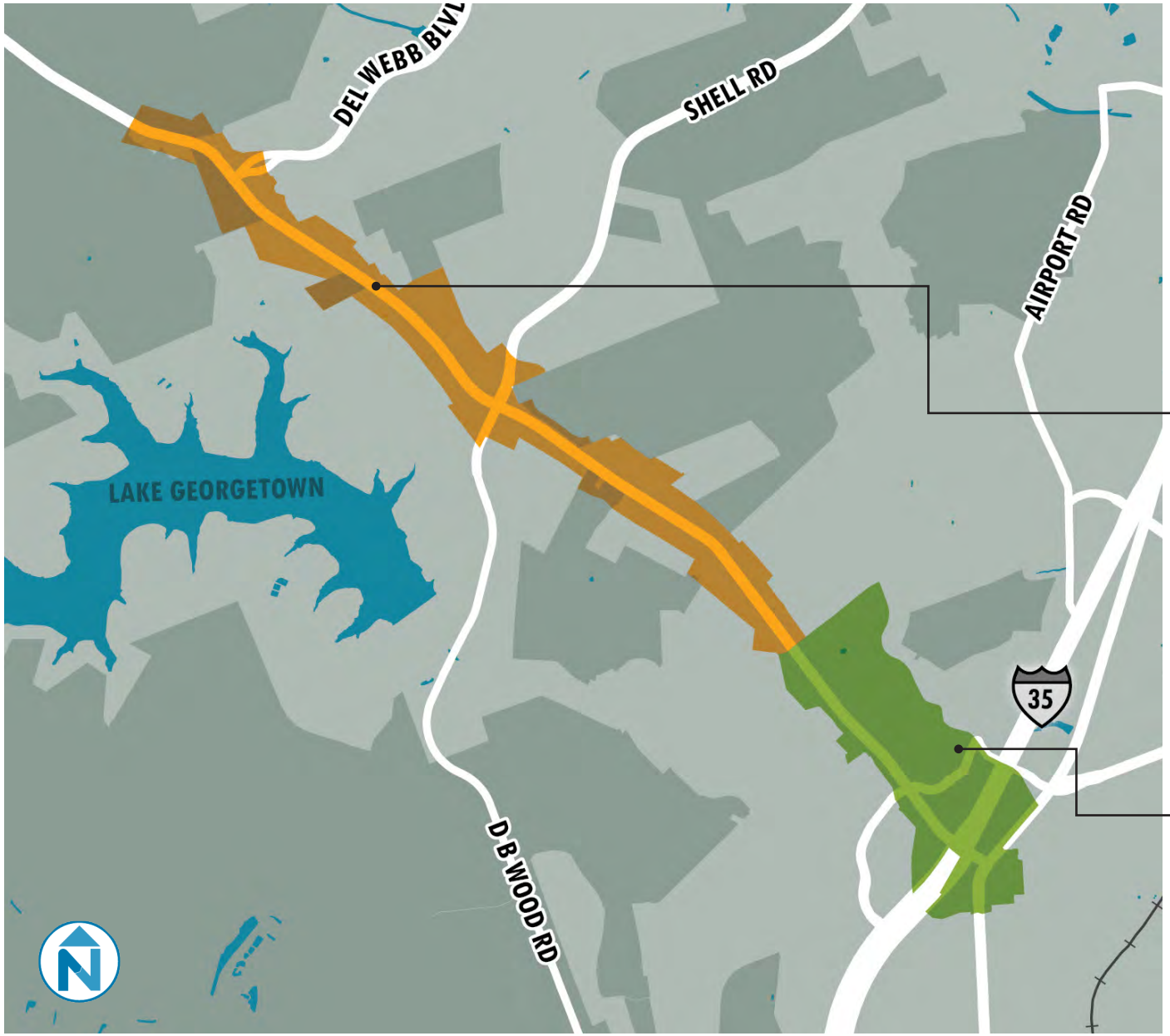
Concept Plan

INTRODUCTION

The concept plan for Williams Drive is divided into two study areas, described as the Corridor Plan and Center Area Plan. The plans provide the recommendations for specific improvements within each study area.

Transportation can often be the key to unlocking the full potential of a major corridor and the surrounding community. For Williams Drive, the goal is to employ a combination of best practices in street design and land use policy to transform Williams Drive. The project team evaluated a series of alternatives for streetscape improvements, pedestrian and bicycle accommodations, and land use changes along Williams Drive before coming up with a final concept plan. The concept plan integrates both land use and transportation, aligning all recommendations with the project goals established at the beginning of the planning process. The following chapter provides details on the recommendations of the concept plan.

FIGURE 11: WILLIAMS DRIVE STUDY AREAS



CORRIDOR PLAN:
Development of a context-sensitive plan for Williams Drive (Lakeway Dr to Jim Hogg Rd), which addresses **access management strategies, multi-modal transportation elements, safety and operational improvement**

CENTER AREA PLAN:
Development of a plan for a **vibrant mixed-use center and gateway** (Lakeway Dr to Austin Ave and includes land out to Northwest Blvd).

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CORRIDOR PLAN

CREATING A FUNCTIONAL, USABLE MOBILITY CORRIDOR

KEY CORRIDOR PLAN RECOMMENDATIONS

Improve the Functionality of the Corridor

1. Coordinate traffic signal timing.
2. Enhance raodway network connections.
3. Narrow travel lanes depending on the character of different portions of the roadway.
4. Ensure intersection design improves both vehicular and pedestrian safety and aids corridor efficiency.
5. Evaluate posted speed limits.
6. Improve sidewalk design across driveways.
7. Add medians to the corridor.
8. Provide frequent, pedestrian road crossing locations to support a walkable environment.
9. Where feasible and context appropriate, consolidate and reduce the number of driveways.
10. Continue to require cross-access between neighboring developments.
11. Promote shared parking opportunities.

Expand Bike and Pedestrian Options Along the Corridor

12. Fill in the gaps and complete the sidewalk system.
13. Implement a variety of bicycle facilities within the corridor.

Enhance the Character and Aesthetics of the Corridor

14. Require enhanced landscape buffers along the edge of the public sidewalk.
15. Develop landscape buffers that are more responsive to the varying character of the roadway.
16. Require improved lighting and signage on private property.
17. Add planting strips with street trees between the sidewalk and the roadway.
18. Require parking to be placed at the rear of the parcel.

CORRIDOR PLAN POLICY FRAMEWORK

The corridor plan is a context-sensitive plan for the approximate four miles of Williams Drive, between Jim Hogg Road and Lakeway Drive. The plan addresses access management strategies, multi-modal transportation elements, safety and operational improvements, and recommendations for a private realm built-form that supports different modes of transportation and a sense of place.

The typical configuration of Williams Drive consists of four lanes (two in each direction) with a continuous center turn lane (Figure 12). In some areas a wide shoulder exists along the corridor, while in other places the road is tightly constrained to travel lanes only. The largest intersection along Williams Drive is with D B Wood/Shell Road (Figure 13). At this intersection, Williams Drive nearly doubles in travel width to add right and left turn lanes on each leg of the intersection, in addition to sidewalks with a grass buffer. Throughout the corridor, the existing right of way dimension varies significantly from 75 ft near the I-35 intersection, to over 135 ft. On average, the right of way measures 100 feet.

FIGURE 12: WILLIAMS DRIVE TYPICAL CONFIGURATION

FIGURE 13: WILLIAMS DRIVE AT D B WOOD/SHELL ROAD

Projected Future Traffic Growth

It is standard practice among many transportation agencies to assume traffic will continue to grow at a roughly consistent rate for the foreseeable future.

This introduces some real and philosophical challenges: Do we assume traffic will grow over 25 years? If so, how can we ever accommodate it and what does it mean for the preservation and accommodation of other modes?

Typically, a 1% annual growth in traffic volumes is assumed and acceptable designs must meet this projected growth rate. Williams Drive, however, introduces a conundrum for this policy as the corridor experienced a 5% annual increase in traffic volumes during the period 2012-2014.

It is recommended that the City and State contemplate managing vehicular capacity of the Williams Drive corridor at current levels and focus instead on corridor operations and access management. At present, the Corridor is well below the theoretical capacity. It is only at the peak of the peak that congestion issues prompt consideration of capacity expansion or operational decisions that favor vehicle movements over alternative modes (i.e., traffic signal optimization and capacity expansion through the adjacent roadway network).

