

Downtown Triple-A Ballpark Circulation Study
Volume 1
El Paso, Texas



Prepared for
City of El Paso
El Paso Department of Transportation



Prepared by

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SECTION 1: PROJECT DESCRIPTION

INTRODUCTION

The City of El Paso is in the process of revitalizing Downtown with a series of major investment projects and initiatives. As part of these initiatives, Walter P Moore was selected on June, 2013 to provide consulting services and develop a traffic study and a Traffic Operations Plan for the currently under construction Ballpark and Convention Center area. The success and positive experience for people attending events at the new El Paso Ballpark and concurrent events at the major adjoining venues will depend on easy access to and from the Ballpark and other venues. This study documents the anticipated impacts associated with the Ballpark and concurrent events in the Convention Center area and deals with anticipated high volumes of traffic for short periods of time during these events. For the remainder of this report, Convention Center area will refer to events at the Convention Center, Abraham Chavez Theatre, and Plaza Theatre. The key focus in this study will be identifying the primary ingress and egress routes to and from the Ballpark, anticipated parking requirements for the Ballpark and other venues, transit operation and routes to serve the Downtown area, pedestrian routes, game day and concurrent event timing plans, and development of a Traffic Operations Plan for the different scenarios.

The Traffic Operations Plan was developed with the goal of reducing transportation user conflicts for the purpose of safety and traffic efficiency. The document presents traffic management strategies on how to handle transportation and parking issues related to Ballpark events and concurrent major venues in the vicinity of the Ballpark. It describes how vehicular and pedestrian activity will be controlled and how to address on street applications of traffic management despite other initiatives taking place related to the Ballpark. The City will continue to meet with the Ballpark and other affected stakeholders after the Ballpark opens to modify the plan based on the realities of traffic, parking, and pedestrian circulation. Motorists will be encouraged to take specific routes to get to and from the park during events. The Plan will identify the use of temporary traffic control and curbside management strategies in conjunction with deployment of Police Department personnel to provide priority to the established routes. The City and Ballpark will employ other strategies such as media releases, mass marketing, and electronic variable message signs to inform the public about the travel routes and parking at the Ballpark and surrounding venues. The Traffic Operations Plan can be found in **VOLUME TWO** of this report.

Construction of the Ballpark is anticipated to be complete by April 2014. Information provided by Mountain Star Sports Group, Convention Center Venues, the City and other sources will allow for this analysis and recommended mitigation measures to alleviate potential impacts. It is anticipated that transit usage, particularly Sun Metro shuttles, will be a key component in transporting people to and from the Ballpark. Other components such as foot traffic, regularly scheduled buses, and the proposed Streetcar will also be important modes of transportation. However, it is anticipated that the personal vehicle will be the significant mode of transportation to and from the Ballpark.

BALLPARK LOCATION

The Ballpark will be located in Downtown El Paso at the former City Hall site west of Santa Fe Street and east of Durango Streets between Missouri Avenue and the Bataan Memorial Trainway. The surrounding area is composed of commercial, retail, office, residential, and entertainment venues. Overall access will be by the regional and local circulation network that includes vehicular, pedestrian, bicycle, and transit modes. Regional vehicular access to the site is provided by Interstate 10, US 54, and Loop 375. Ballpark ingress and egress will use the main Downtown street network to get to and from available parking at the various public parking lots and garages. Discussion on parking is provided in later sections of this report. The location of the Ballpark is expected to draw patrons that can walk or take public transit and the future Rapid Transit System (RTS). All citywide transit terminals will provide bus service within walking distance to the Ballpark. The Ballpark location is shown in **Figure 1** and a render of the Ballpark is illustrated in **Figure 2**.



Figure 1: Ballpark location



Figure 2: Ballpark layout (rendering by Populous¹)

BALLPARK ACCESS

The El Paso Ballpark will have two entrances, one on Santa Fe Street near Franklin Street and the other on Durango Street. Based on information provided by the City, the Pedestrian Pathways project currently under construction proposes to provide access to the Ballpark from the Convention Center Main Plaza over the Bataan Trainway with pedestrian bridges and a possible future ramp to connect to the Durango Street Bridge. Access for Ballpark deliveries will be on Durango Street and a ground maintenance entry will be provided from Santa Fe Street. Adjacent to Durango Street and along west Franklin Street there will be a parking lot and on-street parking for Ballpark personnel, as well as a staging area for local news trucks and emergency vehicles.

BACKGROUND DATA

The Ballpark is currently under construction with the first year of operation scheduled for April 2014. The facility will be used for minor league baseball but will also be used for concerts and other events. Seating capacity for the Ballpark is 7600 seats with an additional 100 seats for suites and standing areas for potentially 1500 patrons. The Ballpark could also hold up to a total of 9,525 people during other events such as concerts. This information was based on discussions with the Mountain Star Sports Group.

The Ballpark games will be during weekday afternoons, weekday evenings, and varied hours during weekends. The greatest potential of impacts will occur during the weekday evening games which are expected to start at 7 pm. The patron arrival time to the game is expected to occur between 5 pm to 6 pm and will overlap with the weekday normal PM peak period. For the analysis of this study, the PM peak hour volumes were used as the highest background traffic period.

The background traffic for a weekend game is lower than weekdays and is not expected to show significant impacts for Ballpark traffic. The exception would be other concurrent events at the Convention Center surrounding area which would add to the weekend background traffic volumes; however, the 6 pm-7 pm peak hour would continue to represent the highest background traffic.

The Convention Center area hosts a variety of events during the year and each, depending on the event, can attract spectators from a few hundred to up to 12,000 fans for a concert. Due to the variety of the events in this venue, an average event attendance of 3,000 spectators will be

considered for this study. The assumption was based on the historical event data provided by the Convention Center for the year 2011-2012. Moreover, for the Plaza Theatre and Abraham Chavez Theatre, assumed attendance will be at their capacity, 2,039 and 2,500 spectators, respectively.

The study area includes a variety of parking options, from metered on-street parking to private and public parking lots and garages. There are several parking locations near the venues; however, due to the different businesses located in the surrounding area, there is no guarantee that all parking spaces will be available during a Ballpark game or an event in the major venues Downtown. In order to get the approximate occupancy expected to be available during events, parking facilities were observed at 6 pm, the expected time most people will start to arrive for Ballpark games. The following occupancy for each type of parking facility identified below was assumed:

- Public Parking Garage: 10-18% occupancy from non-Ballpark/event users
- Public Parking Lot: 10% occupancy from non-Ballpark/event users
- Private Parking Garage: 15-18% occupancy from non-Ballpark/event users
- Private Parking Lot: 10% occupancy from non-Ballpark/event users
- On-street Meter Parking: 70-90% occupancy from non-Ballpark/event users
- On-street Non-Metered Parking: 50% occupancy from non-Ballpark/event users

EVENT SCENARIOS

The City of El Paso anticipates concurrent events to take place related to the Ballpark and Convention Center area venues. In order to plan for these activities it will be important that expectations regarding event traffic are clear. Although the traffic mitigation to be deployed will overlap between scenarios, the plan will provide the commonalities between scenarios and provide specifics for each. **Table 1** indicates the three scenarios and their description are found below:

Table 1: Scenario List

Scenario ID	Venue Event
Scenario 1	Ballpark
Scenario 2	Ballpark, Convention Center, Plaza Theatre, and Abraham Chavez Theatre
Scenario 3	Street Fest

Scenario 1: Ballpark Event – This scenario will include anticipated trips to the Ballpark based on full capacity attendance at the Ballpark with no other major events in the vicinity.

Scenario 2: Ballpark plus Convention Center, Plaza Theatre, and Abraham Chavez Theatre events – This scenario includes anticipated trips to the Ballpark and concurrent events at the major trip generators such as the Convention Center, Plaza Theatre and Abraham Chavez Theatre. Although it is not anticipated that this scenario will occur as often as the Ballpark scheduled games, nonetheless, it is important to plan for this type of event.

Scenario 3: El Paso Street Festival with the closure of Santa Fe Street during the event – This event occurs once per year and is an event that closes certain streets near the Ballpark and surrounding venues. The organizers of this event will work with the Ballpark to schedule this event during away games to avoid a major impact on traffic and circulation that would disrupt the flow of traffic due to the street closures.

SECTION 2: STUDY AREA AND GOALS

STUDY AREA

The study area is bounded by Arizona Avenue to the north, Durango Street to the west, Campbell Street to the east, and Paisano Drive to the south. Intersection analysis was conducted at 87 intersections to determine the special event timing plans for the different scenarios. The study area is shown in **Figure 3**. The City of El Paso determined that having a Triple-A Baseball team would be an economic development opportunity for the City. Over the next few years extensive development is expected to occur in Downtown. Many of the projects will be under construction during the first few years of Ballpark operations that will affect game day operations. As a result, updates to the Traffic Operations Plan will be necessary to keep up with transportation changes in response to new development.

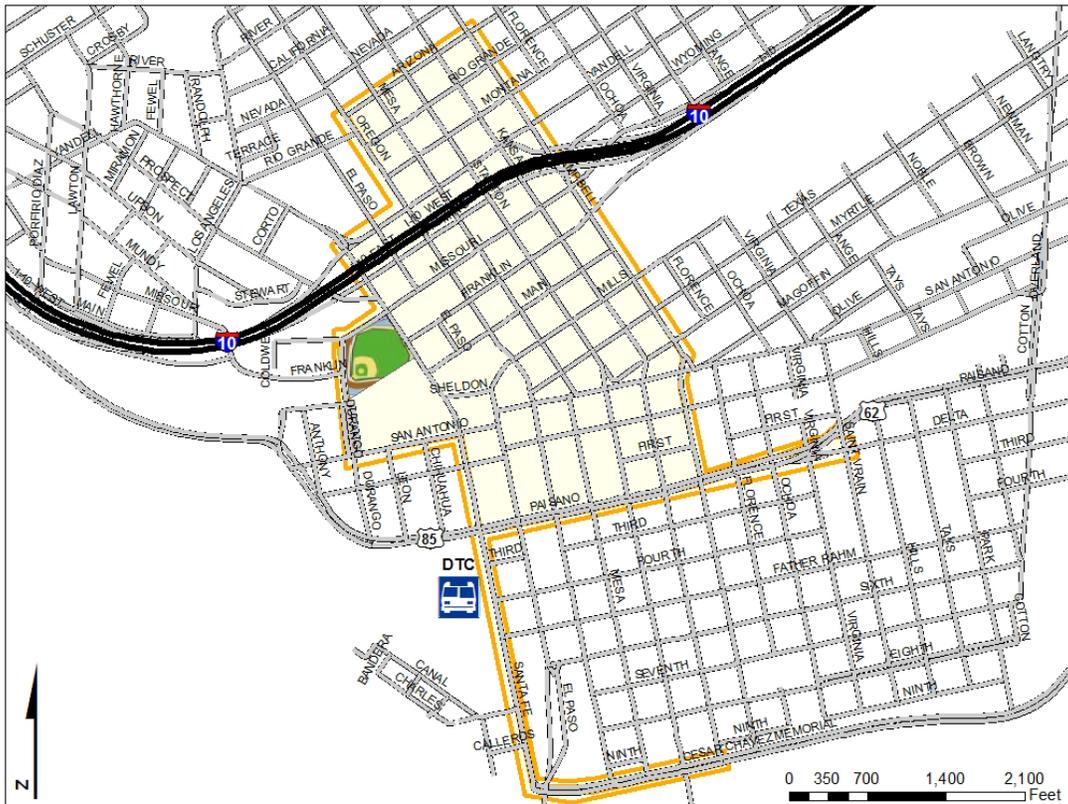


Figure 3: Study Area

STUDY GOALS AND OBJECTIVES

A number of goals and objectives have been identified for the study to make sure that the regional and local transportation systems operate as efficiently as possible to meet the following goals:

- Manage traffic to ensure pedestrian and traffic safety
- Create a pleasant and safe walkable environment
- Provide high quality public transportation access and options
- Operate the transportation system efficiently to ensure downtown event visitors have a good experience coming to and departing from the area
- Direct motorists to parking areas based on approach routes
- Ensure efficient operations of the Ballpark
- Modify signal timing plans to accommodate new traffic patterns and volumes

SECTION 3: METHODOLOGY

The following methodology was used in the development of this study:

Data Collection –This task included the review of existing conditions and previous parking and traffic studies prepared by the City of El Paso, Downtown Management District (DMD), and other consultants. Also included was the review of ongoing pedestrian pathway and wayfinding studies, transit projects, and planned roadway projects. El Paso Department of Transportation (EPDOT) provided 24-hour counts taken during events at the Convention Center, signal timing information, the current Downtown Synchro model, and parking inventories.

