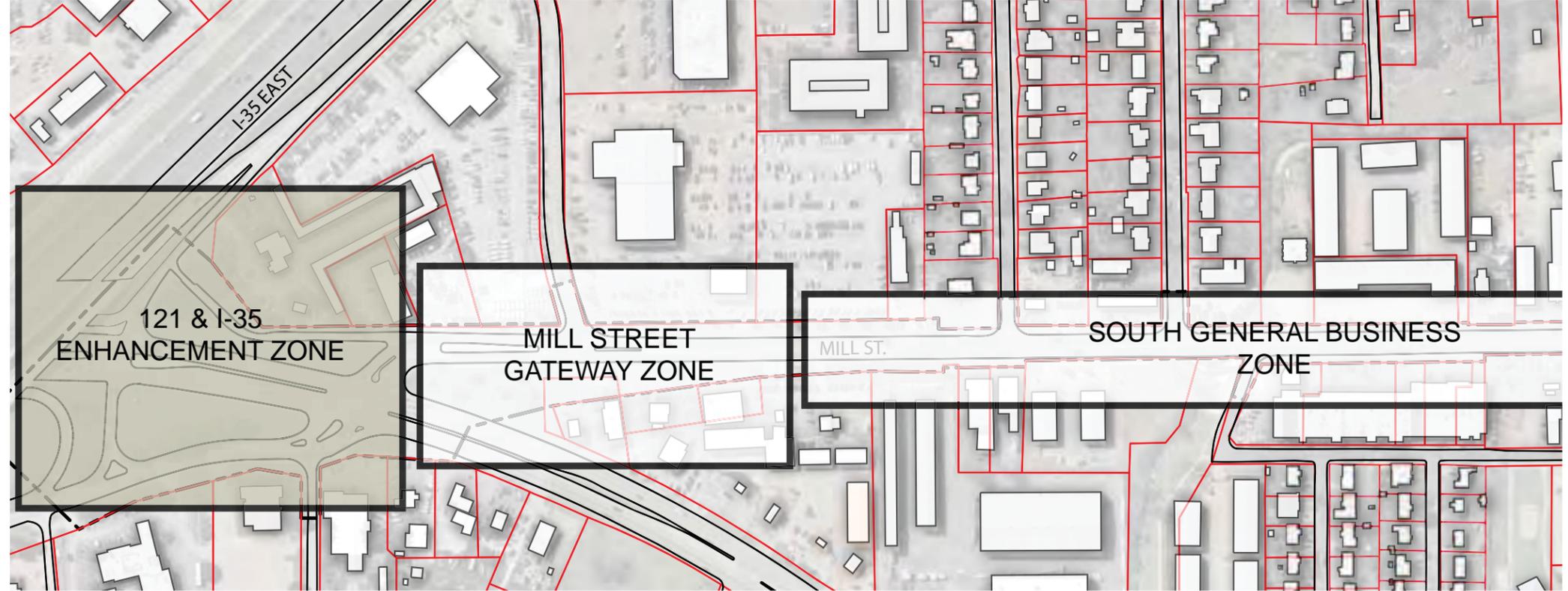
This Old Town Zone is the core of Mill Street and is the most urban area in Lewisville. On-Street parking should be encouraged in this area to facilitate easy access to local businesses. Planting should be formal and street trees should be planted in wells or planters and provide a dense overhead canopy for shade. Materials used in this section should be more detailed than the southern portion of Mill Street and should match existing materials in Old Town. Site furnishings should include at a minimum benches, tables, trash receptacles, and bike racks. Pedestrian circulation is extremely important in this area. On-street dedicated bike lanes facilitate movement. Plazas and pockets of green space should be encouraged in this zone.

Enhancement Zone

This zone helps identify the end of Old Town. Plantings would become more informal and should be designed to be viewed from a vehicle. Signage is important to let southbound travelers know they are entering Old Town.

Character Zones of Mill Street

This exhibit depicts the unique characteristics along Mill Street that were outlined on the previous pages.



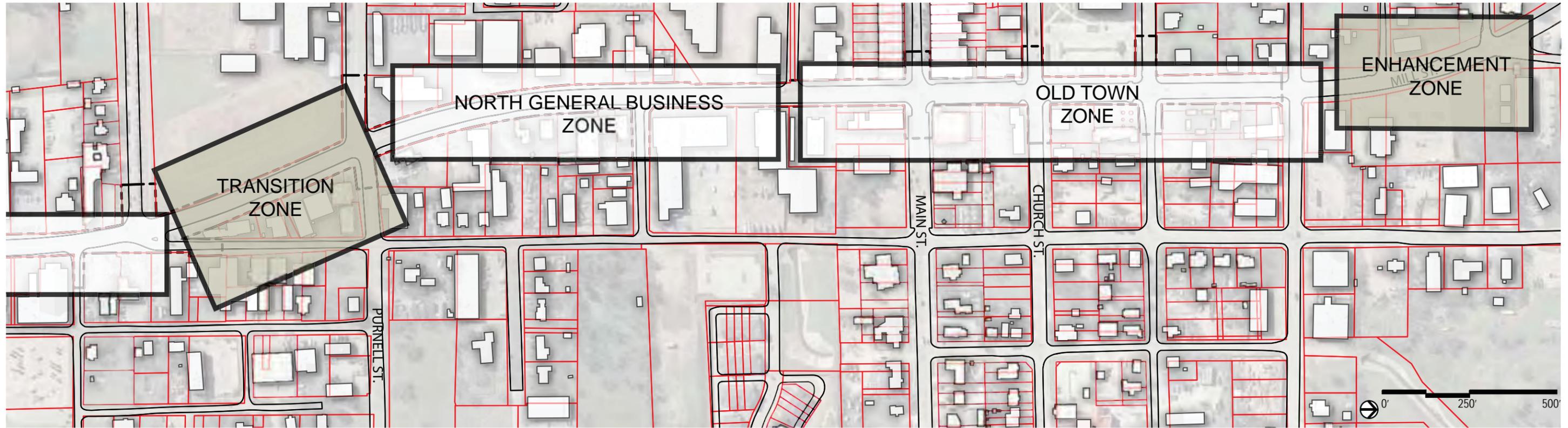
- Park like setting
- Bold landscape gestures
- Plant massings intended to be viewed from I-35 and frontage road
- Landscaping that attracts interstate motorist

- Landscape establishing identity for Mill Street Corridor
- Materials palette with monument signage, walls, etc.
- Monument signage used as visual anchor for corridor

- Street trees establish landscape pattern and rhythm to calm traffic
- Simple plant and material palette is recognizable from vehicles
- Landscape intensifies as it reaches the downtown
- Meandering "multi-use" trails and sidewalks are separated from roadway by plantings
- Strategic infill opportunities



Character Zones



- Rich natural plantings
- Wider sidewalks
- Tighter street tree spacing
- Strong physical and visual connection to park
- Road narrowing
- Changes in material palette to identify transition



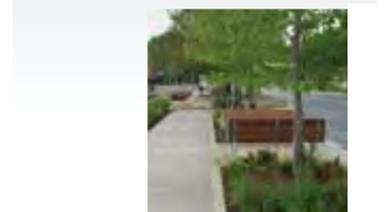
- Dedicated bike lanes within street section
- Formalized tree lawn with public sidewalk
- Additional tightening of street tree placement and opportunity for species change
- Key intersections have enhancements and detail in pedestrian crosswalks and paving materials
- Accent plantings



- On-street parking
- Formal urban plantings such as street trees in tree wells or planters
- Dense street tree canopy
- Full detailed materials palette for pedestrian scale and texture
- Site furnishings include benches, tables, trash receptacles, etc.
- Plazas and pocket green spaces
- Public art
- On-street bike lanes



- Park-like setting
- Transition in/out of Old Town Zone
- Street furniture for residential uses
- On-street bike lanes to Lake
- Street trees



Urban Thoroughfare Alternative

The Urban Thoroughfare Alternative focuses on improving the existing infrastructure without a major rebuild of the road. Improvements include seating, wider sidewalks, buffers between sidewalk and parking areas, signage, site furnishings, and safe crosswalks. This concept would require less construction and would work within the existing public realm. Key gateways are identified in blue on the diagram below where signage, landscaping, and amenities should be incorporated immediately. The area in green is a general business zone that retains the four travel lanes and proposes

a central vegetated median to create a boulevard. The area in brown is a key transition zone between the southern section of Mill Street and the core of Old Town. This area would contain two travel lanes with a center turn lane and dedicated on-street bike paths. The red area is the core of Old Town, where pedestrian circulation and safety is of the utmost importance. This section would contain two travel lanes with on-street parking and dedicated bike lanes.