The recommended concept plan comfortably accommodates current traffic demands, but is not sustainable if unmitigated traffic growth is allowed on the corridor. This concept strives to enable the transfer of vehicular trips into the more space-efficient pedestrian, bicycle, and transit options. If successful, allowing the satisfaction of local trips via these alternate modes will free up capacity on the corridor for trips originating outside of the immediate area and allow more efficient trip chaining that does not necessitate an arterial trip for every errand.

Design Vehicles

Roadway designers often utilize the most conservative (largest) design vehicle (WB 50 to WB 67 – semi tractor trailers) regardless of their frequency. The predominant vehicle type on Williams Drive is the passenger vehicle (P). Larger design vehicles require larger curb radii (min 45' as opposed to 24' for autos turning at 10 mph). These larger radii result in faster travel speeds and turns by drivers of passenger vehicles, and longer crossing times for pedestrians. This can result in increased safety risks for drivers, pedestrians, and bicyclists.

Heavy vehicles (trucks and buses) constitute approximately 2% of vehicle volumes along the Williams Drive corridor during the peak periods. This is a typical number for an arterial and requires that geometries be appropriately designed for these larger vehicles where they are reasonably anticipated to be turning. However, given the concerns above, the radius of each intersection and curb cut should be individually designed with the objective of providing the minimum acceptable radius for reasonably anticipated vehicles.

In keeping with the goals to revitalize the corridor as a multimodal corridor, there should also be a second "design vehicle" – the pedestrian - specifically a youth or older pedestrian. The facility design should concurrently be reviewed and evaluated for ease of use and safety for this "design vehicle" together with the more traditional wheeled vehicle and the consequences to the safety and operation of the pedestrian vehicle if a larger wheeled design vehicle is used (i.e., longer pedestrian crosswalks, wider travel lanes, expanded intersections).

Key Policy Recommendations

The following key policy recommendations and best practices have been identified specifically for improvements to the Williams Drive corridor. These include overarching street design principles and standards that should be applied throughout the entire Williams Drive study area.

Achieving the recommended Corridor Plan will require reexamination and potential modification or amendment of three policies that typically govern planning and design on major arterials such as Williams Drive. These include:

- Access mangement;
- Assuming and designing for future traffic growth;
- Design vehicle; and
- Posted and design speeds.

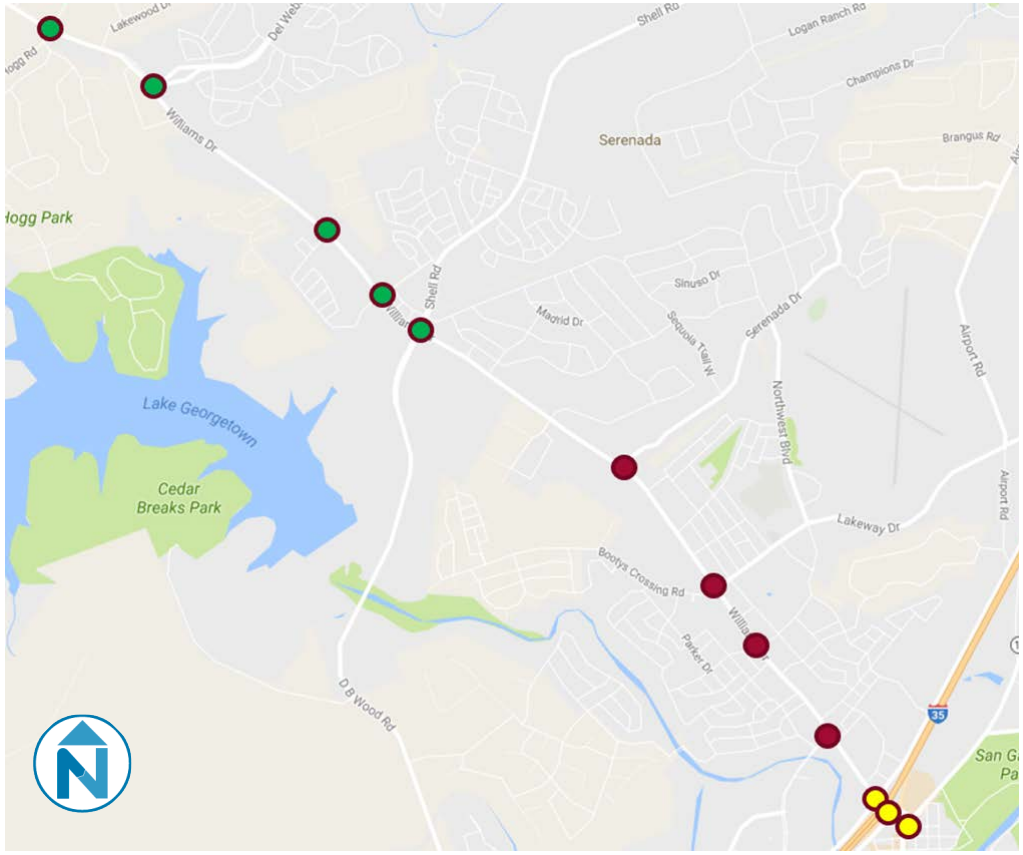
IMPROVE THE OVERALL FUNCTIONALITY OF THE CORRIDOR

WHAT WE HEARD: The traffic signal timing isn't coordinated along the entire corridor.

WHAT WE PROPOSE:

1. Coordinate traffic signal timing.
2. Enhance roadway network connections.

FIGURE 14: EXISTING TRAFFIC SIGNAL TIMING CONDITIONS ON WILLIAMS DRIVE



Signal currently timed Signal not currently timed Signal replaced with new interchange

1. Coordinate traffic signal timing.

Traffic signals are one of the primary constraints on corridor capacity. The extent to which through traffic is impeded is heavily dependent on the quality of the signal timing. Poor signal timing can result in significant congestion that could otherwise be avoided, or, at the very least, minimized. The Williams Drive corridor is currently split into two primary signal systems. West of DB Wood Road to Jim Hogg Road, the signal system is coordinated to enable synchronization and allow "platooning" of vehicles. This segment of the corridor was last retimed in 2012. East of DB Wood Road to Austin Avenue, the signal system along the corridor is uncoordinated and the signals operate independently from each other, which minimizes the platooning effect and increases travel time. Signal retiming is one of the most cost-effective ways to impact corridor performance.

2. Enhance roadway network connections.
Providing a strong connected network of roads and pedestrian facilities can help distribute traffic, reduce travel distances and times, improve routing for transit and reduce walking distances. Good connectivity also provides better routing opportunities for emergency and delivery (solid waste, recycling, mail) vehicles. All of these effects can play a positive role in reducing congestion on the street network.

Connectivity is achieved by providing connections within individual developments, between developments and by having a well-planned local and collector road network to compliment the arterial highway network. New connections within the Corridor and Center Areas, as shown on the map in Figure 15, could add up to four miles of streets to the network and provide alternative routing opportunities for vehicles, pedestrians and bicyclists.