Parking Inventory – A parking inventory was done to determine the location of parking facilities around the Ballpark and to update previous parking studies done by the City and DMD. Data and information about planned projects in the study area were provided by the City’s Engineering and Construction Management Department, EPDOT, and City Development Department. Data was also obtained from the Plaza Theatre and Convention Center events.

Venue Capacity and Attendance – In order to plan for the different scenarios, a review of the capacity and attendance of each major venue was conducted. The venues researched were the Convention Center, the Plaza Theatre, the Abraham Chavez Theatre, and the Ballpark. For the Plaza Theatre and Abraham Chavez Theatre, the total capacity of each venue was assumed at 2,500 and 2,039 spectators, respectively. For the Convention Center event, a different approach was taken. The Convention Center has a wide variety of events that can hold crowds from a few hundred up to approximately 12,000 spectators for a concert. For this study, attendance data was analyzed from the list of events at the Convention Center for the year 2011-2012 in order to determine the average event attendance. Large events occur less frequently and this plan will focus on the average everyday type of event. It was determined that approximately 3,000 spectators attend an average event at the Convention Center. For the Ballpark, the maximum attendance of 9,525 fans was used. **Table 2** shows the capacity used for this study.

Table 2: Venue Capacity

Venue	Capacity
Ballpark	9,525 fans
Convention Center	3,000 spectators
Plaza Theatre	2,039 spectators
Abraham Chavez Theatre	2,500 spectators

Trip Generation – Once the venue capacity and attendance was determined, the parking demand for each venue and their staff was calculated. A previous traffic study for the Ballpark recommended a vehicle occupancy rate between 3.0 to 3.5 passengers per vehicle based on an informational report from the Institute of Transportation Engineers (ITE) titled *Traffic Operations Planning for Stadia and Arenas*². The rate used to estimate the number of vehicles attending a Ballpark game was 3.5 passengers per car. An occupancy rate of 3.0 passengers per vehicle was used for the Convention Center, Plaza Theatre and Abraham Chavez Theatre. Furthermore, staff was also included as a part of the trips generated by each venue. For staff, an occupancy rate of one person per vehicle was assumed.

Mode Choice – Ballpark patrons and spectators can arrive to the events by different means of transportation; therefore, a travel mode split was conducted. Based on conversations with EPDOT and by the typical travel patterns of the residents of the City of El Paso, it was estimated that 87% of the trips would be done by vehicle, 11.5% by transit, 1% by walking, and 0.5% by biking. **Table 3** shows the mode choice distribution.

Table 3: Mode Choice Distribution

Mode	% Users
Vehicle	87.0%
Transit	11.5%
Walking	1.0%
Biking	0.5%

Trip Distribution – Once the number of trips was determined, a trip distribution was assigned for each scenario. This was based on the traffic patterns reflected by the traffic counts provided by the City of El Paso. The majority of the traffic will use IH 10 to get to the different parking locations. **Figure 4** and **Figure 5** illustrate the basic trip distribution used for Scenario 1 and 2 as people are entering and exiting Downtown, respectively. Another distribution was done for Scenario 3 since Santa Fe Street will be closed and vehicles will use other streets to arrive to their destination. **Figure 6** and **Figure 7** illustrate this trip distribution. Detail trip distribution in the downtown grid can be found in **TAB ONE** of the **APPENDIX**.

