

Connectivity, Open Space & Parking

Regional Mobility Implications

Frisco's downtown is located in the center of the city, about halfway between SH 121 to the south and US 380 to the north, and between the Dallas North Tollway on the west and Preston Road (SH 289) to the east. The Burlington Northern Santa Fe railroad runs north-south through the area. Frisco Square and Toyota Stadium are just west of Downtown across the tracks, and older neighborhoods surround the Main Street corridor on the other three sides.

After Frisco started booming 20 years ago, Main Street came to be viewed and used as a commuter corridor to move traffic from neighborhoods to the east of Downtown over to the Dallas North Tollway and back again. The current configuration of Main Street is maxed out with commuter traffic during peak hours, as well as high peak volumes associated with events held at Toyota Stadium. This has created pressure to modify Main Street to carry more traffic to accommodate the increased commuter demand, but more traffic and faster travel speeds would not be a welcoming environment for those wanting or needing to move around the area on foot or bike.

One of the primary questions asked at the onset of the planning process was, "What do we do with Main Street?" Traffic volumes in the area are projected to continue to increase, so moving vehicles to and through the area will continue to be important. At the same time, local stakeholders and residents indicated that moving traffic through Downtown is not a priority. As shown in the feedback presented in the Appendices of this plan, the community envisions Downtown as an area that is safe and inviting for people of all ages and abilities to gather, interact and move around. One stakeholder commented that Downtown is the only place left in Frisco that does not look or feel like everywhere else, and it is important to not let cars and auto-oriented development take it over. In short, an almost universal conclusion reached during the process was that Downtown should be a place to drive to not drive through.



Main Street existing conditions looking west toward Frisco Square

A balance of regional mobility strategies is recommended that enable regional traffic to flow conveniently around and to downtown and human-scale design strategies in the core that create a public realm that prioritizes walking, biking and interaction. Regional mobility would be improved by extending Cotton Gin Road across the railroad tracks and over to 5th Street/Parkwood; however, it would



not be possible to get approval from the railroad for a new at-grade crossing and construction costs are high for tunnel or an overpass.

THE INTEGRATED VISION

Improved multimodal (vehicle/bicycle/pedestrian/transit) connectivity between Downtown, Frisco Square and surrounding neighborhoods is a key priority. The integrated vision identifies ways to better connect the Downtown with surrounding areas through all modes of travel. The future rail station location has been incorporated into the plan and the proposed development opportunities take this into consideration. Most importantly, Downtown can be an ideal place for biking and walking, and can accommodate those who seek to live in a neighborhood where having a car is not required. Well-designed shared use paths will provide a comfortable option for residents from adjacent neighborhoods to ride their bikes or walk into Downtown instead of driving. Connections to existing and proposed pathways on the city's hike and bike trail master plan have been identified and considered a priority in implementation.

Various traffic enhancements can be made in the downtown street network, which can improve traffic capacity through Downtown and/or circulation within Downtown to varying degrees. Alternative traffic concepts such as widening Main Street or using Main Street and Elm Street in a one-way couplet configuration would increase traffic capacity in Downtown, **but** potentially at the expense of the businesses and culture of the area. Other concepts could improve traffic circulation within Downtown but would not increase the amount of traffic flowing through it.

Three network alternatives were tested in the Frisco Travel Demand Model to determine the impacts of changing the roadway characteristics in the Downtown. The first alternative was the base condition with Main Street as a two-lane roadway under Option B. The second alternative tested an expanded network with Main Street becoming two lanes in the westbound direction and Elm Street having two lanes in the eastbound direction. This alternative tested the alternative known as a one-way couplet which could potentially double the roadway capacity of the Main Street corridor. The third

alternative tested the impact of connecting Cotton Gin Road across the railroad to 5th Street.

The results of the analysis showed that the one-way couplet would not significantly increase east-west traffic flow through Downtown unless the City were able to purchase private property on both ends of Downtown and construct smooth, direct connections to each end of the couplet. As it stands, the couplet would be constrained since all traffic would still have to pass through the intersection of Main Street and North County Road. Alternatively, the results showed that connecting Cotton Gin Road to 5th Street would increase east-west traffic flow through Downtown almost as much as the constrained one-way couplet, but would spread the traffic out along different parts of the street network so it was not as concentrated on Main Street (the details of this traffic analysis are located in the Appendix).

The preferred option is to maintain Main Street as a two-way street with the same number of lanes, incorporate improvements to Elm Street that will enable traffic to disperse and utilize the network more effectively, and to push for a future connection of Cotton Gin Road to 5th Street to improve regional mobility to and around Downtown. Enhancements on streets will provide for improved pedestrian access, parking opportunities for residents and businesses, and connections for those that are bicycling. Improved connections and wayfinding between parking areas and businesses is a key component as well.

Street Network

The existing network is built on a traditional grid with varying rights-of-way. Main Street, Elm Street and 5th Street are anticipated to be the primary vehicular corridors. Recommendations for streets to the north of Main Street focus on maintaining the residential context and scale of streets (local residential typology). Recommendations for streets south of Main Street consider the potential for infill development and place greater emphasis on parking (local urban typology). Bicycle connections avoid high vehicle traffic streets and focus on parallel streets such as Elm Street. Pedestrian crossings are prioritized at 2nd Street, 4th Street, 5th Street, 7th Street, and North/South County Road.

MAIN STREET DESIGN

The key corridor through Downtown, Main Street could be configured several different ways to meet the redevelopment and mobility needs of Downtown, while becoming more pedestrian-friendly. Various configurations were broken down into options that were presented to City Council for final selection of the preferred design alternative for Main Street. The options considered include:

Main Street Option A: Existing Conditions with Bulbouts

This option keeps the existing roadway configuration and sidewalk widths, but adds bulbouts at the intersections to shorten the pedestrian crossing distance.

Main Street Option B: Center Turn Lane, On-Street Parking

This option removes the median in the center of the roadway to provide a center turn lane. This option provides an opportunity to narrow the roadway and the travel lanes, allowing for wider sidewalks.

Main Street Option C: No Parking with Median, Wide Sidewalks

This option keeps the existing median and removes on street parking, allowing for wider sidewalks.