FIGURE 15: PROPOSED ROADWAY NETWORK CONNECTIONS

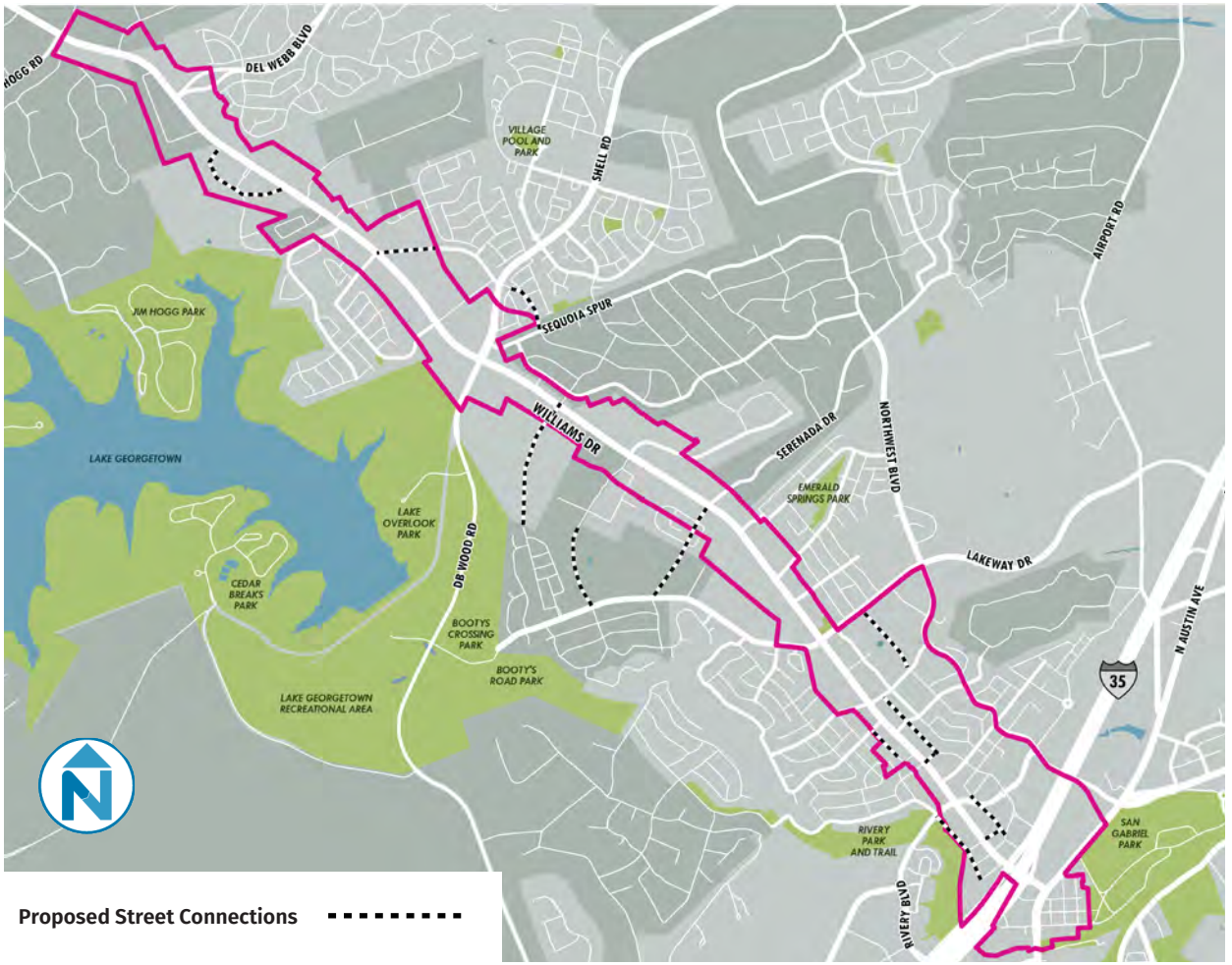


FIGURE 16: ANALYSIS OF COORDINATED TRAFFIC SIGNAL TIMING

Scenario	Williams Drive Travel Time - Austin Avenue to Jim Hogg							
	AM				PM			
	Eastbound		Westbound		Eastbound		Westbound	
	Minutes	%	Minutes	%	Minutes	%	Minutes	%
Existing Timing	11.1	n/a	13.7	n/a	12.5	n/a	14.7	n/a
Improved Signal Timing	10.5	-5.6%	10.5	-23.9%	12.3	-1.5%	10.6	-27.5%
Add FYA	10.3	-6.8%	10.5	-23.9%	11.9	-5.0%	10.4	-28.8%
Add Geometric Improvements	10.3	-7.4%	9.8	-28.4%	10.4	-16.4%	10.0	-31.6%

Recommendations along the corridor include the following to be provided over a phased timeline:

Short Term:

- Corridor retiming

Mid Term:

- Add Flashing Yellow Arrows to enable left-turn phases
- Geometric intersection improvements (to enable traditional phases at Wildwood and Lakeway/Booty's Crossing intersections)

Analysis of these improvements has shown substantial travel time improvements along the corridor. As illustrated by the chart in Figure 16, the greatest improvements occur during the afternoon peak period. This is to be expected, since the heaviest travel demand is during the afternoon. Re-timing the corridor has the biggest impact, with a 27.5% reduction in travel times. Adding the Flashing Yellow Arrow and making geometric improvements at the Wildwood and Lakeway/ Bootys Crossing intersections provide additional benefit, reducing travel times by 31.6% when compared to existing timings.

WHAT WE HEARD: I don't walk along Williams Drive because of inadequate pedestrian facilities.

WHAT WE PROPOSE:

3. Narrow travel lanes depending on the character of different portions of the roadway.
4. Ensure intersection design improves both vehicular and pedestrian safety and aids corridor efficiency.
5. Evaluate posted speed limits.
6. Improve sidewalk design across driveways.

3. Narrow travel lanes depending on the character of different portions of the roadway.

Travel lane widths should match the desired vehicle speed and the most frequent design vehicle on the road. Passenger vehicles can operate safely at speeds of up to 35 mph in travel lanes that are 10 feet wide, while vehicles such as buses and tractor-trailers may require slightly wider lanes. Buses can be as wide as 10.5 feet from mirror to mirror and can operate more comfortably in a travel lane that is 11 feet wide, particularly on roadways with target speeds of 30 to 35 mph.

While it is acknowledged that the standard TxDOT lane width is 12 feet, a narrower 11-foot lane width is recommended to minimize pedestrian crossing distances and help manage speeds. This is justified by the fact that much of the Williams Drive study area is not a free flowing rural arterial, but is rather an interrupted-flow (e.g., signalized) suburban corridor. The AASHTO Green Book confirms that for signalized, lower speed (e.g., 45 mph or less) arterials, narrower lane widths are sufficient and often advantageous.[1]

11-foot lanes retain or enhance the safety performance of the street as research has found that "lane width effects [on safety]... were generally either not statistically significant or indicated that narrower lanes were associated with lower rather than higher crash frequencies."[3] Narrower lanes are a common traffic calming device used to slow driver speeds. FHWA advises that, "Narrower lane widths may be chosen to manage or reduce speed and shorten crossing distances for pedestrians... without a design exception."[3]

Capacity of the corridor will also be maintained with narrower lane widths. The Highway Capacity Manual (HCM) provides for a capacity reduction factor of 3.33 percent per foot for lane width less than 12 feet.[4] However, a 2007 literature review of research found that, "so long as all other geometric and traffic signalization conditions remain constant, there is no measurable decrease in urban street capacity when through-lane widths are narrowed from 12 feet to 10 feet."[5] [6]

4. Ensure intersection design improves both vehicular and pedestrian safety and aids corridor efficiency.

Intersections are a critical component to the street network. As the location where all of the different users and uses of the street combine and interact, intersections can be the most challenging element of the street to design.

The design of intersection corners directly impacts the speed at which a vehicle is able to turn, as well as the location and length of crosswalks at the intersection. The curb radius refers to the arc of the built curb at the corner of an intersection, which determines the effective turning radius of a vehicle (Figure 17).

Curb radii should be kept as tight as possible. Wide radii encourage sweeping turns, which put pedestrians at risk. Shorter curb radii encourage stopping at the corner before turning, enhancing pedestrian safety.

Where two receiving lanes are available for a single turning lane, the turning radius of trucks should be calculated allowing vehicles to track into the outer (second) lane. In some cases, the stop bar in the oncoming traffic lane can be shifted back from the intersection to accommodate the turning radius of larger vehicles (Figure 18). Turning speeds for any vehicle should not exceed 15 mph, which may mean that truck turning speeds (on green) be reduced even more. Channelized right turn lanes with raised islands (e.g., pork chops) must be designed for larger vehicle templates (WB 50 to WB 60) in areas where those vehicles are expected.

FIGURE 17: TURNING RADIUS OF A CAR COMPARED TO TURNING RADIUS OF A TRUCK

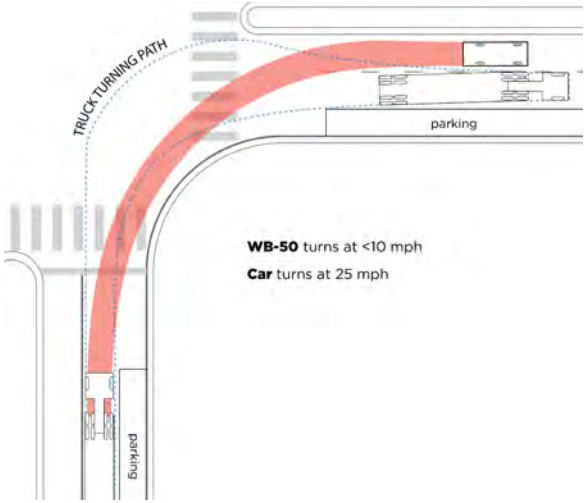
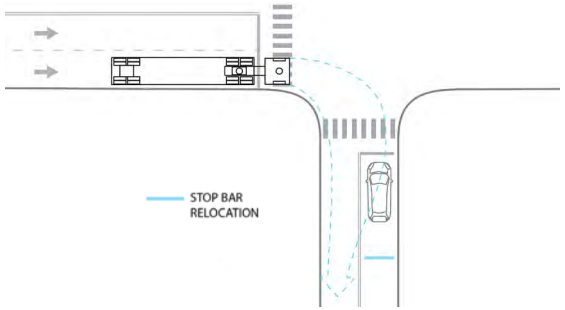


FIGURE 18: RECESSED STOP BAR TO ACCOMMODATE TRUCKS AND OTHER LARGE VEHICLES



5. Evaluate posted speed limits.

Posted speeds on the corridor vary from 50 mph in the corridor (western) portion to 35 mph in the center (eastern) portion of the study area. It is recommended that upon concurrence of an engineering study the segment between River Bend Drive and Lakeway Drive currently posted at 45 mph be reduced to 35 mph. Additionally, the segment between Lakeway Drive and Wildwood Drive currently posted at 50 mph should also be reduced to 35 mph upon concurrence of an engineering study. This reduction would create a uniform speed expectation through the corridor's activity nodes, improve safety and could potentially increase vehicle throughput (Figure 19).