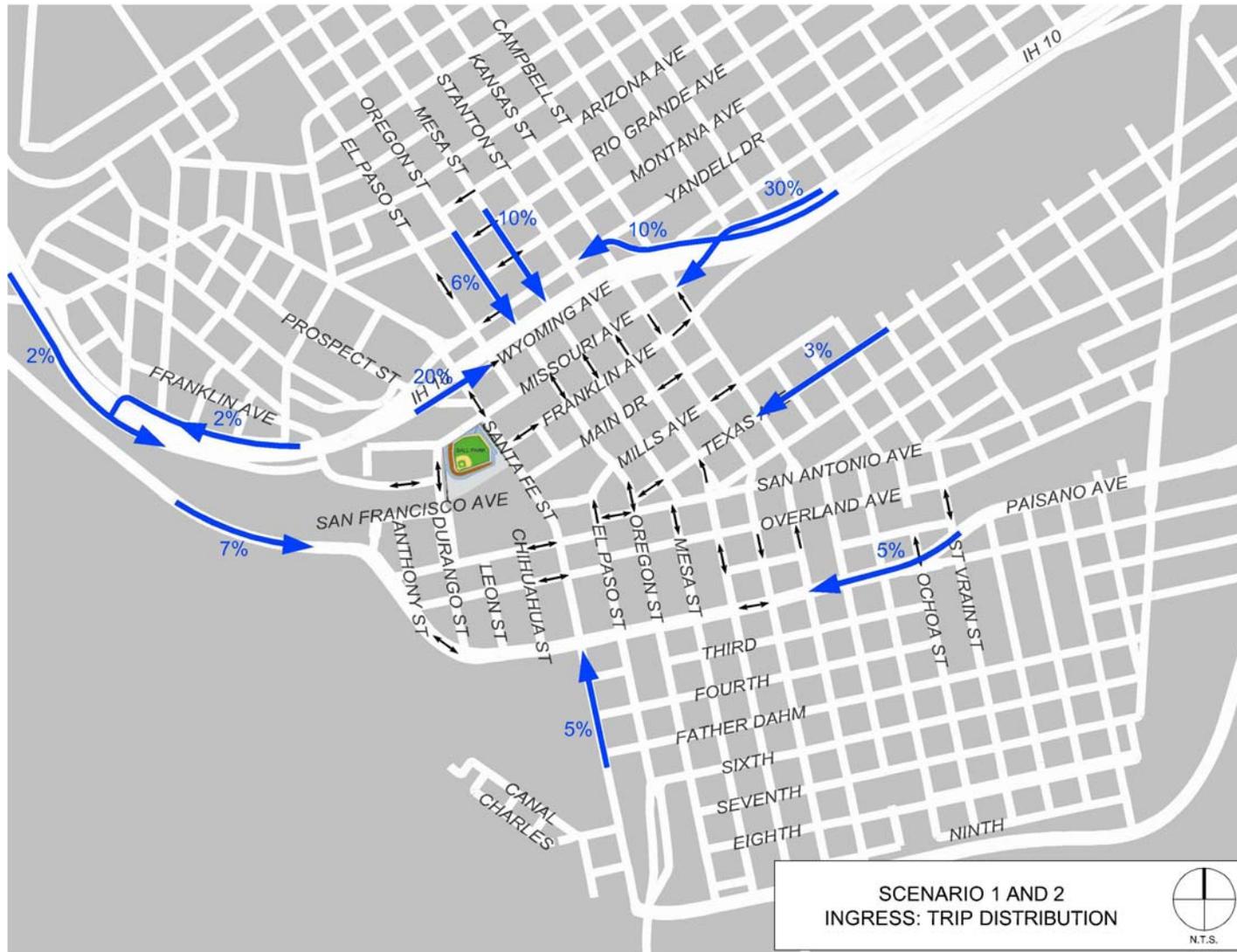


Figure 4: Scenario 1 and 2 Ingress Trip Distribution



Figure 5: Scenario 1 and 2 Egress Trip Distribution

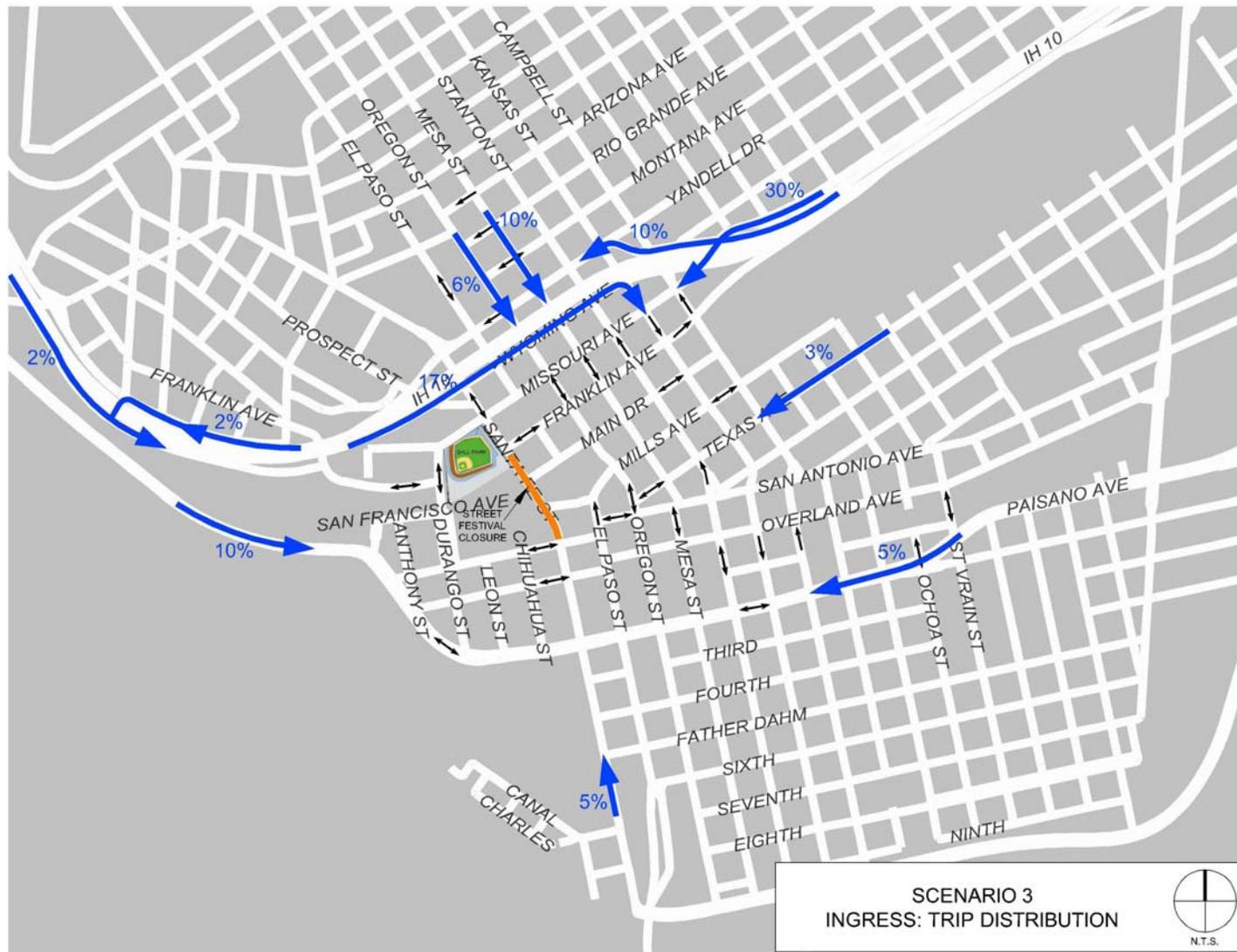


Figure 6: Scenario 3 Ingress Trip Distribution

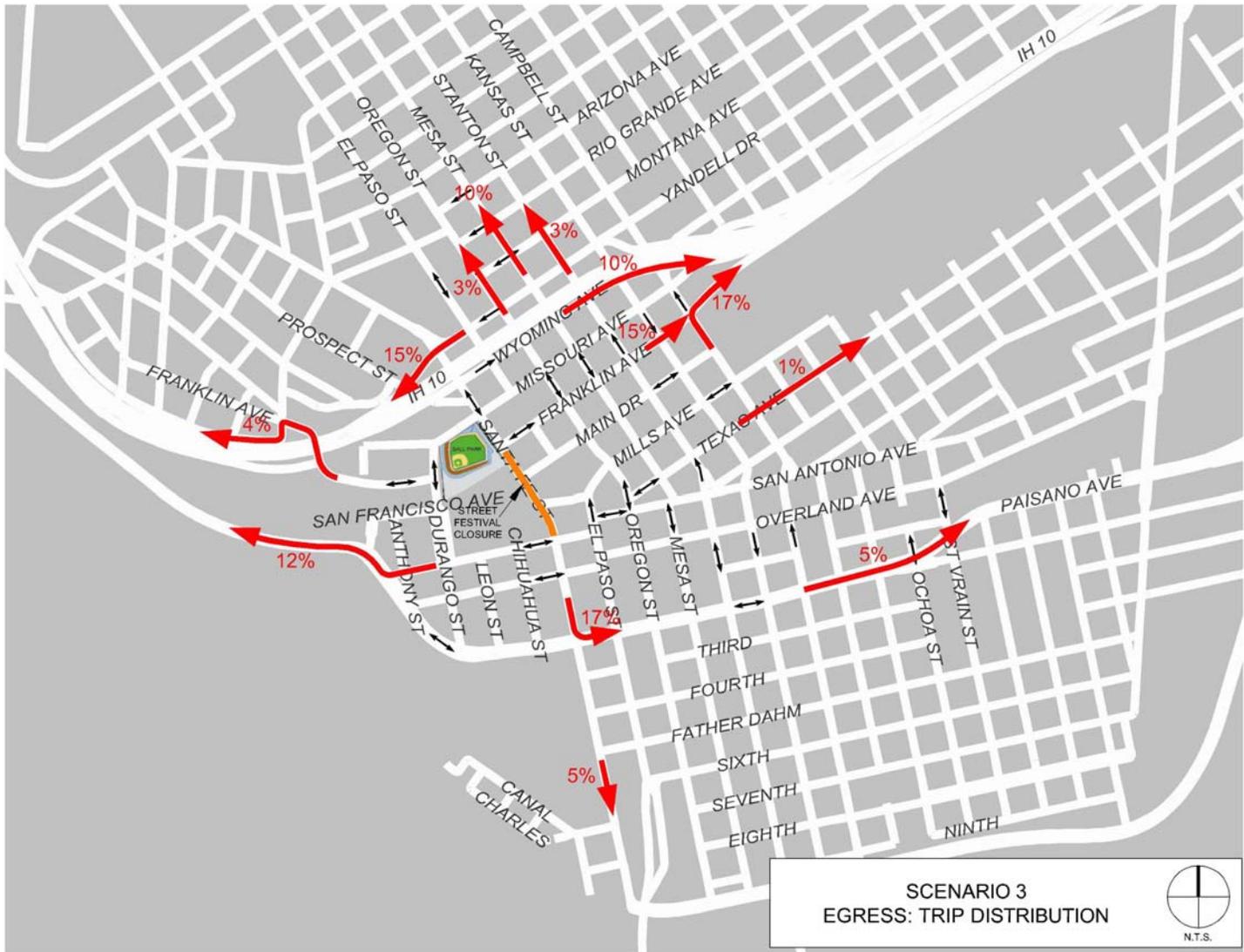


Figure 7: Scenario 3 Egress Trip Distribution

Capacity and Signal Timing Analysis – Once all information was obtained and estimated, the Synchro 8 traffic model was used to determine the critical intersections for each scenario. The City provided their Downtown traffic Synchro model. The model was then verified by field observation and updated to reflect existing conditions. The proposed special event Synchro models and time sheets are expected to be completed by Ballpark opening day. For the Scenarios 1 and 2 analyses, the PM traffic model and volumes were used as the base traffic for the ingress timing and the average traffic model volumes for the egress timing. For Scenario 3, which is the special event that closes Santa Fe Street, the average traffic volumes were used for the ingress and for the egress; however, there was a 50% reduction of traffic base volumes for the egress model because the event end-time occurs between 1:00 am to 2:00 am.

Develop the Traffic Operations Plan – Once the signal timing plans were developed for each scenario and the critical intersections were identified, a task force was created to discuss possible solutions and recommendations to these intersections. The purpose of the task force was to inform the various stakeholders in the study area about the objectives and goals of the study and provide feedback from previous or similar scenarios that had occurred in the Convention Center area. The task force included members from the El Paso Police Department, El Paso Fire Department, Sun Metro, EPDOT, El Paso Convention and Visitors Bureau, and Mountain Star Sports Group. Each scenario was discussed and mitigation strategies were presented and analyzed to improve vehicle mobility and pedestrian safety. It is expected that this team continue to meet prior to the Ballpark opening day to coordinate scheduling of overlapping major events. The team will also meet on a regular basis once the Ballpark games begin to review the parking and traffic issues to allow for continual improvements.

SECTION 4: VENUES AND PARKING

VENUES

The Downtown area of the City of El Paso has a variety of businesses, from small local shops to top brand commercial chains, restaurants, banks, civic spaces, museums, theaters, and a Convention Center, to name a few. All of these venues attract business and people at different times of day. The majority of the regular business traffic Downtown occurs between 8 am to 5 pm. Events in the Downtown area are common throughout the year and major events typically occur at venues with higher capacity such as the Plaza Theatre, the Abraham Chavez Theatre and the Convention Center. The worst case scenario included concurrent events at the Convention Center area plus the Ballpark and is identified as Scenario 2. A survey was sent to major venues that included the Museum of Art, the Museum of History, the Scottish Rite Temple, and the Downtown Management District (DMD), who is responsible for coordinating major events in Downtown. From this survey, it was determined that the venues that attract the most people are the Plaza Theatre, the Abraham Chavez Theatre, and the Convention Center. There are several events that occur once or twice a year that attract thousands of people but this report will focus on more typical conditions. It is very unlikely that all of the venues will have an event with the projected capacity occurring at the same time; therefore, other venue events not included in the Convention Center area are accounted for in Scenario 2. It is important to mention that schedule coordination between venues must occur to minimize concurrent events as much as possible.

As mentioned before, for the Plaza Theatre and Abraham Chavez Theatre, the capacity of each venue of 2,500 and 2,039 spectators, respectively, was used. For the Convention Center event, it was determined that approximately 3,000 spectators attend an average event at the Convention Center. In addition, for the Ballpark, the maximum attendance of 9,525 fans will be used. All venues were contacted to obtain the approximate number of staff for events to include them in the trip and parking calculations.

PARKING

The purpose of the parking assessment was to identify the parking demand and supply for the Ballpark under typical event conditions and concurrent full capacity events at the Convention Center

area. Parking supply in the surrounding area was reviewed to determine opportunities and parking constraints. A parking inventory was conducted based on a 20 minute (six blocks) walking time boundary and based on the current roadway network and standard walking speed.

There is a wide variety of on and off-street public parking available for proposed Ballpark and Convention Center area event attendees. Parking is generally permitted on most Downtown streets and parking meters are installed at many on-street parking spaces, especially within the Downtown core. Most of the parking meters are one or two-hour meters, with typical operating hours of 8 am to 6 pm, Monday through Friday.

The Parking Supply and Demand Analysis report is not a comprehensive parking study, nor does it make recommendations on how the City of El Paso should manage its parking supply and demand. The purpose of parking assessment was to:

- Estimate the existing private and public parking supply in the Downtown study area for the Ballpark and Civic Center events
- Collect and analyze parking demand and utilization data in the Downtown study area
- Identify whether or not there is an observed shortfall of parking in the Downtown study area

Existing Parking Conditions

A survey of the parking lots and garages was conducted to determine if any major changes had occurred from the previous parking studies supplied by the City and the Downtown Management District dated February 3, 2013. It was determined that some garages had fewer spaces than what was accounted for on the parking inventories based on information provided by the Convention Center and Union Plaza Transit Terminal (UPTT) garage representatives. Parking availability after 6 pm at the major public garages close to the Ballpark was also evaluated on August 8, 2013 and it was determined that there is approximately 80% availability at the garages due to people staying late to work or leaving their cars in the garage to attend events Downtown. **Table 4** summarizes all the parking facility occupancy that was observed for availability.

Table 4: Effective Parking Capacity

Parking Facility	Total Capacity (spaces)	Expected Occupancy	Effective Capacity (spaces)
Public Parking Garage	3,574	10-18%	3,140
Public Parking Lot	1,223	10%	1,034
Private Parking Garage	4,171	15-18%	3,503
Private Parking Lot	1,802	10%	1,593
On-Street Parking	126	50%	64
Meter Parking	1,291	70-90%	279
TOTAL	12,187	-	9,613

PARKING SUPPLY

Parking supply in the surrounding area was reviewed to determine opportunities and parking constraints. A parking inventory for a 20 minute (6 block) walking time boundary indicates that there are over 6,263 public parking spaces including on street metered parking, surface lots, and parking garage structures. Approximately 200 parking spaces will be allocated for the Ballpark to include players, management, and VIP. These spaces will be located along west Franklin Street and the West Franklin former City Hall parking lot. Parking for Ballpark patrons and Convention Center attendees will be directed to use public parking garages and any available surface and on-street parking on a first-come first-served basis. Private parking was not accounted for in this plan since it is still unknown if private parking will become available for the public.

The anticipated Ballpark parking demand projections were based on the following factors: Vehicle occupancy, travel modes, full capacity game attendance, patron arrival patterns, and surrounding land uses. The assumptions were based on information provided by Ballpark owners group and observations from other Triple-A teams. The peak parking demand is 2,653 spaces, including staff, during the weekday evening game. The demand is mainly fan-based assuming 87% auto mode split and a 3.5 persons per vehicle occupancy. In addition the Convention Center, Plaza Theatre, and Abraham Chavez Theatre will attract 927, 619 and 753 vehicles respectively. **Table 5** shows the parking demand calculation for each venue for spectators and staff. **Table 6** depicts the expected parking demand for each scenario.

Table 5: Parking Demand Calculations for Each Venue

Demand Factors	Ballpark	Convention Center	Plaza Theatre	Abraham Chavez
Spectator Capacity	9,525	3,000	2,039	2,500
Auto Mode Split	87%	87%	87%	87%
Vehicle Occupancy Rate	3.5	3.0	3.0	3.0
<i>Spectator Parking Demand</i>	<i>2,368</i>	<i>870</i>	<i>591</i>	<i>725</i>
Staff	~300	~60	~30	~30
Auto Mode Split	95%	95%	95%	95%
Vehicle Occupancy Rate	1.0	1.0	1.0	1.0
<i>Staff Parking Demand</i>	<i>285</i>	<i>57</i>	<i>28</i>	<i>28</i>
Total Parking Demand	2,653	927	619	753

Table 6: Peak Hour Parking Demand per Scenario

Scenario	Parking Demand (spectator + staff)
Scenario 1	2,653
Scenario 2	4,952
Scenario 3	2,911

PARKING FACILITIES

Several parking facilities are found within the study area. To better illustrate the available parking facilities, the study area was divided into three zones: north, center, and south. Public and private parking garages in the vicinity of the Ballpark and major surrounding venues are shown in **Figure 8** to **Figure 10**. The north zone is bounded by Arizona Avenue to the north, IH 10 to the south, Campbell Street to the east and El Paso Street to the west. The center zone is the core of Downtown bounded by IH-10 to the north, Paisano Drive to the south, Campbell Street to the east and Durango Street to the west. Finally, the south zone is bounded by Paisano Drive to the north, Loop 375 to the south, Campbell Street to the east and Santa Fe Street to the west. The public garages are mainly used for events at the Convention Center, Plaza Theatre, Abraham Chavez Theatre, and Entertainment District, however, the proximity of the Ballpark will make these garages attractive parking alternatives for Ballpark patrons. Detailed parking information can be found in **TAB TWO** of the **APPENDIX**.