Main Street Option D: Center Turn Lane, Wider Sidewalks

This option is the same as Option B but removes the on-street parking.

Main Street Option E: Angle Parking

This option eliminates the median and the left turn lanes in order to provide angled parking on both sides.

Main Street Option F: Flex Parking Lane, Raised Median Optional

This option keeps the existing raised median and one travel lane in each direction, plus a flex lane on the outside (both directions) that can transition between on -street parking and vehicle traffic for events and during peak travel times.

Main Street Option G: East-West Bound Couplet

This option would create a one-way couplet that would utilize Main Street for the westbound traffic and Elm Street for the eastbound traffic.

Objections by local business owners, impacts on the neighborhood next to Elm Street, which would become faster and busier, and the need for the City to acquire private property to implement the couplet makes this alternative difficult to consider as a viable option.

A detailed breakdown of these alternative cross-sections is included in the Appendix of this document.

When weighing the potential design of Main Street and its impact on the adjacent businesses and neighborhoods, several factors need to be taken into consideration. While not all inclusive, seven factors were used to create a high-level glimpse of the impact the various cross-section designs could have on Downtown and to allow City Council to prioritize the preferred option for Main Street's reinvention. These factors were determined through the planning process based on what elements were described to be important to local stakeholders. These factors are not a score for each option, but rather an indicator of whether the cross-section fulfilled the desired outcome.

It is also important to note that these indicators do not necessarily mean the better or best solution for Downtown. Each cross-section has its own advantages and disadvantages regarding development and mobility, as well as regarding aesthetics, which are inconsistent from one person to another. The following factor definitions broadly explain how each cross-section was presented and considered by the consultant team and City Council.

Sidewalk Width – The cross-section alternative expands/improves the sidewalk width.

Pedestrian Crossing Distance – The cross-section alternative reduces the pedestrian crossing distance at intersections.

Pedestrian Tree Shade – The cross-section alternative improves the ability to provide pedestrian tree shade.

Traffic Flow – The cross-section alternative does not reduce traffic flow.

Event Traffic Management – The cross-section alternative allows for the flexibility to manage traffic during events and festivals.

On-Street Parking – The cross-section provides on-street parking.



Facilitating Short-Term Parking – The cross-section alternative provides opportunities for short-term parking.

Based on these factors, as well as stakeholder and City Council, Planning & Zoning Commission, and Downtown Master Plan Committee input, Option B was selected as the preferred design for Main Street, which also provides the opportunity to easily transition to Option D on a block-by-block basis where on-street parking is not needed or desired. Option B would remove the median and replace it with a center turn lane, which allows the roadway to be narrowed and the sidewalks to be widened with more shade trees. In the future, some of the parking could be eliminated in favor of extra wide sidewalks (for outdoor cafes, etc.), so that some blocks would transition to Option D. Option E, utilizing angled parking like 15th Street in Downtown Plano, also received substantial consideration because of the opportunity to provide significant parking density for the core blocks, emanating from 4th Street both ways along Main Street. However, its tradeoffs include retaining today's narrow sidewalks and reducing the traffic capacity through Downtown.

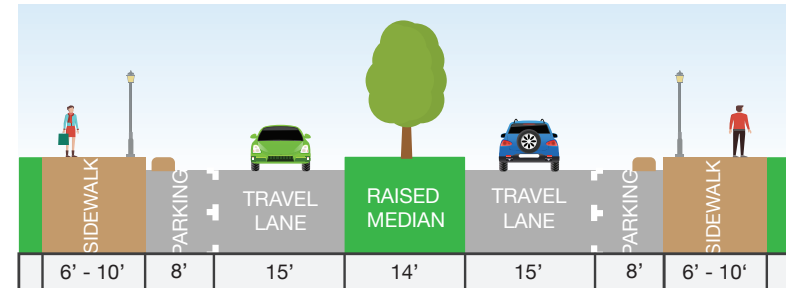
These different types of configurations have been successfully integrated into downtowns throughout the DFW Metroplex and the United States. Below are sample images of similar Main Street thoroughfares where the cross-section is similar to what is proposed within Downtown Frisco.



Example of Main Street configuration with angled parking, medians and street trees

MAIN STREET Existing Conditions with Bulbouts

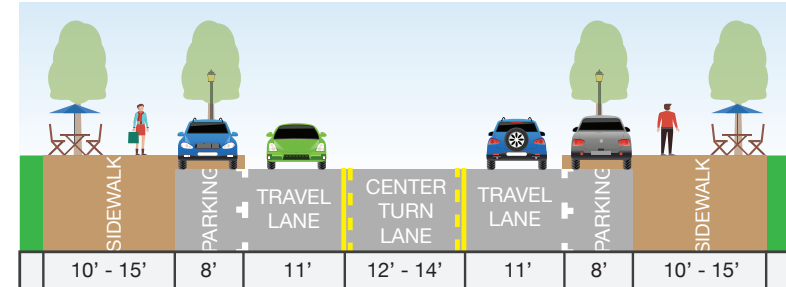
This cross-section details the existing conditions of Main Street today with bulbouts.