FIGURE 19: TRAVEL SPEED AND VEHICLE THROUGHOUT

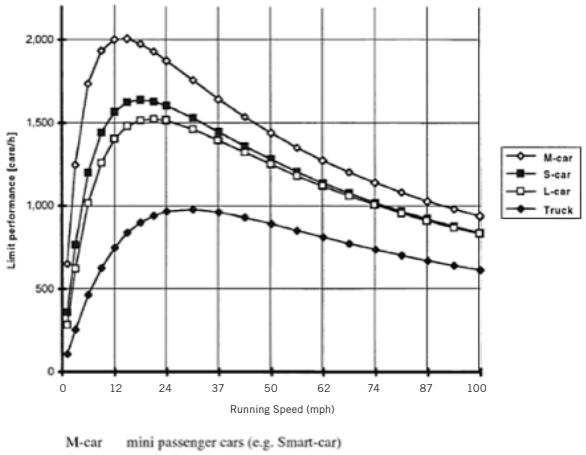


FIGURE 20: RELATIONSHIP BETWEEN SPEED AND SEVERITY OF INJURY FOR A PEDESTRIAN

There is a direct correlation between vehicle speed and injury severity for a pedestrian hit by a car (Figure 20). The faster a vehicle is traveling, the greater the probability of death for a pedestrian when hit.

As a vehicle increases speed, the cone of vision for the driver is decreased, reducing their ability to see, respond to, or enjoy events in their surroundings (Figure 21).

The speed that motorists travel along a roadway is directly related to the design of that roadway. The design of the roadway is based on a "design speed" that, by current standards, accommodates the fastest group of motorists. The actual posted speed is based upon the 85th percentile, meaning the road, by its very nature, encourages speeding.

FIGURE 21: DRIVER'S CONE OF VISION SHRINKS AS VEHICLE SPEED INCREASES

According to the Texas Department of Transportation (TxDOT) Road Design Manual, the selected design speed for a roadway should be influenced primarily by the character of terrain, economic considerations, extent of roadside development (i.e., urban or rural), and highway type.[7]

The TxDOT Road Design Manual also states that on level arterials, a design speed of 60 mph should be used[8] (Figure 22). This design criteria is in opposition to the other principles that the design speed should:

- be logical with respect to topography, anticipated operating speed, adjacent land use, and functional classification
- be as high as practicable to attain a desired degree of safety, mobility and efficiency [and]
- be consistent with the speed a driver is likely to expect. Drivers do not adjust their speeds to the importance of the highway, but to their perception of the physical limitations and traffic

Given these considerations, it is recommended that the posted speed (50 mph or 35 mph depending on location) be used as the design speed to maintain safety and reduce risk for all travelers – particularly non-motorized ones. A design speed that matches the posted speed conveys the appropriate environmental cues to drivers to travel at the posted speed.

FIGURE 22: TXDOT GEOMETRIC DESIGN STANDARDS

(US Customary)			
Item	Functional Class	Desirable	Minimum
Design Speed (mph)	All	Up to 60	30
Minimum Horiz. Radius	All	See Tables 2-3 and 2-4, Figure 2-2	
Maximum Gradient (%)	All	See Table 2-9	
Stopping Sight Distance	All	See Table 2-1	
Width of Travel Lanes (ft)	Arterial Collector Local	12 12 11-12	11[1] 10[2] 10[2,3]
Curb Parking Lane Width (ft)	Arterial Collector Local	12 10 9	10[4] 7[5] 7[5]
Shoulder Width[6] (ft), Uncurbed Urban Streets	Arterial Collector Local	10 8 --	4 3 2
Width of Speed Change Lanes (ft)	Arterial and Collector Local	11-12 10-12	10 9
Offset to Face of Curb (ft)	All	2	1
Median Width	All	See Medians	
Border Width (ft)	Arterial Collector	20 20	15 15
Right-of-Way Width	All	Variable [7]	
Clear Sidewalk Width (ft)[10]	All	6-8[8]	5
On-Street Bicycle Lane Width	All	See Chapter 6, Bicycle Facilities	
Superelevation	All	See Chapter 2, Superelevation	
Horizontal Clearance Width	All	See Table 2-11	
Vertical Clearance for New Structures (ft)	All	16.5	16.5[9]
Turning Radii	-	See Chapter 7, Minimum Designs for Truck and Bus Turns	

FIGURE 23: EXAMPLE OF SIDEWALK DESIGN ACCROSS DRIVEWAY

6. Improve sidewalk design across driveways.

To the maximum practical extent, driveways should be oriented at a 90-degree angle to Williams Drive. Anticipated entry speeds for driveways should be no more than 15 mph for all vehicles. Exiting vehicles should be controlled via stop signs and associated stop bars protecting the sidewalk area.

Driveways must be designed so that the pedestrian path is kept at grade, while vehicles must change grade to ramp up to the pedestrian way, prioritizing pedestrian and bicycle through movements over vehicle driveways.

Sidewalk and cycle track materials should carry across the driveway to reinforce the visual cues that pedestrians have the right of way.

WHAT WE HEARD: It is unsafe to cross Williams Drive.

WHAT WE PROPOSE:

7. Add medians to the corridor.
8. Provide frequent, pedestrian road crossing locations to support a walkable environment.

7. Add medians to the corridor.

Throughout the study area, the center of Williams Drive is a continuous two-way center left-turn lane (often called a "chicken lane"). There are no existing medians along the corridor.

Medians serve multiple purposes along a roadway. They support calming traffic by visually narrowing the roadway, impacting the speeds at which motorists feel comfortable traveling. At pedestrian crossing locations, medians serve as a refuge island and help to reduce the overall length of the crossing. Medians can also be designed with turn pockets that reduce potential conflicts between pedestrians and turning vehicles. Landscaped medians also improve the aesthetic value of a roadway, and can reduce the heat island generated by unshaded pavement.

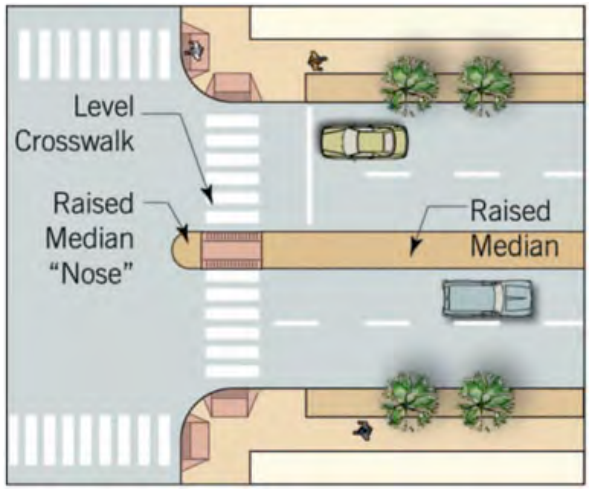
8. Provide frequent, pedestrian road crossing locations to support a walkable environment.

Pedestrians cross Williams Drive at a variety of locations. Marked pedestrian crossings provide a safe, designated space for pedestrians to cross the street. Marked crossings also alert motorists that a pedestrian may be present. More frequent, well-designed crossing locations support a walkable environment and encourage more people to walk.

Cross streets where pedestrian crossings are in excess of 40 feet should be evaluated for methods to introduce dividers between the inbound and outbound traffic flows. Dividers should be a minimum of 4 feet wide, and protected by curbs, to provide a sufficient pedestrian refuge when crossing intersections or wide curb cuts or access points.