Figure 8: Parking facilities for North Zone

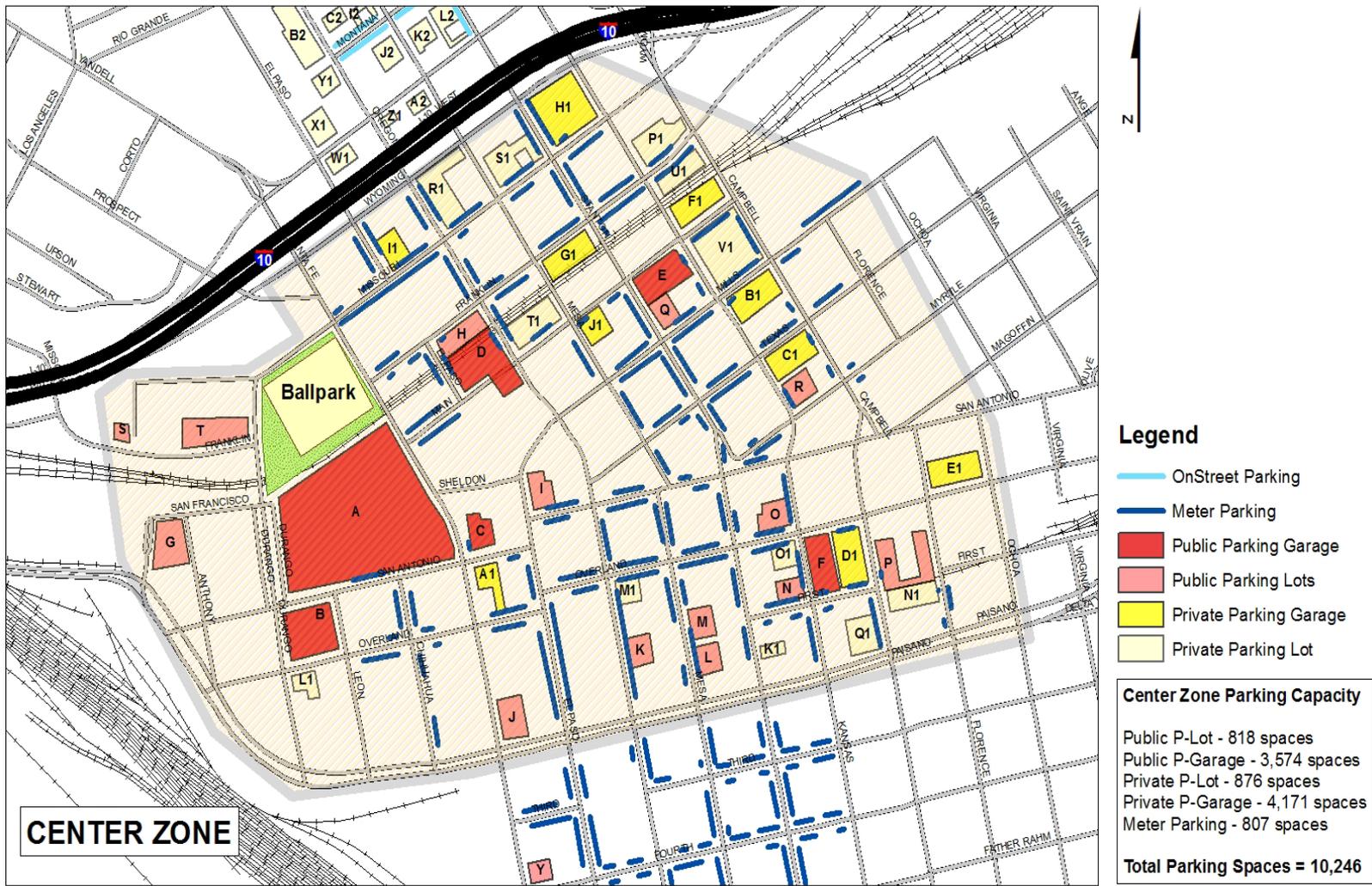


Figure 9: Parking facilities for Center Zone

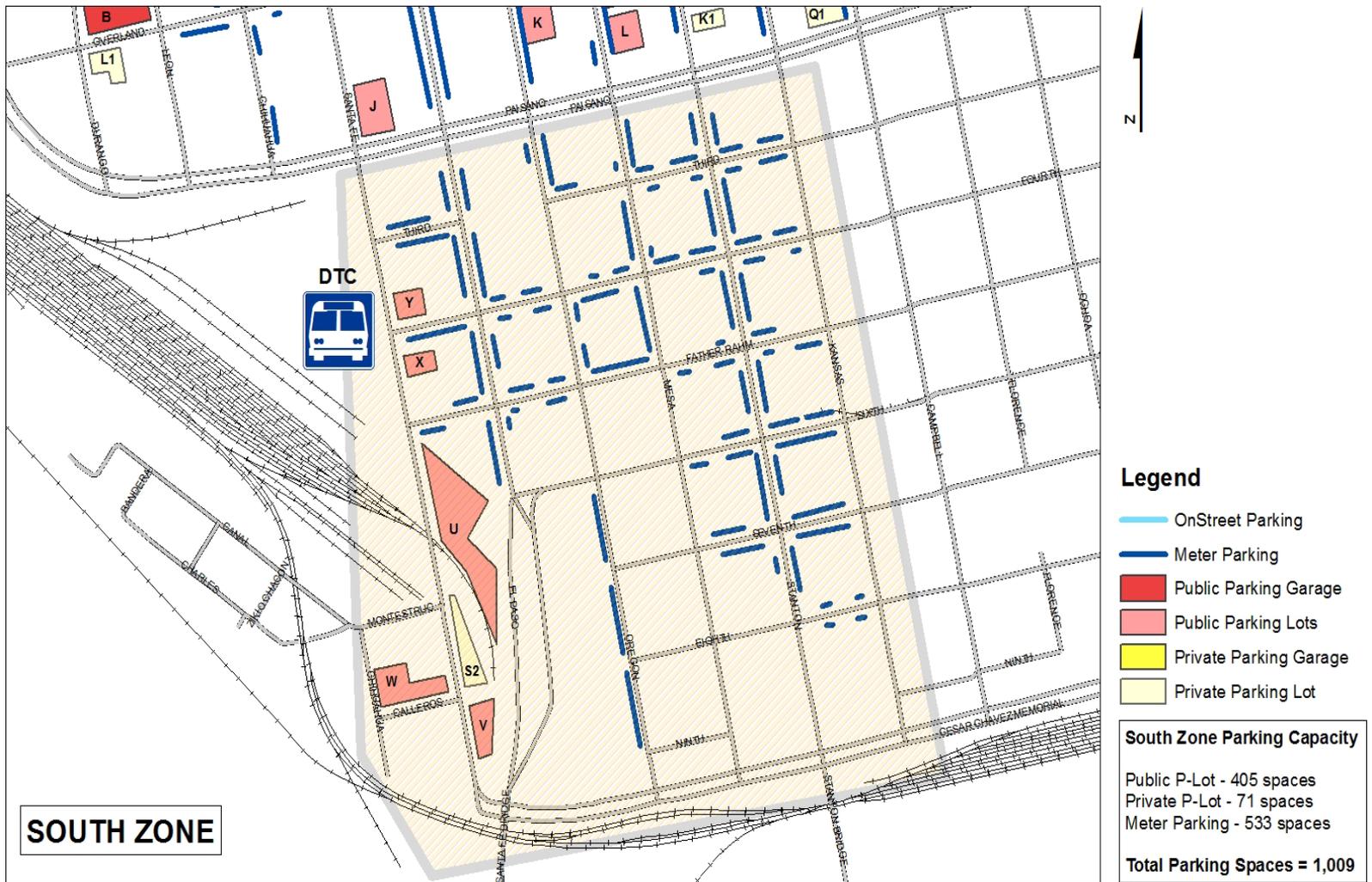


Figure 10: Parking facilities for South Zone

Parking is generally permitted on most Downtown streets and parking meters are installed at many on-street parking spaces, especially within the Downtown core. Most of the parking meters are one or two-hour meters, with typical operating hours of 8 am to 6 pm, Monday through Friday. On-street parking is free after 6 pm on weekdays and free all day on weekends.

The City currently has installed static parking wayfinding signs as a means of providing information to transportation users on routes to public parking locations. There are a total of 14 signs located at key locations in the Downtown core. **Figure 11** depicts the locations of the existing parking wayfinding signs.

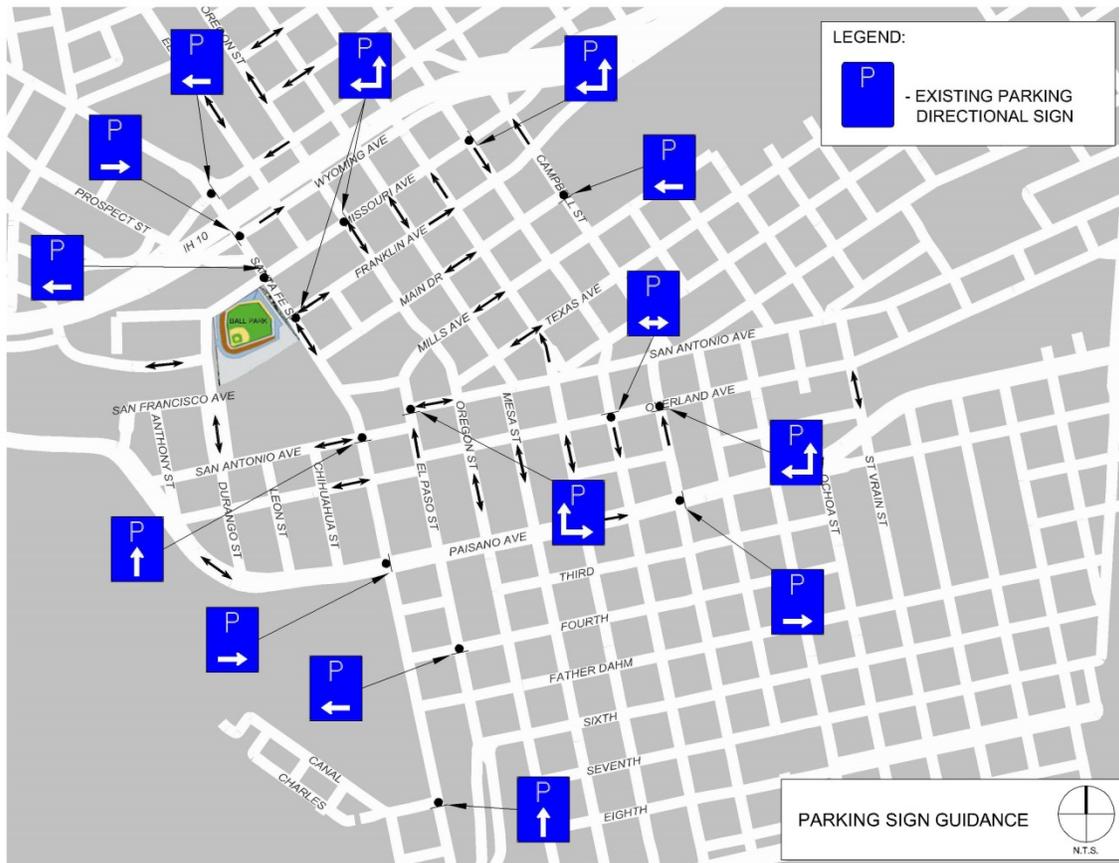


Figure 11: Existing Parking Wayfinding Signs

It has been recommended as part of the Traffic Operations Plan to include Portable Changeable Message Signs (PCMS) at key streets to supplement and inform the public of the different parking options available Downtown. This information can be seen in the Traffic Operations Plan.

SECTION 5: MASS TRANSIT

There is an extensive transit system that serves Downtown with major bus routes on arterial and collectors that provide access into and out of Downtown. The Downtown Transit Terminal is located on Santa Fe Street between 3rd and 4th streets within a half mile of the Ballpark. The Downtown terminal will become the major hub for all bus routes coming from other transit terminals from outlying areas of the City into Downtown. Sun Metro proposes to have Rapid Transit System (RTS) and the future Streetcar stops directly across the street from the Ballpark along Franklin Street. It is expected that the construction of the Mesa and Alameda RTS should be completed after the Ballpark opening day. In addition, several bus routes are within walking distance to the Ballpark. It is anticipated that the expansion of the transit system will increase capacity to serve the expected Ballpark crowds. **Figure 12** shows the transit facilities serving the Ballpark area.