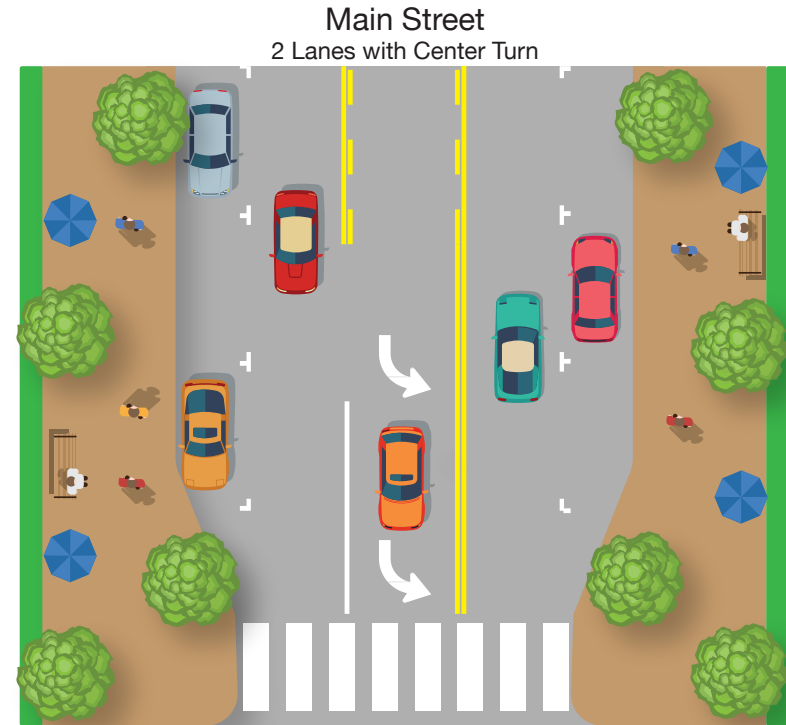
MAIN STREET OPTION B

Center Turn Lane, Wider Sidewalks

Option B replaces the median with a center turn lane. Removal of the curbed median allows for lanes to be narrowed, which in turn provides some additional sidewalk width. This alternative improves pedestrian safety, emergency access and traffic management over existing conditions



FACTOR	IMPACTS?
Increase Sidewalk Width	●
Reduce Pedestrian Crossing Distance	●
Increase Pedestrian Tree Shade	●
Maintain Traffic Flow	●
Event Traffic Management	●
Provides On-Street Parking	●
Facilitating Short-Term Parking	





MAIN STREET PHASING – OPTION B TO OPTION D

The similarity of Main Street Option B and Option D allows for some flexibility in design along the Main Street corridor. Through the planning process, discussions about on-street parking along Main Street varied whether it should be maintained or removed. There are many examples of similar streets that have transitioned on-street parking to temporary or permanent public spaces to maximize the streetside and provide more area for activities such as sidewalk furniture, café's, and/or landscaping. As Main Street develops or redevelops business owners could be provided the option to utilize the parking zone area to provide pop-up cafe areas or parklets.



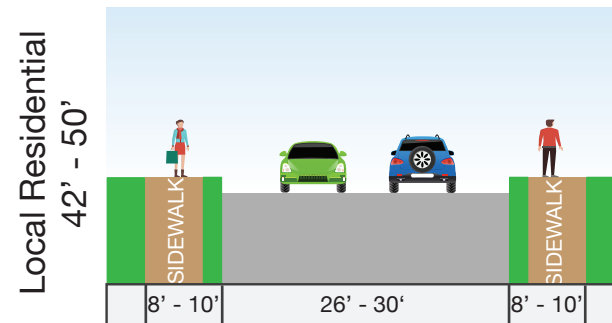
Examples of parklets or temporary and permanent public spaces

Proposed Cross-Section Design for Other Downtown Streets

The additional cross-sections through Downtown are shown on the following pages along with descriptions of important considerations for implementation.

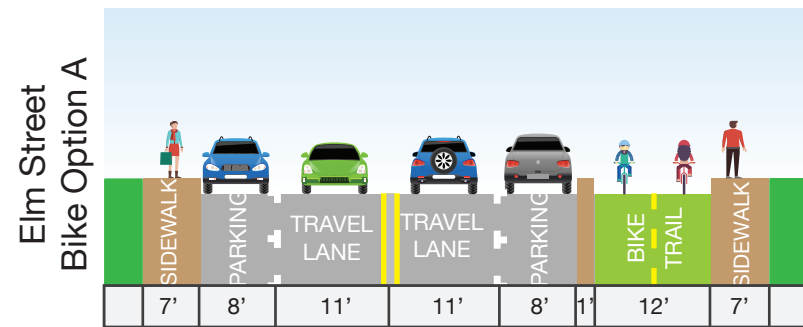
Oak Street

Oak Street serves as a buffer from commercial development on the north side of Main and the residential neighborhood to the north. Properties on the south side of Oak include a mix of businesses and residential lots, whereas the north is exclusively residential. Customers of Main Street businesses frequently park on Oak Street during busy periods. Residents along this street indicated a preference for slow speeds, walkability (sidewalks), and limited on-street parking.



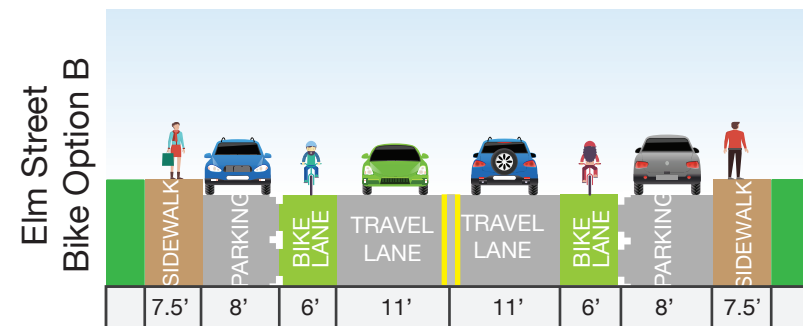
Elm Street Option A

Elm Street needs to be a convenient alternative for east-west traffic to Main Street. Reversing the stop signs at several intersections to make it more of a through street will increase its capacity and ability to alleviate some traffic from Main Street. Properties on both sides of Elm Street are ideal candidates for redevelopment and infill, which will draw and benefit from additional traffic, cycling and pedestrian activity. In addition, Elm is the ideal corridor for east-west cycling connectivity, and the relatively wide right-of-way provides an opportunity to accommodate on-street parking and sidewalks as well. Option A shows a two-way cycle track on one side of the roadway and is the preferred option for that corridor.