Medians should extend beyond the pedestrian crossing to provide a protected "nose" between the intersection area and the crosswalk (Figure 24). The crosswalk should remain flush with the road, while the curbed median should be raised on either side of the crosswalk.

FIGURE 24: PROTECTED PEDESTRIAN CROSSING

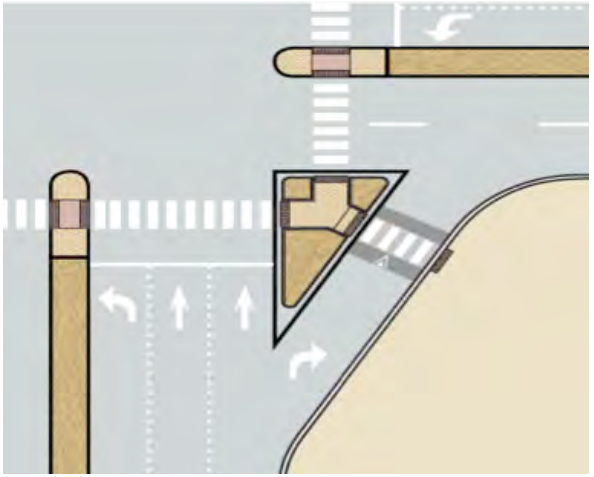


Pedestrian crossings across Williams Drive should be designated only at signalized intersections. Crossings that serve youth or senior facilities (such as the YMCA and senior housing developments) should have high visibility markings. Designated crosswalks should be provided across all legs of signalized intersections, and they should be aligned to minimize crossing distances.

Pedestrian refuge islands should be provided at intersections with channelized right turns, (also known as “pork chops”) to shorten the crossing distance (Figure 25).

Two perpendicular curb ramps should be located on each corner at all intersections with crosswalks across all approaches. Returned curb design is recommended to help channelize bicycles and pedestrians into the crosswalk and maintain planting area all the way to the curb at intersections.

FIGURE 25: PORK CHOP WITH PEDESTRIAN CROSSING



WHAT WE HEARD: There are too many curb cuts along the corridor, which inhibit traffic operations and safety.

WHAT WE PROPOSE:

9. Where feasible and context appropriate, consolidate and reduce the number of driveways.
10. Continue to require cross-access between neighboring developments.
11. Promote shared parking opportunities.

9. Where feasible and context appropriate, consolidate and reduce the number of driveways.

Wherever possible and practical, curb cuts should be consolidated and reduced through a corridor-wide driveway reduction strategy.

There are approximately 150 driveways along the Williams Drive corridor within the study area, with many of the driveways accessing commercial and retail land uses. Large-scale retail development in centers creates internal circulation along a corridor, as customers may visit several establishments on one trip to the area. This reduces the impact on the adjacent roadway. A driveway study should be conducted to identify locations where driveways can be removed.

Smaller, individual parcels add short trips to the corridor that would be better served by connections between adjacent parcels and a supporting local street network.

10. Continue to require cross-access between neighboring developments.

The City currently requires cross-access between adjacent non-residential parcels at the time of initial development or complete redevelopment. Unfortunately, a variety of locations on the Williams Drive corridor are still dominated by individual parcels with no connection to adjacent development. This land use pattern slows traffic on the adjacent roadway during peak hour periods.

Wherever possible and practical, curb cuts should be consolidated and reduced. Single properties should have no more than two curb cuts on any frontage. Curb cut width should also be reduced to the minimum necessary to service the type of vehicles anticipated for the adjacent development. Where a property has frontage on both Williams Drive and a side street, access onto Williams Drive should be limited to one two-way access point or two one-way driveways.

Adjacent properties are encouraged to link parking and circulation areas behind buildings where appropriate and away from Williams Drive, thereby allowing circulation not dependent on Williams Drive itself. This may require cross-access easements between properties to maintain cross-access throughout the life of the property.

The minimum distance between curb cuts for driveways and intersections should be no more than the design standards set forth in Section 12.03.020 of the Universal Development Code, as measured in a straight-line along the curb between the curved portions of the curb.

The introduction of regularly-spaced public streets should be supported and encouraged as a means to provide multiple routes of access for vehicles, cyclists and pedestrians, introducing redundancy and relieving the burden on the main line arterial.

FIGURE 26: ACCESS MANAGEMENT CONCEPT FOR WILLIAMS DRIVE

Note: Concept drawing only. No engineering completed to date.

11. Promote shared parking opportunities.

Shared parking means that a parking facility/ lot serves multiple destinations. This requires multiple destinations within walking distance of the same parking lot, and is most effective when those destinations either share patrons, so that people park once and visit multiple destinations, or have different periods when parking demand is highest. Along Williams Drive with the promotion of cross-access between abutting developments shared parking can be an effective tool when there is a mix of uses on a single site or when sites with different uses are located suitably close together.

EXPAND BIKE AND PEDESTRIAN OPTIONS ALONG THE CORRIDOR

WHAT WE HEARD: I can't walk along Williams Drive because there are too many sections without any sidewalks.

WHAT WE PROPOSE:

12. Fill in the gaps and complete the sidewalk system.

12. Fill in the gaps and complete the sidewalk system.

Sidewalks in the study area are used by people of all ages and abilities and for a variety of purposes. Well-designed sidewalks support and enable walking as an appealing form of urban transportation. Sidewalks must, at a minimum, provide a clear, unobstructed pathway sufficient to accommodate persons with disabilities. Sidewalks should be inviting places, with adequate light and shade to create a more comfortable pedestrian environment. The best sidewalk design is wide enough to enable two people to walk side-by-side, engaging in conversation, and pass one individual in the oncoming direction.

There should be no street furniture or other obstructions (utility boxes or poles, trees or other plants) located within the sidewalk, and all sidewalks should connect to intersection corners.

FIGURE 27: EXISTING SIDEWALK CONDITIONS AND PRIORITY PROJECTS

Businesses and property owners, with assistance from the City, should retrofit any existing non-compliant facilities to ensure accessibility for all users.

Existing developments should also retrofit improved connections to at least allow non-motorized users to connect through to other development or adjacent streets. Future development should be required to establish these non-motorized connections.

WHAT WE HEARD: I can't ride my bike along Williams Drive because there are no dedicated bicycle facilities.

WHAT WE PROPOSE:

13. Implement a variety of bicycle facilities within the corridor.

13. Implement a variety of bicycle facilities within the corridor.

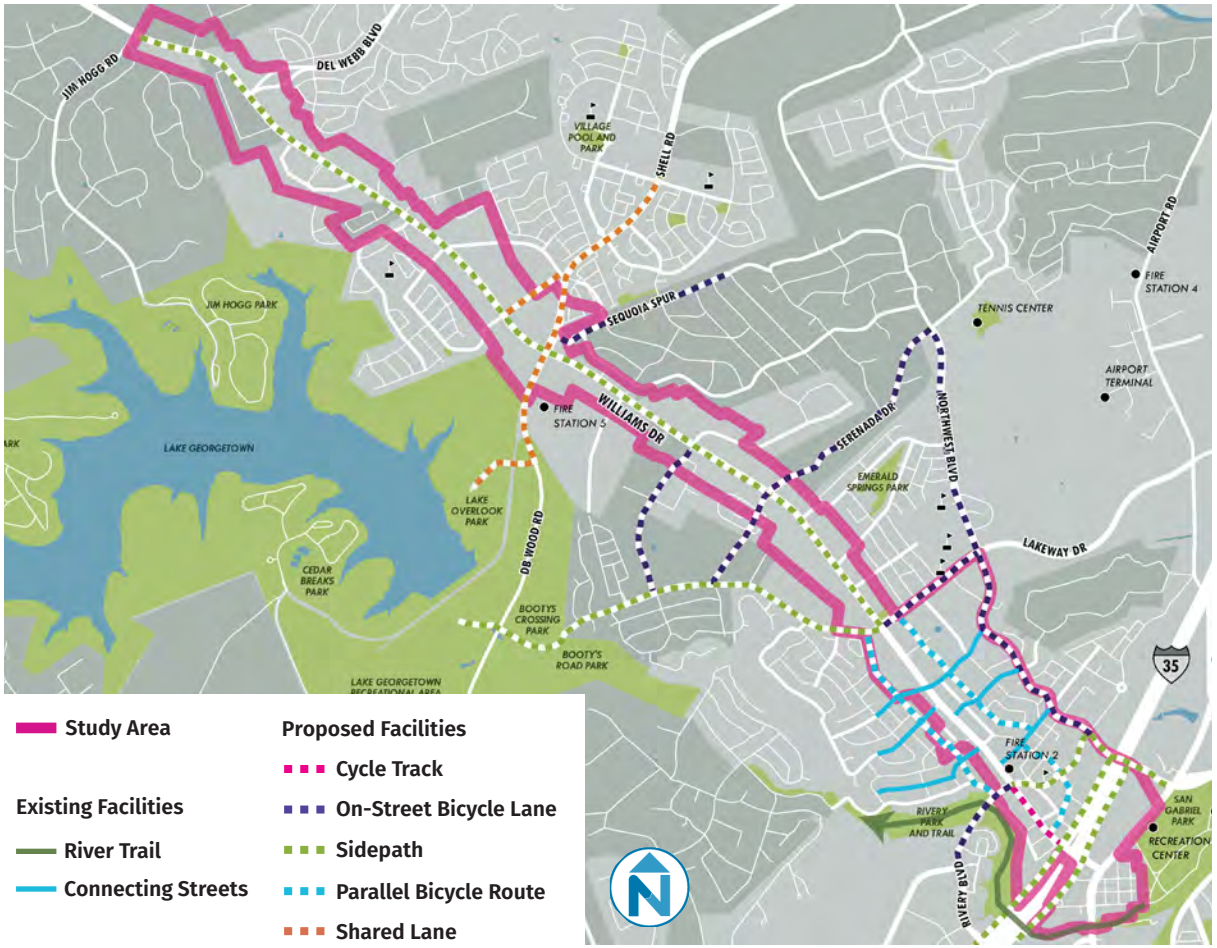
Bicycle facilities must respond to the surrounding land uses and transportation environment. When designing streets, traffic volumes, traffic speeds, and land use should influence the selected type of bicycle facility. A high quality facility feels safe and is separated from vehicles and results in minimal conflicts with pedestrians.

