



Barshop and Oles

Brodie Oaks Mobility Playbook

December 2021

N NELSON
NYGAARD

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1 EXECUTIVE SUMMARY

The Brodie Oaks Mobility Playbook is a framework for reducing single-occupancy vehicle trips associated with the redevelopment of the Brodie Oaks Shopping Center (referred to herein as “the Project”) as proposed by Barshop and Oles (referred to herein as “the Project Sponsor”). The Mobility Playbook identifies a selection of parking and Transportation Demand Management (TDM) strategies for mitigating auto vehicle trip generation and encouraging the use of non-auto modes of travel.

TDM strategies are programs, policies, or services that help incentivize non-driving travel modes such as walking, biking, riding transit, or using shared mobility services. Strategies can include financial subsidies, management structures, on-site amenities, and infrastructure improvements. Research has shown such TDM strategies to be effective at reducing the rate of single-occupancy vehicle travel when they are implemented as part of a comprehensive plan and supported by a complementary parking management framework.

Trip Reduction Target and Parking Maximum

The TDM and parking strategies proposed herein are expected to reduce peak-hour vehicle trip generation rates associated with the project by 25% at full project build-out. The off-street parking supply for the Project at full build-out will not exceed 75% of the minimum required by the City of Austin Land Development Code.

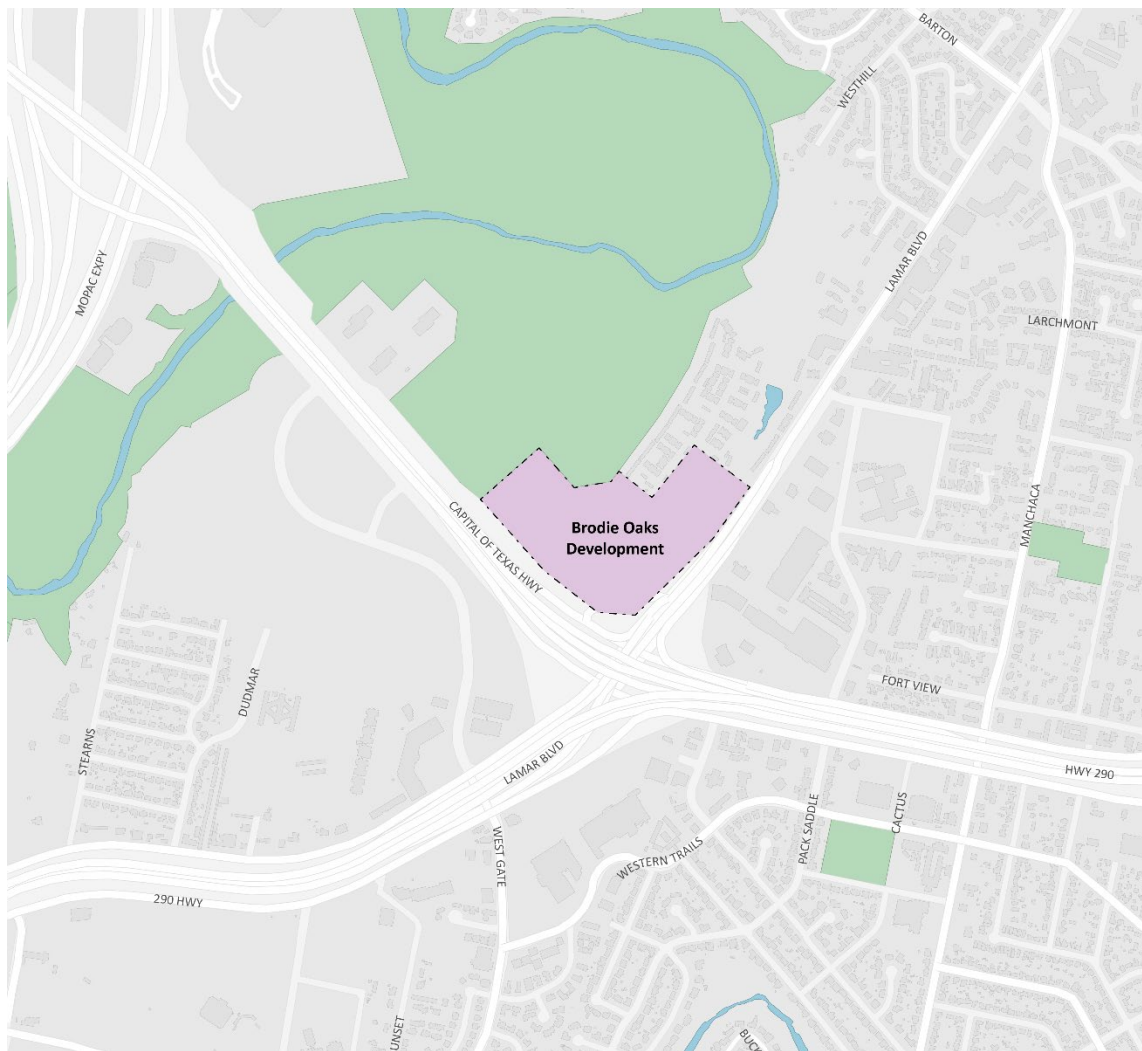
The parking and TDM commitments proposed herein represent a significant investment on behalf of the Project Sponsor that would directly support the City of Austin’s established goals for mobility, equity, and sustainability. In particular, the proposed TDM approach would help achieve the City’s goal of reducing the rate of drive-alone travel from 74% to 50% by 2039.

Successfully achieving the trip reduction target for the Project will require ongoing cooperation, adaptation, and iteration on behalf of both the Project Sponsor and the City of Austin. No individual TDM or parking commitment should supersede the overall success of the plan. The Mobility Playbook is a living document that can and should be adjusted and modified as appropriate to help achieve the established trip reduction goal.

2 PROJECT OVERVIEW

The Project is located on a 37.6-acre parcel at the north corner of Capital of Texas Highway (Loop 360) and South Lamar Boulevard in south central Austin (Figure 1). The Barton Creek Greenbelt abuts the site on the northern property boundary. Today, the site is occupied by the Brodie Oaks Shopping Center, which includes a variety of retail and dining establishments.

Figure 1 Project Site Location



The Project Sponsor proposes a mixed-use development for the site that includes office, residential, hotel, grocery, and retail/dining uses. A summary of the proposed land use mix for the project is summarized in Figure 2.

Figure 2 Proposed Land Use Mix

Land Use	Size
Hotel	200,000 sf
Multifamily Residential	1,500,000 sf
Office	1,260,000 sf
Retail and Dining	140,000 sf
Total	3,100,000 sf

CONTEXT AND OPPORTUNITY

Neighborhood

The Project is situated at the intersection of Loop 360 and South Lamar Boulevard. Rapid growth along the South Lamar corridor in recent years has included multifamily housing, retail, dining, and offices. The South Lamar Boulevard Corridor Improvement Program (2016) outlines a development framework to support ongoing corridor growth by expanding multimodal access and improving safety for pedestrians and bicyclists.

The Imagine Austin Comprehensive Plan (2012) designates the Project vicinity as an Activity Center for Redevelopment in Sensitive Environmental Areas, which suggests that the area is suitable for residential and employment growth that is responsive to the local ecological conditions. The Project represents an opportunity to help fulfill this vision for growth by creating a vibrant, walkable, mixed-use environment that supports multimodal travel, expands access to housing and jobs, and serves as an anchor for the South Lamar corridor.



Figure 3 Hikers walking through the Barton Creek Greenbelt

The Project is adjacent to the Barton Creek Greenbelt, which is a stretch of public land that is managed by the City of Austin Parks and Recreation Department (PARC). The Greenbelt includes an extensive network of walking and hiking trails that run along Barton Creek to the northeast and Northwest of the site. The proposed plan for the Project would celebrate the natural beauty of the Greenbelt and enhance the connection between the South Lamar corridor and the Greenbelt trail network.

Transit Service

The Project is served by MetroRapid Route 803, which runs along South Lamar Boulevard between the Domain in the north and the Westgate Transit Center to the south. This bus route provides frequent service between the Project site and downtown with trips running every 10 minutes between 7 a.m. and 6 p.m. on weekdays. Route 803 stops are currently located on each side of South Lamar Boulevard at the entrance to the Brodie Oaks shopping center.

The Westgate Transit Center is a park & ride facility that is located approximately 2/3 mi southeast of the Project site underneath Ben White Boulevard/SH 71. The Transit Center is served by two frequent bus routes (300 and 311) and three local bus routes (30, 315 and 318).

Bicycle Facilities

Neither of the two roadways bordering the site, Loop 360 and South Lamar Boulevard, currently include a bicycle lane or shared use path. The Austin Bike Map lists South Lamar Boulevard as a “Low” comfort route for bicycling, while Loop 360 is listed as an “Extremely Low” comfort route. South Lamar Boulevard includes dedicated bicycle lanes between Barton Springs Road and Panther Trail just to the north of the Project site. Victory Drive, which connects South Lamar Boulevard to the Westgate Transit Center via Panther Trail, includes a striped bicycle lane in each direction.

The Austin Bicycle Master Plan recommends a protected bike lane on the section of South Lamar Boulevard that borders the Project site and an urban trail bicycle facility along the section of Loop 360 that borders the Project site.

Pedestrian Network

South Lamar Boulevard includes sidewalks along most of its length in the vicinity of the site. There is a gap in the sidewalk network along South Lamar Boulevard immediately adjacent to the site between the adjacent signalized intersection that leads into the site and the intersection with Loop 360. North of the signalized intersection on South Lamar Boulevard, there is a 5-foot wide sidewalk adjacent to the roadway. In the residential neighborhood to the east of the site, there is a mix of sidewalk gaps and complete sidewalks.

At each curb cut along South Lamar Boulevard adjacent to the site, there is a curb ramp with tactile markings. Along the Loop 360 side of the site, there is a sidewalk along the north side of the roadway. The sidewalk is unbuffered from the roadway and varies between 5 feet and 6 feet in width. The signalized intersection with South Lamar Boulevard includes a striped crosswalk that crosses South Lamar Boulevard in two stages at the north end of the intersection, and includes pedestrian signalheads. The eastern end of the crosswalk includes a curb ramp but no tactile markings.

The Barton Creek Greenbelt Trail is a 7.5-mile trail that originates at the Barton Springs Municipal Pool and terminates northwest of the site near the intersection of Scottish Woods Trail and Loop 360. The trail can be accessed to the north of the Project site and can accommodate hikers and mountain bikes along most trail sections. The Project is envisioned as providing a direct connection to the Greenbelt Trail from the Project site.

Shared Mobility

A variety of private mobility services provide shared mobility options in the Project vicinity. As of December 2021, Bird, LINK, and Lime operate dockless electric scooter services in Austin. The Bird service area includes the Project Site, while the LINK and Lime service areas are limited to the east side of South Lamar Boulevard. Other shared mobility operators include Revel (electric mopeds) and Wheels (sit-down electric scooters).

As of December 2021, the only point-to-point car sharing operator in Austin is Zipcar. Zipcar does not currently provide any shared vehicles in the project vicinity.

RELATED PLANS AND PROJECTS

Several recent or ongoing planning projects in the Project vicinity were considered in the development of a parking and TDM approach for the Project, including:

South Lamar Boulevard Corridor Mobility Program (2016)

The South Lamar Boulevard Corridor Mobility Program recommends a range of infrastructure improvements along South Lamar Boulevard to improve safety and support growth along the corridor. Recommendations include bus stop relocations, bicycle facilities, and improved wayfinding and signage. The City is currently moving forward with 90% construction documents and plans to proceed with construction prior to the Project initiating construction.

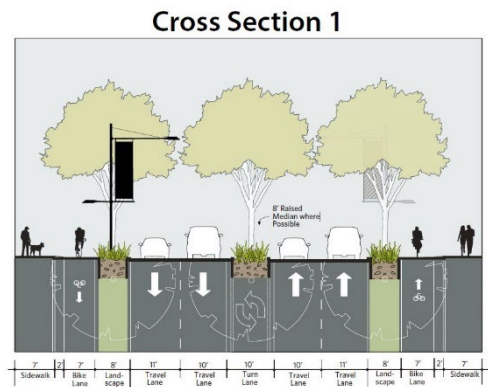


Figure 4 Street section of the planned improvements on South Lamar Blvd adjacent to the Project

Project Connect (2020)

Project Connect is Capital Metro’s comprehensive high-capacity transit plan, which includes two new light rail corridors, expanded MetroRapid bus service, new and expanded commuter rail services, and new Park and Ride locations. In the project vicinity, the Project Connect plan includes expanded MetroRapid service along South Lamar Boulevard and Manchaca Road. Additionally, Capital Metro is studying the potential to shift the transit stop away from the signalized intersection at Brodie Oaks to improve bus operations.

3 TDM AND PARKING STRATEGIES

The Project Sponsor will implement a comprehensive TDM plan that supports multimodal travel and reduces the number drive-alone vehicle trips generated by the Project. The TDM plan represents a significant investment on behalf of the Project Sponsor and is a demonstration of their commitment to support the City's mode split and mobility goals as outlined in the Austin Strategic Mobility Plan (ASMP). This chapter describes the approach, rationale, and expected trip reduction impacts of the TDM plan.

TDM AND PARKING APPROACH

In coordination with the Austin Transportation Department, the Project Sponsor developed and submitted a parking and TDM memorandum describing the proposed parking and TDM approach for the project (Appendix C). The memo identified a list of potential TDM measures to be considered for inclusion in the TDM plan and provided a preliminary assessment of their potential trip reduction impacts. This chapter provides a finalized list of TDM strategies as well as additional detail about how each strategy will be implemented.

The parking and TDM memo establishes the TDM vision and goals for the project based on the proposed land use plan and the existing and future transportation resources available in the Project vicinity. These TDM goals are:

Goal 1: Leverage connections to transit

The Project Sponsor recognizes the potential to reduce drive-alone vehicle trips by making it easy, appealing, and safe for site-goers to access existing and future transit services in the Project vicinity. TDM strategies that leverage transit connections include both physical site design elements as well as opportunities for programmatic support. Capital Metro's MetroRapid bus service on South Lamar Boulevard (Route 803) will be a central focus of transit-supportive TDM measures.

Goal 2: Support Bicycle and Pedestrian Access

Walking and biking are sustainable, healthy, and accessible travel modes for both full end-to-end trips as well as first mile/last mile (FM/LM) connections with other transportation options. A walkable, well-connected site design also supports a "park once" environment in which people can easily access multiple destinations without the need to drive and re-parking. The Project will include both bicycle- and pedestrian-supportive design elements as well as TDM programs and incentives that encourage walking and biking.