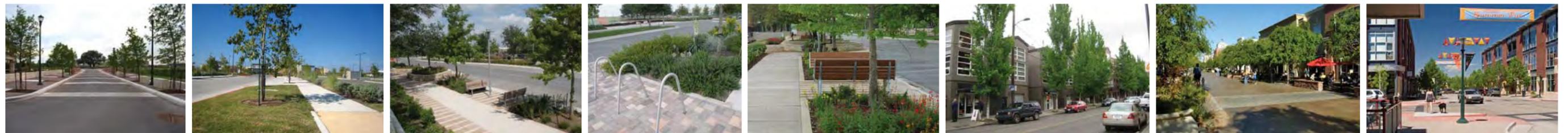
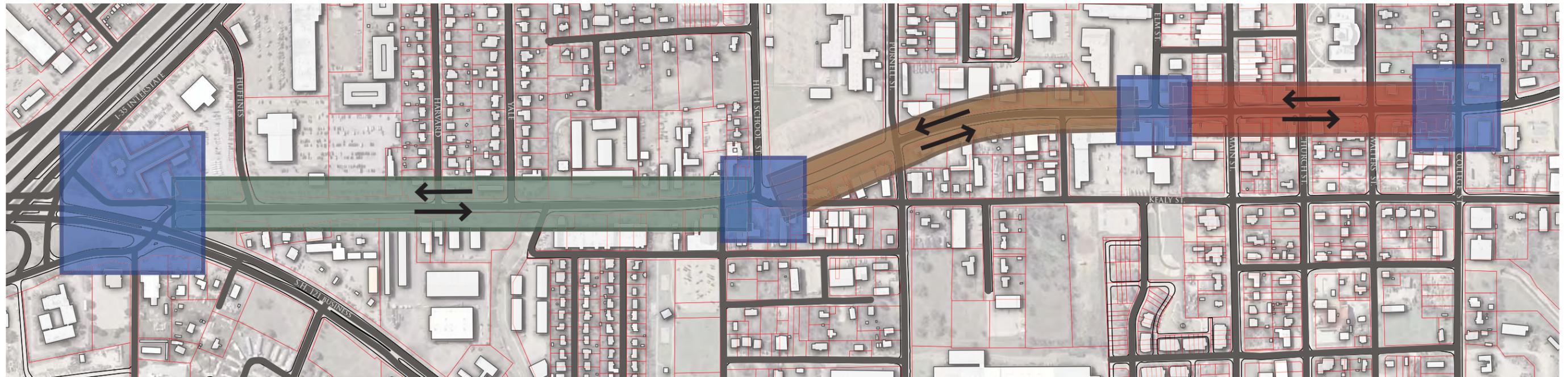
Community Comments

Participants at the charrette were asked to provide comments on the alternatives proposed for Mill Street. Char-

rette participants expressed the need for Mill Street to be the gateway to the proposed Old Town and Transit Station. Participants explained that improvements on Mill Street would help significantly, but they are not inclined to live or work there in its current condition. There was interest expressed in understanding available tax incentives available for improvements to properties. Many charrette participants realized that improvements to Mill Street would attract new commerce and economic energy. The vegetated median appealed to many participants, but they expressed their concern over automobiles making u-turns at these breaks.

LEGEND

-  Gateways With Signage And Enhanced Cross Sections
-  4 Travel Lanes With Or Without Center Median Turn Lanes
-  2 Travel Lanes, 1 Center Turn Lane And Dedicated Bike Lanes
-  2 Travel Lanes, On-street Parking And Dedicated Bike Lanes



Urban Thoroughfare Alternative - two alignment and improvements on Mill Street.



Couplet Alternative

The Couplet Alternative proposes that Mill Street become a one-way couplet similar to Church Street and Main Street. Key gateways are identified in blue on the diagram below where signage, landscaping, and amenities should be incorporated immediately. The green area of Mill Street south of Kealy Avenue would continue to be four lanes and two-way similar to the Urban Thoroughfare Alternative. The area in red would become a couplet that would start at the intersection of Mill Street and Kealy Avenue and end just past College Avenue. The existing alignment of Mill

Street from College Street to Purnell Street would become southbound only and the proposed road from Kealy Avenue to College Street would become northbound only.

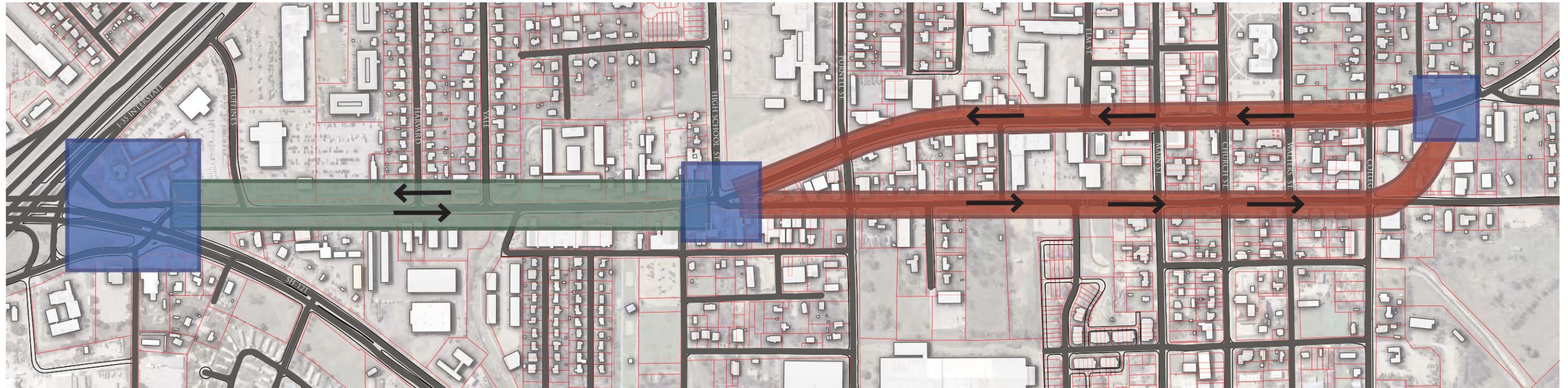
Community Comments

Participants at the charrette observed that the couplet would help extend the Old Town to the east towards the new transit station, therefore expanding the viability of Main Street and making it more pedestrian friendly. Many charrette participants noted that this alternative would reduce traffic along the existing Mill Street Corridor, but in turn would

reduce the visibility of businesses in Old Town. One charrette participant thought that the couplet would work best if the area along Kealy Avenue was mixed-use and not single family residential. Another charrette participant noted that the Couplet would free up additional right-of-way that could be used for widening the sidewalks and pedestrian zone. Several charrette participants remarked that this plan may be better in the long run to reduce traffic that may be caused by growth in Old Town, future transit station, and associated development.

LEGEND

-  Gateways With Signage And Enhanced Cross Sections
-  4 Travel Lanes With Or Without Center Median Turn Lanes
-  One Way Road With 2 Travel Lanes, On-street Parking And Continuous Bike Lanes



Couplet Alternative



Street Cross-Sections from Charrette

The descriptions below and associated sketches to the right describe in detail the character of the public realm as a result of the community input at the charrette.

Typical Cross Section: Highway 121 Business to High School Drive

A vehicular oriented street, organized as a parkway with a planted median and turning lanes. Large trees are planted at least 50 feet on-center to frame the street and provide scale and color during the summer and fall months. Ornamental grasses and shrubs are organized in large patterns to provide visual interest to drivers and a positive first impression into the site.

Typical Section: High School Drive to Elm Street

In this transition zone, the vehicular area includes three drive lanes, no median, and two bike lanes on either side of the drive lanes. Large trees continue to frame the vehicular realm, planted 30 feet on-center providing improved scale and human comfort for pedestrians. The pedestrian realm is emphasized by the use of pedestrian lighting, paving details, and site furnishings at corners.

Typical Section: Old Town

This section is designed as a two drive lane street with a bike lane and on-street parking in specific areas. The pedestrian zone is wider allowing for outdoor patios and seating areas. The sidewalks include decorative paving, site furniture, pedestrian lighting, and hanging planters. Street trees are planted 25 feet on-center to provide shade and human comfort allowing for outdoor patios and seating areas. A section is shown for both the two-way travel and one-way travel options for Mill Street within the Old Town.

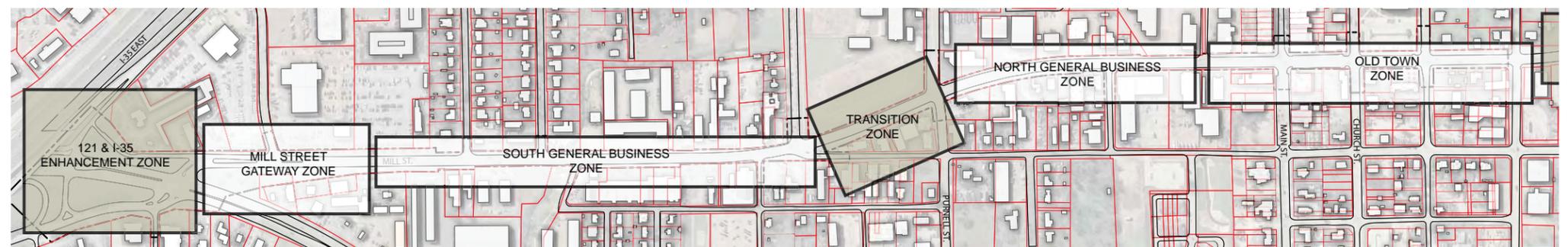


Typical Cross Section of from Highway 121 Business to High School Drive

Typical Cross Section from High School Drive to Elm Street

Typical Cross Section through Old Town with Two-Way Travel

Typical Cross Section through Old Town with One-Way Travel



CHAPTER THREE

PREFERRED
ALTERNATIVE



The preferred alternative includes creating a couplet at Kealy Street and Mill Street, as shown in this view, looking north.