A separate, shared bike and pedestrian path should be created along the entire segment of Williams Drive from Jim Hogg to Lakeway.

Bicycle amenities, including bike racks and a City-wide bicycle facility map should also be prioritized as facilities are developed, to further support and encourage bicycling in the community. All new development and redevelopment should include bike facilities.

Linkages to adjacent neighborhoods can be made through a network of bicycle facilities as shown in Figure 28.

FIGURE 28: PROPOSED WILLIAMS DRIVE BICYCLE CONNECTIONS



BICYCLE FACILITY "TOOLKIT"

Side Path

A sidepath, also known as a shared use path or multiuse path, is a paved off-street facility shared by both bicyclists and pedestrians. These facilities are generally wider than a typical sidewalk and are most suitable in areas that have lower levels of concentrated pedestrian and business activity. Shared use paths may be used as an alternative to on-street bicycle facilities for streets with higher volumes and/or higher speeds. Intersections, driveways, and other points of conflict between vehicles and path users must be limited and carefully designed to ensure safety.

Cycle Track

Cycle tracks are on-street bicycle facilities with physical separation between the bicycle facility and the roadway, often through a curb, parked vehicles, planted median, or flexible post.

Buffered Bicycle Lane

Buffered bicycle lanes are dedicated bicycle facilities with separation between the bicycle lane and other roadway uses. Buffering is provided by a flush, painted zone between the bicycle facility and adjacent vehicle lanes. Buffered bicycle lanes increase the distance between vehicles and cyclists, increasing the comfort level for cyclists over standard bicycle lanes. Buffers should be 2 feet wide, and can be used between both parked and moving vehicles. Buffered bike lanes are preferred over standard bike lanes on streets with higher traffic speeds.

Bicycle Lane

Bicycle lanes are dedicated bicycle facilities delineated by striping, signage, and pavement markings. A standard bicycle lane is typically located between the right-most travel lane and the curb, running in the same direction as all other vehicle traffic, though alternative configurations are possible. On-street bicycle lanes provide people on bicycles with designated space and establish a space where motorists can expect bicyclists. The National Association of City Transportation Officials (NACTO) recommends a bicycle lane width of 6 feet, within a minimum of 4 feet in constrained conditions (though not adjacent to parking).

Signed Bicycle Route

Signed bicycle routes are designed to encourage slow vehicular traffic and ensure low volume streets are comfortable for people walking and bicycling. These streets should feature traffic calming design elements to help maintain slower traffic and limit volumes.

ENHANCE THE CHARACTER AND AESTHETICS OF THE CORRIDOR

WHAT WE HEARD: There is a lack of identity and sense of place along Williams Drive.

WHAT WE PROPOSE:

14. Require enhanced landscape buffers along the edge of the public sidewalk.
15. Develop landscape buffers that are more responsive to the varying character of the roadway.
16. Require improved lighting and signage on private property.
17. Add planting strips with street trees between the sidewalk and the roadway.
18. Require parking to be placed at the rear of the parcel.

14. Require enhanced landscape buffers along the edge of the public sidewalk.
The separation of the sidewalk from the active travel lanes improves pedestrian safety and enhances walkability. The Williams Drive corridor, especially west of Shell Road, has a substantial landscaped or natural feel that should be continued. The placement of landscaping between the sidewalk and main lanes yields a more pleasant walking experience.

FIGURE 29: EXAMPLE OF A SIDEWALK BUFFER

15. Develop landscape buffers that are more responsive to the varying character of the roadway.
Retaining a natural buffer closer to Jim Hogg will serve to send the message that the corridor is serving as a “gateway” to the Hill Country. As you travel in towards downtown, the landscaped area diminishes in available width (based on recent development activity), and it makes the retention of a natural buffer unacceptable (it would look too thin and sparse), therefore a more landscaped look is recommended for these segments.

16. Require improved lighting and signage on private property.

When the impacts of private development, such as glaring light or haphazard signage, spill over into the adjacent roadway, they have the potential to serve as distractions for drivers. In order to improve public safety, minimizing private development impacts on adjacent roadways should be a primary goal.

Generating a consistent look and feel for signs and other site elements such as lighting fixtures also enhances the overall look and feel of the corridor. With additional landscaping at the street, entry signs at driveways become more important, although sight lines at these turning points must also be considered.

17. Add planting strips with street trees between the sidewalk and the roadway.

Currently, the streetscape (sidewalk and landscape planting area) on Williams Drive does not adequately accommodate pedestrian or bike activity. It is very auto-oriented and walking or biking is unappealing. The lack of amenities makes pedestrians feel uncomfortable. Adding planting strips between the sidewalk and the roadway along the entire length of the corridor will help make pedestrians feel safer walking on the sidewalk (where one exists).

FIGURE 30: EXAMPLE OF AN ENHANCED PLANTING STRIP WITH STREET TREES

18. Require parking to be placed to the rear of the parcel.

The location of parking lots to the rear of properties enables the concentration of people and places along the street, creating an environment that is more accessible, interesting, and safe for walkers and bicyclists. However, parking must be as visible as possible and accessible otherwise it could be avoided by motorists to the detriment of the commercial uses. In conjunction with cross access shared parking opportunities would be promoted.

PROPOSED CORRIDOR TRANSECTS

Within the Corridor Plan area from Jim Hogg Drive to Lakeway, Williams Drive transverses three areas with distinctly different characters. The sections differ in width of pavement, the speed of traffic, as well as in the use and form of adjacent development. These characteristics contribute to each section's identity and the experience of visiting, or traveling through.

During the charrette, community members identified a lack of identity and sense of place along Williams Drive. The following character areas have been identified based on existing changes in character along Williams Drive.

» Jim Hogg Rd. to Cedar Lake Blvd.

» Cedar Lake Blvd. to Serenada Dr.

» Seranada Dr. to Lakeway Dr.