Project Trip Reduction Target

Austin Transportation Department (ATD) has set the target peak-hour vehicle trip reduction for the Project at 25% based on the Project location, context, access to transit, and level of TDM commitment. To achieve this target, the Project Sponsor has evaluated and proposed a suite of TDM strategies. Figure 5 identifies the proposed TDM strategies and the estimated peak-hour vehicle trip reduction impact associated with each strategy. For additional detail regarding the calculation of these trip reduction estimates, see Appendix C. The following section summarizes the rationale and approach for each of these proposed TDM strategies.

Figure 5 TDM Measures to be considered for Brodie Oaks

ID	TDM Measure	Category	Est. Reduction: Project ¹	Est. Reduction: ATD Baseline
T.1	Transit Elements	Transit	6.5%	12.0%
T.2	Real-Time Transportation Information Displays	Transit	0.8%	1.0%
T.3	Transit-Oriented Development	Transit	1.0%	2.0%
W.1	Pedestrian Access and Connectivity	Walking and Biking	3.3%	5.0%
W.2	Bicycle Access and Connectivity	Walking and Biking	3.3%	5.0%
W.3	Bicycle Parking	Walking and Biking	0.5%	0.5%
W.4	Showers & Lockers	Walking and Biking	0.4%	0.5%
W.5	Bike Share Membership	Walking and Biking	0.3%	0.5%
W.6	Bike Share Station	Walking and Biking	0.5%	0.5%
W.7	Bicycle Repair Station	Walking and Biking	0.4%	0.5%
W.8	Bicycle Maintenance Services	Walking and Biking	0.3%	0.5%
C.1	TDM Coordinator	Commuter Trip Reduction	0.0%	1.0%
C.2	TMA Membership	Commuter Trip Reduction	0.0%	3.0%
C.3	Telecommuting	Commuter Trip Reduction	0.8%	2.0%
C.4	Subsidized Transit Pass	Commuter Trip Reduction	2.8%	5.0%
C.5	Sustainable Mode Subsidy	Commuter Trip Reduction	4.4%	8.0%
P.1	Parking Supply	Parking ²	4.7%	10.0%
P.2	Unbundled Parking	Parking ²	4.1%	6.0%
P.3	Priced Parking	Parking ²	4.6%	8.0%
	Total trip reduction potential:		39%	71%
	Total trip reduction estimate		25%³	

¹ For project trip reduction estimation methodology, see Figures 3 and 4 in Appendix C

² Parking strategies are described and addressed in Chapter 4 – Parking Plan

³ ATD has assigned a maximum trip reduction of 25% for the project

TDM AND PARKING STRATEGIES

Transit Strategies

Transit TDM strategies are intended to enhance access to existing and future transit service in alignment with TDM Goal 1: leverage connections to transit. Proposed transit TDM strategies are summarized in Figure 6.

Figure 6 Proposed Transit Strategies and Estimated Trip Reduction Impacts

ID	TDM Measure	Category	Est. Reduction: Project ¹	Est. Reduction: ATD Baseline
T.1	Transit Elements	Transit	6.5%	12.0%
T.2	Real-Time Transportation Information Displays	Transit	0.8%	1.0%
T.3	Transit-Oriented Development	Transit	1.0%	2.0%

¹ For project trip reduction estimation methodology, see Figures 3 and 4 in Appendix C

T.1 | Transit Elements

RATIONALE

The existing Brodie Oaks Station adjacent to the Project site is served by MetroRapid Route 803. Today, the stop consists of a shelter, a bench, MetroRapid-specific route maps, and real-time arrival display. Providing transit-supportive design elements and features will make it easier and more appealing for site visitors, residents, and workers to walk, bike, or use micromobility devices to get to and from MetroRapid service.

The Westgate Transit Center is a Park and Ride transit station that serves six transit routes just 2/3-mile from the front door of the Brodie Oaks development. As a part of the Pedestrian Access and Connectivity improvements for this site, a safe and direct pedestrian connection will be constructed that connects the Project to the Westgate Transit Center.

PROPOSED APPROACH

- The Project Sponsor will incorporate enhanced transit-supportive design elements in the vicinity of the existing southbound MetroRapid stop on South Lamar Boulevard
- Enhancements will be implemented both at the stop itself as well as along the adjacent internal roadway on the Project site.
- Design elements will include:
 - An enhanced sidewalk that is wide enough to accommodate pedestrian access alongside other curbside uses such as bicycle and micromobility
 - Landscaping and other placemaking features
 - Signage and wayfinding to direct pedestrians to and from the stop
 - On-street bicycle parking

- A designated micromobility parking area
- The Project Sponsor will continue to coordinate with Capital Metro and the City of Austin to designate the location as a community mobility hub and implement additional transit-supportive features.

EXPECTED TRIP REDUCTION

- ATD assigns a maximum of 12% reduction in vehicle trips for incorporating transit elements.
- ATD has indicated that the Project would receive the full reduction under the assumption that the Project transforms the existing Brodie Oaks stop into an enhanced transit plaza.
- Based on the anticipated user groups to use this TDM measure, the expected trip reduction for an enhanced transit plaza is 6.5%.

RELATED STRATEGIES

- T.2 | Real-Time Information Displays
- T.3 | Transit-Oriented Development
- C.4 | Subsidized Transit Pass

T.2 | Real-Time Information Displays

RATIONALE

Real-time information displays are digital signage incorporated into the lobby or other common areas of a development. They display up-to-date transit arrival and departure information for routes that stop at the nearest transit stop, which can encourage transit use. This strategy would complement the enhanced transit plaza adjacent to the Brodie Oaks Station and would help ensure on-site transit users are aware of route schedules. This strategy would primarily target employees and residents.

PROPOSED APPROACH

- The Project Sponsor will include digital displays in building common areas of office and multifamily residential buildings. The specific number and placement of these displays will be refined during site plan application. Priority locations will be those buildings which are closest to Brodie Oaks Station.
- Displays should be visible 24-hours a day or within the open hours of business, depending on the building type. Displays should be readable from a distance.
- As needed, the Project Sponsor will coordinate with Capital Metro and the City of Austin to refine the number and location of real-time transit information displays.

EXPECTED TRIP REDUCTION

- ATD assigns a 1% reduction in vehicle trips as a result of incorporating this strategy.
- Based on the anticipated user groups to use this TDM measure, the expected vehicle trip reduction for real-time transportation information displays is 0.8%.

RELATED STRATEGIES

- T.1 | Transit Elements
- T.3 | Transit-Oriented Development
- C.4 | Subsidized Transit Pass

T.3 | Transit-Oriented Development (TOD)

RATIONALE

The Transit-Oriented Development TDM strategy involves siting and designing the Project site in such a way that the land uses complement and provide direct access to an adjacent transit stop or stops. A development with TOD principles can encourage non-car commutes due to the increased ease and flexibility of other alternative transportation mode access. Complementary land uses should be high-density, mixed-use, and highly walkable. This site design, land uses, and density are all planned to meet these requirements. A mixed-use transit-oriented development would target all users who interact with the development, but residents would be able to make use of its benefits on a daily basis.

PROPOSED APPROACH

- The Project Sponsor will emphasize pedestrian connectivity and high-density in the development of the site, particularly for land uses in close proximity to the Brodie Oaks Station.
- Design elements that support this strategy include:
 - Station area design components that are aligned with the pedestrian experience, including active ground-floor uses along pedestrian routes.
 - A public plaza adjacent to the Brodie Oaks Station that includes multimodal elements and allows for easy and direct connections to other transportation modes.
 - The inclusion of secure bicycle parking and bicycle-supportive infrastructure on connecting roadways as well as a dockless scooter corral.

EXPECTED TRIP REDUCTION

- ATD assigns a 2% reduction in vehicle trips as a result of designing the site in line with transit-oriented development principles.
- The combination of anticipated user groups to benefit from this strategy will generate a 1% reduction in vehicle trips.

RELATED STRATEGIES

- T.1 | Transit Elements
- T.2 | Real-Time Transportation Information Displays
- C.4 | Subsidized Transit Pass

Walking And Biking Strategies

The Project will be designed to emphasize bicycle and pedestrian connectivity and safety to support active transportation travel modes for future residents, employees, visitors. Bicycle and pedestrian amenities will be incorporated into the Brodie Oaks Station, which will provide seamless intermodal connections for bicyclists, pedestrians, and people using transit. Investment in bicycle and pedestrian supportive infrastructure will provide first- and last-mile access throughout the site and to destinations beyond, creating a walkable and bikeable environment.

Figure 7 Proposed Walking and Biking Strategies and Estimated Trip Reduction Impacts

ID	TDM Measure	Category	Est. Reduction: Project ¹	Est. Reduction: ATD Baseline
W.1	Pedestrian Access and Connectivity	Walking and Biking	3.3%	5.0%
W.2	Bicycle Access and Connectivity	Walking and Biking	3.3%	5.0%
W.3	Bicycle Parking	Walking and Biking	0.5%	0.5%
W.4	Showers & Lockers	Walking and Biking	0.4%	0.5%
W.5	Bike Share Membership	Walking and Biking	0.3%	0.5%
W.6	Bike Share Station	Walking and Biking	0.5%	0.5%
W.7	Bicycle Repair Station	Walking and Biking	0.4%	0.5%
W.8	Bicycle Maintenance Services	Walking and Biking	0.3%	0.5%

¹ For project trip reduction estimation methodology, see Figures 3 and 4 in Appendix C

W.1 | Pedestrian Access and Connectivity

RATIONALE

Pedestrian access and connectivity improvements make it easier and safer for people to walk to and from the site. Improvements may include:

- Filling gaps in the sidewalk network in the site vicinity
- Providing safe crossings at street intersections
- Incorporating shade and landscaping features into street designs
- Providing signage and other wayfinding features to help pedestrians find safe walking routes

Pedestrian access and connectivity improvements support walking for end-to-end trips as well as for first-mile/last-mile connections to transit and other travel modes. These improvements benefit all site-goers including residents, employees, and visitors.

PROPOSED APPROACH

- The Project Sponsor will design internal streets with sufficiently wide sidewalks to support comfortable and safe walking throughout the site and will include curb ramps and crosswalks where appropriate.
- Additional details regarding pedestrian access and connectivity design features can be found in the project Planned Unit Development (PUD) application and in the Brodie Oaks Transportation Impact Analysis (TIA). Pedestrian improvements proposed in that TIA follow recommendations in the South Lamar Boulevard Corridor Mobility Plan (2016).

EXPECTED TRIP REDUCTION

- ATD assigns a 5% reduction in vehicle trips for incorporating on-site pedestrian design and off-site pedestrian access and connectivity improvements as a component of development.
- The combination of anticipated user groups to benefit from this strategy will generate a 3.3% reduction in vehicle trips.

RELATED STRATEGIES

- T.3 | Transit-Oriented Development

W.2 | Bicycle Access and Connectivity

RATIONALE

Bicycle access and connectivity improvements make it easier and safer for people to bike to and from the site. Improvements may include:

- Filling gaps in the bicycle network in the site vicinity
- Designing safe intersections with bicycle priority features
- Including a well-connected network of bicycle lanes, routes, and shared use paths within the site
- Providing signage and other wayfinding features to help bicyclists find safe biking routes and bicycle parking

Bicycle access and connectivity improvements benefit all site-goers including residents, employees, and visitors.

PROPOSED APPROACH

- The Project Sponsor will include a network of bicycle lanes, routes, and shared use paths in the site circulation plan and street network design, and will include a connection to the Barton Creek Greenbelt Trail.
- Bicycle connections to and from the site, including access to South Lamar Boulevard, will be implemented in accordance with the Austin Bicycle Plan (2014) and the South Lamar Boulevard Corridor Mobility Plan (2016).
- Where possible, the Project Sponsor will consider the following guidelines in the design and construction of bicycle facilities:

- On-street bike lanes should include a striped buffer and be at least 7 feet wide in total width (lane + buffer). The striped buffer should be at least 18 inches wide. If no buffer is possible, the bike lane should be no less than 6 feet in width.¹
- On-street two-way cycle tracks should be at least 12 feet in width, with a minimum 3-foot wide buffer between cycle track and vehicle lane or parking lane.¹
- Shared-use paths should be separated from the street with a minimum width of 10 feet – wide enough to accommodate pedestrians and cyclists concurrently in both directions and should be separated from the street. A typical shared-use path is 10 to 14 feet.²
- The Project Sponsor will continue to coordinate with ATD on the improvements that best align with the goals of the City and the ASMP
- For details on the specific pedestrian improvements to which the Project Sponsor plans to commit, see the Brodie Oaks Transportation Impact Analysis (TIA), submitted concurrently. Bicycle improvements proposed in that TIA follow recommendations in the South Lamar Boulevard Corridor Mobility Plan (2016), which recommends a protected 7-foot bike lane along South Lamar Boulevard.

EXPECTED TRIP REDUCTION

- ATD assigns a 5% reduction in vehicle trips for incorporating on-site bicycle design and off-site bicycle access and connectivity improvements as a component of development
- The combination of anticipated user groups to benefit from this strategy will generate a 3.3% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- W.3 | Bicycle Parking
- W.4 | Showers and Lockers
- W.5 | Bike Share Membership
- W.6 | Bike Share Station
- W.7 | Bicycle Repair Station
- W.8 | Bicycle Maintenance Services

W.3 | Bicycle Parking

RATIONALE

Safe and secure bicycle parking are essential for protecting bicycles from weather and from potential theft. Basic quick-access bicycle racks can appeal to bicyclists who are in a hurry or are making quick trips. Bicycle cages or lockers can appeal to frequent bicycle commuters or

¹ NACTO Urban Bikeway Design Guide, 2011

² AASHTO Guide for the Development of Bicycle Facilities, 2012

bicyclists who desire extra security for their bicycles. This strategy targets and impacts all users of the site to an equal degree.

PROPOSED APPROACH

The Project will include quick-access bicycle racks within a short walking distance of each building on site. Office buildings will provide secure bicycle parking within a bicycle storage room, bicycle locker, bicycle valet, or in a secure area within an adjacent off-street parking facility.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for including bicycle parking on-site
- The combination of anticipated user groups to benefit from this strategy will generate the full 0.5% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- W.2 | Bicycle Access and Connectivity
- W.4 | Showers and Lockers
- W.5 | Bike Share Membership
- W.6 | Bike Share Station
- W.7 | Bicycle Repair Station
- W.8 | Bicycle Maintenance Services

W.4 | Showers & Lockers

RATIONALE

Showers, lockers, and changing rooms help ensure that residents and employees see biking as a viable alternative to driving. Additional bicycle services, such as repair services or bicycle valet services, can be incorporated into shower or locker facilities. While this strategy is primarily targeted at office commuters, residents and visitors could also benefit from its inclusion in the development.