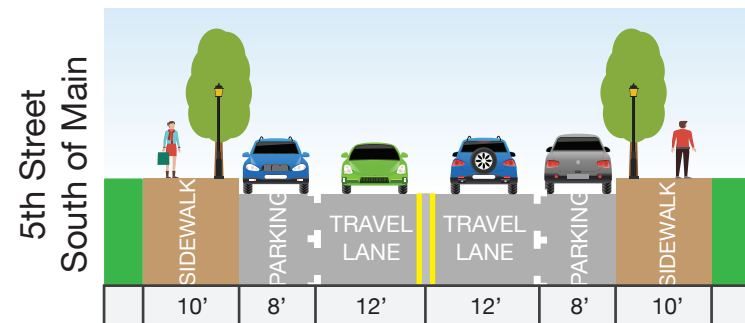
Elm Street Option B

This Elm Street option, which is less preferred, shows a bike lane on each side of the roadway with on-street parking and wider sidewalks. While providing the same number of lanes and parking spaces, it provides slightly wider sidewalks compared to Option A.



5th Street

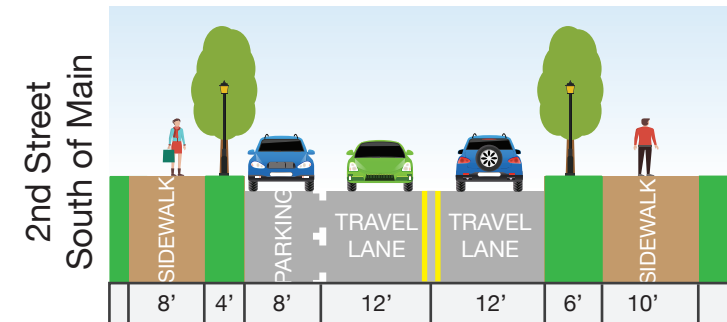
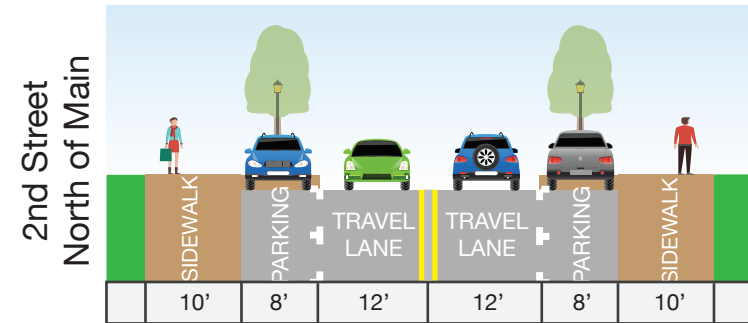
5th Street is the primary route for vehicles driving to and from areas to the south of Downtown. It also provides a cycling connection to the Caddo Trail.





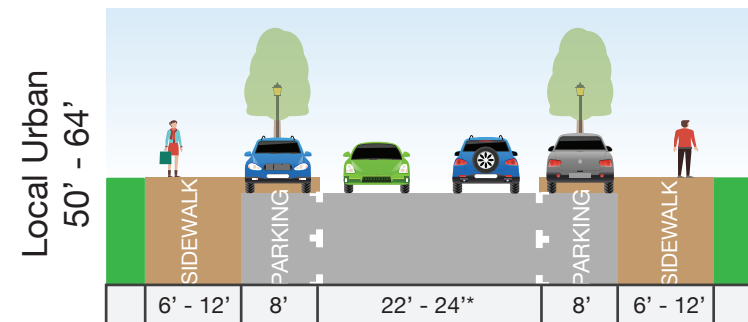
2nd Street & Roundabout

The 2nd Street improvements include enhanced sidewalks, on-street parallel parking, and connections to a potential roundabout at the intersection with Frisco Square Boulevard and Main Street. These improvements, along with converting the section of Frisco Square Boulevard west of 1st street to one-way westbound will help facilitate traffic flow at the intersection and prevent back-up across the railroad tracks.



1st, 3rd, 4th, 6th & 7th Streets

Local Urban streets that accommodate slow speed traffic, on-street parking and wide sidewalks. These streets provide flexibility to serve the existing residential development but also accommodate a more urban environment as development moves south from Main Street.



* Subject to Development Scale

TRAFFIC OPERATION IMPROVEMENTS

A detailed traffic operation analysis was conducted to determine ways to improve traffic flow in Downtown without sacrificing walkability and the built environment. Traffic counts were collected to determine the existing traffic conditions including traffic delay during the peak times.

Throughout the development of the plan, traffic operation recommendations were developed and tested to determine the improvement to the overall traffic conditions in the area. A detailed description of the traffic analysis is located in the appendix. Below are a list of the traffic operation improvements that were tested.

Main Street/2nd Street Roundabout

A roundabout is proposed on Main Street at 2nd Street to improve the left turning movements from Main Street and onto Main Street. This improvement would coincide with the proposed alignment of 1st Street and 2nd Street north of Oak Street as demonstrated on the

Figure 11: Roundabout at Main Street



Open Space and Connectivity Map. The proximity of the roundabout to the railroad presents some challenges, as a result the plan recommends that Frisco Square Boulevard be converted to a one-way westbound operation between Main Street and 1st Street.

Main Street/5th Street Intersection Improvements

The 5th Street intersection on Main Street currently has some operation challenges due to the high volume of traffic. During the peak hours traffic delay increases resulting in poor intersection performance and congestion. Widening the intersection to accommodate different turning movements such as left or right turns negatively affects pedestrian activity in urban areas due to the widening of the pedestrian crossing distance. However, one improvement is recommended at this intersection that can assist in improving traffic flow without increase travel speed in the downtown. Removing four or five on-street parking spaces on Main Street in the eastbound direction just before 5th street to provide a right-turn only lane can help reduce delay during the peak times. The removal of these parking

Figure 12: Right Turn at 5th Street





Figure 13: Elm Street Traffic Control Existing



spaces could be permanent or allowed during peak times as to not impact surrounding businesses during the off-peak time.

Elm Street Stop Sign Changes

Downtown Frisco has the benefit of having a well-connected network of streets. This network of streets can provide additional access to businesses along Main Street and provide alternative travel paths for those coming to downtown. On many of the side streets, intersections are stop-controlled with the east-west streets having to stop for the north-south movements. Currently, Elm Street is an east-west street that has a stop sign at every cross street from 1st to S. County Road. Converting the stop signs along Elm Street to provide the traffic right-of-way from 1st Street to S. County Road will provide better access to businesses along Main Street and will expand the capacity of the Main Street corridor. The stop-controlled intersection at Elm Street and 5th

Figure 14: Elm Street Traffic Control Recommended



Street is not recommended to change to the higher traffic volumes on 5th Street.