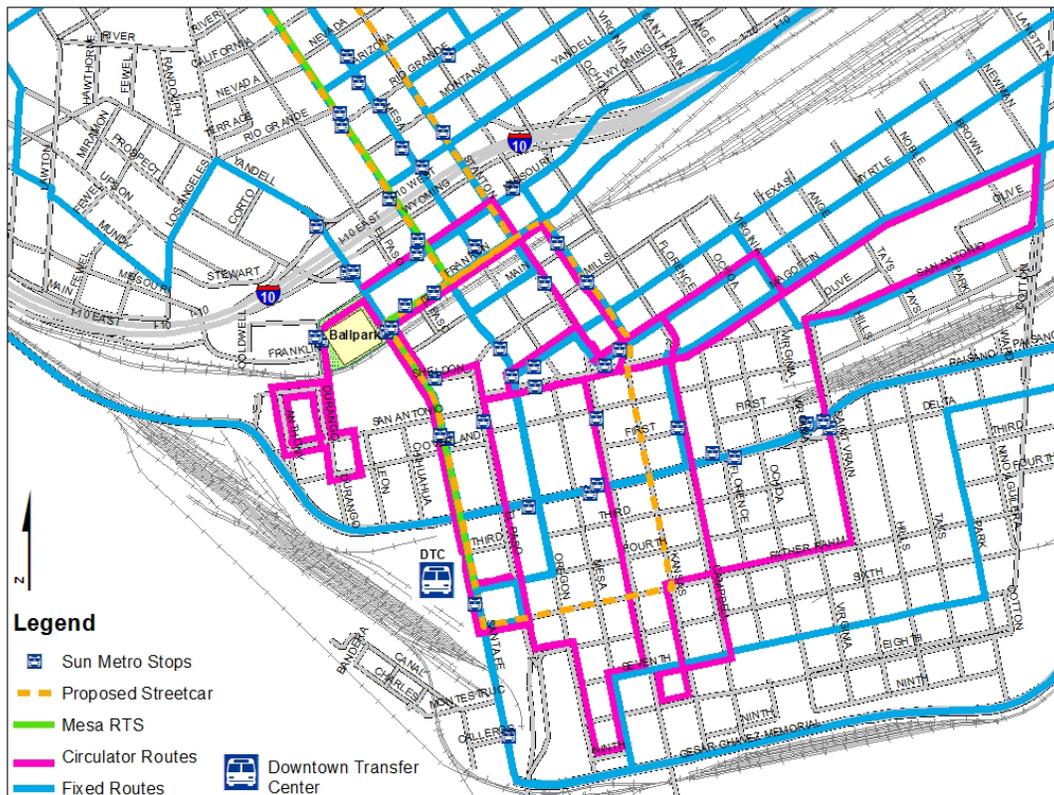


Figure 12: Transit Map

Streetcar – The future Streetcar will connect the University area on the north through Downtown and will become an important travel alternative to bring fans to and from the Ballpark from both the Glory Road Transit Terminal and the Downtown Transit Terminal.

Shuttle Buses – Sun Metro plans to provide from eight to ten shuttle buses to the Ballpark on scheduled departures from the park and ride transit terminals as shown in **Figure 13**. Pedestrians are typically willing to walk approximately ¼ mile to the nearest bus stop or approximately a five-minute walk. If the stops are within a few blocks of the Ballpark, commuters are more likely to use the shuttle system. Information on departure schedules and cost will be posted on the Sun Metro Website⁹.

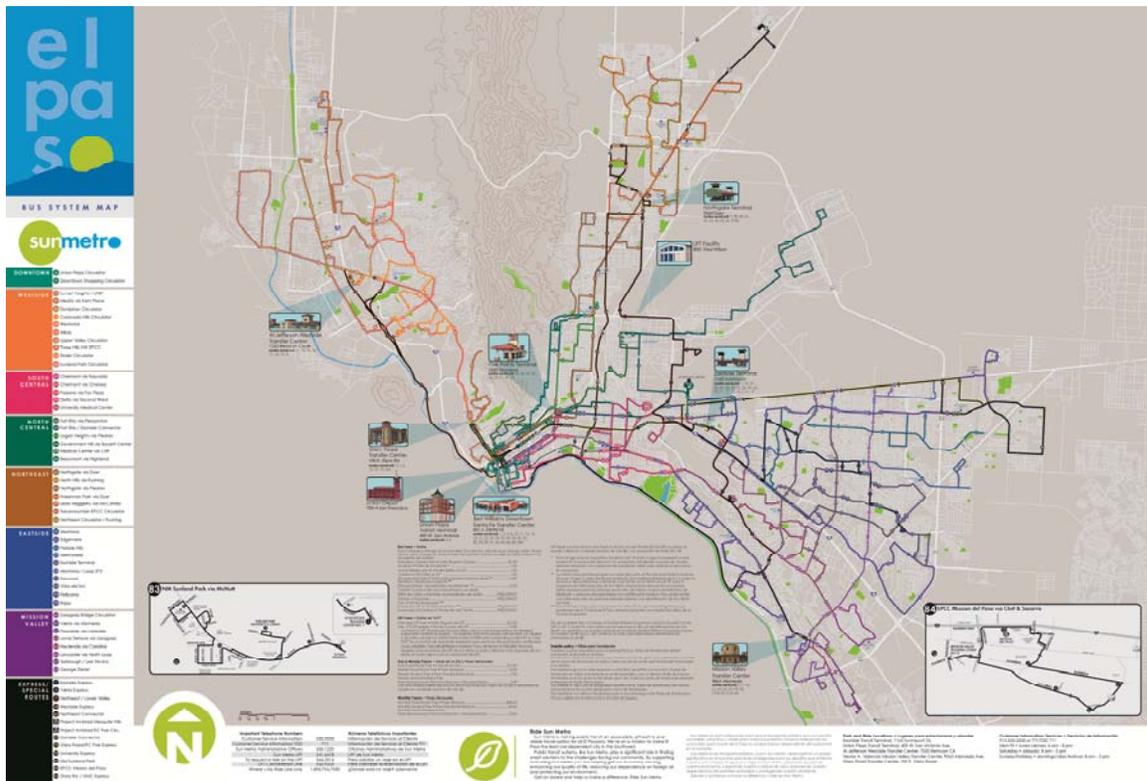


Figure 13: Sun Metro Transit Terminals (Map from Sun Metro website⁹)

Shuttle buses will drop off and pick up passengers along Oregon Street between Missouri Avenue and Wyoming Avenue as shown in **Figure 14**. During games, Sun Metro plans to stage the buses at the Union Depot. Approximately one hour before the game ends the buses will return to the designated passenger pickup area along Oregon Street. As the season progresses, Sun Metro will evaluate the shuttle ridership and make adjustments as needed to accommodate the ridership demand.

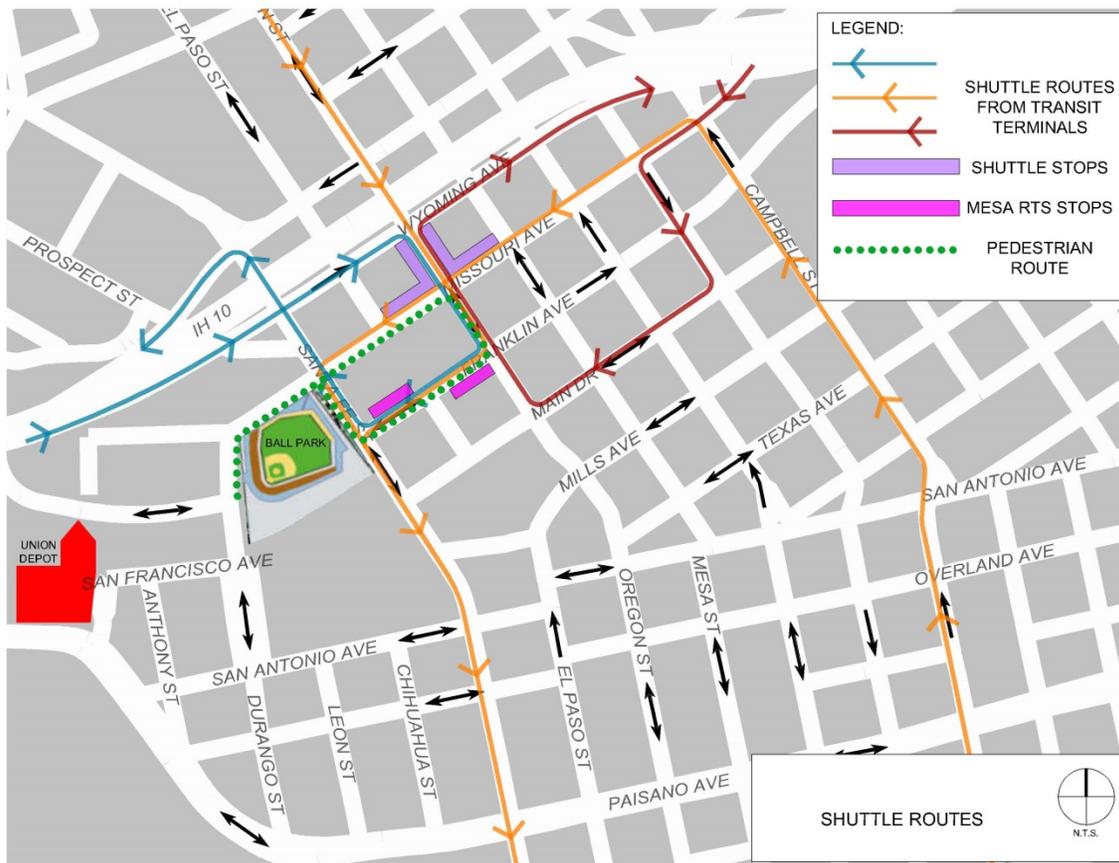


Figure 14: Proposed Sun Metro Ballpark Game Shuttle Routes

Rapid Transit System – Sun Metro also plans to use the Rapid Transit System (RTS) to complement the shuttle buses during game days. The Mesa RTS is scheduled to be completed a few months after the Ballpark opening day. Sun metro plans to replace the shuttle that will depart from the west

side Transit Terminal with the Mesa RTS. Stops for the Mesa RTS will be located along Franklin Avenue between Santa Fe Street and Oregon Street.

Downtown Circulator Routes – Sun Metro currently has two free circulator routes that provide a quick and efficient way to travel within the Downtown core. Route 9 is available every 15-20 minutes between 7:00 am-6:30 pm Monday-Friday, 8:00 am-5:30 pm on Saturdays and 9:00 am-5:30 pm on Sundays. Route 4 is available every 20 minutes between 6:15 am and 7:00 pm Monday-Friday, every 25 minutes between 8:00 am-7:30 pm on Saturdays, and every 45 minutes on Sundays between 9:00 am-5:30 pm.

The free circulator buses will be intermixed with regular buses that will continue to operate during game days. The current weekday fixed route hours of operation are from 4 am to 11 pm with bus capacity of approximately 50 passengers. There has been discussion with Sun Metro to extend the hours of service on game days. For most of the fixed routes, the Saturday routes operate from 5:00 am – 11:00 pm and Sunday from 6:00 am – 11:00 pm.

The free Downtown circulator bus service can be an important way of getting people to and from the Ballpark from parking areas. **Figure 15** illustrates the coverage area of the free circulator route and all the parking facilities within the study area.