PROPOSED APPROACH

The Project will provide enhanced end-of-trip facilities that are accessible to all office tenants on site to support regular biking. Facilities may include lockers and/or showers, and could be integrated with other amenities such repair services (strategy W.7 and W.8) and bicycle valet services.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for including showers and lockers on-site
- The combination of anticipated user groups to benefit from this strategy is modeled to generate a 0.4% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- W.2 | Bicycle Access and Connectivity
- W.3 | Bicycle Parking
- W.5 | Bike Share Membership
- W.6 | Bike Share Station
- W.7 | Bicycle Repair Station
- W.8 | Bicycle Maintenance Services

W.5 | Bike Share Membership

RATIONALE

MetroBike, formerly B-Cycle, is a dock-based bike share system that is operated by Capital Metro in partnership with the City of Austin and Bike Share of Austin. Offering discounted or subsidized MetroBike memberships for site-goers would encourage bicycle use and make it easier for residents to reduce household vehicle ownership. While there are currently no MetroBike stations in the Project vicinity, future MetroBike system expansion could extend MetroBike to the site (see strategy W.6).

Even without an on-site MetroBike dock, subsidized bike share memberships would make it easier for employees and residents to make day-to-day trips around town without using a car and consider reducing household vehicle ownership. MetroBike is also in the process of transitioning to an all-electric bicycle fleet. Electric bicycles make it easier for riders to take longer trips, which could allow MetroBike users to bike to the Project site from Downtown Austin or other central Austin neighborhoods.

PROPOSED APPROACH

The Project Sponsor will work with future office tenants and with an on-site TDM coordinator (strategy C.1) and/or Transportation Management Association (strategy C.2) to implement a bike share discount program for office employees. The level of discount or subsidy will be determined based on then-available options at the time of implementation.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for providing a bike share membership to users of the site
- The combination of anticipated user groups to benefit from this strategy is modeled to generate a 0.3% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- W.2 | Bicycle Access and Connectivity
- W.4 | Showers and Lockers
- W.6 | Bike Share Station

- C.1 | TDM Coordinator
- C.2 | TMA Membership
- C.5 | Sustainable Mode Subsidy

W.6 | Bike Share Station

RATIONALE

The Bike Share Station TDM strategy involves the contribution of funding or other support to install a MetroBike station at the Project site. An on-site MetroBike station would support short trips within the site as well as longer trips to other neighborhoods. Because bike share is available to anyone able to use it, this strategy would target all users of the site to an equal degree.

PROPOSED APPROACH

The Project Sponsor will coordinate with MetroBike to determine the feasibility of implementing a MetroBike station at the Project site. If deemed feasible, the Project Sponsor will work with MetroBike to finalize station siting, determine the number of MetroBikes needed, and identify opportunities to support regular MetroBike operations and station maintenance. If possible, a MetroBike station would be located near or within the proposed transit plaza adjacent to Brodie Oaks station.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for including a MetroBike station
- The combination of anticipated user groups to benefit from this strategy will generate the full 0.5% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- W.2 | Bicycle Access and Connectivity
- W.4 | Showers and Lockers
- W.5 | Bike Share Membership
- C.5 | Sustainable Mode Subsidy

W.7 | Bicycle Repair Station

RATIONALE

A bicycle repair station is a simple stand-alone station that includes a bike pump and hanging tools that make bicycle commuting more reliable by allowing cyclists to make minor repairs on the road rather than relying on a bike shop. These stations are affixed to the concrete and can withstand weather conditions. Inclusion of a bicycle repair station or stations on-site will reduce the barrier for bicycle commuting. This strategy will primarily benefit residents and employees of the site, due to their more consistent presence on-site, but visitors and employees of the hotel and retail locations can also benefit.

PROPOSED APPROACH

The Project Sponsor can commit to installing bicycle repair stations at key locations on-site, ideally co-located with or near bicycle racks. The stations should be easy to find in well-lit locations. The stations should be regularly checked for damage, a task which should fall under the TDM Coordinator's purview. The Project Sponsor will coordinate with ATD for additional guidance on the number and placement of bicycle repair stations.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for including bicycle repair stations on-site
- The combination of anticipated user groups to benefit from this strategy is modeled to generate a 0.4% reduction in vehicle trips

RELATED STRATEGIES

- W.2 | Bicycle Access and Connectivity
- W.3 | Bicycle Parking
- W.4 | Showers and Lockers
- W.5 | Bike Share Membership
- W.6 | Bike Share Station
- W.8 | Bicycle Maintenance Services

W.8 | Bicycle Maintenance Services

RATIONALE

Bicycle maintenance services make biking more reliable for frequent riders or for people who are less comfortable performing repairs and maintenance themselves. Maintenance services could involve staffed locations with personnel to assist with bicycle repairs and/or unstaffed repair facilities and tools. This strategy would target office users and residents. Visitors may also benefit from this strategy, but to a lesser extent.

PROPOSED APPROACH

The Project Sponsor will include unstaffed fix-it stations on the project site. In coordination with the TDM coordinator (strategy C.1) and/or TMA (strategy C.2), the Project Sponsor will consider opportunities for a staffed maintenance service on site.

EXPECTED TRIP REDUCTION

- ATD assigns a 0.5% reduction in vehicle trips for providing bicycle maintenance services on-site
- The combination of anticipated user groups to benefit from this strategy is modeled to generate a 0.3% reduction in vehicle trips

RELATED STRATEGIES

- W.2 | Bicycle Access and Connectivity

- W.3 | Bicycle Parking
- W.4 | Showers and Lockers
- W.8 | Bicycle Maintenance Services
- C.1 | TDM Coordinator
- C.2 | TMA Membership

Commute Trip Reduction Strategies

Programmatic TDM strategies are designed to reduce vehicular commute trips. They include a variety of services, subsidies, and benefits that encourage employees to use non-driving travel modes for work trips. Most commute trips occur during the peak travel periods on weekday mornings and evenings, which is when the road network is typically most constrained.

Figure 8 Proposed Commute Trip Reduction Strategies and Estimated Trip Reduction Impacts

ID	TDM Measure	Category	Est. Reduction: Project ¹	Est. Reduction: ATD Baseline
C.1	TDM Coordinator	Commute Trip Reduction	0.0%	1.0%
C.2	TMA Membership	Commute Trip Reduction	0.0%	3.0%
C.3	Telecommuting	Commute Trip Reduction	0.8%	2.0%
C.4	Subsidized Transit Pass	Commute Trip Reduction	2.8%	5.0%
C.5	Sustainable Mode Subsidy	Commute Trip Reduction	4.4%	8.0%

¹ For project trip reduction estimation methodology, see Figures 3 and 4 in Appendix C

C.1 | TDM Coordinator

RATIONALE

A TDM Coordinator is an on-site staff person who can help organize, promote, and manage TDM programs. They can serve as a point of contact for on-site residents and employees that can help them access information, enroll in transportation benefit programs, or resolve any transportation challenges that arise. A TDM Coordinator could also assist in annual monitoring and reporting efforts.

PROPOSED APPROACH

The Project Sponsor will provide TDM coordination services on site through either a TDM coordinator representative or through a TMA (strategy C.2). The TDM Coordinator (or TMA) will provide services that may include:

- Marketing and promotion services
- Information and education services
- Coordination with employers, residents, and/or mobility service providers

The TDM Coordinator (or TMA) will also serve as the point of contact for annual monitoring and reporting efforts, and will coordinate with the Project Sponsor and Austin Transportation Staff as needed (see Chapter 4 for additional details).

EXPECTED TRIP REDUCTION

- ATD assigns a 1.0% reduction in vehicle trips for employing a TDM Coordinator to manage TDM on-site
- An on-site TDM Coordinator would boost the effectiveness of other TDM measures. The trip reduction impacts of a TDM Coordinator are reflected in the estimates for other such measures, and a stand-alone estimate for a TDM Coordinator is not proposed.

RELATED STRATEGIES

- W.5 | Bike Share Membership
- W.8 | Bicycle Maintenance Services
- C.2 | TMA Membership
- C.3 | Telecommuting
- C.4 | Subsidized Transit Pass
- C.5 | Sustainable Mode Subsidy

C.2 | TMA Membership

RATIONALE

A Transportation Management Association (TMA) is a non-profit organization that is responsible for managing and implementing TDM programs and mobility services. A TMA may be membership-based and typically has a geographically-defined service area. The structure and funding mechanisms for a TMA are flexible and can be adapted to meet both onsite and offsite mobility needs. Movability³ is a TMA that currently operates city-wide in Austin.

A Project TMA would support day-to-day TDM operations and provide a platform for coordination with vendors, tenants, employees, and residents. Like the TDM Coordinator strategy, this strategy serves all users of the site.

PROPOSED APPROACH

The Project Sponsor will maintain a TMA for the Project either by joining an existing TMA such as Movability or by supporting the incorporation of a local neighborhood TMA. The structure, membership, and responsibilities of a neighborhood TMA would be determined during project implementation based on then-current project needs and opportunities.

EXPECTED TRIP REDUCTION

- ATD assigns a 3.0% reduction in vehicle trips for the Project's membership in a TMA

³ <https://movabilitytx.org/>

- A TMA would boost the effectiveness of other TDM measures. The trip reduction impacts of a TMA membership are reflected in the estimates for other such measures, and a stand-alone estimate for a TDM Coordinator is not proposed.

RELATED STRATEGIES

- W.5 | Bike Share Membership
- W.8 | Bicycle Maintenance Services
- C.1 | TDM Coordinator
- C.3 | Telecommuting
- C.4 | Subsidized Transit Pass
- C.5 | Sustainable Mode Subsidy

C.3 | Telecommuting

RATIONALE

Telecommuting programs encourage employees to work remotely for all or part of the week, which reduces the number of daily peak-hour commuters. The impacts of the COVID-19 pandemic have transformed daily commuting patterns in the U.S. and led to an unprecedented increase in telecommuting. While it is still too early to say for sure what the “new normal” will look like for daily commutes, research suggests that most office workplaces will transition to a flexible or hybrid model that allows employees to telecommute for one or more day per week.⁴

Strategies to support telecommuting could include providing shared common areas in office and residential buildings for employees to work, providing telecommute-supportive amenities such as fitness centers or childcare services, and providing more flexibility in leasing structures and unbundling parking (strategy P.2). Telecommuting strategies will primarily benefit on-site employees and residents.

PROPOSED APPROACH

The Project Sponsor will work with prospective tenants to provide telecommuting programs and benefits for their employees. Where appropriate, the Project Sponsor will also incorporate shared common areas in office and residential buildings that can be used for telecommuting.

EXPECTED TRIP REDUCTION

- ATD assigns a 2.0% reduction in vehicle trips for an on-site telecommuting policy
- The combination of anticipated user groups to benefit from this strategy will generate a 0.8% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- C.1 | TDM Coordinator

⁴ <https://www.pwc.com/us/en/library/covid-19/us-remote-work-survey.html#content-free-1-cbb3>

- C.2 | TMA Membership

C.4 | Subsidized Transit Pass

RATIONALE

Subsidized transit passes can encourage transit use for employee and resident commutes and for day-to-day travel. Free or discounted transit passes can reward frequent riders and can incentivize new riders to try transit for the first time. This strategy primarily targets employees and residents.

PROPOSED APPROACH

The Project Sponsor will work with the future TDM Coordinator and/or TMA to develop a subsidized transit pass program. Such a program may be implemented as part of a flexible mobility wallet program (strategy C.5). The Project Sponsor will determine an appropriate level of subsidy through coordination with future tenants and TMA staff. As needed, the Project Sponsor will adjust transit pass offerings and subsidies based on then-available options, user preferences, and demonstrated use.

EXPECTED TRIP REDUCTION

- ATD assigns a 5.0% reduction in vehicle trips for providing subsidized transit passes
- The combination of anticipated user groups to benefit from this strategy will generate a 2.8% reduction in vehicle trips

RELATED STRATEGIES

- T.3 | Transit-Oriented Development
- C.1 | TDM Coordinator
- C.2 | TMA Membership
- C.5 | Sustainable Mode Subsidy

C.5 | Sustainable Mode Subsidy (Mobility Wallet)

RATIONALE

A sustainable mode subsidy, otherwise known as a mobility wallet, is a flexible package of mobility discounts, credits, and membership subsidies. Mobility wallet programs provide a range of complementary travel options that make it easier and more reliable to reduce household vehicle ownership. Examples of mobility wallet benefits could include:

- Subsidized or free transit passes (strategy C.4)
- Bike share membership discounts or passes (strategy W.5)
- Dockless e-scooter credits
- Carshare memberships or credits
- Rideshare (Lyft, Uber, etc.) discounts or credits

A TDM Coordinator (strategy C.1) or TMA (strategy C.2) could help oversee the implementation of a sustainable mode subsidy or mobility wallet program. This strategy would primarily benefit on-site employees and residents.

PROPOSED APPROACH

The Project Sponsor will work with a future TDM Coordinator or TMA to develop and implement a flexible mobility wallet program. The benefits and eligibility of such a program will be determined based on then-current mobility options and site needs.

EXPECTED TRIP REDUCTION

- ATD assigns an 8.0% reduction in vehicle trips for providing subsidized Mobility Wallets
- The combination of anticipated user groups to benefit from this strategy will generate a 4.4% reduction in vehicle trips

RELATED STRATEGIES

- W.5 | Bike Share Membership
- C.1 | TDM Coordinator
- C.2 | TMA Membership
- C.4 | Subsidized Transit Pass

Parking Strategies

The success of the TDM strategies included in this playbook depend largely on a parking supply that is right-sized to demand. Parking demand is derived from the anticipated mix of uses, but can also be managed by parking-focused TDM strategies that help reduce parking demand. The vision for Brodie Oaks is a “park-once” district, where the mix of uses is dense and well-connected enough to support getting around the site on foot, bike, or scooter. To support this vision, parking demand and supply must be in sync.

The Project Sponsor will develop a parking plan for the Project that **reduces total parking supply by between 25 and 40 percent** relative to the minimum requirements identified in the City of Austin’s Land Development Code (LDC). This level of reduction will support the proposed TDM plan and support the success of the overall Project vision. This section includes parking strategies to help manage parking demand – including unbundling parking and providing a priced parking model for the Project. These measures are viewed as a key levers in managing parking demand at Brodie Oaks.