Frontage

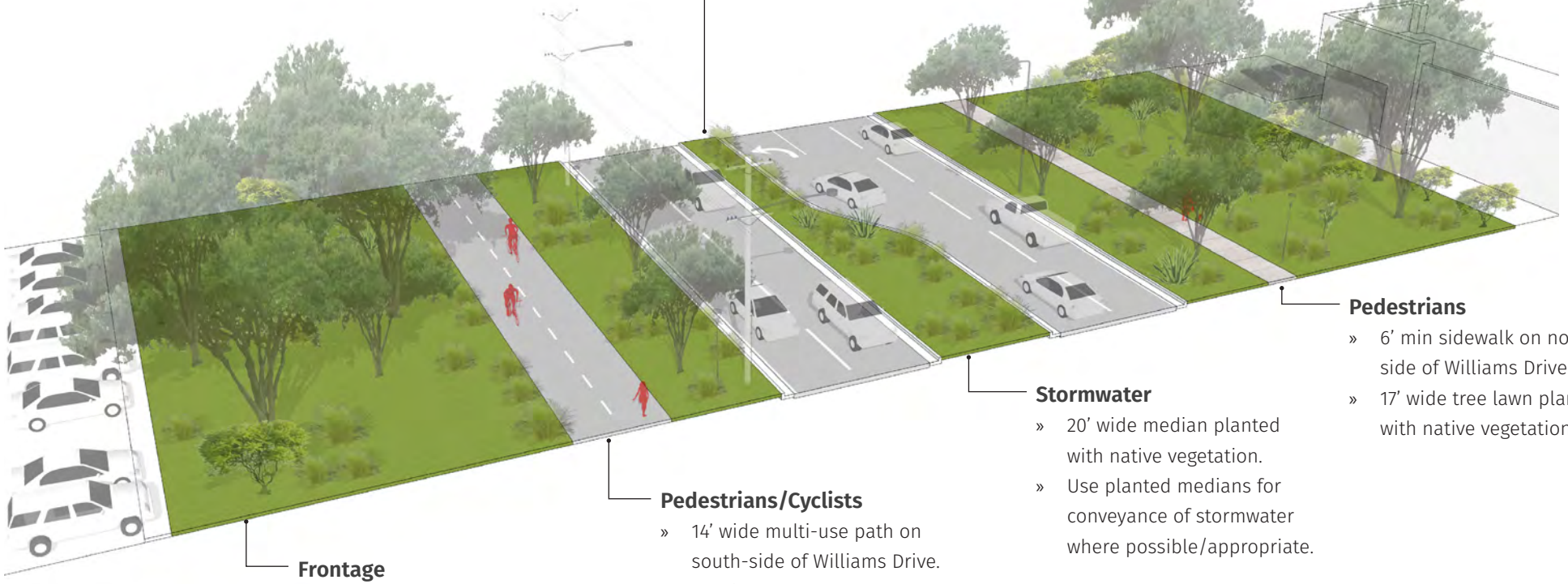
Frontages establish the way development addresses the street. The proposed frontages work to improve the safety and aesthetics along the length of the study area and strengthen the differences and identity of each section of the corridor.

Proposed frontages range from a deep buffer of preserved hill country landscape, to a more typical landscaped buffer on the eastern end of the Corridor Plan area. Frontages would be placed within the existing right-of-way or shared between the right-of-way and private property where appropriate.

FIGURE 31: RECOMMENDED CORRIDOR TRANSECTS

JIM HOGG TO CEDAR LAKE

RECOMMENDATIONS



Automobiles

- 11’ wide travel lanes.
- 8’ wide pedestrian refuge at intersections.

Pedestrians

- 6’ min sidewalk on north-side of Williams Drive.
- 17’ wide tree lawn planted with native vegetation.

Stormwater

- 20’ wide median planted with native vegetation.
- Use planted medians for conveyance of stormwater where possible/appropriate.

Pedestrians/Cyclists

- 14’ wide multi-use path on south-side of Williams Drive.
- 17’ wide tree lawn planted with native vegetation.

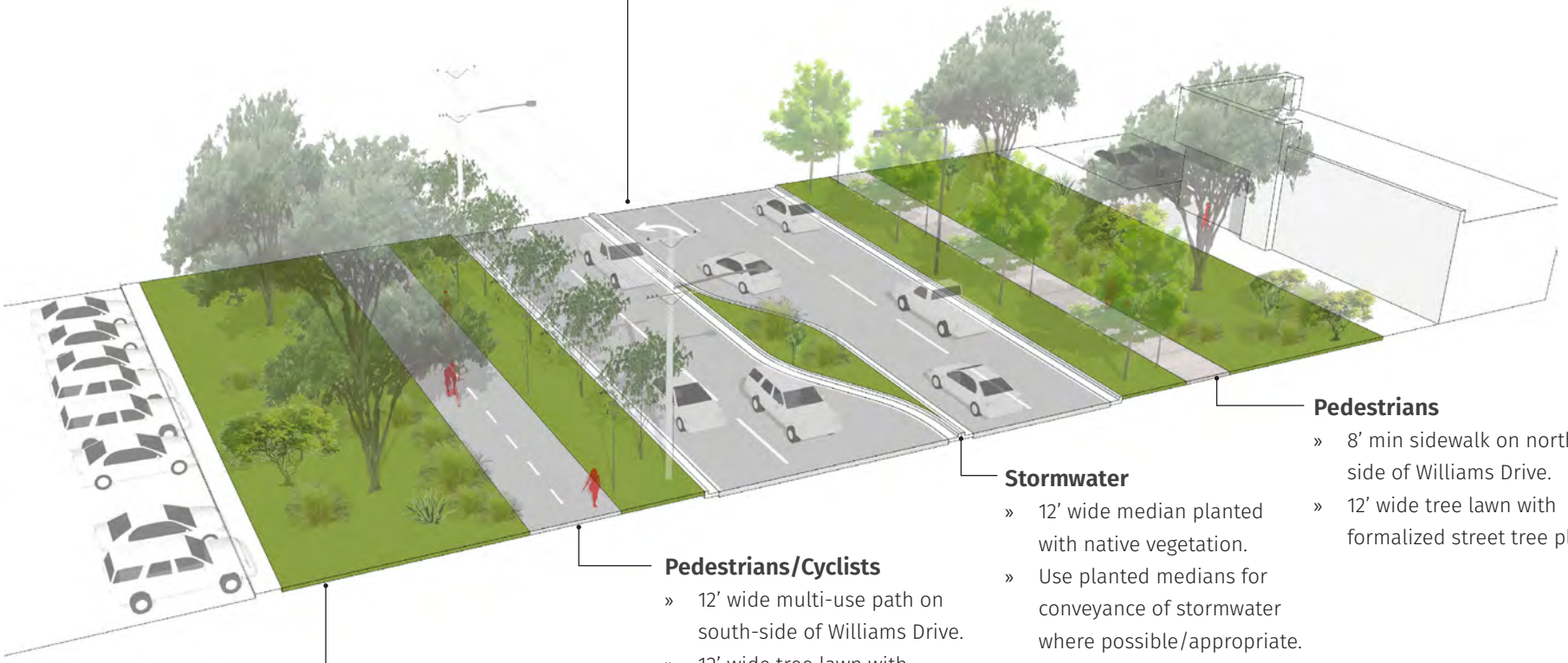
Frontage

- Hill Country feeling preserved.
- Minimum 30', maximum 50’ wide landscape buffer planted with native vegetation.
- Buildings pulled up to internal sidewalk or set behind a double row and aisle of parking.
- Curb cuts consolidated, backage road provides inter-parcel connectivity.

EXISTING CONDITIONS	
Right-of-Way	100’ to 145’
Shoulder Width (2)	10.5’
Travel Lane Width (4)	12’
Center Turn Lane Width (1)	16’
Total Pavement Width	85’

CEDAR LAKE TO SERENADA

RECOMMENDATIONS



Automobiles

» 11’ wide travel lanes.

Pedestrians

» 8’ min sidewalk on north-side of Williams Drive.

» 12’ wide tree lawn with formalized street tree planting.

Stormwater

» 12’ wide median planted with native vegetation.

» Use planted medians for conveyance of stormwater where possible/appropriate.

Pedestrians/Cyclists

» 12’ wide multi-use path on south-side of Williams Drive.

» 12’ wide tree lawn with formalized street tree planting.