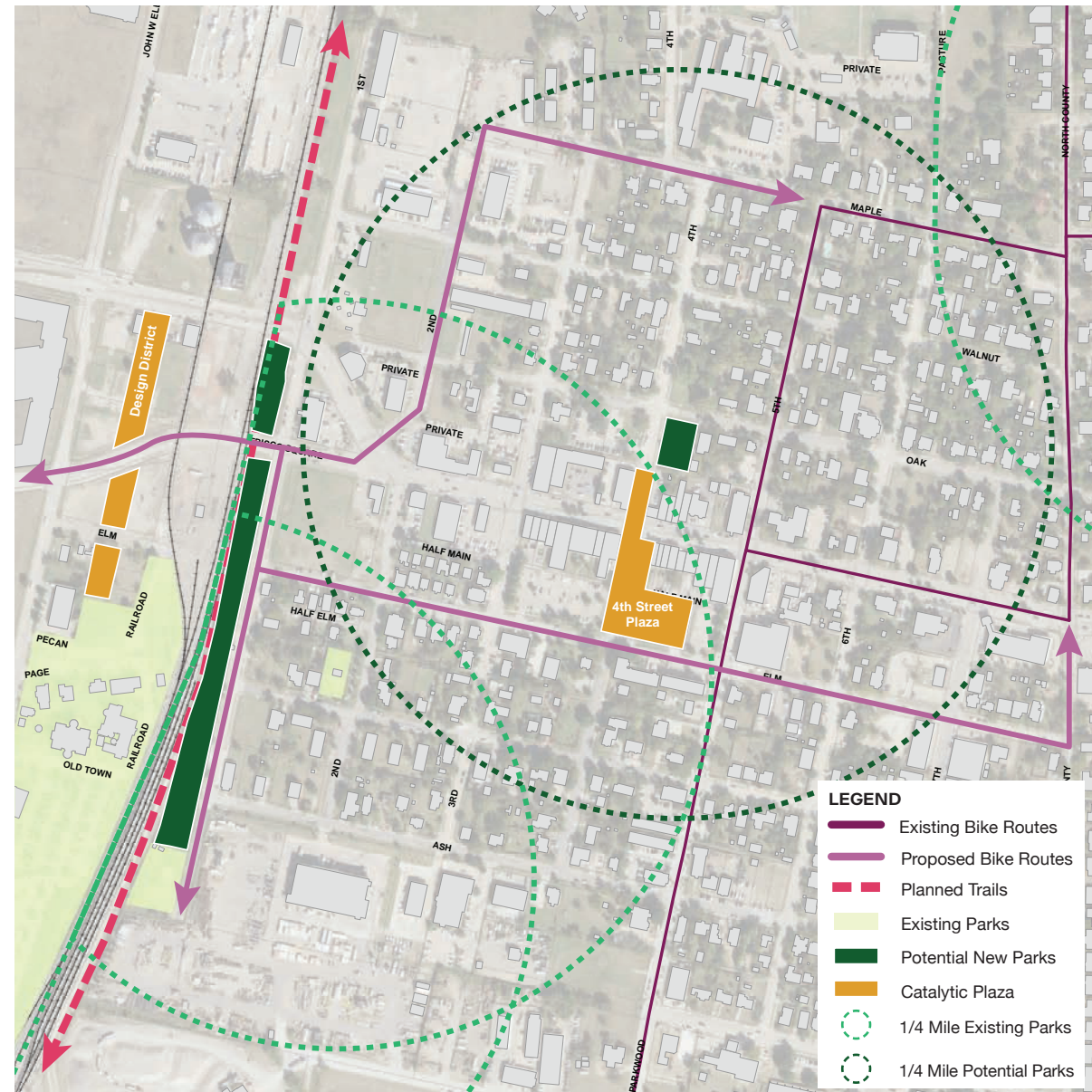
1st Street at Main Street, Right Turn Only

The proximity of 1st street to the rail road presents turning conflicts that can be eliminated by removing the ability for vehicles to turn left at 1st Street. This includes turning left onto 1st Street from Main Street, or turning left onto Main Street from 1st Street. The elimination of left turns at 1st Street would allow for only right-turns.

Open Space

In downtown environments, large open spaces are difficult to come by. Therefore, it is important to provide a variety of smaller green spaces, parks, and public plazas and link them together with the street/pedestrian network so that they provide an inviting environment for people to gather, recreate and interact. The area has several existing parks and open spaces nearby, including Frisco Commons Park and Youth Center Park to the northeast, Gallegos Park and First Street Park to the west/south, and Oakbrook Park to the south. These spaces are accessible via the existing network of local streets, sidewalks and trails. However, the current limited options in Downtown restrict the types of activities, festivals and programming possible in Downtown. The proposed 4th Street Plaza would provide a signature public space in the heart of Downtown. This plaza also is intended to encourage a new gravity of downtown restaurants, spaces for hanging out and appropriately scaled urban living. The small green space proposed on the north end at Oak and 4th will provide a gathering space for nearby residents and fill a gap in existing park service coverage. Lastly, the proposed improvements to the Downtown streets and addition of pedestrian scaled wayfinding and lighting will improve the accessibility to the open space network.

Figure 15: Open Space and Connectivity in Downtown





Public Safety Access

Providing access for public safety vehicles in urban environments can be a challenge, especially for firefighting equipment. Larger and taller buildings utilize additional equipment, including aerial fire apparatus, requiring wider street widths for fire department operations. At the same time, street widths and turning areas are typically tighter, which can make it difficult for larger vehicles to maneuver. Therefore, it is important to consider where and how emergency vehicles will access and serve properties within Downtown.

The majority of the blocks in the Downtown are small - 320' on average. Short block lengths and lot depth enables the ability to provide fire protection service to all sides of most blocks from the public street grid, reducing the need for interior fire lanes on individual parcels. The majority of the streets also have 12 inch water lines in them, but there are a few gaps in the loop network. The City should consider adding water line segments to complete the full loop network and position fire hydrants accordingly so that the need for interior access can be minimized as much as possible.