Figure 9 Proposed Parking Trip Reduction Strategies and Estimated Trip Reduction Impacts

ID	TDM Measure	Category	Est. Reduction: Project ¹	Est. Reduction: ATD Baseline
P.1	Parking Supply	Parking	4.7%	10.0%
P.2	Unbundled Parking	Parking	4.1%	6.0%
P.3	Priced Parking	Parking	4.6%	8.0%

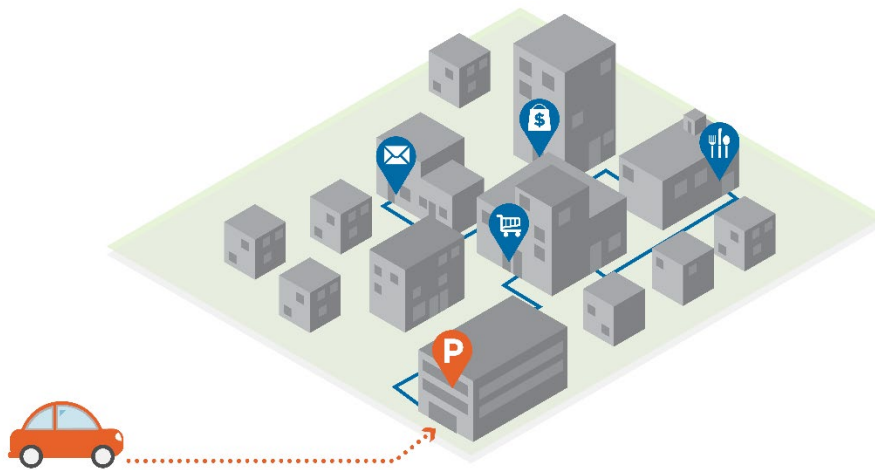
¹ For project trip reduction estimation methodology, see Figures 3 and 4 in Appendix C

P.1 | Parking Supply

RATIONALE

Right-sizing the parking supply to reflect day-to-day parking demand and align with mobility goals of the Project is a critical component of a successful TDM plan. While sufficient vehicle parking is necessary for the successful development of the Project, an oversupply of parking can inadvertently encourage drive-alone travel and undermine TDM strategies. A well-planned and managed parking supply supported by a vibrant, pedestrian-friendly site design can help create a “park-once” district in which visitors do not need to drive and re-park their vehicle when going from place to place within the site.

A right-sized parking supply will impact all users of the site and support all TDM strategies.



PROPOSED APPROACH

The Project Sponsor commits to building no more than 75% of the minimum off-street parking as required by the City of Austin Land Development Code (LDC). To achieve this parking supply target, the project sponsor will use a shared approach in which multiple users can access the same parking supply. The Project Sponsor will implement a shared parking management plan to flexibly meet the needs of future tenants without the need to over-build single-use parking. As part of annual monitoring efforts (see Chapter 4), the Project Sponsor, TDM Coordinator, or TMA will collect and submit parking utilization data to Austin Transportation Department that can be used to help the City refine citywide parking strategies and requirements.

EXPECTED TRIP REDUCTION

- ATD assigns up to a 12.5% reduction for a limited parking supply based on the reduction from LDC parking requirements
- The combination of anticipated user groups to benefit from this strategy will generate between a 4.7% and 7.5% reduction based on a range of a 25% to 40% reduction in parking supply from LDC minimum requirements

RELATED STRATEGIES

- C.1 | TDM Coordinator
- C.2 | TMA Membership
- P.2 | Unbundle Parking
- P.3 | Priced Parking

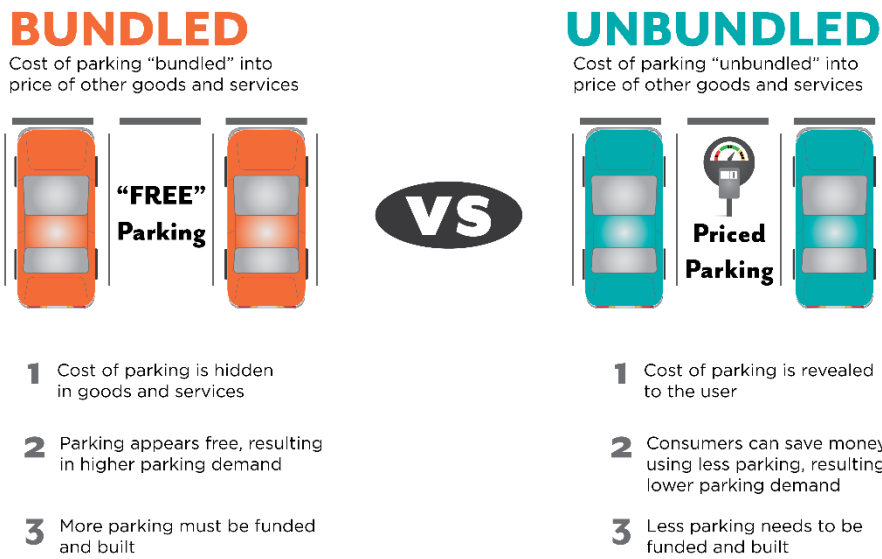
P.2 | Unbundled Parking

RATIONALE

Parking costs are often incorporated into the total price of housing and commercial leases. This “bundling” of costs hides the true price of parking from the end user and provides less flexibility for those who would prefer to spend their money on other transportation options. Unbundled

parking requires off-street spaces to be leased or sold separately from the primary residential or commercial use. Unbundling provides an incentive for commercial and residential tenants to lease only as much parking as they actually need and makes housing more affordable for those who do choose not to own one or more vehicles. The flexibility that unbundled parking provides can also support telecommuting/hybrid work schedules and off-peak commute patterns.

This strategy primarily targets office and residential users of the site.



PROPOSED APPROACH

All residential parking for the Project will be unbundled. Where possible, the Project Sponsor will offer unbundled parking for commercial tenants.

EXPECTED TRIP REDUCTION

- ATD assigns a 6.0% reduction in vehicle trips for allowing for unbundled parking
- The combination of anticipated user groups to benefit from this strategy will generate a 4.1% reduction in vehicle trips

RELATED STRATEGIES

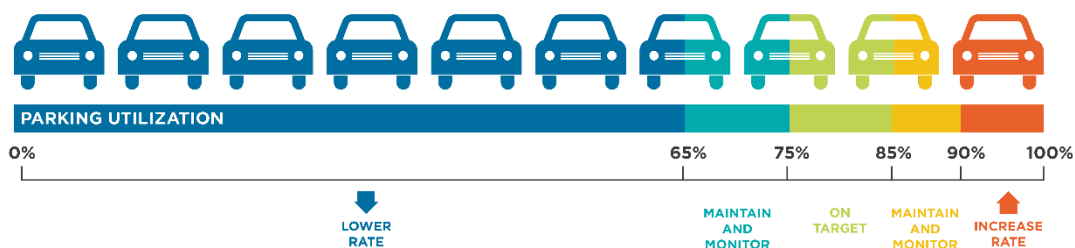
- C.1 | TDM Coordinator
- C.2 | TMA Membership
- C.3 | Telecommuting
- P.1 | Parking Supply
- P.3 | Priced Parking

P.3 | Priced Parking

RATIONALE

When parking is available free of charge, it creates a strong incentive for people to drive even when there are other appealing travel options available. Priced parking helps rebalance transportation choices for user to better reflect the true cost of parking and align with Project goals and vision. Revenue from priced parking can also be used to help fund other mobility services, programs, or benefits.

Parking fees can be charged by the hour, month, day, or year depending on the needs of each type of user. Priced parking that uses shorter time increments (i.e. hourly or daily rates) is generally more effective at reducing drive-alone travel than longer increments because it requires users to constantly reevaluate their travel options. Longer-term parking such as quarterly or annual passes can create a “sunk cost” incentive for users to drive more so that they “get more value” out of their parking space.



PROPOSED APPROACH

The Project Sponsor will charge a fee for all off-street parking. The price rate and fee structure will be determined based on Project needs and future parking demand.

EXPECTED TRIP REDUCTION

- ATD assigns an 8.0% reduction in vehicle trips for including priced parking on-site
- The combination of anticipated user groups to benefit from this strategy will generate a 4.6% reduction in vehicle trips

RELATED STRATEGIES

- C.1 | TDM Coordinator
- C.2 | TMA Membership
- P.1 | Parking Supply
- P.2 | Unbundled Parking

4 IMPLEMENTATION AND MONITORING

This chapter summarizes a TDM program monitoring plan, and a process for addressing noncompliance with implementing the TDM measures outlined in this plan.

IMPLEMENTATION

The TDM programs and measures proposed in this plan represent the vision for the Project at full build-out. Prior to full project build-out, TDM measures will be implemented appropriately based on then-current transportation needs and available resources.

Where possible, TDM strategies will be implemented as part of the first project phase. However, due to the complexity of the proposed Project, it is not feasible or appropriate to identify a precise implementation timeline of all proposed TDM measures at this time. The TDM plan has been crafted to achieve success at full-build-out, and the overall trip reduction effectiveness of the plan will benefit from a flexible approach for implementing some specific TDM measures. Figure 10 summarizes the proposed implementation phasing for each TDM strategy.

Phasing

Figure 10 Implementation Phasing

TDM Strategy	Implementation Phase	Implementation Notes
Transit Elements	Phase 1	Implementation starting in Phase 1.
Real-Time Transportation Information Displays	Phase 1	Implementation starting in Phase 1.
Transit-Oriented Development	Phase 1	Implementation starting in Phase 1.
Pedestrian Access and Connectivity	Phase 1	Implementation starting in Phase 1.
Bicycle Access and Connectivity	Phase 1	Implementation starting in Phase 1.
Bicycle Parking	Phase 1	Implementation starting in Phase 1.
Showers & Lockers	Phase 1 or later	End-of-trip facilities will be designed and sited within the overall master plan based project needs at full build-out; therefore, timeline implementation will depend on overall site plan and phasing strategy for the project.

Brodie Oaks Development
Transportation Demand Management Plan

TDM Strategy	Implementation Phase	Implementation Notes
Bike Share Membership	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
Bike Share Station	Phase 1 or later	Implementation timing to be determined through collaboration with MetroBike partnership.
Bicycle Repair Station	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
Bicycle Maintenance Services	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
TDM Coordinator	Phase 1	Implementation starting in Phase 1.
TMA Membership	Phase 1	Implementation starting in Phase 1.
Telecommuting	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
Subsidized Transit Pass	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
Sustainable Mode Subsidy	Phase 1 or later	This measure will be implemented appropriately based on then-current transportation needs and available resources.
Unbundled Parking	Phase 1	Implementation starting in Phase 1.
Priced Parking	Phase 1	Implementation starting in Phase 1.
Parking Supply	Phase 1 or later	Maximum parking supply for the project is based on full build-out; parking supply as a percentage of code may vary during earlier project phases.

MONITORING AND REPORTING

A robust monitoring program is key to the success of the TDM program. Monitoring provides **quantitative** data about the effectiveness of TDM strategies as well as **qualitative** information about how well the TDM plan is supporting the mobility needs of site residents, employees, and visitors. Ongoing monitoring will also help the City of Austin and the Project Sponsor to determine if the effectiveness of the program is growing over time or if adjustments are needed to improve performance. This section describes the objectives, process, and proposed components of the monitoring program for the Project.

The objectives of annual monitoring are:

- To ensure that TDM measures are implemented as outlined in this TDM Plan
- To identify the most and least effective TDM strategies so that the former can be expanded, and the latter can be replaced or improved

The Project Sponsor and/or future property management/TDM Coordinator will collaborate with the Transportation Management Association (TMA) to which it belongs.

Annual Monitoring

The efficacy of the TDM plan can be measured by conducting an annual survey of a sample of development residents and employees to measure the plan's success at achieving its primary goal. The assigned TDM coordinator shall submit the survey information to the City's Transportation Department director. The Project Sponsor, TDM Coordinator, or future property management will be responsible for assessing and revising the TDM plan as needed based on findings from annual monitoring efforts.

Process

The process for TDM program monitoring follows four steps, which are described below:

1. Collect Data
2. Analyze Data
3. Report Findings
4. Refine Plan and Implement Changes

Step 1: Collect Data

The Project Sponsor and/or future property management/TDM Coordinator will develop a **data collection plan** for traffic/bike/pedestrian counts, parking occupancy surveys, and an employee/resident travel survey. These materials will be updated each year to provide the most relevant data about then-current mobility options but should be designed to facilitate consistent data analysis across multiple years.

The following data will be collected as part of annual monitoring:

- Traffic counts at site entry and exit points during AM and PM peak travel times
- Sampling counts to determine automobile occupancies and carpool rates
- Resident and employee travel and TDM surveys
- Bicycle and pedestrian counts along key facilities or at site access points
- Parking occupancy for on- and off-street parking facilities

Data should be collected over a one-week period in the fall or spring during a “typical week”—one in which there are no holidays or rainy weather. Data collection should be done during the same month each year. The Project Sponsor and/or future property management/TDM Coordinator will consider and evaluate the best tool for data collection at the time of the first annual monitoring event for the project. Generally, technology such as street-facing cameras are preferred over traditional pressure tubes, which typically do not provide sufficiently detailed information about trip origins and destinations and non-vehicular modes of travel.

In monitoring project-related vehicle trips, it is recommended that the monitoring program evaluate site-related trips in the aggregate rather than attempting to attribute trips to a particular user type—trying to differentiate "commercial" or "residential" trips will likely prove problematic. Instead, resident and employee surveys should be used for determining mode split and travel behavior by user group or specific building or tenant.

Step 2: Analyze

The Project Sponsor and/or future property management/TDM coordinator will analyze the data collected to evaluate the following metrics:

Figure 11 TDM Program Monitoring Metrics

Metric	Data Source
Peak-hour traffic counts vs. peak-hour trip generation targets	Annual traffic counts at all roadways into/out of the site
Resident and employee commute mode split	Resident and employee survey
Participation rates in TDM programs and services	Resident and employee survey
Parking utilization throughout the day at on- and off-street facilities	Parking facility occupancy data collection
TDM program awareness	Resident and employee survey
Cost-effectiveness of the TDM program	Annual TDM expenditure data

Data collected by either the Project Sponsor and/or future property management/TDM Coordinator will be **shared with the City of Austin**. This data and analysis can be a valuable tool for improving city services, crafting local policies, and addressing neighborhood needs.

Qualitative data from the resident and employee survey will enable the Project Sponsor and/or future property management/TDM coordinator to learn which programs are working well for TDM participants and how programs can be improved. Any survey conducted as part of the monitoring program should **collect responses from all site employees and residents**—not just active TDM participants—to help determine whether adjustments or additions to site TDM offerings might better address the mobility needs of non-participants.

Data from each collection method should be cross-referenced where possible to provide deeper insights about site-related travel behavior. Cross-referencing can help target more specific user groups to better meet their needs. Cross-reference data analysis could include:

- What mode employees and residents of the project travel with for various trip purposes
- The frequency of travel by a mode other than the single-occupant-vehicle
- Which TDM services employees and residents use, and why or why not

Step 3: Report

Following the data analysis, the Project Sponsor and/or future property management/ TDM Coordinator will prepare an annual **TDM progress report** that summarizes the transportation program over the preceding year and outlines any proposed changes or additions to the TDM

plan. This report will be submitted to the City of Austin Transportation Department director. Progress reports will include:

- Introduction
- Goals of the TDM plan
- Summary of past performance
- Findings of the data analysis, including but not limited to:
 - Comparison of vehicle trips to trip generation targets
 - Mode split data
 - Parking occupancy data
 - Bicycle and pedestrian counts
- Employee and resident survey results
- Any recommended or planned changes to the TDM program based on the performance of the programs over the past year or responses to the surveys

Step 4: Refine and Implement

Successful TDM programs are **flexible and adaptable to changes in user behavior and available mobility options**. Certain TDM strategies or mobility services may play a large role in reducing auto trips initially but be phased out over time as the needs of the site change. Iteration of the TDM program allows resources to be reallocated towards strategies that are most successful at meeting the transportation needs of the project. All the strategies and programs proposed in this document are likely to grow and evolve throughout the life of the project.