The Phased Approach

After conducting workshops regarding the preliminary alternatives and supporting material from the charrette with the City Staff and City Council, it was decided that both alternatives were viable and were actually different phases of the same plan. The Urban Thoroughfare Alternative focuses on improving the existing infrastructure without a major rebuild of the road. This alternative became more feasible to implement in the near future. As Old Town and Lewisville grows, the City may decide to disperse the traffic on Mill Street by implementing the Couplet Alternative. The couplet should be implemented when the City determines that business will not be harmed by rerouting part of the traffic flow to the current layout of Kealy Avenue and traffic volume creates the need for a couplet. This would require a detailed traffic impact analysis and a market study to ensure that there is a demand for the additional retail frontage that would occur along the couplet.

Three phases are proposed to happen in consequent order if the preferred concept was implemented:

- Phase I Valley Ridge Road is implemented and built, thereby providing a direct route from I-35 to Highway 121 Business. This will alleviate immediate automobile pressure on Mill Street in order to allow for Phase II improvements.
- Phase II Mill Street and Kealy Avenue are improved as two ways streets. However, the design should be flexible for Phase III to occur without reconstruction.
- Phase III The couplet concept is used as a long term design solution as infill redevelopment occurs between Mill Street and Kealy Avenue, or traffic demands call for it.

Any major change to the circulation of a city has its pros and cons. These benefits and constraints of creating a couplet were discussed with City Staff and City Council:

Couplet Benefits

- Improved safety, since pedestrians and vehicles crossing at couplet only have to look in one direction.
- Increased roadway capacity.
- Reduced need for turn restrictions.
- Reduced greenhouse gas emissions due to idling in traffic.
- Managed traffic flows to the desired speeds.
- Shortened crosswalks.
- Maximized on-street parking.
- Created pedestrian-scaled design opportunities.
- Reduced conflict points.
- Provided an easy bus turnaround.
- Encouraged development to grow eastward toward the transit station.

Couplet Constraints

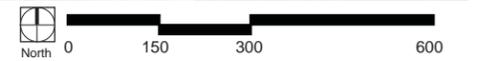
- Reduced direct travel patterns.
- Encouraged development to move east instead of infilling in the existing core of Old Town.
- Reduced appeal to Main Street retail due to reduction of traffic flow through existing Old Town.
- Construction impacts such as road closures, noise and air pollutions, and increased congestion.
- Additional right of way will need to be acquired on Kealy Avenue.

Illustrative Plan

The plan below is an illustrative rendering of the preferred alternative for Mill Street. Large green trees represent canopy trees, orange/yellow trees represent ornamental trees, and green round trees represent typical street trees. Crosswalks are shown where they are needed and bus stops can be located approximately where white buses are placed along the edge of the street.



Mill Street Improvement Illustrative Plan





Circulation Plan

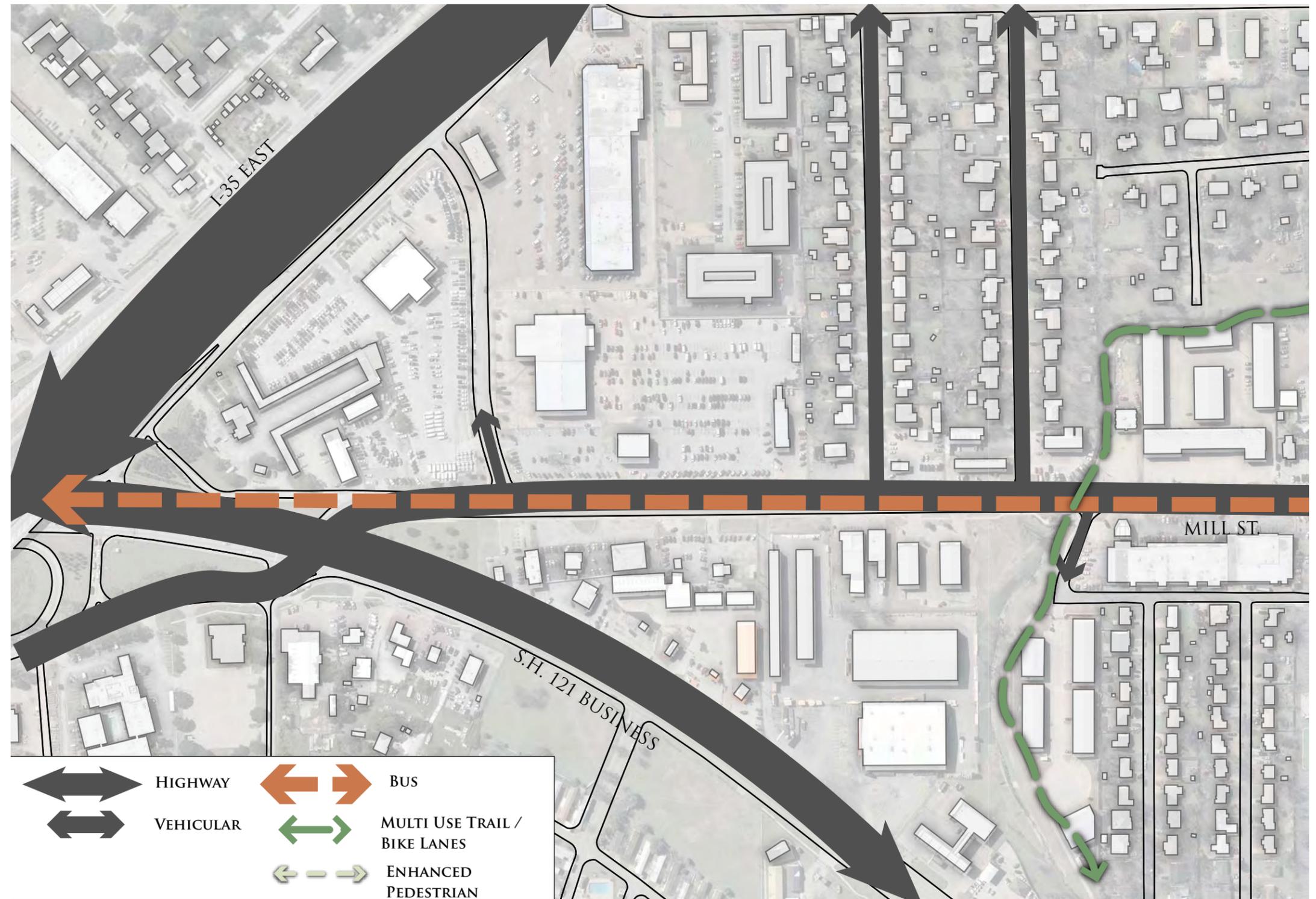
The preferred alternative creates a streetscape that has the ability to move vehicles efficiently while providing for safe circulation of other modes of transportation. The diagram to the right shows the proposed circulation of vehicles, buses, bicycles, and pedestrians:

Vehicles

Vehicles continue to access Mill Street primarily from the I-35/ Highway 121 Business interchange, from Main Street, Purnell Street, and Church Street. There are several smaller streets that intersect Mill Street and carry local traffic. A proposed road will connect Elm Street between Kealy Avenue and Mill Street to foster efficient circulation as part of the 2010 Old Town TOD Plan.