In areas where fire service from the public street grid is not possible (such as deeper lots with buildings located in the rear), developers will still be required to provide interior fire lanes, hydrants and appropriately sized lines as required by the Fire Code. For some locations, there may be an opportunity to share access and service lines with adjacent development. This will need to be determined on a case by case basis by staff as developments are submitted for consideration.

Parking

EXISTING CONDITIONS AND DEMAND

The current code of ordinances in the City of Frisco drives a need for approximately 1,220 parking spaces in Downtown based on existing development; however, since this study area resides within the Original Town Commercial District (OTC), there is a 50% reduction in the parking requirements meaning the existing demand is quantified as 610 parking spaces. The current count of parking spaces in Downtown is 924 spaces – an average of 314 spaces. In order for the City to quantify this overage, a better understanding of the current parking utilization and turnover of existing spaces would need to be conducted as it is not part of this study effort.

Of the 220,026 square feet in Downtown, over 70% is currently retail and restaurant uses. This is notable because the two land uses are often difficult to take advantage of shared parking strategies due to similar

hours of operations, especially in the afternoon and early evenings.

Over one third of the total parking spaces in Downtown are also provided by the City through public surface lots and on-street parking spaces. Accordingly, there is a strong reliance on City-provided spaces to accommodate demand in Downtown.

Current distribution of parking in Downtown is among on-street parking and both public and private surface lots. The private parking lots are relatively evenly distributed throughout Downtown and reflect existing development densities in Downtown as well. Public parking is also well-distributed as most development is within a five-minute walk (> ¼ mile). These assumptions and existing conditions set the baseline for the analysis of future and anticipated parking demand in Downtown via on-street parking and a potential public parking garage.

Figure 16: Existing Development and Required Parking

LAND USE	PARCEL COUNT	LIVING AREA (SF)	REQUIRED SPACES	APPLIED RATIO	50% REDUCTION
Industrial	3	13,859	13.9	1:1000	7
Utility	1	32,041	32	1:1000	16
Single Family	41	49,648	NA	NA	NA

Office	3	4,410	12.6	1:350	6.3
Restaurant	7	19,973	200	1:100	100
Retail	51	154,601	773	1:200	386.5
Semi-Public	3	25,206	126	1:200	64
Public	5	15,836	62.3	1:300	31.2

TOTAL: **229,026** **1,220** **610**

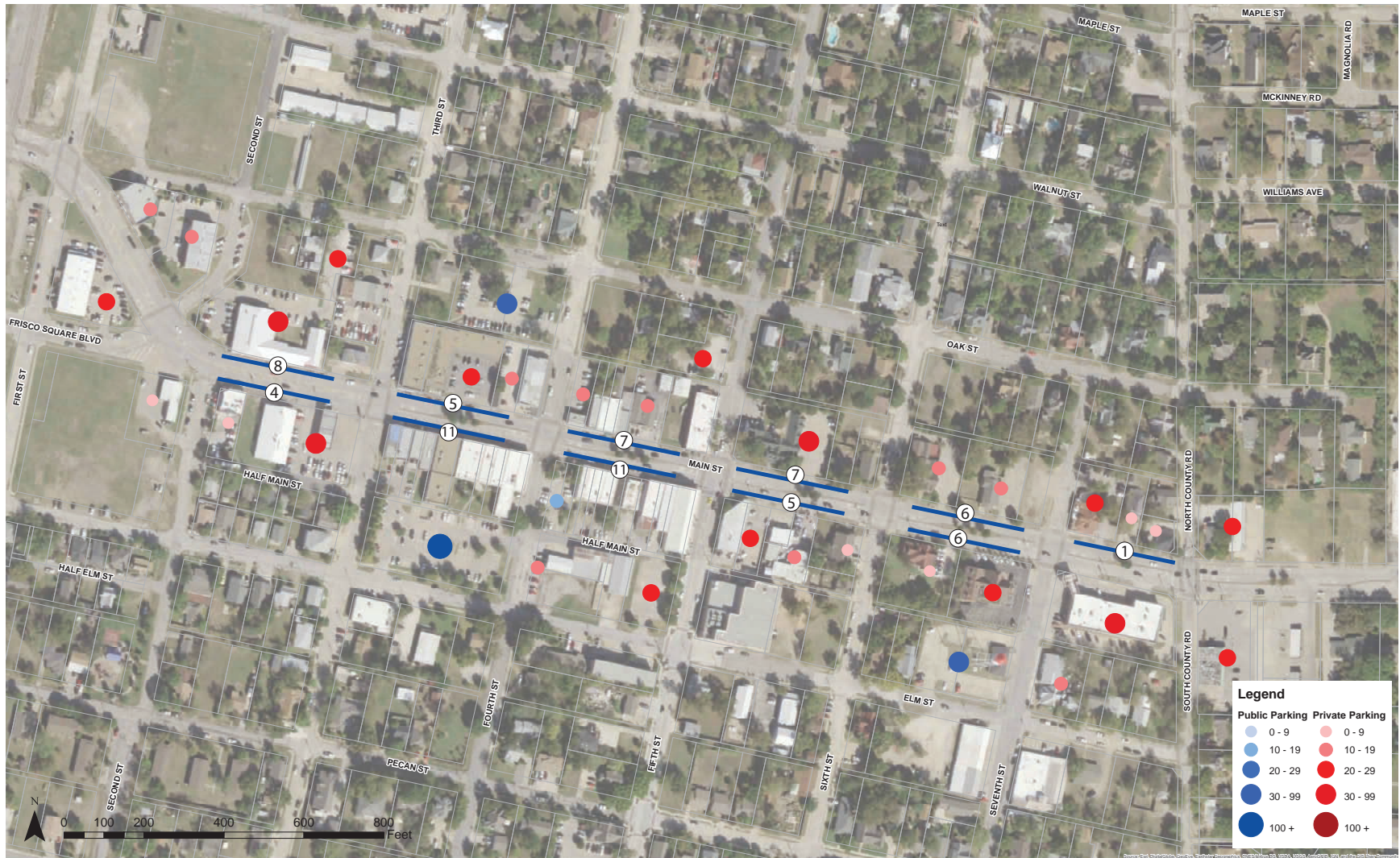
Parking Available

Private 581
Public 210
On-Street 133

Total Spaces 924



Figure 17: Existing Parking Locations in Downtown



FUTURE PARKING DEMAND

Based on estimates for future development in the study area, the following analysis was prepared to provide an estimate of new parking

spaces that will be required per Frisco's current parking ratios in the OTC District. Further, the table below provides a comparative analysis