Based on the results of annual monitoring, data collection, and reporting, the Project Sponsor will evaluate the need for modifications to the TDM. These changes will be outlined in the TDM progress report (Step 3) and will be implemented at the discretion of the Project Sponsor and/or future property manager/TDM Coordinator. Any changes to the TDM plan should be communicated annually to site employees and residents.

Noncompliance

The Project Sponsor proposes the following framework for assessing and enforcing project compliance with implementation of TDM measures proposed in this TDM plan. The following section describes in detail the procedure for assessing and enforcing compliance, which is summarized in Figure 12.

Figure 12 Noncompliance Framework

Stage of Noncompliance	Stage Timeframe	Remedial TDM Action
Stage 1 Noncompliance	Annually for first 5 years	Revised TDM approach memo
Stage 2 Noncompliance	Annually after 5 years	Remedial TDM Working Group

Stage 1 Noncompliance (years 1-5)

If an annual monitoring report within 5 years after full project build-out indicates that the Project Sponsor or future property owner has not implemented TDM measures as proposed, the Austin Transportation Department may deem the project to be in **Stage 1 Noncompliance**. ATD will consider the following potential reasons for declining to escalate the project to Stage 1 Noncompliance:

- Full implementation of proposed TDM measures is in progress
- The Project Sponsor or future property owner is continuing to make reasonable efforts to complete TDM plan implementation
- The Project Sponsor or future property owner is making reasonable accommodations to align TDM implementation with the delivery of other relevant projects in the site vicinity, such as corridor improvements or transit services
- The Project has achieved the trip reduction goals outlined in this document

During Stage 1 Noncompliance, the Project Sponsor or future property owner shall submit a memorandum within **90 days** that identifies a plan for implementing missing measures, provides an explanation of why the measure(s) was not implemented, and/or identification of new programs or strategies that will be implemented instead. The City shall then review the memorandum and meet with the Project Sponsor to approve the approach. If the proposed remediation is approved, the project compliance status will be returned to compliant.

Stage 2 Noncompliance (year 6+)

If an annual monitoring report submitted more than five years after full project build-out shows that the Project Sponsor or future property owner has not implemented the TDM measures as proposed, the Austin Transportation Department may deem the Project to be in **Stage 2 Noncompliance**.

During Stage 2 Noncompliance, the Project Sponsor or future property owner will convene a **Remedial TDM Working Group** in partnership with the City of Austin. This group shall be tasked with studying then-current travel behavior to and from the site and identifying appropriate actionable solutions to bring the site into TDM compliance. Such solutions will be oriented towards the Project site and immediate vicinity.

The aim of the Remedial TDM Working Group is to identify a path forward that supports long-term project compliance with the measures outlined in the TDM Plan. Therefore, **the working group may choose to prioritize transportation and mobility solutions focused on the long-term transportation health of the Project** over more immediate but less sustainable or holistic solutions.

Refinement and Revision to the TDM Plan

TDM performance or opportunities may be impacted by changes to citywide transportation services and infrastructure external to the project site, such as modifications to Austin's transit network. Beyond the frameworks outlined in this document, **the Project Sponsor and/or future property management/TDM coordinator can collaborate with the City of Austin as needed to modify the TDM Plan in order to improve performance of the program and adapt it to future site conditions** as needed. As Austin continues to grow and evolve, this plan will serve to support the ongoing partnership between the Project Sponsor and the City of Austin to meet the daily mobility needs of residents, workers, and visitors.

Appendix A TIA Scope

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TRANSPORTATION IMPACT ANALYSIS SCOPE OF WORK

The scope must be approved prior to formal submittal of a Transportation Impact Analysis (TIA) Report. This scope acknowledges that the TIA for the following Project will be prepared in accordance with the latest version of Transportation Criteria Manual and the City of Austin's TIA Guidelines.

Date: May 19, 2021

Case # (If assigned):

Contact Information

- **Applicant's Consultant:** Bobak J. Tehrany, P.E. (BOE)
Contact: Email: bobak@bo-engineering.com Phone: 512.632.7509
- **Applicant:** Milo Burdette (Barshop & Oles Company)
Contact: Email: milo@barshop-oles.com Phone 512.632.2452

I. Project Information

- Project Name: Brodie Oaks Center
- Project Address: 4021 S Capital of Texas Hwy Austin TX 78704
- Project Jurisdiction(s): City of Austin Other: TXDOT
- Project Description: Mixed Use Development
- Submission Type: Site Plan Zoning Rezoning PUD Other - _____
- Site Zoning Code (Districts): 5

II. Project Details

- Proposed Land Use:
 Residential Commercial Mixed Use Other _____

- Site Context:

	Site Context	Max TDM Reduction	Target TDM Reduction
<input type="checkbox"/>	City Core	50%	40%
<input type="checkbox"/>	Urban Core	35%	25%
<input type="checkbox"/>	Urban	30%	20%
<input type="checkbox"/>	Suburban	10%	10%
<input checked="" type="checkbox"/>	Other	See Section 6	

- Trip Projection: ITE Trip Generation Manual, 10th Edition Other - _____

Total Daily Trips¹: 30,741 Total AM Peak Hour: 2000 Total PM Peak Hour: 2820

- Existing Year: 2021 Buildout Year: 2036

- Project to be developed in phases? Yes No

If yes, please provide an attachment with the proposed land use and trip generation by phase.

¹ Unadjusted Trips

III. Study Requirements

1. Study Type: Standard TIA Alternate TIA
 - a. Sections IV.1-IV.4 are not required with an Alternate TIA.
2. Applicable Long-range Transportation Programs/Plans/Studies: (List adopted comprehensive plans and public infrastructure improvement projects applicable to this site)
 - a. Austin Strategic Mobility Plan (ASMP)
 - b. Imagine Austin Comprehensive Plan
 - c. South Lamar Corridor Improvement Program
 - d. Project Connect
 - e. TxDOT Loop 360 Improvements
3. Sustainable Modes Analysis: Required Not Required
 - i. Study Area: South Lamar Blvd between Ben White Blvd and Manchaca Rd
4. Transportation Demand Management Proposed (*Attachment A*): Yes No
 - a. If Yes, a TDM Report is: Required Not Required
5. Signal Warrant Studies: Required for all proposed signal locations.
6. Safety and Geometric Review: Required for all site driveways and new roadway connections.
7. Access Management Analysis: Required Not Required
 - a. Queueing Analysis: Required Not Required

IV. Study Assumptions

1. **Annual Traffic Growth Rate:** 3 %
 List all the sources used for the calculation below and provide calculations in an attachment.
 - TxDOT AADT Data Obtained from Statewide Planning Maps

2. Related Background Projects

The following related projects are to be included for background traffic calculations.

Project Name	Permit Number
AISD Ann Richards School	SP-2018-0596CX.F1
Victory Medical	SP-2019-0049C

3. Trip Distribution

Provide maps in both Excel file and PDF file (aerial view) showing Project trips distribution and percentages (inbound/outbound for both AM/PM peak hours) at the project driveways, study intersections and freeways as an attachment(s). The maps must be included in the TIA and pre-approved by Transportation

Development Services Division at ATD² with the TIA scope. The maps may be subject to change after conducting thorough traffic counts at the study intersections.

4. Study Intersections and Road Sizing Segments

To select the study intersections for TIA, the criteria mentioned in the section 4.G of TIA guidelines should be followed

a. List the study intersections below:

1. <i>Driveway A & South Lamar Blvd</i>	2. <i>Driveway B and South Lamar Blvd</i>
3. <i>Driveway C and South Lamar Blvd</i>	4. <i>Driveway D and WB Loop 360</i>
5. <i>Driveway E and WB Loop 360</i>	6. Loop 360 & Mopac NBFR
7. Loop 360 & Mopac SBFR	8. US 290/SH 71 & S Lamar Blvd (4)
9. US 290 Frontage Rd & West Gate Blvd (2)	10. US 290 Frontage Rd Victory Dr/Packsaddle (2)
11. US 290 Frontage Rd Menchaca Rd (2)	12. S Lamar Blvd & Panther Trail
13. Victory Dr & Panther Trail	14. S Lamar Blvd & Barton Skyway
15. S Lamar Blvd & Menchaca Rd	16. S Lamar Blvd & Bluebonnet Ln
17. S Lamar Blvd & Oltorf St	

b. List the roadway segments for road sizing analysis below:

1.
2.
3.
4.

5. Project Trips Details

Attach a detailed trip generation table including a description of the proposed land uses for *each of the phases*, ITE rates, estimated AM & PM peak hour volumes (ins/outs/totals), proposed trip reductions, etc. Summarize the overall trip generation in the table below.

² Austin Transportation Department (ATD)

Land Use Specific Trips Summary

ITE Land Use Type and Land Use Code		Trip Rate/FCE	Qty/Units		Daily Trips	AM Peak Trips	PM Peak Trips	Internal Trips		Pass-By Trips	
								(PM Peak)	(PM Peak)	(PM Peak)	(PM Peak)
221	Multifamily Housing (Mid-Rise)	$T = 5.45(X) - 1.75$	1,233	du	6,718	444	543	0%	0	0%	0
222	Multifamily Housing (High-Rise)	4.45	467	du	2,078	144	167				
310	Hotel	8.36	200	keys	1,672	95	124	0%	0	0%	0
710	General Office	$\ln(T) = 0.97 \ln(X) + 2.50$	1,260,000	sqft	12,391	1,462	1,449	0%	0	0%	0
820	Shopping Center	$\ln(T) = 0.68 \ln(X) + 5.57$	140,000	sqft	7,558	222	697	0%	0	0%	0
Total Unadjusted Trips											
					30,417	2,366	2,980				
Total Internal Trips											
							0				
Total Pass-By Trips											
							0				
TDM											
			0.0%		0	0	0				
Existing Trips											
					19,246	1,532	1,800				
Total Adjusted Trips											
					11,171	834	1,180				


6. List any other additional items, concerns, or comments
 - a. A custom Transportation Demand Management (TDM) plan will be provided as part of the Brodie Oaks Center project which will include the various shared parking measures, TDM goals, and other information that will be required of the development. Due to our custom TDM approach, Attachment A of this TIA Scope has not been filled out. Since a custom TDM plan will be performed the TDM goal set for the project differ from the standard Site Context goals provided in this TIA Scope of Work. The TDM goal will be submitted to ATD for review and concurrence prior to proceeding with the full TIA study.
 - b. Traffic Data will be captured during time in which the COVID-19 pandemic impacts to traffic are still being experienced in the roadway network. Prior to proceeding with the TIA study, BOE shall present a COVID-19 pandemic adjustment factor by comparing traffic data capture in 2021 against historic traffic data at similar intersections within the analysis network. Historic Data shall be date no earlier than 2018.

V. TIA Report Submittal Requirements

1. One digital copy of the TIA report containing a PDF of the TIA, Synchro files showing the network for all conditions analyzed, raw traffic count data, all the trip calculations in excel, and any other relevant project information must be sent to the following:
 - **Lead Development Review Engineer in the Transportation Development Services Division**
 - List applicable jurisdictional agencies whose roadways are expected to be impacted by the Project.

This TIA Scope is based upon the TIA requirement identified in the TIA Determination Worksheet dated April 29, 2019. Any change to the assumptions made in the scope is subject to approval by Transportation Development Services Division at ATD. Any discrepancies in land use and/or intensity between the TIA and site plan will require a new TIA Determination Worksheet and TIA Scope.

The applicant confirms that all the documents, reports and files strictly adhere with submittal requirements of TIA Scope and TIA Report Guidelines published by the Transportation Development Services Division at ATD.

SIGNED:
 (ATD Engineer) 
 Justin Good, P.E. May 19, 2021

SIGNED:
 (Applicant) 
 Bobak J. Tehrany, P.E. May 4, 2021

TIA Scope – Checklist

(Items To be attached to scope by Applicant)

- | | | |
|--|---|---|
| 1) Signed TIA Determination Worksheet | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 2) Detailed phases of the development (II.5) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 3) Project site plan/area map | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 4) Traffic growth rate calculations sheet (IV.1) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 5) Map of study intersections (IV.3) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 6) Trip distribution and assignment (IV.3) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 7) Trip generation calculations sheet (IV.5) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A |
| 8) Identify TDM Measures (Attachment A) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> N/A |

TRANSPORTATION IMPACT ANALYSIS SCOPE OF WORK

Attachment A – Transportation Demand Management

Date: May 19, 2021

Case # (If assigned): _____

At TDM Reduction target of TDB % is proposed. TDM reductions equate to a vehicle trip reduction below the approved ITE land use code and associated trip generation, and do not necessary represent mode split.

Required TDM reduction:

	Site Context	Max TDM Reduction	Target TDM Reduction
<input type="checkbox"/>	City Core	50%	40%
<input type="checkbox"/>	Urban Core	35%	25%
<input type="checkbox"/>	Urban	30%	20%
<input type="checkbox"/>	Suburban	10%	10%

Select proposed TDM strategies from the following list. Additional information and TDM measures can be found on the future City of Austin’s TDM website.