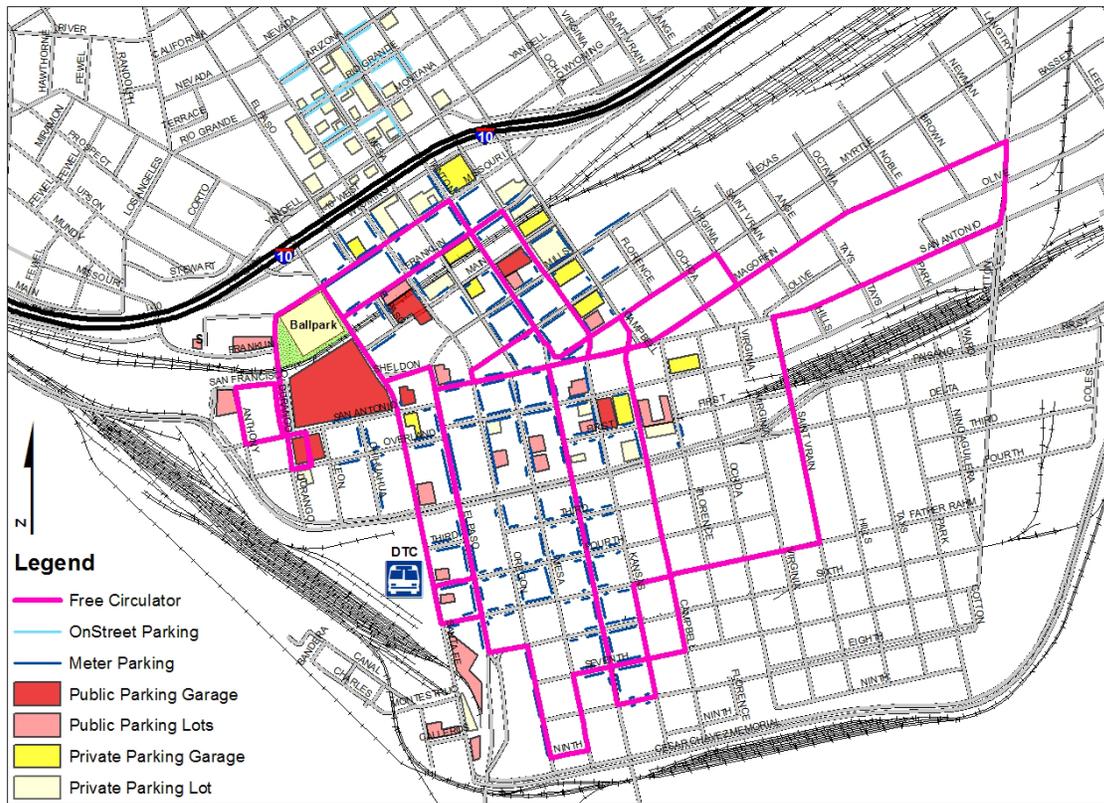


Figure 15: Free Downtown Circulator Route with Parking Locations

PEDESTRIAN PATHWAYS AND ROUTES

Several preferred pedestrian routes have been identified for Ballpark and other event attendees. These routes compliment the Pedestrian Wayfinding project currently under construction by the Downtown Management District. This project will provide kiosks, signage, and other amenities to help direct visitors to parking, museums, restaurants, and other venues within the Downtown area. **Figure 16** illustrates the preferred pedestrian routes and the Pedestrian Pathway and Wayfinding project currently under construction.

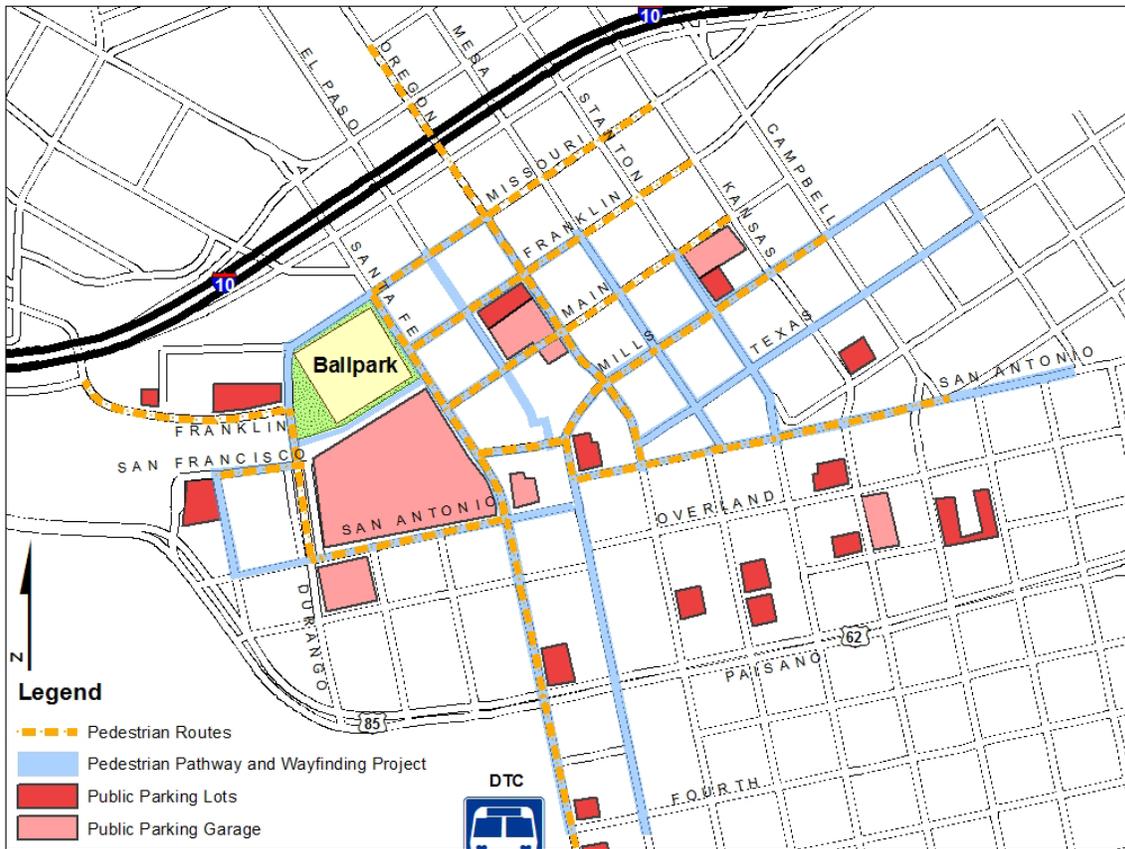


Figure 16: Pedestrian Routes with Pedestrian Pathway and Wayfinding Study Routes

Construction of the Pedestrian Pathway project is underway with plans to complete several phases by Ballpark opening day. These pathways will serve to connect roadway and sidewalk networks from the Arts District to the Union Plaza Entertainment District and will also provide a direct connection to the eastern entrance of the Ballpark over the railroad from the northern boundary of the Convention Center. The immediate phases include roadway and sidewalk improvements on Santa Fe Street, Durango Street Bridge, and Main Drive between Santa Fe and El Paso Street.

The Durango Street Bridge will be converted from four lanes of travel to two lanes, one in each direction, to accommodate a wider pedestrian walkway to and from the Ballpark. Main Drive will undergo changes that will provide additional sidewalk due to the expected high pedestrian usage of this street. In addition, the south side angled parking will be converted to parallel parking. Travel

lanes will continue to be one lane in each direction. Missouri Avenue will become a one-way, one-lane road from Santa Fe Street to Durango Street and may be closed during Ballpark events. Closures will need to be approved by the City of El Paso.

Santa Fe Street will have four lanes of travel, two in each direction from Wyoming Avenue to Main Drive. In addition, at the intersection with Main Drive, the southbound deceleration lane and the northbound right-turn lane will be removed and converted into sidewalk as part of the Pedestrian Pathway project. **Figure 17** shows a rendering of the project as prepared by SWA Landscape Architects for the City of El Paso.

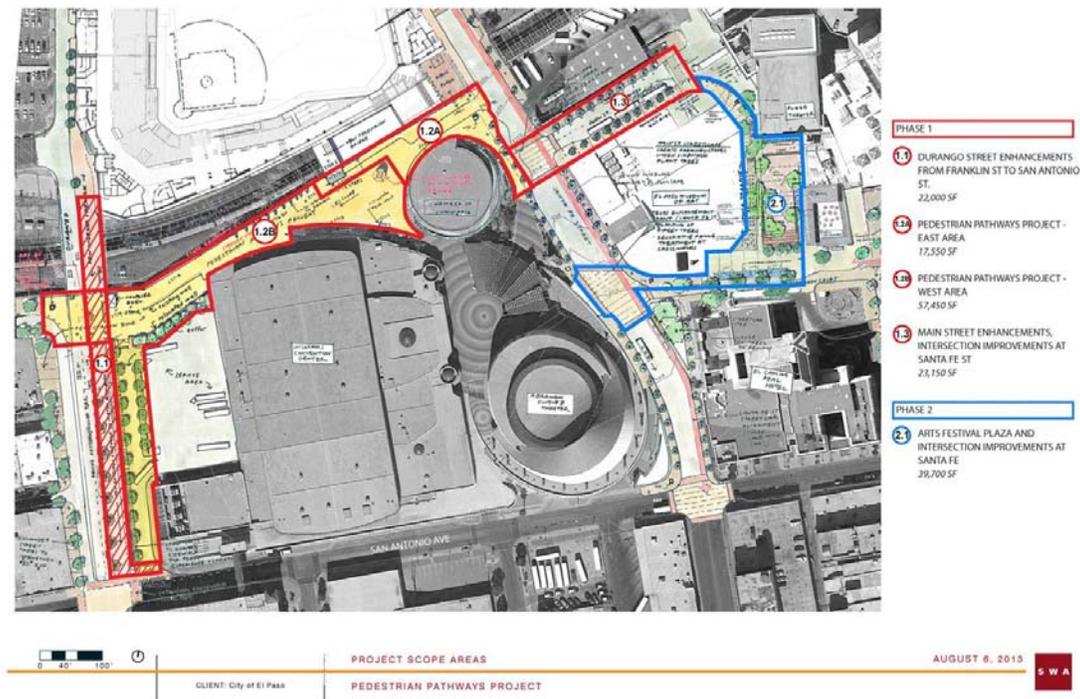


Figure 17: Pedestrian Pathway Project (rendering by SWA⁴)

SECTION 6: INGRESS AND EGRESS

EVENT INGRESS AND EGRESS ROUTES

State and local roadways provide a number of access points to parking for the Ballpark and Convention Center area. Entering traffic primarily accesses Downtown from IH 10 west via Wyoming Avenue and Porfirio Diaz Street and from IH 10 east via Missouri Avenue and Yandell Drive. Other access to Downtown includes Loop 375 from the south via Santa Fe Street and Kansas Street, and Paisano Drive from both the east and west directions. Access from the north includes mainly Mesa Street and Oregon Street. Downtown has an excellent street network system that allows vehicles to travel throughout the Downtown area utilizing one-way couplets that help increase accessibility and allow more efficient signal coordination while moving more vehicles per lane. These routes are heavily used by people driving to the Convention Center and Downtown events and it is anticipated that Ballpark patrons will be using the same routes.

Because of the good grid system located Downtown, the exiting traffic will be able to utilize the ingress routes as the exit streets. Exiting traffic will be able to access IH-10 via Franklin Avenue, Santa Fe Street and Wyoming Avenue. In addition, Paisano Drive can also be used for patrons coming from the east or west part of town. For people coming from the north of IH-10, Oregon Street, Mesa Street and Stanton Street will be available as an exit route.

Preferred ingress and egress routes that event patrons may use when traveling by vehicle to and from the Ballpark and major surrounding venues are shown in **Figure 18** and **Figure 19**.