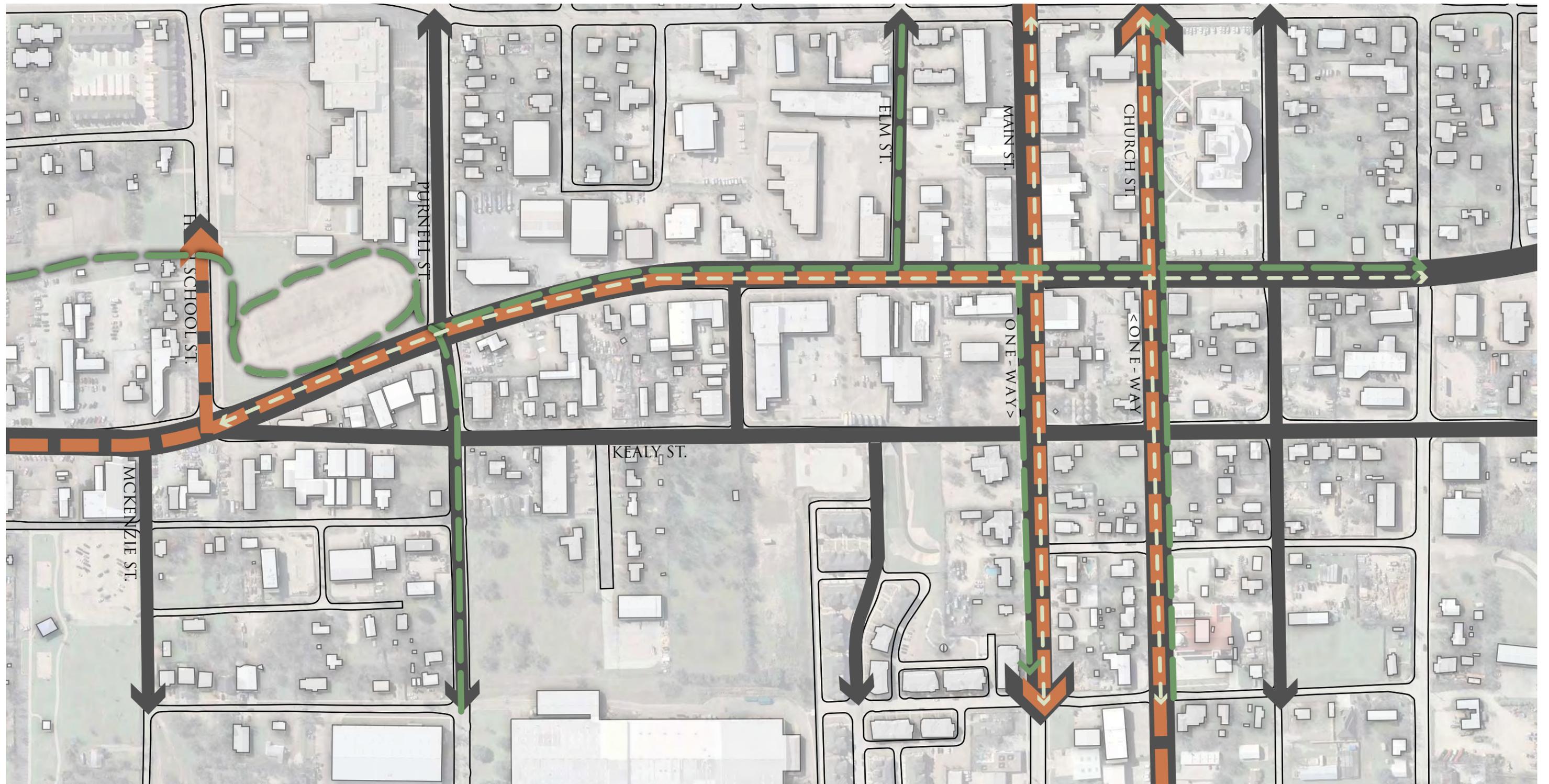
Bus

DCTA routes 23 and 22 run along Mill Street. Bus stops have been located on the final plan in areas that may be underserved by transit in the future. Buses will primarily use the far right lane and will stop in the street. A study conducted on the Portland Bus system found that the average dwell time (the time a bus is stopped to load/unload passengers,) was 12.29 seconds (<http://www.nctr.usf.edu>). With Lewisville being a considerably smaller city than Portland and Mill Street conveying a low to medium volume of traffic it could be assumed that the dwell time would be less than 12.29 seconds per stop and would not adversely affect traffic flows.



Circulation Plan





Multi-Use Trail/ Designated Bike Lanes

It is important to consider alternative forms of commuters when designing a successful streetscape. Many people would prefer to walk or ride a bike to work if there was a safe and efficient way for them to do so. The green dashed trail on the Circulation Plan shows the proposed location of the bicycle routes. Mill Street would contain designated bike lanes from Purnell Street to Lewisville Lake. Designated bike lanes will also be included on Purnell Street, Elm Street, Main Street, and Church Street. A multi-use trail is proposed to connect the existing off-street pedestrian loop around Sycamore Park to the west side of Mill Street and allow for a safe pedestrian path.

Enhanced Pedestrian Routes

In urban design, the space from the curb to the face of the building is known as the pedestrian zone. The pedestrian zone in Old Town should accommodate the safe circulation of a high number of pedestrians. This space should be scaled to the pedestrian and contain wide sidewalks, site furnishings, decorative lighting, wayfinding signage, quality materials, vegetation, and shade. Plazas and green pockets should be tucked between buildings to allow the pedestrian a place to relax. The pedestrian connections from Mill Street to the Old Town Station and the Old Town Plaza should be clearly defined with wayfinding signage and lighting.

Parking

On-street parking on Mill Street is encouraged in Old Town from College Street to Elm Street. Parking bulb-outs containing street trees should define the parking spaces and a two foot clear zone should be maintained on the upper part of the curb to allow for unobstructed exit/access of vehicles. Areas that contain existing structures, such as the brick walls

at the corner of Mill Street and Main Street, will not allow parking to be created on-street. In the future, these obstructions should be removed or rebuilt to allow for on-street parking and a clear pedestrian flow.



The intersection of Mill Street and Main Street serves as a major intersection that could draw from the existing character with an enhanced streetscape that is attractive and safe to pedestrians, cyclists, and vehicles. In addition, mixed use infill and adaptive reuse development is strongly encouraged as shown in this sketch.

Signage

Character

The Vehicular Directional for Mill Street is used to direct vehicular traffic to major tourist and historic destinations. The text and arrows should be changed to white in an effort to be easier to view for automobile traffic.

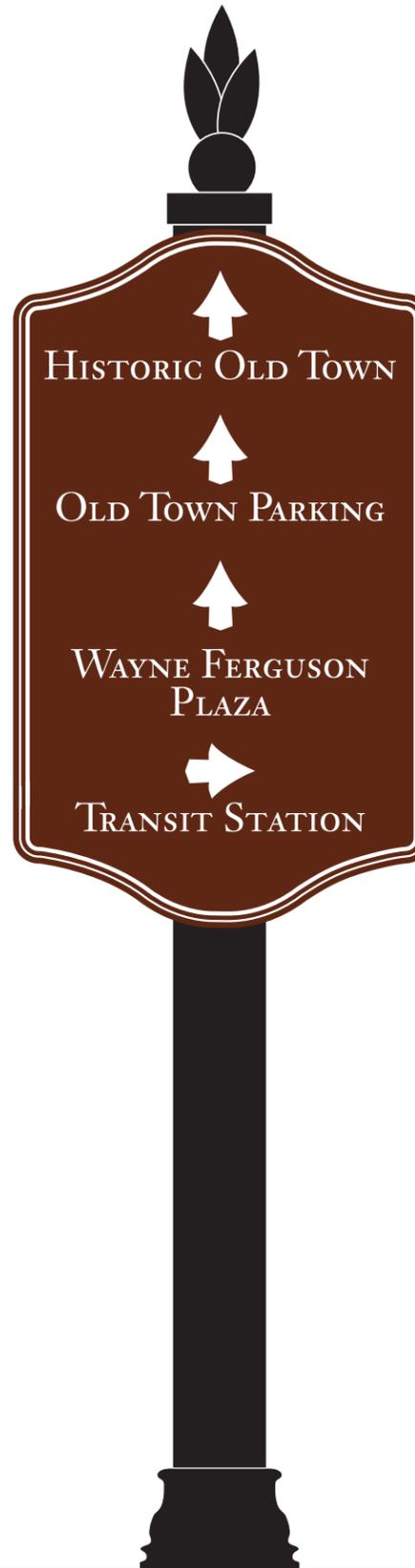
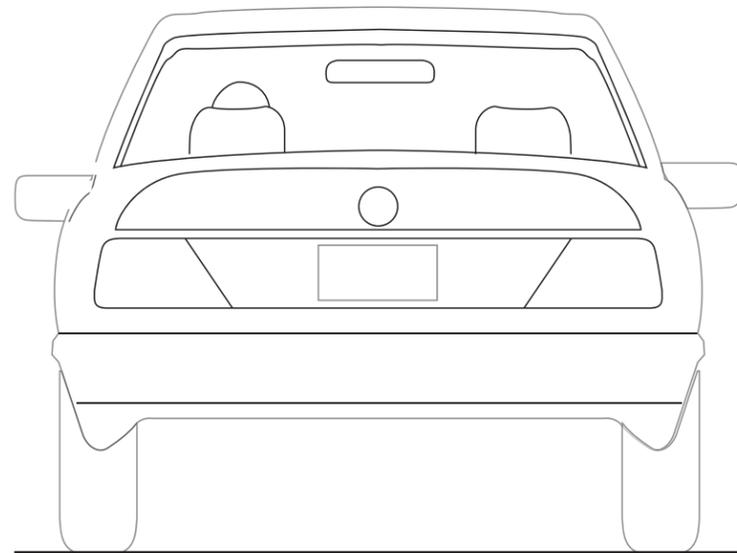
Messages should be limited to:

- Historic Old Town (or Old Town)
- Old Town Parking
- Wayne Ferguson Plaza
- Old Town Station
- Park(s)
- City Hall

No specific businesses or other destinations shall be included to ensure that the message is clear.



Vehicular Directional from the Urban Graphics Master Plan January 2005



Vehicular Directional: Mill Street (shown on custom post) scale: 3/4"-1'-0"



Vehicular Directional: Mill Street (shown on existing post) scale: 3/4"-1'-0"

Signage





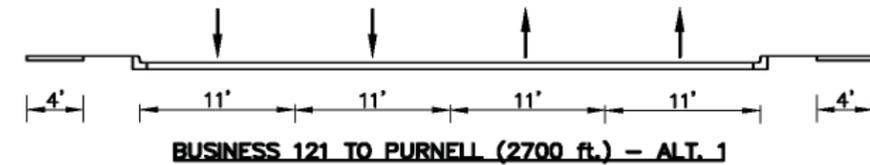


Gateway entry at the intersection of Highway 121 Business and Mill Street, looking north along the revitalized streetscape. Note the use of plantings, City identification, buried powerlines and street trees that contribute toward an inviting environment.

Conceptual Opinion of Probable Costs

The following opinion of probable costs are based on the various street cross sections proposed in this document. By breaking the opinion of probable costs up into each segment, it will allow the City to determine how to phase the 1.25 mile streetscape enhancement.