	TDM Measure	CC	UC	U	S
<input type="checkbox"/>	Transit Elements	Up to 15%	Up to 12%	Up to 7%	Up to 5%
<input type="checkbox"/>	Pedestrian Access and Connectivity	5%	5%	5%	5%
<input type="checkbox"/>	Bicycle Access and Connectivity	5%	5%	5%	5%
<input type="checkbox"/>	Bicycle Parking	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Showers & Lockers	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Bike Share Membership	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Bike Share Station	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Bicycle Repair Station	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Bicycle Maintenance Services	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Fleet of Bicycles	0.5%	0.5%	0.5%	0.5%
<input type="checkbox"/>	Car Share Parking	1%	1%	1%	1%
<input type="checkbox"/>	Multimodal Wayfinding Signage	1%	1%	1%	1%
<input type="checkbox"/>	Real Time Transportation Information Displays	1%	1%	1%	1%
<input type="checkbox"/>	Transit-Oriented Development	2%	2%	2%	2%
<input type="checkbox"/>	Unbundled Parking	6%	6%	6%	6%
<input type="checkbox"/>	Short Term Daily Parking Provision	10%	8%	7%	3%
<input type="checkbox"/>	Peak Period Pricing	10%	8%	7%	3%
<input type="checkbox"/>	Priced Parking	10%	8%	7%	3%
<input type="checkbox"/>	Parking Cash Out: Non-residential Tenants	5%	4%	3%	2%

	TDM Measure	CC	UC	U	S
<input type="checkbox"/>	Parking Supply (Reduction = 25% x [LDC parking reduction])	Up to 12.5%			
<input type="checkbox"/>	TDM Coordinator	1%	1%	1%	1%
<input type="checkbox"/>	Car Share Membership**	1%	1%	1%	1%
<input type="checkbox"/>	Carpool Program**	7%	5%	3%	2%
<input type="checkbox"/>	Shuttle Service**	Up to 7%			
<input type="checkbox"/>	Vanpool Program**	Up to 7%			
<input type="checkbox"/>	TMA Membership**	3%	3%	3%	3%
<input type="checkbox"/>	Telecommuting***	2%	2%	2%	2%
<input type="checkbox"/>	Universal Transit Pass***	5%	5%	5%	5%
<input type="checkbox"/>	Sustainable Mode Subsidy***	8%	8%	8%	8%
<input type="checkbox"/>	Off-Peak Work Hours/Compressed Work Week***	2%	2%	2%	2%
Total (reductions are additive)					

** Select only if TDM Coordinator will be appointed for the site

***Select only if TMA Membership is selected



**CITY OF AUSTIN
TRAFFIC IMPACT ANALYSIS (TIA) DETERMINATION WORKSHEET**

APPLICANT MUST FILL IN WORKSHEET PRIOR TO SUBMITTING FOR TIA DETERMINATION

PROJECT NAME: Brodie Oaks Center

LOCATION: 4021 S Capital of Texas Hwy, Austin, TX 78704

APPLICANT'S AGENT: Bobak J. Tehrany, P.E. / BOE TELEPHONE NO: 512-632-7509

APPLICATION STATUS: DEVELOPMENT ASSESSMENT: X ZONING: _____ SITE PLAN: _____

EXISTING:

FOR OFFICE USE ONLY

TRACT NUMBER	TRACT ACRES	INTENSITY	ZONING	LAND USE	I.T.E CODE	TRIP RATE	TRIPS PER DAY
1	37.59		CS, GR, CS-1	Various Uses (See attached breakdown)	Various	Various	19,246
Total Existing							19,246

PROPOSED

FOR OFFICE USE ONLY

TRACT NUMBER	TRACT ACRES	INTENSITY	ZONING	LAND USE	I.T.E CODE	TRIP RATE/EQ	TRIPS PER DAY
1	37.59	1,233 du	PUD	Multifamily Housing (Mid-Rise)	221	T=5.45(X) - 1.75	6,718
		467 du	PUD	Multifamily Housing (High-Rise)	222	4.45/du	2,078
		200 keys	PUD	Hotel	310	14.34/key	1,672
		1,260,000 sf	PUD	General Office	710	$\text{Ln}(T) = 0.97 \text{Ln}(X) + 2.50$	12,391
		140,000 sf	PUD	Shopping Center	820	$\text{Ln}(T) = 0.68 \text{Ln}(X) + 5.57$	7,558
Total Proposed							30,417
Net Change in Trips							11,171

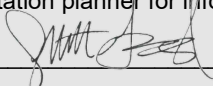
ABUTTING ROADWAYS

FOR OFFICE USE ONLY

STREET NAME	PROPOSED ACCESS?	PAVEMENT WIDTH	CLASSIFICATION
South Lamar Boulevard	Yes		
Loop 360 Frontage Road	Yes		

FOR OFFICE USE ONLY

- A traffic impact analysis is required. The traffic consultant must meet with staff from Development Services/Land Use Review to discuss the TIA scope and requirements before beginning the study.
- A traffic impact analysis is NOT required. The traffic generated by the proposal does not exceed the thresholds established in the Land Development Code. **Mitigation of the site traffic may be required based on Land Use Review/Transportation Review staff review.** See Land Use Review/Transportation Review staff for additional information.
- The traffic impact analysis has been waived for the following reason: _____
- A neighborhood traffic analysis will be performed by the City for this project. The applicant may have to collect existing traffic counts. See a transportation planner for information.

REVIEWED BY:  Justin Good, P.E. (ATD) DATE: 4/29/2021

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 _____ TOTAL

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**BRODIE OAKS CENTER
GROWTH RATE CALCULATIONS**

TXDOT AADT ⁽¹⁾		GROWTH FACTOR	
2019	155,553		
		0.9873748	2%
2018	157,542		
		1.02442355	2%
2017	153,786		
		AVERAGE	2%

(1): TXDOT AADT is obtained from Statewide Planning Maps

TXDOT AADT ⁽¹⁾		GROWTH FACTOR ⁽²⁾	
		0.93974225	-6%
2016	163,647		
		1.06437073	6%
2015	153,750		
		1.07654497	8%
2014	142,818		
		0.75070962	-25%
2013	190,244		
		1.00128421	0%
2012	190,000		
		1.41791045	42%
2011	134,000		
		0.95035461	-5%
2010	141,000		
		AVERAGE	3%

(1): TXDOT AADT is obtained from Statewide Planning Maps

(2): Although the growth factor calculated based on historical data is negative, a growth factor of 1% per year will be applied within the TIA as this area is majorly built out.

Growth Factor Calculation:

$$F = P \cdot (1+i)^n$$

$$i = \left[\left(\frac{F}{P} \right)^{\frac{1}{n}} \right] - 1$$

F = Forecasted Year; P= Base year; i= Growth Factor (%);

n = Difference between Forecasted Year and Base Year



Appendix B Table of Off-Street Parking Requirements

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APPENDIX B. - TABLES OF OFF-STREET PARKING AND LOADING REQUIREMENTS.

PART 1 - MOTOR VEHICLES

Use Classification	Minimum Off-Street Parking Requirement	Off-Street Loading Requirement
<i>Residential Uses</i>		
Cottage special use Mobile home residential Single-family residential Small lot single-family residential Townhouse residential Urban home special use	2 spaces for each dwelling unit	None
Secondary apartment special use Two family residential	Principal unit: 2 spaces Secondary unit: If located greater than .25 miles from an activity corridor that is served by a bus or transit line - 1 space; if located less than or equal to .25 miles from an activity corridor that is served by a bus or transit line - 0 spaces. For purposes of this requirement, activity corridor is defined in the Imagine Austin Comprehensive Plan, as adopted by Ordinance No. 20120614-058.	None
Accessory apartment Condominium residential Multifamily residential	Efficiency dwelling unit: 1 space 1 bedroom dwelling unit: 1.5 spaces Dwelling unit larger than 1 bedroom: 1.5 spaces plus 0.5 space for each additional bedroom	None
Duplex residential Single-family attached residential -Standard -If larger than 4,000 sq. ft. or more than 6 bedrooms	4 spaces 4 spaces or 1 space for each bedroom, whichever is greater	None
Bed and breakfast residential	1 space plus 1 space for each rental unit	None

Group residential	1 space plus 1 space for each 2 lodgers or tenants	Schedule C
Retirement Housing	80% of the parking otherwise required by this table for the residential use classification	Schedule C
Commercial Uses		
Agricultural sales and service	Schedule A	Schedule C
Art gallery	1 space for each 500 sq. ft.	None
Art workshop	Schedule B	None
Automotive rentals	Schedule A	Schedule B
Automotive repair service	1 space for each 275 sq. ft.	Schedule C
Automotive sales	Schedule A	Schedule C
Automotive washing		None
• Automatic (full service)	1 space for each 2 employees plus 6 queue spaces for each queue line	
• Manual (coin-operated)	3 queue spaces for each queue line	
Bail bond services	1 space for each 275 sq. ft.	None
Building maintenance services Business support services	Schedule A	Schedule C
Business and professional offices	1 space for each 275 sq. ft.	Schedule C
Business or trade school Campground Carriage stable	Schedule B	Schedule B

Cocktail lounge or dance hall		Schedule C
• <2,500 sq. ft.	1 space for each 100 sq. ft.	
• 2,500—10,000 sq. ft.	1 space for each 50 sq. ft.	
• <10,000 sq. ft.	1 space for each 25 sq. ft.	
Commercial blood plasma center	1 space for each 275 sq. ft.	Schedule C
Commercial off-street parking	None	None
Communication services Construction sales and services	Schedule A	Schedule C
Consumer convenience services	Schedule B	None
Consumer repair services	1 space for each 275 sq. ft.	Schedule C
Convenience storage	1 space for each 4,000 sq. ft.	Schedule B
Drop-off recycling collection facility	Schedule B	Schedule B
Electronic prototype assembly	1 space for each 275 sq. ft.	Schedule C
Electronic testing	1 space per 300 sq. ft.	Schedule G
Equipment repair services Equipment sales	Schedule A	Schedule C
Exterminating services	1 space for each 1,000 sq. ft.	Schedule C
Financial services		Schedule C

• Building	1 space for each 275 sq. ft.	
• Drive-in service	8 queue spaces for each service lane	
• ATM (drive-up)	2 queue spaces for each service lane	
• ATM (walk-up)	None	
Food preparation	Schedule A	Schedule C
Food sales	1 space for each 275 sq. ft.	Schedule C
Funeral services	1 space for each 5 persons capacity	Schedule B
Furniture or carpet store	1 space for each 500 sq. ft.	Schedule C
General retail sales and services (convenience or general)	1 space for each 275 sq. ft.	Schedule C
Hotel-motel	1.1 spaces for each room	Schedule C
• Other uses within hotel-motel	If not an accessory use, 80% of the parking otherwise required by this table for the use	
Indoor entertainment		Schedule C
• Meeting hall	1 space for each 50 sq. ft.	
• Dance halls with liquor sales	See cocktail lounge	
• Theater (live or motion picture)	1 space for each 4 seats within auditorium	
Indoor sports and recreation (except billiard parlor or bowling alley)	1 space for each 500 sq. ft.	Schedule B
• Billiard Parlor	1 space for each 100 sq. ft.	

• Bowling Alley	1 space for each 275 sq. ft.	
Kennels	1 space for each 1,000 sq. ft.	Schedule B
Laundry services	Schedule A	Schedule C
Liquor sales	1 space for each 275 sq. ft.	Schedule C
Marina	0.7 spaces for each boat slip	None
Medical offices		Schedule C
• Free-standing medical clinic or office or a limited hospital facility	1 space for each 200 sq. ft.	
• Within a shopping center or mixed use building	1 space for each 275 sq. ft.	
Monument retail sales	Schedule A	Schedule C
Outdoor entertainment Outdoor sports and recreation	Schedule B	Schedule B
Pawn shop services Personal improvement services Personal services Pet services	1 space for each 275 sq. ft.	Schedule C
Pedicab storage & dispatch	Schedule B	Schedule B
Plant nursery Printing and publishing Recreational equipment maintenance and storage Recreational equipment	Schedule A	Schedule C

sales		
Regional shopping mall	1 space for each 275 sq. ft.	Schedule C
Research services Research assembly services Research testing services	1 space for each 275 sq. ft.	Schedule C
Research warehousing services	Schedule A	Schedule C
Restaurant		Schedule C
• ≤2,500 sq. ft.	1 space for each 100 sq. ft.	
• >2,500 sq. ft.	1 space for each 75 sq. ft.	
• If no customer service or dining area is provided	1 space for each 275 sq. ft.	
Drive-in service	8 queue spaces for each service lane	
Scrap and salvage services	Schedule A	Schedule C
Service station		Schedule B
• Fuel sales	See Transportation Criteria Manual Section 9.4.5	
• Lubrication service	1 parking space for each bay and 3 queue spaces for each bay	
Software development	1 space for each 275 sq. ft.	Schedule C
Special use historic	The parking required for the use by this table	Schedule B
Stables	Schedule B	Schedule B
Vehicle storage	None	None

Veterinary services	1 space for each 500 sq. ft.	Schedule B
Industrial Uses		
Basic industry	Schedule A	Schedule C
Custom manufacturing		
General warehousing and distribution		
Light manufacturing		
Limited warehousing and distribution		
Recycling center		
Civic Uses		
Administrative services	1 space for each 275 sq. ft.	Schedule C
Aviation facilities Camp Cemetery	Schedule B	Schedule B
Club or lodge	1 space for each 5 persons capacity	Schedule B
College and university facilities		Schedule B
• Dorm or other residence	1 space for each 2 residents	
• Gymnasium or classroom	1 space for each 500 sq. ft.	
• Administrative or office	1 space for each 275 sq. ft.	

Communication service facilities	Schedule A	Schedule C
Community events Community recreation (private or public)	Schedule B	Schedule B
Congregate living Convalescent services	1 space for each 4 beds, plus 1 space for each 2 employees (largest shift)	Schedule C
Convention center Counseling services	Schedule B	Schedule B
Cultural services	1 space for each 500 sq. ft.	Schedule B
Day care services (commercial, general, or limited)	1 space for each employee	Schedule B
Detention facilities	Schedule B	Schedule B
Family home	2 spaces for each dwelling unit	None
Group home	Schedule B	None
Guidance services		Schedule B
• Residential	1 space for each 4 beds	
• Nonresidential	1 space for each 275 sq. ft.	
Hospital service (general)	1 space for each 4 beds, plus 1 space for each 2 employees (largest shift)	Schedule C
Hospital services (limited)	1 space for each 200 sq. ft.	Schedule C
Local utility services	Schedule B	Schedule B
Maintenance and service facilities	Schedule A	Schedule B

Major utility facilities		
Military installations Park and recreation services	Schedule B	Schedule B
Postal facilities	Schedule B	Schedule C
Public assembly	1 space for each 5 persons capacity	Schedule B
Public or private primary educational facilities	1.5 spaces for each staff member	Schedule B
Public or private secondary educational facilities	1.5 spaces for each staff member plus 1 space for each 3 students enrolled in 11th and 12th grades	Schedule B
Qualified community garden Railroad facilities	Schedule B	Schedule B
Religious assembly		Schedule B
<ul style="list-style-type: none"> • Within mixed use shopping center or building 	1 space for each 275 sq. ft.	
<ul style="list-style-type: none"> • Stand-alone 	Schedule B	
Residential treatment	1 space for each 4 residents	Schedule B
Safety services Telecommunication tower	Schedule B	Schedule B
Transitional housing	1 space for each 4 beds, plus 1 space for each 2 employees (largest shift)	Schedule C
Transportation terminals	Schedule B	Schedule B

<i>Agricultural Uses</i>		
Animal production Crop production	None	None
Community garden	Schedule B	None
Horticulture Support housing Urban farm	Schedule B	None

SCHEDULE A

The minimum off-street parking requirement for a use is the sum of the parking requirements for the activities on the site, in accordance with the following table:

Activity	Requirement
Beer or ale sales for on-site consumption at a brewery	
<2,500 sq. ft.	1 space for each 275 sq. ft.
2,500—10,000 sq. ft.	1 space for each 100 sq. ft.
>10,000 sq. ft.	1 space for each 50 sq. ft.
Office or administrative activity	1 space for each 275 sq. ft.
Indoor sales, service, or display	1 space for each 500 sq. ft.
Outdoor sales, services, or display	1 space for each 750 sq. ft.
Indoor storage, warehousing, equipment servicing, or manufacturing	1 space for each 1,000 sq. ft.
Outdoor storage, equipment servicing, or manufacturing	1 space for each 2,000 sq. ft.
Commercial off-street parking requires one bike parking space for every 10 motor vehicle parking spaces.	