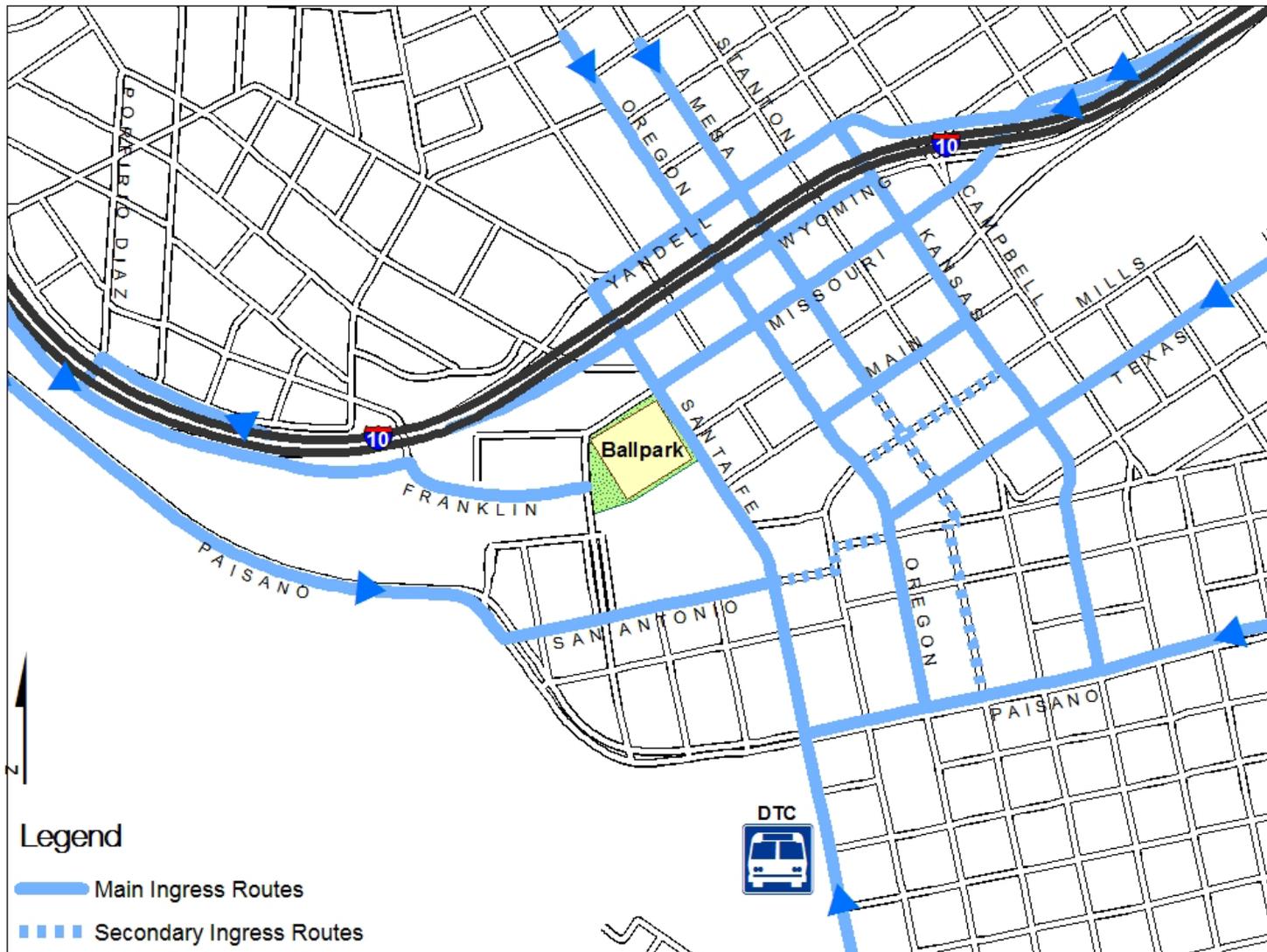


Figure 18: Ingress Routes

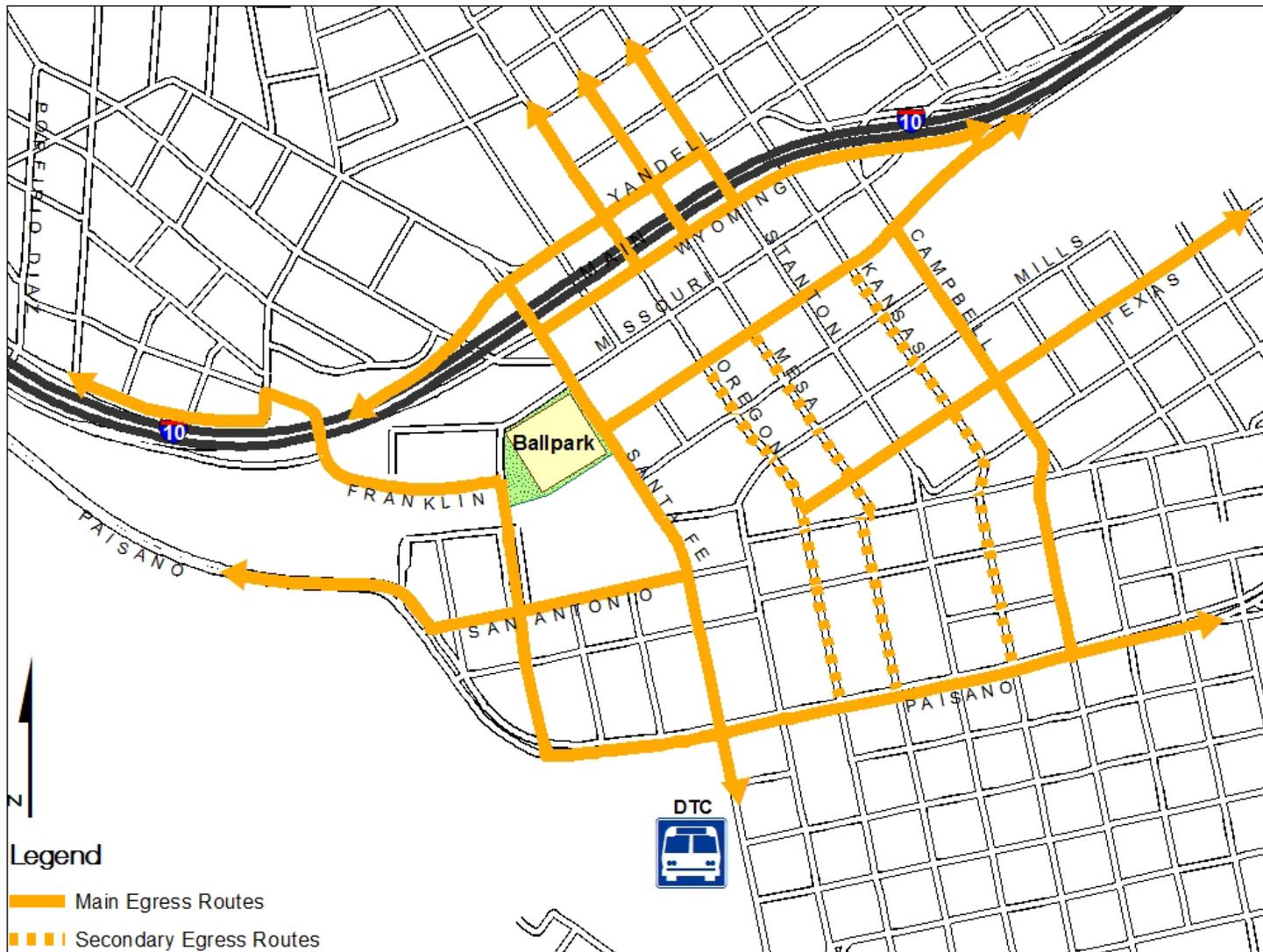


Figure 19: Egress Routes

SECTION 7: SYNCHRO ANALYSIS

The capacity and signal timing analysis for each scenario was conducted for the expected ingress and egress peak hours. Baseball games and events were assumed to start at 7:00 pm and end at about 10:00 pm. EPDOT provided the Synchro 8 model with the traffic counts for the AM, PM, and average peak hours of the day. For Scenarios 1 and 2, the PM traffic model was used as the base traffic for the ingress timing and the average traffic model for the egress timing. For Scenario 3, which is the special event closing Santa Fe Street, the average traffic was used for the ingress and for the egress, the same model was used with a 50% reduction of traffic due to the ending time of this event being between 1:00 am to 2:00 am. Intersection operations were analyzed using *Synchro 8.0*, software developed to automate procedures found in the *Highway Capacity Manual*⁵.

Results of the capacity analyses are reported in standard level of service (LOS) format, with the most favorable conditions being designated as LOS A and the poorest conditions indicated by LOS F. Intersection level of service is based on the amount of delay that each vehicle encounters at a given intersection. Out of the 87 intersections analyzed in the study area, most remained with a LOS of C or better. For each scenario, the key intersections, identified as intersections with demand exceeding capacity, congestion problems, loading and unloading points of parking garages, or heavy right and left-turn movements, were identified and listed below and shown in **Figure 20** thru **Figure 22**. Intersections shown in green indicate that the intersection operates at a LOS below capacity, LOS A, B or C, yellow indicates LOS at capacity, LOS D or E, and red indicates LOS above capacity, LOS F.

- **Scenario 1: Ballpark, see Figure 20.**
 - Santa Fe Street at Yandell Avenue
 - Santa Fe Street at Wyoming Avenue
 - Santa Fe Street at Missouri Avenue
 - Santa Fe Street at Franklin Avenue
 - Santa Fe Street at Main Drive
 - Santa Fe Street at Sheldon Court
 - Santa Fe Street at San Antonio Avenue
 - Santa Fe Street at Paisano Drive
 - Oregon Street at Franklin Avenue

- **Scenario 2: Ballpark, Civic Center, Plaza Theatre, and Abraham Chavez Theatre. See Figure 21.**
 - Same 9 intersections as Scenario 1, plus
 - Oregon Street at Missouri Avenue
 - Mesa Street at Franklin Avenue
 - Franklin Avenue at Campbell Street

- **Scenario 3: El Paso Street Festival, see Figure 22.**
 - Paisano Drive at Santa Fe Street
 - Paisano Drive at Kansas Street
 - Paisano Drive at Campbell Street

Each of the key intersections was analyzed to determine mitigation measures. For the Ballpark scenario the cycle for the Santa Fe corridor was increased and minor changes to offsets and splits were made to other intersections. For Scenario 2, as expected with the concurrent events, the traffic volumes increased significantly and this required an increase in the cycle length for the complete downtown grid system. For Scenario 3, since traffic is re-routed due to Santa Fe Street being closed and traffic dispersed throughout the day, changes to offsets and splits were recommended. The main corridor that experienced the most congestion was Santa Fe Street due to the proximity of major venues and access to the Convention Center Garage located at Santa Fe Street and Sheldon Court. In addition, many users of the Union Plaza Transit Terminal Parking garage use Santa Fe Street to access this garage. All traffic signal Synchro model and capacity analysis calculations and modifications can be seen in **TAB FOUR** thru **SIX** of the **APPENDIX**.