Item	Qty	Description	Unit	Unit Price	*Mult.	Adj. Unit Price	Total Price
Business 121 To Purnell (2,700 LF) - Alternate 1							
1	2,700	Sidewalk	LF	\$40.00	1.00	\$40.00	\$108,000.00
2	2,700	Striping	LF	\$10.50	1.00	\$10.50	\$28,350.00
3	2,700	Landscaping	LF	\$45.60	1.00	\$45.60	\$123,120.00
4	2,700	Sidewalk / Curb Demolition	LF	\$12.00	1.00	\$12.00	\$32,400.00
5	2,700	Curb and Gutter	LF	\$40.00	1.00	\$40.00	\$108,000.00
6	2,700	Inlet Tops	LF	\$4.00	1.00	\$4.00	\$10,800.00
7	2,700	Traffic Control	LF	\$9.00	1.00	\$9.00	\$24,300.00
8	2,700	Eradication (striping)	LF	\$6.00	1.00	\$6.00	\$16,200.00
9	2,700	Erosion Control	LF	\$5.60	1.00	\$5.60	\$15,120.00
10	2,700	Mobilization	LF	\$5.60	1.00	\$5.60	\$15,120.00
11	2,700	Irrigation	LF	\$8.50	1.00	\$8.50	\$22,950.00
12	2,700	Lighting	LF	\$87.50	1.00	\$87.50	\$236,250.00
13	2,700	SWPPP	LF	\$1.85	1.00	\$1.85	\$4,995.00
14	2,700	Walls	LF	\$225.00	1.00	\$225.00	\$607,500.00
15	2,700	Median Expansion (Entry)	LF	\$12.00	1.00	\$12.00	\$32,400.00
16	2,700	Entry Features	LF	\$25.60	1.00	\$25.60	\$69,120.00
17	2,700	TxDOT Landscaping	LF	\$3.70	1.00	\$3.70	\$9,990.00
Subtotal							
				\$542.45			\$1,464,615.00
Contingency				30%	\$162.74		\$439,384.50
Bonds and Insurance				3%	\$16.27		\$43,938.45
Testing				2%	\$10.85		\$29,292.30
PROJECT TOTAL					\$732.31	LF	\$1,977,230.25



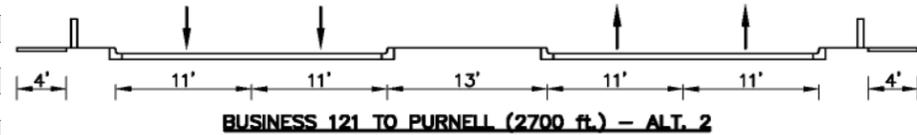
NOTES: This opinion is based upon standard construction practices and materials as of the date written.

Excludes any ROW acquisition

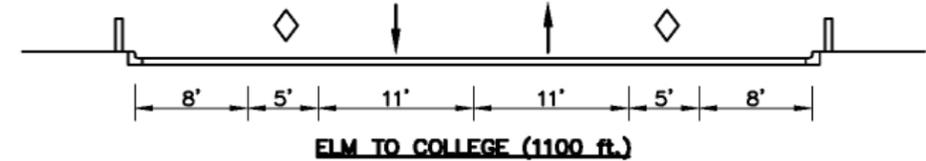
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Item	Qty	Description	Unit	Unit Price	*Mult.	Adj. Unit Price	Total Price
Business 121 To Purnell (2,700 LF) - Alternate II							
1	2,700	Sidewalk	LF	\$40.00	1.00	\$40.00	\$108,000.00
2	2,700	Striping	LF	\$11.00	1.00	\$11.00	\$29,700.00
3	2,700	Landscaping	LF	\$68.00	1.00	\$68.00	\$183,600.00
4	2,700	Sidewalk / Curb Demolition	LF	\$0.00	1.00	\$0.00	\$0.00
5	2,700	Curb and Gutter	LF	\$0.00	1.00	\$0.00	\$0.00
6	2,700	Inlet Tops	LF	\$4.00	1.00	\$4.00	\$10,800.00
7	2,700	Traffic Control	LF	\$18.00	1.00	\$18.00	\$48,600.00
8	2,700	Eradication (striping)	LF	\$0.00	1.00	\$0.00	\$0.00
9	2,700	Erosion Control	LF	\$5.60	1.00	\$5.60	\$15,120.00
10	2,700	Mobilization	LF	\$9.50	1.00	\$9.50	\$25,650.00
11	2,700	Irrigation	LF	\$8.50	1.00	\$8.50	\$22,950.00
12	2,700	Lighting	LF	\$87.50	1.00	\$87.50	\$236,250.00
13	2,700	SWPPP	LF	\$1.85	1.00	\$1.85	\$4,995.00
14	2,700	Walls	LF	\$225.00	1.00	\$225.00	\$607,500.00
15	2,700	Median Expansion (Entry)	LF	\$12.00	1.00	\$12.00	\$32,400.00
16	2,700	Entry Features	LF	\$25.60	1.00	\$25.60	\$69,120.00
17	2,700	TxDOT Landscaping	LF	\$3.70	1.00	\$3.70	\$9,990.00
18	2,700	New Pavement	LF	\$335.00	1.00	\$335.00	\$904,500.00
19	2,700	Pavement Demolition	LF	\$55.00	1.00	\$55.00	\$148,500.00
Subtotal							
				\$910.25			\$2,457,675.00
Contingency				30%		\$273.08	\$737,302.50
Bonds and Insurance				3%		\$27.31	\$73,730.25
Testing				2%		\$18.21	\$49,153.50
PROJECT TOTAL				\$1,228.84	LF		\$3,317,861.25



Item	Qty	Description	Unit	Unit Price	*Mult.	Adj. Unit Price	Total Price
Elm To College (1,100 LF) - Alt I							
1	1,100	Sidewalk	LF	\$55.00	1.00	\$55.00	\$60,500.00
2	1,100	Striping	LF	\$11.00	1.00	\$11.00	\$12,100.00
3	1,100	Landscaping	LF	\$25.00	1.00	\$25.00	\$27,500.00
4	1,100	Sidewalk / Curb Demolition	LF	\$11.00	1.00	\$11.00	\$12,100.00
5	1,100	Curb and Gutter	LF	\$40.00	1.00	\$40.00	\$44,000.00
6	1,100	Inlet Tops	LF	\$4.00	1.00	\$4.00	\$4,400.00
7	1,100	Traffic Control	LF	\$22.00	1.00	\$22.00	\$24,200.00
8	1,100	Eradication (striping)	LF	\$6.00	1.00	\$6.00	\$6,600.00
9	1,100	Erosion Control	LF	\$9.00	1.00	\$9.00	\$9,900.00
10	1,100	Mobilization	LF	\$9.00	1.00	\$9.00	\$9,900.00
11	1,100	Irrigation	LF	\$5.00	1.00	\$5.00	\$5,500.00
12	1,100	Lighting	LF	\$87.50	1.00	\$87.50	\$96,250.00
13	1,100	SWPPP	LF	\$1.85	1.00	\$1.85	\$2,035.00
Subtotal							
				\$286.35			\$314,985.00
Contingency				30%		\$85.91	\$94,495.50
Bonds and Insurance				3%		\$8.59	\$9,449.55
Testing				2%		\$5.73	\$6,299.70
PROJECT TOTAL				\$386.57	LF		\$425,229.75



NOTES: This opinion is based upon standard construction practices and materials as of the date written.
 Assumes storm sewer remains
 Excludes any ROW acquisition
 Assumes complete pavement demo

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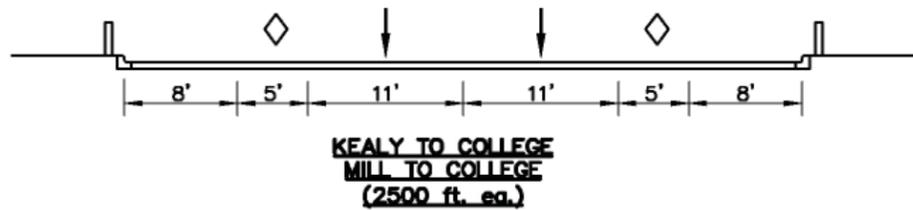


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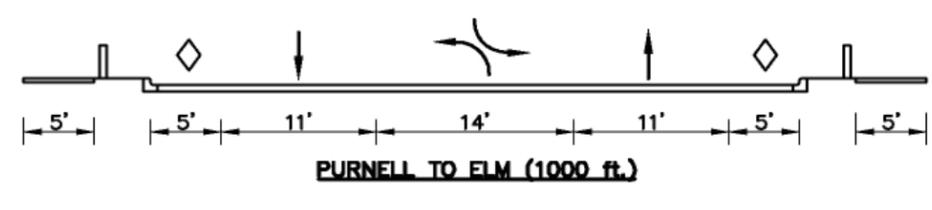
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Elm To College - Alt II (Kealy/Mill 1-Way)(2,500 LF)							
1	2,500	Sidewalk	LF	\$55.00	1.00	\$55.00	\$137,500.00
2	2,500	Striping	LF	\$23.00	1.00	\$23.00	\$57,500.00
3	2,500	Landscaping	LF	\$50.00	1.00	\$50.00	\$125,000.00
4	2,500	Sidewalk / Curb Demolition	LF	\$11.00	1.00	\$11.00	\$27,500.00
5	2,500	Curb and Gutter	LF	\$40.00	1.00	\$40.00	\$100,000.00
6	2,500	Inlet Tops	LF	\$4.00	1.00	\$4.00	\$10,000.00
7	2,500	Traffic Control	LF	\$52.00	1.00	\$52.00	\$130,000.00
8	2,500	Eradication (striping)	LF	\$6.00	1.00	\$6.00	\$15,000.00
9	2,500	Erosion Control	LF	\$27.00	1.00	\$27.00	\$67,500.00
10	2,500	Mobilization	LF	\$21.00	1.00	\$21.00	\$52,500.00
11	2,500	Irrigation	LF	\$5.00	1.00	\$5.00	\$12,500.00
12	2,500	Lighting	LF	\$87.50	1.00	\$87.50	\$218,750.00
13	2,500	SWPPP	LF	\$4.50	1.00	\$4.50	\$11,250.00
14	2,500	Walls	LF	\$0.00	1.00	\$0.00	\$0.00
15	2,500	New Storm Sewer	LF	\$105.00	1.00	\$105.00	\$262,500.00
16	2,500	New Inlets	LF	\$12.00	1.00	\$12.00	\$30,000.00
17	2,500	New Pavement	LF	\$333.00	1.00	\$333.00	\$832,500.00
18	2,500	Pavement Demolition	LF	\$33.00	1.00	\$33.00	\$82,500.00
Subtotal				\$869.00			\$2,172,500.00
Contingency				30%		\$260.70	\$651,750.00
Bonds and Insurance				3%		\$26.07	\$65,175.00
Testing				2%		\$17.38	\$43,450.00
PROJECT TOTAL				\$1,173.15	LF		\$2,932,875.00