SCHEDULE B

The director shall determine the minimum off-street motor vehicle parking requirement, minimum off-street bicycle parking requirement, and minimum off-street loading requirement for a use that is subject to this schedule. In making a determination, the director shall consider the requirements applicable to similar uses, the location and characteristics of the use, and appropriate traffic engineering and planning data. A minimum of one bicycle parking space shall be provided for any use except Single-Family residential or Two-Family residential.

SCHEDULE C Off-Street Loading Requirement

Square Feet of Floor Area	Minimum Number Of Off-Street Loading Spaces
0—10,000	0
10,001—75,000	1
75,001—150,000	2
150,001—300,000	3
Over 300,000	1 for each 100,000

PART 2 - BICYCLES

Use Classification	Minimum Off-Street Parking Requirement
Residential uses other than condominium residential or multifamily residential	None
Commercial uses:	
Carriage stable	
Scrap and salvage services	
Stable	
Vehicle storage	

Industrial uses:	
Resource extraction	
Stockyards	
Civic uses:	
Detention facilities	
Local utility services	
Agricultural uses	
Commercial uses:	2 spaces
Agricultural sales and services	
Automotive rentals	
Automotive repair services	
Automotive sales	
Automotive washing	
Building maintenance services	
Campground	
Commercial off-street parking	
Convenience storage	
Equipment repair services	
Equipment sales	
Exterminating services	

Civic uses:	
Aviation facilities	
Cemetery	
Convalescent services	
Residential uses:	5 spaces or 5% of the motor vehicle spaces required by this appendix, whichever is greater
Condominium residential	
Multifamily residential	
Commercial uses not listed above	
Industrial uses not listed above	
Civic uses not listed above	

Source: Section 13-5-107; Ord. 990225-70; Ord. 990520-38; Ord. 000511-109; Ord. 000831-65; Ord. 010426-48; Ord. 020627-Z34; Ord. 031120-44; Ord. 031211-11; Ord. 040617-Z-1; Ord. 20110210-018; Ord. 20121108-057; Ord. 20130523-104; [Ord. 20140417-082, Pt. 2, 4-28-14](#); [Ord. No. 20151119-080, Pt. 3, 11-30-15](#).

Appendix C Parking and TDM Memorandum

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An aerial photograph of a suburban area. A multi-lane highway with an interchange runs diagonally across the lower half of the image. To the right of the highway, there are several large, light-colored commercial or institutional buildings with extensive parking lots. The surrounding area is a mix of residential housing and green spaces. In the upper right, a wooded hillside descends towards a road.

Brodie Oaks

Parking and TDM Approach

July 2021

N NELSON
NYGAARD

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1 EXECUTIVE SUMMARY

The purpose of this memorandum is to establish parking and Transportation Demand Management (TDM) goals for the Brodie Oaks development (the “Project”) proposed by Barshop and Oles (the “Project Sponsor”), and to identify preliminary strategies for achieving those goals. This memorandum will allow the Austin Transportation Department (ATD) to review potential TDM and parking strategies and provide feedback on parking and TDM priorities to be considered in the full TDM plan, which will be submitted concurrently with the Project TIA.

The Project Sponsor has identified the following parking and TDM goals for the project.

Summary of Project TDM and Parking Goals

- *Reduce vehicle trips by 25%*
ATD has approved a 25% trip reduction target, but has stated that they will consider up to a 30% vehicle trip reduction for the Project if the full TDM plan warrants it. The Project sponsor will develop a comprehensive TDM plan that identifies a detailed TDM vision and associated trip reduction, to be submitted concurrently with the Project TIA.
- *Leverage transit and support bicycle/pedestrian access*
The Project site is adjacent to MetroRapid Route 803, which will be expanded and enhanced as part of Project Connect. Multimodal improvements planned for the South Lamar corridor by the City of Austin as well as multimodal improvements planned by the Project will support safe bicycle and pedestrian connections to the north of the site. The project will leverage these valuable transit and multimodal assets with a suite of TDM programs, amenities, and design features.
- *Reduce parking supply by up to 40%*
A potential parking supply reduction of up to 40% relative to code will support a multimodal-friendly vision for the project and help reduce drive-alone vehicle trips. The Project will consider a variety of parking management strategies to help achieve this supply reduction, including shared parking arrangements and pricing strategies.

These vehicle trip and parking reduction targets are intended to provide an initial basis for the development of a full TDM plan for the Project, and may change as a result of future study.

2 PROJECT DESCRIPTION

The Project is located in the City of Austin at the northwest corner of TX-360 and South Lamar Boulevard. Existing uses on the Project site include a mix of restaurants, shops, and offices. The site is adjacent to the Barton Creek Greenbelt trail.

The proposed Project will be a multi-phase development that would consist of multifamily, office space, retail space, and hotel land uses, including:

- 1,233 mid-rise multifamily dwelling units
- 467 high-rise multifamily dwelling units
- 200 hotel rooms
- 1,260,000 square feet of office space
- 140,000 square feet of retail space

Related Plans

Several recent or ongoing planning projects in the Project vicinity will be considered in the development of a parking and TDM approach for the Project, including:

South Lamar Boulevard Corridor Mobility Plan

The South Lamar Boulevard Corridor Mobility Plan recommends a range of infrastructure improvements along South Lamar Boulevard to improve safety and support growth along the corridor. Recommendations include bus stop relocations, bicycle facilities, and improved wayfinding and signage. The City is currently moving forward with 90% construction documents and plans to proceed with construction prior to the Project initiating construction.

Project Connect

Project Connect is Capital Metro's comprehensive high-capacity transit plan, which includes two new light rail corridors, expanded MetroRapid bus service, new and expanded commuter rail services, and new Park and Ride locations. In the project vicinity, the Project Connect plan includes expanded MetroRapid service along South Lamar Boulevard and Manchaca Road. Additionally, the existing transit stop at Brodie Oaks will be relocated downstream of the signalized intersection.

3 TDM APPROACH

The goal of TDM is to reduce single-occupancy vehicle trips by supporting other modes of travel with a range of programs, incentives, and infrastructure investments. Austin Transportation Department (ATD) maintains a list of TDM measures within the Transportation Impact Analysis (TIA) scope template, and establishes an associated vehicle trip reduction percentage for each TDM measure.

Trip Reduction Target

ATD sets a target and maximum trip reduction that can be achieved for a given project based on site location, context, access to transit, and level of TDM commitment. Although the Project location is designated as “Urban” per the City of Austin’s draft site context map, **ATD has approved of a 25% vehicle trip reduction for the project** based on the proposed TDM approach and the transit and multimodal resources in the project vicinity. If the full TDM plan warrants it, ATD would consider up to a 30% vehicle trip reduction for the project.

To achieve reductions in vehicle trip generation, the Project Sponsor will consider and evaluate a range of potential TDM measures. This memorandum is intended to:

- Identify which measures will be considered and evaluated as part of the development of the full TDM plan for the Project
- Provide a brief rationale for the selection and prioritization of these measures
- Solicit feedback from ATD about the proposed TDM vision and priorities

Figure 1 identifies which measures and strategies will be evaluated for the Project. The strategies identified for consideration in this memorandum are subject to change. The full TDM plan, which will be completed and submitted concurrently with the TIA, will include a refined list of these proposed TDM measures and commitments as well as a full discussion of why the selected measures are appropriate for the Project.

Figure 1 TDM Measures to be considered for Brodie Oaks

TDM Measure	Est. Reduction: Urban	Est. Reduction: Urban Core	Will be Considered for The Project
Transit Elements	Up to 7%	Up to 12%	✓
Pedestrian Access and Connectivity	5%		✓
Bicycle Access and Connectivity	5%		✓
Bicycle Parking	0.5%		✓
Showers & Lockers	0.5%		✓
Bike Share Membership	0.5%		✓
Bike Share Station	0.5%		✓
Bicycle Repair Station	0.5%		✓
Bicycle Maintenance Services	0.5%		✓
Fleet of Bicycles	0.5%		
Car Share Parking	1%		
Multimodal Wayfinding Signage	1%		
Real Time Transportation Information Displays	1%		✓
Transit-Oriented Development	2%		✓
Unbundled Parking	6%		✓
Short Term Daily Parking Provision	7%	8%	
Peak Period Pricing	7%	8%	
Priced Parking	7%	8%	✓
Parking Cash Out (non-residential)	3%	4%	
Parking Supply	Up to 12.5%		✓
TDM Coordinator	1%		✓
Car Share Membership	1%		
Carpool Program	3%	5%	
Shuttle Service	Up to 7%		
Vanpool Program	Up to 7%		
TMA Membership	3%		✓
Telecommuting	2%		✓
Universal Transit Pass	5%		✓
Sustainable Mode Subsidy	8%		✓
Off-Peak Work Hours/Compressed Work Week	2%		
Total trip reduction potential:			Up to 30%*

*ATD has agreed to consider up to a 30% trip reduction for the Project. Sum of trip reduction potential for all TDM measures to be considered for the full TDM plan is 71%.

TDM Vision and Goals

A TDM vision for the project has been developed based on the local site context, the existing and future transportation resources in the Project vicinity, and the specific needs of the proposed land uses and development vision for the Project. This vision reflects two primary TDM goals for the Project:

Goal 1: Leverage and enhance connections to existing and future **transit service**

Goal 2: Support **bicycle and pedestrian access** along South Lamar Blvd and to the Barton Creek Greenbelt

In addition to these two TDM goals, the Project Sponsor has identified parking goals and potential strategies for the Project (see Chapter 4 – Parking Approach).

Goal 1: Leverage Transit

RATIONALE

Incorporating TDM strategies that are transit-focused will aim to ensure that (a) the physical design of the site, including station access to and from transit and the design of the transit station itself, supports transit ridership, and (b) programs and incentives are offered to encourage site-goers to ride transit. Capital Metro's MetroRapid bus service, including Route 803 on South Lamar Boulevard, will be the primary focus of transit-supportive TDM measures.

Goal 2: Support Bicycle and Pedestrian Access

RATIONALE

Supporting bicycle and pedestrian access is foundational for many of the other proposed TDM strategies. These travel modes provide first mile/last mile options for transit riders, encourage healthy and sustainable lifestyles, and enable a "park once" approach for the site. The Project will include both bicycle- and pedestrian-supportive design elements as well as TDM programs and incentives that encourage walking and biking to, from, and within the site.

TDM Measures by Land Use and User Group

Quantifying TDM reductions by land use requires a consideration of who is accessing the site and for what purpose, as well as how impactful TDM could be on those user groups accessing the site. With the goal of arriving at a **compound overall TDM reduction** for the project, a framework was developed to understand how and to what degree TDM might impact those who would use the site. Figure 2 shows the estimated ratio between employees, residents, and visitors to the site per land use, as well as the resulting proportion of daily trips per user group associated with each land use. In all, it is estimated that approximately 40% of daily vehicle trips are attributable to employees, 37% to visitors, and 23% to residents

Parking and TDM Approach
Brodie Oaks

Figure 2 Estimated Daily Project Trips by User Group and Land Use

User Groups	Estimated User Group Ratios in Percent and Number of Trips									
	Office		Residential		Hotel		Retail		Total	
	41%	12,391	29%	8,796	5%	1,672	25%	7,558	100%	30,417
Employees	90%	11,152	0%	0	20%	334	10%	756	40%	12,242
Residents	0%	0	80%	7,037	0%	0	0%	0	23%	7,037
Visitors	10%	1,239	20%	1,759	80%	1,338	90%	6,802	37%	11,138

Figure 3 shows the estimated level of impact on each user group for each proposed TDM measure. These estimates are expressed using a four-point scale: high impact (100%), medium impact (66%), low impact (33%), or zero impact (0%).

The user-group distributions (Figure 2) and level-of-impact estimates (Figure 3) were then applied to the trip reduction estimates for each TDM measure provided by ATD to calculate the compound overall TDM trip reduction for the project. This **compound trip reduction is summarized in Figure 4**. Based on this methodology, the project team estimates a compound trip reduction potential of 41% (subtotal, Figure 4).

Austin Transportation Department has set a maximum TDM-based trip reduction “cap” for the project at 30%. After applying that cap, the **total compound trip reduction estimate for the project is 30%** (total, Figure 4).

Parking and TDM Approach
Brodie Oaks

Figure 3 Estimated Level of Impact on User Groups by TDM Measure

TDM Measure	Estimated Level of Impact and Trip Reduction*					
	Employees		Residents		Visitors	
Transit Elements	Medium	66%	Medium	66%	Low	33%
Real-Time Transportation Information Displays	High	100%	Medium	66%	Medium	66%
Transit-Oriented Development	Low	33%	High	100%	Low	33%
Pedestrian Access and Connectivity	Medium	66%	Medium	66%	Medium	66%
Bicycle Access and Connectivity	Medium	66%	Medium	66%	Medium	66%
Bicycle Parking	High	100%	High	100%	High	100%
Showers & Lockers	High	100%	Low	33%	Low	33%
Bike Share Membership	High	100%	High	100%	None	0%
Bike Share Station	High	100%	High	100%	High	100%
Bicycle Repair Station	High	100%	High	100%	Low	33%
Bicycle Maintenance Services	High	100%	High	100%	None	0%
Unbundled Parking	High	100%	Medium	66%	Low	33%
Priced Parking	Low	33%	Low	33%	High	100%
Parking Supply	High	100%	Medium	66%	Low	33%
TDM Coordinator**	None	0%	None	0%	None	0%
TMA Membership**	None	0%	None	0%	None	0%
Telecommuting	Medium	66%	Medium	66%	None	0%
Universal Transit Pass	High	100%	Medium	66%	None	0%
Sustainable Mode Subsidy	High	100%	Medium	66%	None	0%

* Note: percentages in this table represent the relative estimated level of impact of each measure on employees, residents, and visitors. To calculate the compound trip reduction estimates, the estimated relative impacts for each measure and group was multiplied by the ATD base trip reduction estimate (summarized in Figure 4).

** Note: The project TDM plan will approach TDM coordinator and TMA membership as supporting measures which are critical for implementing and amplifying other TDM programs, but which do not have inherent trip-reducing effects on their own. Therefore, for the purposes of these calculations, the estimated impact for these two measures is assumed to be 0%.