Frontage

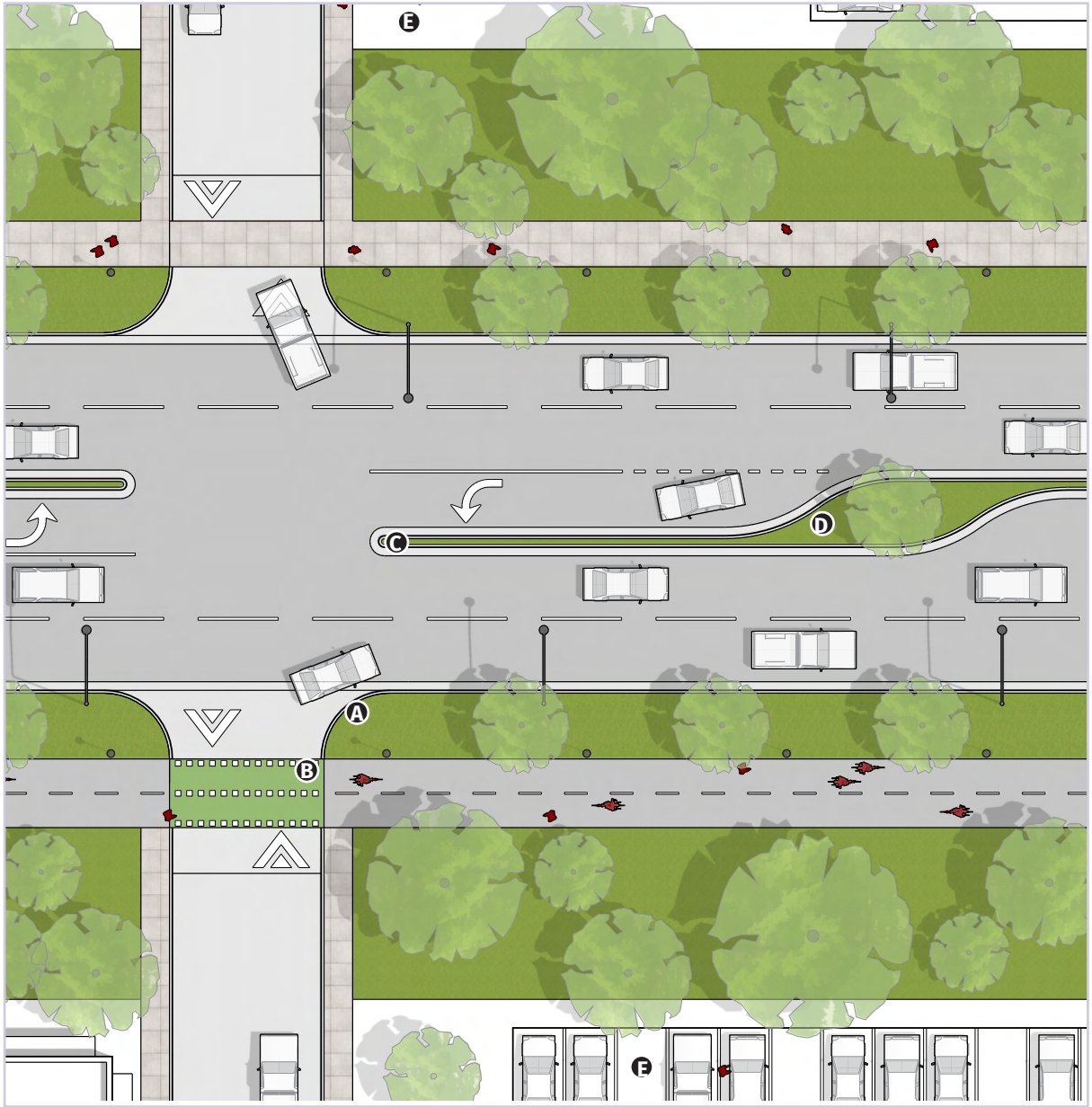
» 25’ wide landscape buffer planted with native vegetation.

» Buildings pulled up to internal sidewalk or set behind a double row and aisle of parking.

» Curb cuts consolidated, backage road provides inter-parcel connectivity.

EXISTING CONDITIONS	
Right-of-Way	100’ to 135’
Shoulder Width (2)	10’
Travel Lane Width (4)	11.5’
Center Turn Lane Width (1)	12’
Total Pavement Width	80’

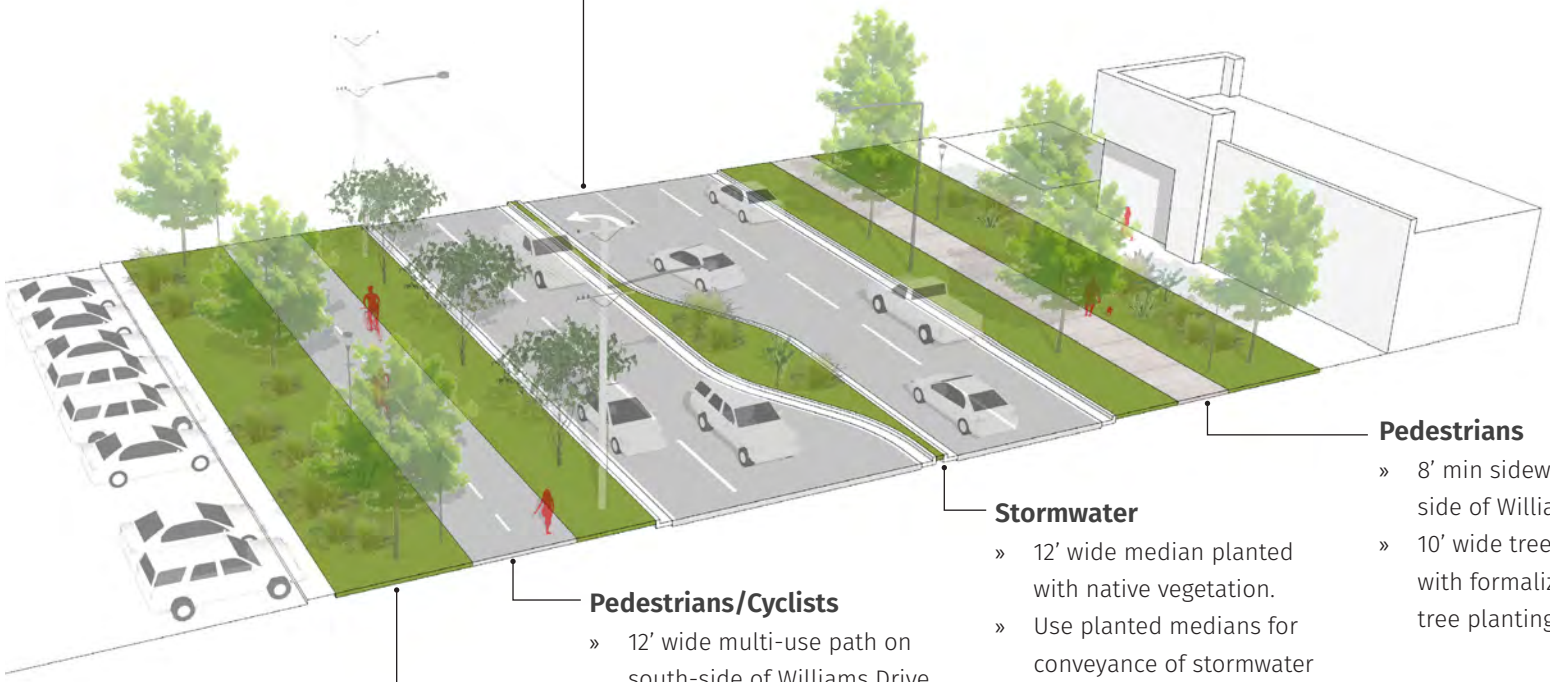
Plan View: Typical Improvement Examples (Cedar Lake to Serenada)



- **A** Existing curb cuts consolidated and reduced. Adjacent parking and circulation areas are linked away from Williams Drive.
- **B** Side path at grade, materials carried across driveway to reinforce visual cues that pedestrians and cyclists have right-of-way.
- **C** To maintain traffic flow, new medians include left turn lanes at major intersections and key driveways.
- **D** Stormwater management features incorporated into center medians.
- **E** Shared parking lot serves multiple destinations. Destinations either share patrons, so that people park once and visit multiple destinations, or have different periods when parking demand is highest.
- **E** Parking located at the rear of buildings where appropriate contributes to increased aesthetic appeal of the corridor.

SERENADA TO LAKEWAY

RECOMMENDATIONS



Automobiles

» 11’ wide travel lanes.

Pedestrians

» 8’ min sidewalk on north-side of Williams Drive.

» 10’ wide tree lawn with formalized street tree planting.

Stormwater

» 12’ wide median planted with native vegetation.

» Use planted medians for conveyance of stormwater where possible/appropriate.

Pedestrians/Cyclists

» 12’ wide multi-use path on south-side of Williams Drive.

» 10’ wide tree lawn with formalized street tree planting.

Frontage

» 15’ wide landscape buffer planted with formal vegetation.

» Buildings pulled up to internal sidewalk or set behind a double row and aisle of parking.

» Curb cuts consolidated, backage road provides inter-parcel connectivity.

EXISTING CONDITIONS	
Right-of-Way	85’ to 145’
Shoulder Width (2)	10’
Travel Lane Width (4)	11.5’
Center Turn Lane Width (1)	12’
Total Pavement Width	80’