Figure 18: Future Parking Demand Analysis (Based on Potential Development)

LOCATION	USE	UNITS	TOTAL NEW SF	TOTAL UNITS	EXISTING CODE REQ.	TOTAL SPACES	50% REDUCTION OTC DISTRICT	REVISED INDUSTRY RATIOS	TOTAL SPACES
4th Street Plaza #1	MF	SF	45,000	53	2	106	53	1.75	93
	Retail	SF	14,000	-	1:200	70	35	4:1000	56
4th Street Plaza #2	MF	SF	63,000	74	2	148	74	1.75	130
	Retail	SF	18,000	-	1:200	90	45	4:1000	72
East	SF	Each	6	-	4	24	12	2	12
	Townhome	Each	44	-	4	176	88	2	88
	Office	SF	63,000	-	1:350	180	90	3:1000	189
	Retail	SF	47,000	-	1:200	235	118	4:1000	188
	SF	Each	2	-	4	8	4	2	4
	Townhome	Each	44	-	4	176	88	2	88
	Office	SF	92,500	-	1:350	264	132	3:1000	278
West / Design District	MF	SF	584,500	688	2	1375	688	1.75	1203
	Retail	SF	148,500	-	1:200	743	372	4:1000	594
	Office	SF	155,500	-	1:350	444	222	3:1000	467
	MF	SF	660,550	777	2	1554	777	1.75	1360
	Retail	SF	47,000	-	1:200	235	118	4:1000	188
	SF	Each	53	-	4	212	106	2	106
	Townhome	Each	30	-	4	120	60	2	60
	Office	SF	20,000	-	1:350	57	29	3:1000	60
	Institutional	SF	8,600	-	1:300	29	15	1:350	25
TOTAL:						6,246	3,126		5,259



to industry standards provided by the Urban Land Institute. Below is a breakdown of each demand estimate by development type.

Figure 19: Parking Demand Estimates

	NEW PARKING SPACES	4TH STREET	EAST SIDE	WEST SIDE
Retail	643 - 653	35 - 45	118	490
Office	473	0	222	251
Institutional	15	0	0	15
Multifamily	1518-1539*	53 - 74*	0	1,465*
Single Family	122*	0	16*	106*
Townhome	236*	0	176*	60*
Total New	3,007 - 3,038	88 - 119	532	2,387

* Residential development must provide their own parking and was not included in the analysis for new parking demand in Downtown.

Observations of Future Parking Demand Estimates

The following provides the explanation as to why modifications of current parking ratios should be considered:

- The existing code in Frisco results in a total demand approximately 15% higher than the ULI industry average
 - It is worth noting that the ULI averages are based on cities across the nation, many with different densities and development characteristics. Many cities throughout Texas have higher parking requirements to accommodate the higher number of personal autos.
- The required ratios in Frisco are higher for all residential uses (multifamily, single family and townhome) as well as retail
 - The single family and townhome requirements to have four parking spaces per unit reflect a more suburban style development versus a typical downtown.
 - The future presence of rail transit represents

an opportunity to reduce parking for residential developments within safe walking distance from the transit station.

- The required ratios are slightly lower for office and retail
 - Both of these uses are compatible with shared use parking strategies (described in further detail later in this section).

It is important to note that it is not recommended to change the existing requirements based on this analysis alone. One very important step in reviewing parking requirements is to perform an occupancy study for the area. This involves manually counting the utilization of parking spaces throughout the morning/day/evening. This analysis should be performed for typical weekdays and weekends. The results will provide a strong indication of the efficiency of the existing parking supply.