Item	Qty	Description	Unit	Unit Price	*Mult.	Adj. Unit Price	Total Price
Purnell To Elm (1,000 LF)							
1	1,000	Sidewalk	LF	\$50.00	1.00	\$50.00	\$50,000.00
2	1,000	Striping	LF	\$12.00	1.00	\$12.00	\$12,000.00
3	1,000	Landscaping	LF	\$65.50	1.00	\$65.50	\$65,500.00
4	1,000	Sidewalk / Curb Demolition	LF	\$40.00	1.00	\$40.00	\$40,000.00
5	1,000	Curb and Gutter	LF	\$40.00	1.00	\$40.00	\$40,000.00
6	1,000	Inlet Tops	LF	\$4.00	1.00	\$4.00	\$4,000.00
7	1,000	Traffic Control	LF	\$25.00	1.00	\$25.00	\$25,000.00
8	1,000	Eradication (striping)	LF	\$6.00	1.00	\$6.00	\$6,000.00
9	1,000	Erosion Control	LF	\$5.00	1.00	\$5.00	\$5,000.00
10	1,000	Mobilization	LF	\$10.00	1.00	\$10.00	\$10,000.00
11	1,000	Irrigation	LF	\$5.00	1.00	\$5.00	\$5,000.00
12	1,000	Lighting	LF	\$87.50	1.00	\$87.50	\$87,500.00
13	1,000	SWPPP	LF	\$1.85	1.00	\$1.85	\$1,850.00
14	1,000	Walls	LF	\$225.00	1.00	\$225.00	\$225,000.00
Subtotal				\$576.85			\$576,850.00
Contingency				30%		\$173.06	\$173,055.00
Bonds and Insurance				3%		\$17.31	\$17,305.50
Testing				2%		\$11.54	\$11,537.00
PROJECT TOTAL				\$778.75	LF		\$778,747.50



NOTES: This opinion is based upon standard construction practices and materials as of the date written.

Excludes any ROW acquisition
Assumes complete pavement demo

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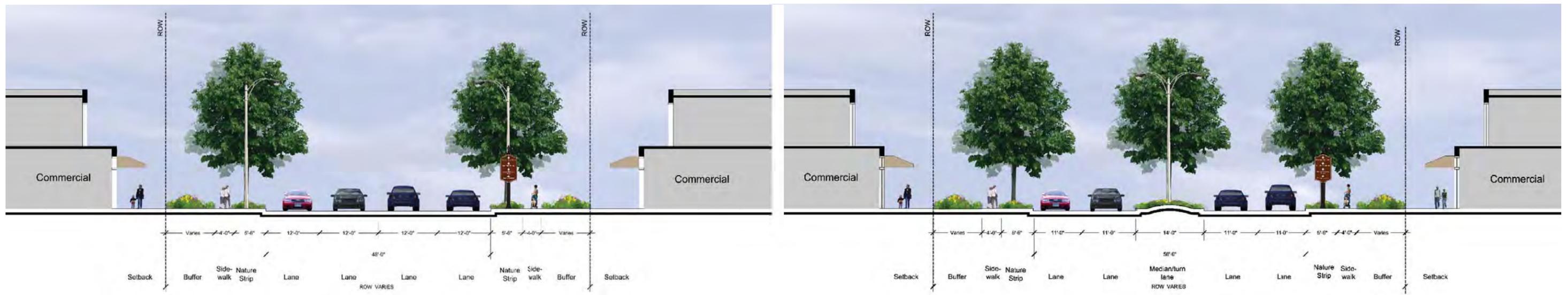
Proposed Streetscape Character

1a: Two Way - Four Lane Traffic with no Median

From the intersection of Mill Street and 121 north to McKenzie Street, two street sections occur, the first proposes two lane traffic in both directions with no center turn lane or median. This option generally fits within existing ROW, however traffic operations will suffer due to higher delays in areas with a high concentration of driveways. Shared driveways are recommended where feasible in order to reduce the number of potential conflict points and to consolidate traffic maneuvers.

1b: Two Way - Four Lane Traffic with Median/Turn Lane

The second option proposes two lanes of traffic in both directions with a center median that would also serve as a center turn lane. This option may require acquisition of additional ROW in areas to accommodate the designed street sections elements. An alternative would propose all through travel lanes at 11'-0". The illustrative plan shows how the second option with median would fit within existing conditions.



1a: Two Way/ Four Lane Traffic with no Median

1b: Two Way/ Four Lane Traffic with Median/Turn Lane

Proposed Streetscape Character

From the intersection of Mill Street and McKenzie Street, north to Old Town, there is an opportunity for a phased approach to implementation. If enough commercial and mixed use redevelopment occurs between Mill Street and Kealy Avenue, Mill Street can be transformed to become a couplet with traffic heading north on Kealy Avenue and south on Mill Street.

2a: Two Way Urban - Two Lanes with Bike Lanes

This option utilizes a three-lane traffic cross-section including bicycle lanes. The two-way street with a continuous center turn lane will provide appropriate driveway access. This alternative requires the least amount of ROW.

2b: Two Way - Two Lanes Middle Turn Lane and Bike Lanes

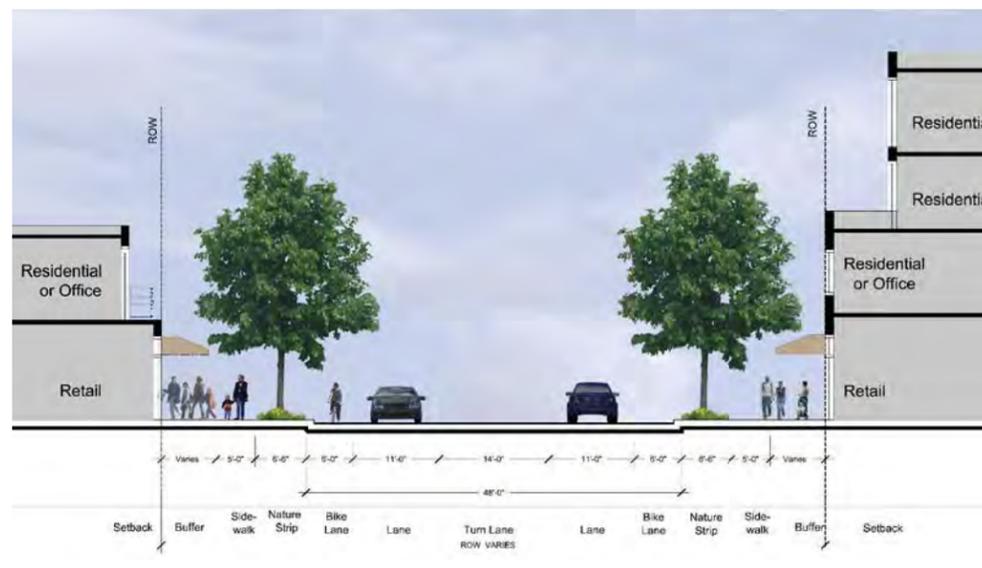
This concept will provide identical traffic operational characteristics to cross section 2a. The two-way street with continuous center turn lane will provide driveway access at key areas. The sidewalk is slightly narrower and more landscaping occurs in the nature strip.