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Figure 4 Estimated Trip Reduction by Land Use and User Group and Compound TDM Reduction

TDM Measure	Subcategory	Office		Residential		Hotel		Retail		Project Total		ATD Base	
		%	Trips	%	Trips	%	Trips	%	Trips	%	Trips	%	Trips
Transit Elements	Transit	7.5%	932	7.1%	627	4.8%	79	4.4%	329	6.5%	1,968	12.0%	3,650
Real-Time Transportation Information Displays	Transit	1.0%	120	0.7%	58	0.7%	12	0.7%	52	0.8%	242	1.0%	304
Transit-Oriented Development	TOD	0.7%	82	1.7%	152	0.7%	11	0.7%	50	1.0%	295	2.0%	608
Pedestrian Access and Connectivity	Bike and Pedestrian	3.3%	409	3.3%	290	3.3%	55	3.3%	249	3.3%	1,004	5.0%	1,521
Bicycle Access and Connectivity	Bike and Pedestrian	3.3%	409	3.3%	290	3.3%	55	3.3%	249	3.3%	1,004	5.0%	1,521
Bicycle Parking	Bike and Pedestrian	0.5%	62	0.5%	44	0.5%	8	0.5%	38	0.5%	152	0.5%	152
Showers & Lockers	Bike and Pedestrian	0.5%	58	0.2%	15	0.2%	4	0.2%	15	0.4%	115	0.5%	152
Bike Share Membership	Bike and Pedestrian	0.5%	56	0.4%	35	0.1%	2	0.1%	4	0.3%	96	0.5%	152
Bike Share Station	Bike and Pedestrian	0.5%	62	0.5%	44	0.5%	8	0.5%	38	0.5%	152	0.5%	152
Bicycle Repair Station	Bike and Pedestrian	0.5%	58	0.4%	38	0.2%	4	0.2%	15	0.4%	115	0.5%	152
Bicycle Maintenance Services	Bike and Pedestrian	0.5%	56	0.4%	35	0.1%	2	0.1%	4	0.3%	96	0.5%	152
Unbundled Parking	Parking	5.6%	694	3.6%	313	2.8%	47	2.4%	180	4.1%	1,234	6.0%	1,825
Priced Parking	Parking	3.2%	394	3.7%	327	6.9%	116	7.5%	564	4.6%	1,400	8.0%	2,433
Parking Supply	Parking	9.3%	1,156	8.7%	762	4.6%	78	4.0%	300	7.5%	2,295	10.0%	3,042
TDM Coordinator	Commuter Trip Reduction	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	1.0%	304
TMA Membership	Commuter Trip Reduction	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	3.0%	913
Telecommuting	Commuter Trip Reduction	1.2%	147	1.1%	93	0.3%	4	0.1%	10	0.8%	254	2.0%	608
Universal Transit Pass	Commuter Trip Reduction	4.5%	558	2.6%	232	1.0%	17	0.5%	38	2.8%	844	5.0%	1,521
Sustainable Mode Subsidy	Commuter Trip Reduction	7.2%	892	4.2%	372	1.6%	27	0.8%	60	4.4%	1,351	8.0%	2,433
Subtotal		50%	6,143	42%	3,727	32%	529	29%	2,196	41%	12,595	71%	21,596
<i>ATD Project maximum: 30%</i>										-11%	-3,470		
Total Trip Reduction Estimate:										30%	9,125		

TDM Strategy Details

Transit Elements

The existing Brodie Oaks Station adjacent to the Project site is served by MetroRapid Route 803. Today, the stop consists of a shelter, a bench, MetroRapid-specific route maps, and real-time arrival display.

The Project Sponsor will coordinate with Capital Metro to identify potential enhancements to the Brodie Oaks Station, including rider amenities, access improvements, and the potential to create a Mobility Hub on the Project Site. ATD assigns a vehicle trip reduction of up to 12% for the *Transit Elements* TDM measure, and ATD has indicated that the Project would receive the full reduction under the assumption that the Project transforms the existing Brodie Oaks stop into an enhanced transit plaza that makes pedestrian connections to the Westgate Transit Center.

Employees and residents would see a medium level of impact from this TDM measure, while visitors would see a low level of impact. Employees and residents would access the site on a regular basis, so improvement to nearby transit would have a greater effect on those user groups than visitors.

Real Time Transportation Information Displays

Real time transportation information displays, when placed in areas such as lobbies, courtyards, and other key common areas, can help people plan transit trips while also raising the visibility and branding of transit service. ATD assigns a vehicle trip reduction of up to 1% for the *Real Time Transportation Information Displays* TDM measure.

This measure TDM would impact all users of the site, but employees would see the highest impact. Improved transit schedule communication is applicable to all users, whether commuters or temporary visitors of the Project, but those who commute into the site are more likely to make direct use of it.

Transit-Oriented Development

The location of the Project has the potential to serve as a major anchor for the South Lamar corridor. The Project is envisioned as a pedestrian-friendly mixed-use environment that is well-suited to incorporate transit-oriented development principles. ATD assigns a vehicle trip reduction of up to 2% for the *Transit-Oriented Development* TDM measure.

This TDM measure would see the highest impact on residents of the site, with a low impact on employees and visitors. While a mixed-use transit-oriented development would improve access to all users, residents would spend more of their time than any other user group at the site and would best be able to take advantage of the amenities that TOD provides.

Pedestrian and Bicycle Access and Connectivity

Pedestrian and bicycle access and connectivity strategies include the funding or construction of pedestrian and bicycle amenities and infrastructure on road ways and at

intersections that people would use to access the Project site. Examples of pedestrian and bicycle access and connectivity features include bike lanes, bike boxes, sidewalks, curb ramps, crosswalks, bicycle signalheads, and pedestrian-hybrid beacons.

The Project Sponsor will conduct a Sustainable Modes Analysis per ATDs transportation criteria manual to identify pedestrian and bicycle infrastructure gaps and opportunities. ATD assigns a combined vehicle trip reduction of 10% for the *Pedestrian Access and Connectivity* and *Bicycle Access and Connectivity* TDM measures (5% each).

In the same vein as the *Transit Elements* TDM measure, improved bicycle and pedestrian access and connectivity would benefit employees and residents to a medium degree. Visitors to the site would also see a medium level of impact stemming from improved bicycle and pedestrian facilities due to the higher opportunity for mode shift that new dedicated facilities can provide.

Bicycle Parking

Safely and secure bicycle parking supports regular bicycle use and makes it easy for bicyclists to start or end their trip anywhere within the site. Different types of bicycle parking appeals to different types of users—the Project sponsor will consider a range of bicycle parking options for the Project. ATD assigns a vehicle trip reduction of up to 0.5% for the *Bicycle Parking* TDM measure.

Safe and secure outdoor bicycle parking would not be restricted to any of the user groups. Therefore, all user groups would see a high impact from this TDM measure.

Showers & Lockers

Bicycle showers and lockers make commuting by bicycle more convenient and reliable. These end-of-trip facilities are typically located within office buildings, and can be incorporated with other on-site amenities such as bike parking facilities or fitness centers. ATD assigns a vehicle trip reduction of up to 0.5 % for the *showers and lockers* TDM measure.

This TDM measure would have a high impact on employees because showers and lockers would almost exclusively be used by commuters to the site. Residents of the site and hotel guests would be able to shower and store items in their own unit, while retail users would not be commuting to the site. While employees of the hotel, residential units, and retail may benefit from showers and lockers, they would not be the primary user group.

Bike Share Membership

The Project sponsor will evaluate the potential for supporting MetroBike ridership by providing subsidized membership for site employees and residents. Such subsidies can encourage new riders to try MetroBike for the first time, and can also make bikeshare use an attractive and cost-competitive alternative to driving. ATD assigns a vehicle trip reduction of up to 0.5 % for the *Bike Share Membership* TDM measure.

This TDM measure would have a high impact on residents and employees at the site. Hotel users are rarely local, so a bike share membership would see little use, and retail visitors would not benefit from this TDM measure.

Bike Share Station

MetroBike, formerly BCycle, is in the process of developing a strategic expansion plan that will guide the growth of Austin’s bikeshare system in the coming years. The Project Sponsor will coordinate with MetroBike and Capital Metro to identify opportunities for locating bike share stations on site to provide flexible, shared multimodal options for site residents, employees, and visitors. ATD assigns a vehicle trip reduction of up to 0.5 % for the *Bike Share Station* TDM measure.

This TDM measure would have a high impact on all users of the site. While employees and residents would certainly benefit by the improved access, hotel users would be more likely to rent a MetroBike instead of a car if a station was nearby, and retail users, particularly those that are non-local, could more easily access the site if a bike share station was located on the premises.

Bicycle Repair Station

Bicycle repair stations can make regular bicycle commuting more reliable by providing tools that cyclists can use for making minor or major bicycle repairs and adjustments. The Project Sponsor will consider both simple outdoor do-it-yourself fix-it stations as well staffed facilities with repair technicians and a larger library of tools. ATD assigns a vehicle trip reduction of up to 0.5 % for the *Bicycle Repair Station* TDM measure.

While this TDM measure could benefit all users of the site, it would only have a high impact on residents and employees of the Project, and a low impact on the visitors to the hotel and retail uses. This TDM measure is aimed at commuters, the majority of whom will be residents and employees.

Bicycle Maintenance Services

Bicycle maintenance services could include specialized staff at on-site bicycle repair stations as well as educational events and courses that teach residents and employees how to repair and maintain their bicycles. ATD assigns a vehicle trip reduction of up to 0.5 % for the *Bicycle Maintenance Services* TDM measure.

Like the *Bicycle Repair Station*, this TDM measure is aimed at commuters, who will primarily be employees and residents of the site. This TDM measure would have a low impact on visitors to the site.

TDM Coordinator and TMA Membership

An on-site TDM Coordinator helps manage TDM program implementation and serves as a local point person for tenant travel needs. They can also provide support for annual TDM monitoring and reporting. Similarly, membership in a Transportation Management Association (TMA) would support TDM operations and provide a platform for coordination with vendors, public agencies, and Project stakeholders. ATD assigns a

vehicle trip reduction of up to 1% for the *TDM Coordinator* measure and up to 3% for the *TMA Membership* measure.

These TDM measures in and of themselves would not provide any impact to any user group. It is the combination of these TDM measures with other programmatic measures that provide direct impact. Therefore, these measures alone have been assigned no impact.

Telecommuting

Providing the option for a portion of the site's employees to telecommute would significantly help reduce vehicle trips to the site. Typically, employers allow a percentage of their employees to telecommute for part of the work week. ATD assigns a vehicle trip reduction of 2% for the *Telecommuting* TDM measure. This TDM measure would require an on-site TDM Coordinator as well as a membership in a TMA.

This TDM measure would have a medium impact on employees and residents. Employees who have the opportunity to work away from the office will not make the trip into the site, and residents who have the same opportunity will not be making the same commute during the same typical peak periods. This TDM measure does not apply to visitors to the site.

Universal Transit Pass

Subsidizing transit passes for residents and employees would incentivize regular transit usage for both regular commutes and day-to-day travel needs. ATD requires TMA membership as a prerequisite for this TDM measure, and assigns a vehicle trip reduction of up to 5% for the *Universal Transit Pass* TDM measure.

The *Universal Transit Pass* TDM measure would provide transit passes to residents and/or employees at the site. This TDM measure is focused primarily on employees, who would see a high impact, while residents would see a medium impact. This TDM measure would not apply to visitors to the site.

Sustainable Mode Subsidy

Similar to the *Universal Transit Pass* measure, a sustainable mode subsidy would incentivize biking, walking, and using shared mobility services by providing credits and subsidies for site residents and/or employees. ATD requires TMA membership as a prerequisite for this TDM measure, and assigns a vehicle trip reduction of up to 8% for the *Sustainable Mode Subsidy* TDM measure.

In the same vein as the *Universal Transit Pass* TDM measure, this TDM measure would primarily impact employees and residents of the site, with employees seeing a great impact than residents.

4 PARKING APPROACH

This chapter identifies opportunities for right-sizing the parking supply for the Project and implementing management strategies and programs that help reduce parking demand.

Parking Supply Target

The Project Sponsor will develop a parking plan for the Project that **potentially reduces total parking supply by up to 40 percent** relative to the minimum requirements identified in the City of Austin's Land Development Code (LDC). This level of reduction will support the proposed TDM plan and support the success of the overall Project vision. The full TDM plan, to be submitted concurrently with the TIA, will include additional detail about the proposed parking supply and management approach for the Project.

ATD assigns a vehicle trip reduction for reducing parking supply relative to LDC minimums based on the following formula:

$$\text{Reduction} = 25\% \times [\text{LDC parking reduction}]$$

Based on this formula, a potential 40% reduction in parking supply would correspond with a 10% reduction in vehicle trip generation. A reduced parking supply would impact all users of the site, but to varying degrees. Employees would see a high impact, with a medium impact for residents, and a low impact for visitors.

Supporting Policies

While policies for management of the site's parking supply have not yet been finalized, there are a number of options that the Project is exploring to reduce demand for the parking stock.

Priced Parking

Priced parking is one of the most potent measures for managing and reducing parking demand. The project will develop a pricing approach that supports the trip reduction goals of the project while accommodating the wide range of needs and priorities for different types of site-goers. ATD assigns a vehicle trip reduction of up to 7% for the *Priced Parking* TDM measure. This TDM measure would apply to all users of the site, but employees and residents would see a low impact while visitors would see a high impact. Employees and residents who work or live on a site with priced parking would likely have an alternate plan for access than visitors.

Unbundled Parking

Unbundled parking separates the cost of parking from other leases, which allows tenants to make a more deliberate choice about their parking and transportation needs.

Unbundled parking provides more flexibility for tenants and can support affordability by allowing tenants to opt out of paying for parking. ATD assigns a vehicle trip reduction of up to 6% for the *Unbundled Parking* TDM measure. This TDM measure would primarily

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impact employees of the site, with residents seeing a similar but lesser impact. Visitors are unlikely to see more than a low impact, but unbundled parking agreements among the land uses would have a non-zero impact on visitors whether to the hotel and retail land uses, or visitors to the offices or residences.

5 NEXT STEPS

This memorandum provides a clear TDM and parking roadmap for the project. Based on this roadmap and with the approval of ATD, the Project Sponsor will:

- Study the proposed TDM and parking strategies in greater detail
- Refine the list of TDM and parking strategies
- Finalize the trip reduction and parking supply target for the Project
- Craft a detailed TDM plan that details Project TDM and parking commitments

The full TDM plan will also include a monitoring and reporting plan, which will be designed to ensure that the TDM measures are implemented as described. During the development of the full TDM plan, the Project will also consider additional TDM and parking priorities or guidance identified by ATD.