Accommodating Future Parking Demand

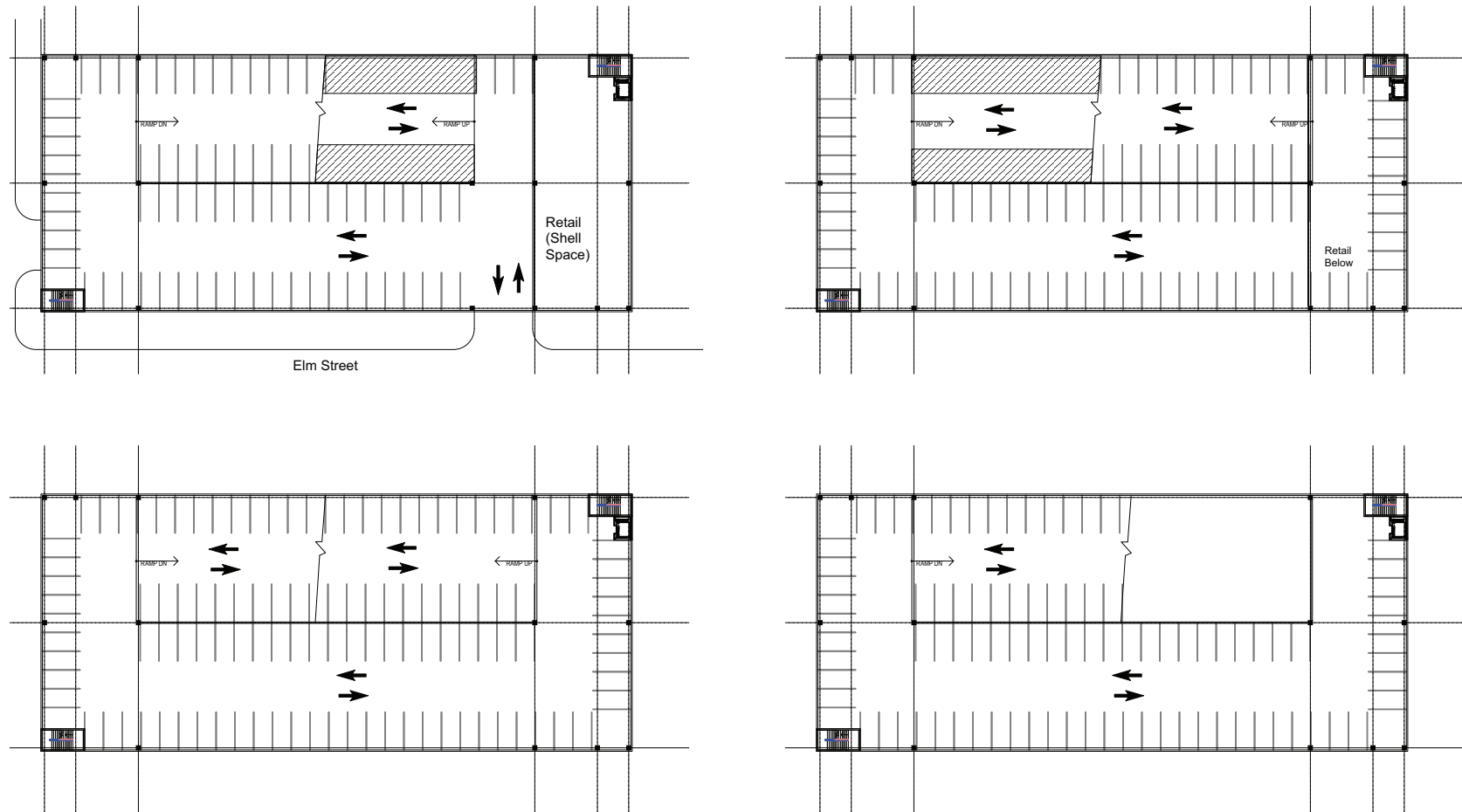
As Frisco's downtown continues to redevelop and revitalize, the topic of parking management will continue to increase in importance. Frisco must balance the need of providing an ample parking supply without creating an auto-centric environment Downtown that impedes a safe, walkable pedestrian environment. One strategy to address this balance is for the City to provide centralized public parking to serve the commercial areas. Below is a recommended strategy to achieve this objective.

A New Parking Garage Downtown

The first opportunity for centralized parking to be considered is the public parking lot near 4th Street and Main Street. The calculations in Figure 18 above, represent that there will be a need between 35 – 45 parking spaces to accommodate the future retail development (all residential uses are excluded from this analysis based on the assumption that residential developments will address parking needs on their own sites). Based on the sketches below, a structured parking garage on this site can accommodate 90+ parking spots on each typical level (it would be less on the ground level if retail is desired on the street).

In order to accommodate the existing parking, future parking demand

Figure 20: Proposed Parking Garage Design



	# SPACES
LEVEL 1	96
GARAGE TOTAL	369
GARAGE TOTAL W/ 2% REDUCTION	361



created by new retail development (up to an additional 45 spaces) and to replace the existing surface lot spaces that will be lost, it is recommended that the City consider constructing a four-level parking structure on this site holding approximately 400 spaces. This will provide extra capacity as development occurs in this portion of Downtown, as well as accommodate demand for larger Downtown events. It is recommended the garage include retail on the ground floor to line the plaza front and provide screening for the parking levels from the exterior. This will mesh with the existing urban design by not having the structure be too tall, as well as activating the ground floor with retail activity to help promote a lively, pedestrian oriented streetscape.

East Side Development

Based on the future development projections presented in Figure 17 above, the new development projected for the East Side is approximately 340 parking spaces for the retail and office uses. There is already a planned development at the corner of Main Street and South County Road that will have a structured parking facility, however it isn't known if any additional parking will be required to serve other uses in the study area. There is an opportunity to have a public parking facility built into a new development that could be constructed at Main Street and Dogwood Street. The site is large enough to accommodate a structured parking facility to address future demand in this portion of the study area.

West Side Development

Based on the development scenarios presented in Figure 18 above, the increased parking demand resulting from the proposed development of 756 spaces for the proposed retail, institutional and office uses. To accommodate the upper end of this range, the City may need to consider building separate parking garage facilities to avoid having a single massive garage that would be prone to generating traffic delay during major events. These future garages could be located on either side of the proposed rail alignment, on the north side of Main Street.

SHARED USE PARKING STRATEGY

One way to reduce the total number of parking spaces in a small

area or district is to employ a shared use parking strategy. Shared parking is defined as the use of a parking space to serve two or more individual land uses with conflict or encroachment. Shared parking is the result of two conditions:

- Variations in the accumulation of vehicles by hour, day, or by season at the individual land uses
- Relationships among the land uses where a customer visits multiple land uses in the same auto trip

Shared parking is typically seen in mixed use developments and allows for the reduction in the number of parking spaces that need to be constructed. Parking can consume 50% or more of the building and land area of a development. Building an oversupply of parking can result in storm drainage impacts and higher costs. With surface parking costing \$2,000 - \$3,000± per stall and structured parking costing \$15,000 - \$25,000 per space savings can be substantial. Insufficient parking supply can result in intrusion of parking into surrounding neighborhoods and adjoining properties, vehicles circulating through the lots searching for parking, and unhappy users.

A shared parking study can find a balance between providing adequate parking to support a development from a commercial viewpoint and minimizing the negative aspects of excessive land area devoted to parking. The study analyzes the parking needs of each individual use based on hourly accumulation of vehicles and seasonal factors. Mixed use and modal split factors are also taken into account. The mixed use factor is the percentage of people that will visit more than one use in the development in the same trip. The modal split refers the number of people that arrive at the site by some means other than automobile (i.e. transit, Uber, taxi).

There are some uses that do not share parking well. Residential is often found in mixed use developments, but the parking for those residential uses are not shared. Hotels, office, restaurants, and retail typically provide shared parking opportunities. However, it is important to note that the City does not allow "reserved" spaces to be included in shared parking arrangements.