2c: Two Way - Two Lanes Middle Turn Lane, Bike Lanes and Parallel Parking

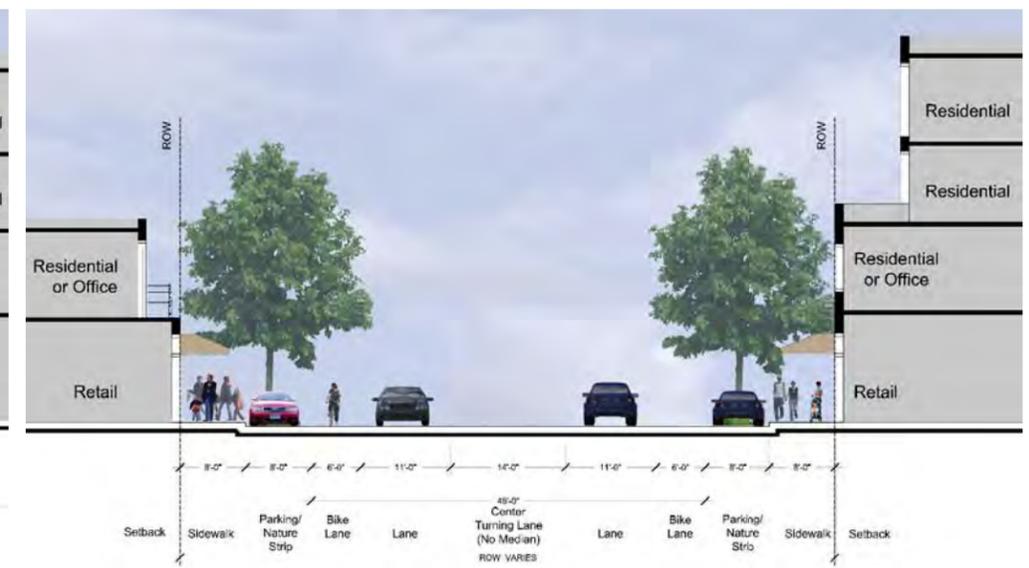
This concept adds tuck in on street parking to the 2a concept. The two way street with a continuous center turn lane will continue to provide appropriate turning movements at driveways and intersections.



2a: Two Way Urban - Two Lanes Middle Turn Lane with Bike Lanes



2b: Two Way - Two Lanes Middle Turn Lane and Bike Lanes



2c: Two Way - Two Lanes Middle Turn Lane, Bike Lanes, Parallel Parking

Proposed Streetscape Character

The one-way couplet concept utilizes two roadways (Mill Street and Kealy Avenue) to provide opposing traffic flows. One-way streets provide many technical and operational advantages over two-way streets; however, motorists often do not find one-way streets to be as intuitive as two-way streets. Additional signage is required for one way streets to regulate the traffic flow. The street sections below were designed with the intention of keeping the curbline the same between the proposed one-way and two-way traffic. The design proposed allows Mill Street and Kealy Avenue to change from a two-way street to a one-way street by simply changing striping.

3a: One Way - Three Lanes with Bike Lane

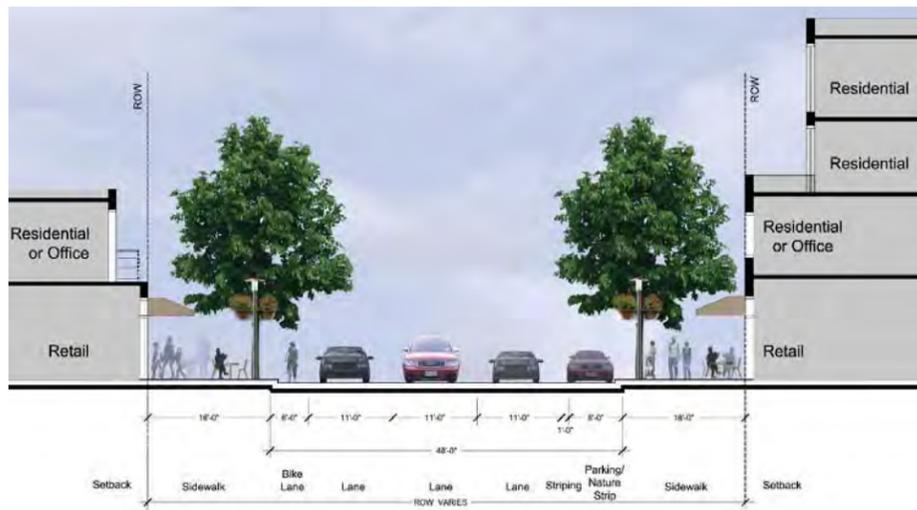
This option provides one lane of on-street parking with three lanes of traffic and a bicycle lane. Ample pedestrian space is provided on each side of the street.

3b: One Way - Two Lanes with Bike Lane and Two Side On-Street Parking

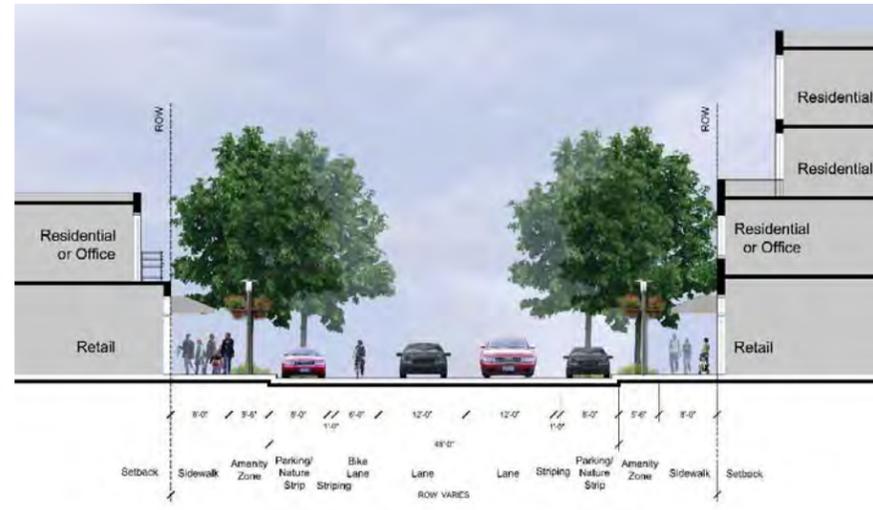
This option continues two lanes of traffic with two sides of on-street parking, a bicycle lane, and a smaller sidewalk area. This maximizes on-street parking opportunities.

3c: One Way - Three Lanes with Bike Lane and One-Side On-Street Parking

As the land-use changes along the corridor, the program of travel lanes, parking, and bicycle lanes also changes. The areas from back of curb to the right-of-way varies providing space for pedestrian amenities.



3a: One Way - Three Lanes with Bike Lane



3c: One Way - Two Lanes with Bike Lane and Two Side On-Street Parking



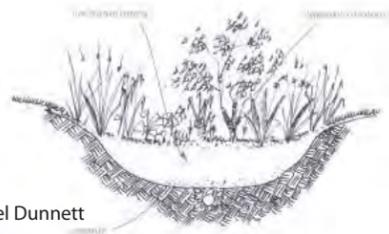
3b: One Way - Three Lanes with Bike Lane and One-Side On-Street Parking

Stormwater Approach

Bioretention

Bioretention is a land-based practice that uses the chemical, biological and physical properties of plants, microbes and soils to control both quality of water and the quantity of water within a landscape. Bioretention uses a simple model for run-off infiltration, filtration, storage, and for uptake by vegetation.

The diagram below illustrates how bioretention captures and filters run-off through soil. Once the soil is saturated, water begins to pool on the surface, and is either able to infiltrate back down into the natural soil overtime, or is drained away.



source: Nigel Dunnett

Control of Stormwater Quantity

The main purpose of the water-sensitive landscape is to reduce or eliminate the amount of excess run-off leaving the property or site—in so doing, pollutants held within the water are also contained within that landscape. Four terms describe strategies for controlling stormwater quality:

- **Interception:** the collection or capture of rainfall or run-off by plant leaves and stems, or soils, and the subsequent collection and pooling of that water in the bioretention feature.
- **Infiltration:** the downward movement of water through soil—this is one of the main functions of a bioretention feature.

- **Evaporation:** evaporation of water back into the atmosphere from plant and soil surfaces, and from pooled water. (Bioretention features aim for shallow pooling of water to encourage maximum evaporation.)
- **Transpiration:** the evaporation through leaves of water that is taken up by the plants is transpired back to the atmosphere.

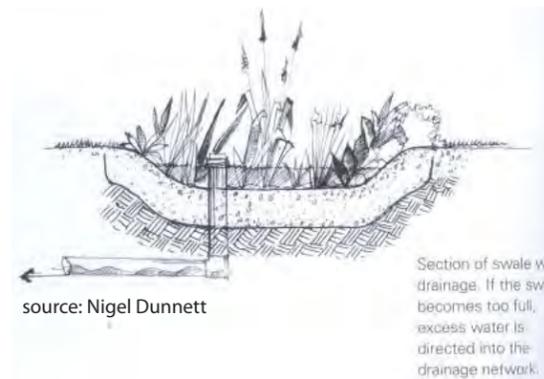
Landscape Swales

Landscape swales are vegetated channels and linear depressions. Swales temporarily store and move run-off water, reducing total run-off and flow rate from small to moderate storms. They have some pollutant filtering capacity. Swales are shallow, long, low depressions in the ground that are designed to collect and move stormwater run-off. As well as being a means of transporting water, one of their main functions is to allow water to infiltrate into the ground and to enable pollutants to settle and filter out.

The aim is for them not to be permanently full of water, but to encourage accumulation of rainfall during storms and to hold it for a few hours or days while it infiltrates down into the soil, and /or is transported further to a detention pond or basin. Diverse planting of shrubs, trees, perennials and wildflower meadows along their edges allows evaporation of water from swales, and the swale also provides irrigation for the plants.

Vegetated swales have the primary function of promoting infiltration and can be richly planted with trees, shrubs, and perennial plants. Grassy swales are better suited where water flow needs to be encouraged. In both types of swales, the use of native grasses and wildflowers are recommended. Swales should be designed not to require mowing. Where mowing is essential, it should not be done more than once

a year—a natural looking swale is no less effective than one that is manicured. Maintenance may be required to remove litter and debris in a public setting. Swales vegetated with meadow-like mixture of native grasses and flowering plants retain up to 41% of the water that flows through them, whereas identical swales vegetated with short turf grasses only retain 27% of the flow. Similarly, pollutant capture is also increased in swales with native vegetation, removing upwards of 80% of the total suspended solids compared to 70% in maintained turf swales.



source: Nigel Dunnett

Section of swale with drainage. If the swale becomes too full, excess water is directed into the drainage network.

Street Swales

Street swales are small-scale landscaped depressions that are designed to take run-off water from the street. They provide an instant treatment option for waters polluted by vehicular uses.

Parking Swales

Most parking lots divide parking rows with raised curbed islands, often containing trees. These can be replaced by a depressed planting swales, allowing water from the parking surface to collect. Vegetation in these swales then filters contaminants from the paved areas. Trenches lined with limestone chippings can also be used to trap any oil and toxic fluids before the water enters the swale. Similarly, parking swales can be installed alongside domestic driveways and parking areas in front of gardens and yards.



Landscape Amenities
Streetscape



1- ENHANCEMENT ZONE

Zone 1 has limited streetscape features or pedestrian amenities. It consists mostly of naturalistic plantings that keep views open from the interstate.



2- GATEWAY ZONE

Zone 2 features monument/district signage, thematic light fixtures, basic walkways and art installations within the streetscape and pedestrian zone. Most improvements in this area are sized and placed to welcome visitors from the interstate.



3- SOUTH GENERAL BUSINESS ZONE

Zone 3 includes 'Multi-use' pedestrian pathways along the road and upgraded lighting. Street trees and plantings will be used to separate the pedestrian area from the roadway.





4- TRANSITION ZONE

5- NORTH GENERAL BUSINESS ZONE

6- OLD TOWN ZONE

The Transition Zone marks the beginning of strategic upgrades in the streetscape and pedestrian zone. This includes some upgrades to paving materials, benches, and wide sidewalks that connect to adjacent park space.

The streetscape in this zone has an “urban” feel in some areas, but is strategic in its use of upgraded paving, planting, and furnishings. Upgrades occur at key intersections and nodes.

To complement the prominence of Old Town, materials within Zone 6 will be upgraded to the furthest extent possible. This palette will include special paving, pedestrian amenities, furnishings, and all-season plantings.



Landscape Amenities

Planting Character



1- ENHANCEMENT ZONE

Zone 1 is a bold, open, and primarily seasonal landscape. Large evergreen trees anchor and define the space, while seasonal grasses, shrubs, and wildflowers provide seasonal interest that will attract visitors from the interstate.



Bur Oak (*Quercus macrocarpa*) Live Oak (*Quercus virginiana*) Thornless Prickly Pear (*Opuntia tuna*) Mexican Bush Sage (*Salvia leucantha*)



Texas Prairie Wildflower Mix (Mixed species) Big Bluestem (*Andropogon gerardii*) Gulf Muhly (*Muhlenbergia capillaris*) Big Muhly (*Muhlenbergia lindheimeri*)

2- GATEWAY ZONE

Zone 2 begins to establish the identity of the Mill Street Corridor with more formalized plantings that enhance and frame proposed monument signage. Plantings in this zone will include seasonal and evergreen materials.



Bur Oak (*Quercus macrocarpa*) Live Oak (*Quercus virginiana*) Desert Willow (*Chilopsis linearis*) Texas Redbud (*Cercis var. 'texensis'*)



Thornless Prickly Pear (*Opuntia tuna*) Maiden Grass (*Miscanthus sinensis 'Gracillimus'*) Cotoneaster (*Cotoneaster sp.*) Butterfly Iris (*Diets sp.*)

3- SOUTH GENERAL BUSINESS ZONE

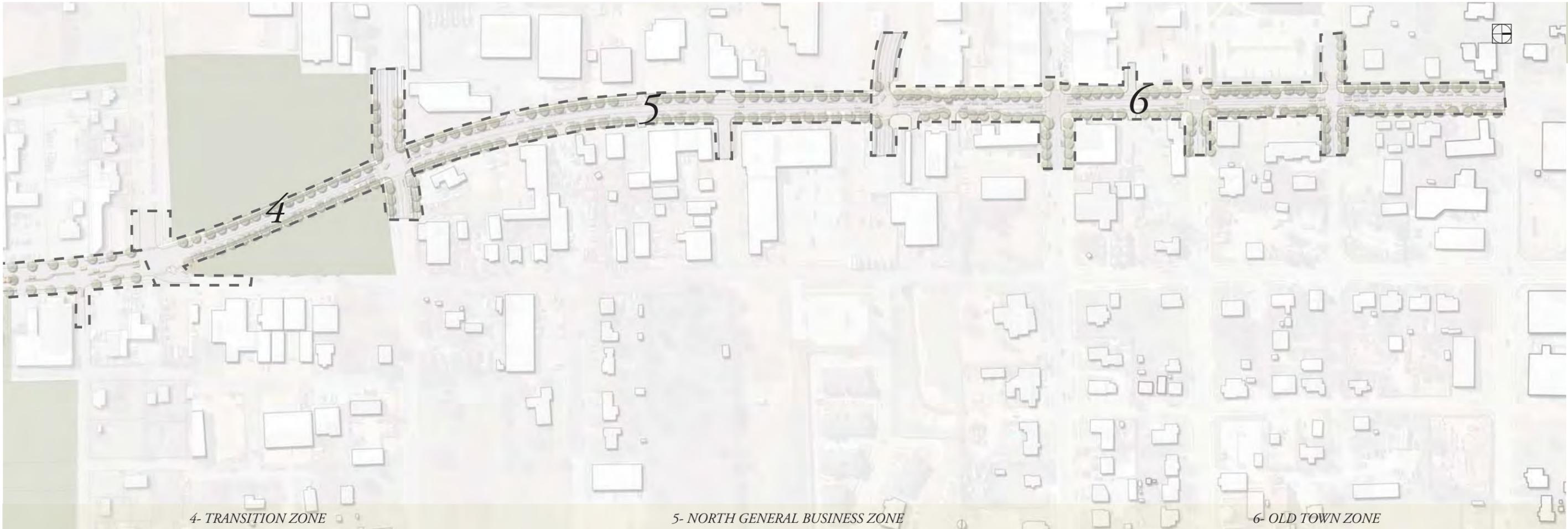
Zone 3 introduces a more formalized approach to street tree plantings and includes plant materials that will help with screening. The planting character will be fairly simple and attractive to visitors entering the corridor in a vehicle.



Chinquapin Oak (*Quercus muhlenbergii*) Lacebark Elm (*Ulmus parvifolia*) Desert Willow (*Chilopsis linearis*) Texas Redbud (*Cercis var. 'texensis'*)



Viburnum (*Viburnum suspensum*) Juniper (*Juniperus x pfitzeri-ana 'Sea Green'*) Maiden Grass (*Miscanthus sinensis 'Gracillimus'*) Cotoneaster (*Cotoneaster sp.*) Butterfly Iris (*Diets sp.*)



4- TRANSITION ZONE

5- NORTH GENERAL BUSINESS ZONE

6- OLD TOWN ZONE

Plantings in Zone 4 will enhance connections to park spaces and emphasize the transitional nature of this area within the Mill Street Corridor. Evergreen and seasonal plants will frame views and provide buffering where needed.



Bur Oak (*Quercus macrocarpa*)
 Chinquapin Oak (*Quercus muhlenbergii*)
 Texas Redbud (*Cercis var. 'texensis'*)
 Crape Myrtle (*Lagerstroemia sp.*)



Texas Prairie Wildflower Mix (*Mixed species*)
 Maiden Grass (*Miscanthus sinensis 'Gracillimus'*)
 Cotoneaster (*Cotoneaster sp.*)
 Fragrant Sumac (*Rhus aromatica*)

Zone 5 will feature accent plantings and street trees in turf areas. Accent plantings require a mix of seasonal interest, color, and texture. The plant palette for this area will include more flowering species as well as plants for screening.



Chinquapin Oak (*Quercus muhlenbergii*)
 Lacebark Elm (*Ulmus parvifolia*)
 Crape Myrtle (*Lagerstroemia sp.*)
 Viburnum (*Viburnum suspensum*)



Lantana (*Lantana sp.*)
 Juniper (*Juniperus x pfitzeriana 'Sea Green'*)
 Fall Aster (*Aster oblongifolium*)
 Cotoneaster (*Cotoneaster sp.*)
 Butterfly Iris (*Diets sp.*)

Plantings around Old Town (Zone 6) should have a balance of evergreen and flowering vegetation to create a vibrant environment in all seasons. Color, scale, and texture within the plant selection should make Old Town attractive to visitors.



Mexican Sycamore (*Platanus mexicana*)
 Texas Red Oak (*Quercus texana*)
 Cotoneaster (*Cotoneaster sp.*)
 Juniper (*Juniperus x pfitzeriana 'Sea Green'*)



Lantana (*Lantana sp.*)
 Liriope (*Liriope sp.*)
 Fall Aster (*Aster oblongifolium*)
 Leadwort Plumbago (*Plumbago sp.*)
 Butterfly Iris (*Diets sp.*)