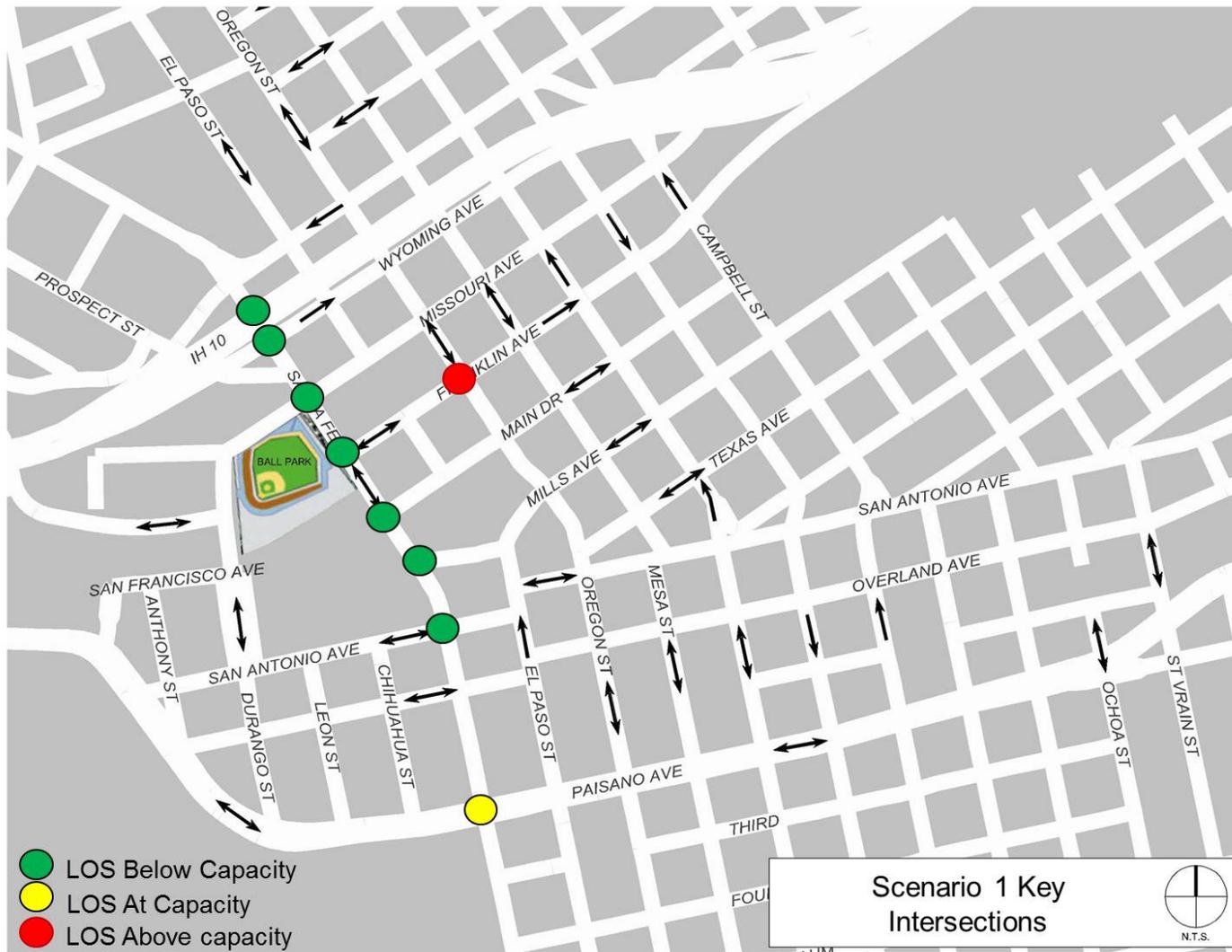


Figure 20: Scenario 1 Key Intersections

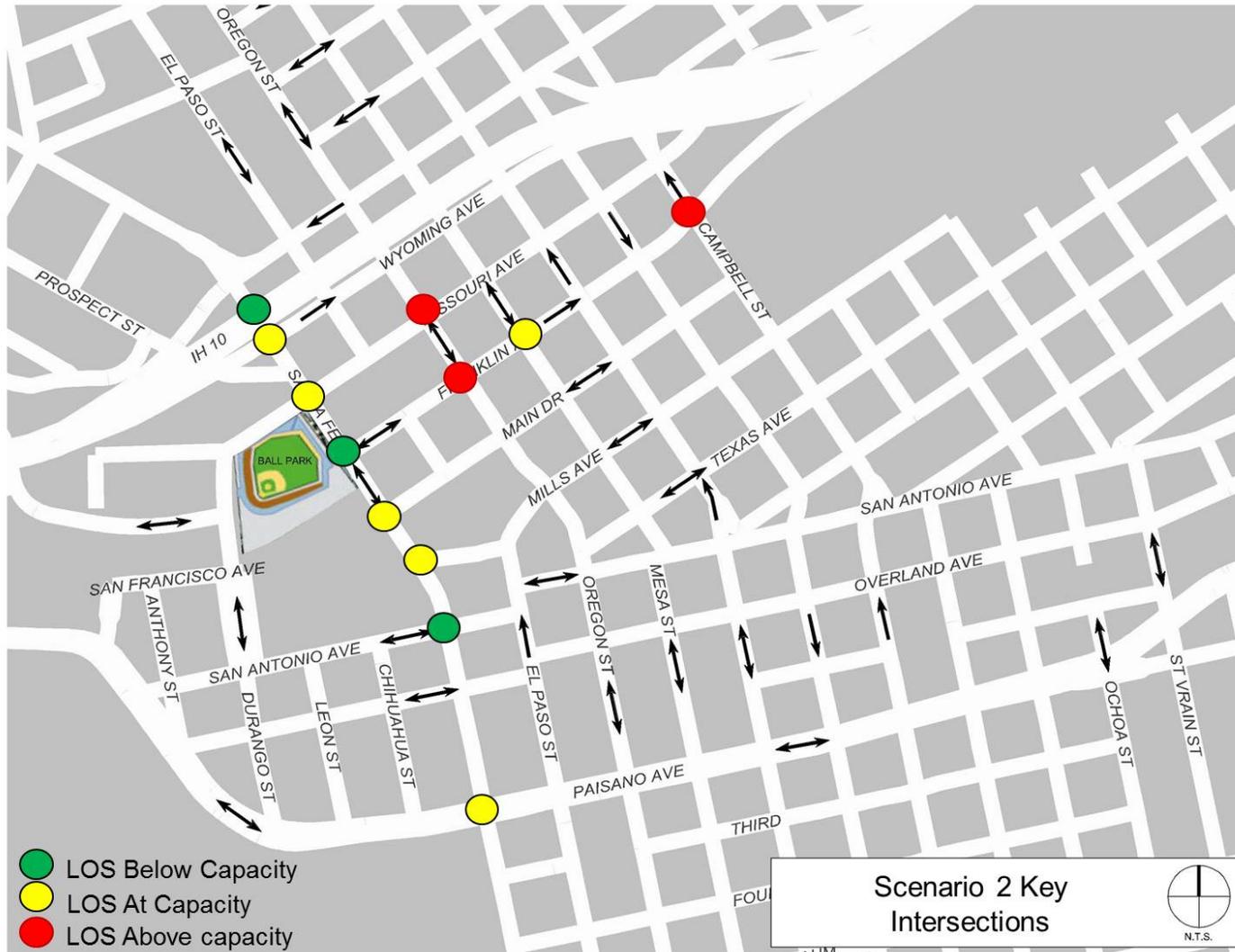


Figure 21: Scenario 2 Key Intersections

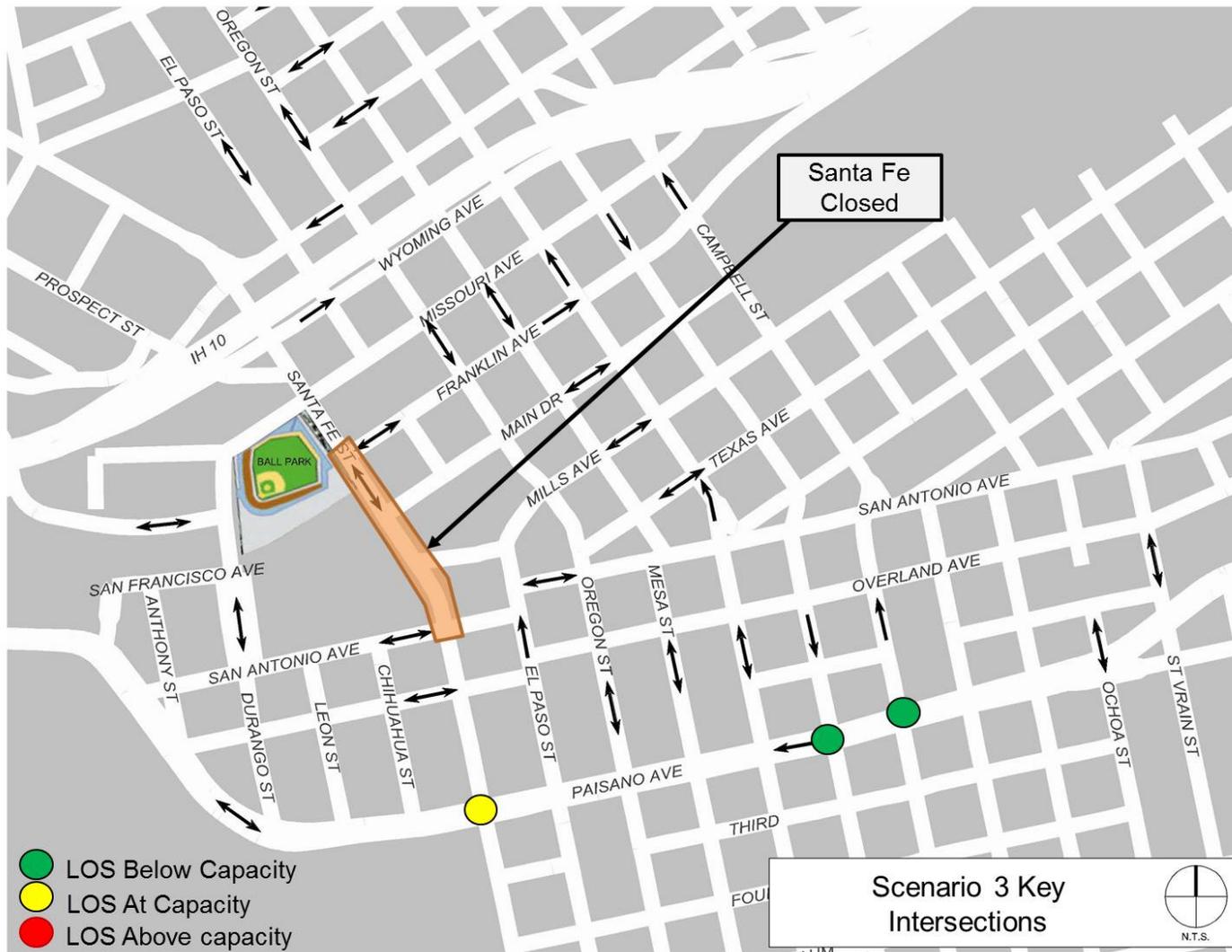


Figure 22: Scenario 3 Key Intersections

PRE AND POST-GAME SIGNAL TIMING PLANS

The City plans to implement signal timing plans for different event scenarios for weekday afternoon, weekday evening, and weekends. This study developed up to six different timing plans that the City of El Paso can implement for multiple simultaneous events at the Ballpark, Convention Center, Plaza Theatre, Abraham Chavez Theatre, and other venues. These event timing plans are in addition to the three timing plans the City currently uses for normal traffic operations throughout Downtown. The special pre and post-game signal timings can be used to facilitate traffic movement around the streets surrounding the Ballpark and Convention Center Venue preferred routes. Coordination between the City's Traffic Management Center (TMC), the Ballpark, and other planned event organizers will be necessary in order to implement the appropriate plans based on Ballpark game time schedules. The purpose for the timing plans will be to serve all traffic including pedestrians, transit, and vehicles as efficiently as possible considering the normal traffic combined with event-generated arriving and departing traffic. The special timing plans will also add capacity and favor Ballpark and other major event-designated routes to ensure that traffic does not create large queues, especially backup onto the freeway system. The special event plans are expected to be tested by the City before Ballpark opening day.

SECTION 8: TRAFFIC OPERATIONS PLAN

This section of the report briefly discusses the Traffic Operations Plan. The complete document can be found in **VOLUME 2** of this report.

BALLPARK OPERATIONS

Every Ballpark game will have certain common operations to serve its patrons such as pick-up and drop-off area, taxi stands, media staging, and ambulance staging.

The designated pick-up and drop-off area will be located at the south side of Main Drive between Santa Fe Street and El Paso Street. This location will be designated for school buses and serves the Museum of Art during its regular hours but can be used during Ballpark games provided the schedules do not overlap with the Museum's regular hours and events at the Plaza Theatre when major truck staging is used on Main Drive.

Taxi stands will be located along San Antonio Avenue. This location is currently used during Convention Center events and will continue to operate during Ballpark games. Media will have designated parking along the southwest corner of West Franklin Avenue at the intersection with Durango Street. The presence of media trucks may vary with each game.

In order to respond to any emergency that may occur during Ballpark events, an ambulance will be present for every event. The ambulance will be located at the current parking lot west of the Ballpark and can be accessed through Durango Street.

POLICE OPERATIONS

The Traffic Operations Plan identifies intersection locations where police officers are planned to be used to manage traffic. On a busy and overcapacity day, the approximate number of officers identified in this plan will vary depending on the scenario. For Scenario 1, eighteen (18) EPPD officers in marked units are recommended for vehicular and pedestrian assistance. For Scenario 2, twenty-four (24) EPPD officers in marked units are recommended for vehicular and pedestrian

assistance. For Scenario 3, police personal would be used only for as needed and for crowd control outside event perimeter.

During major events such as playoff games, additional police officers may be used. Commitments and sustaining the recommended staff identified in this plan will depend on funding and the realistic need based on traffic patterns as they change throughout the season.

PERMANENT ROADWAY CHANGES

There are several permanent changes that are being made to the surrounding areas of the Ballpark through different projects:

Missouri Avenue will become a one-way one-lane road westbound from Santa Fe Street to Durango Street and may be closed during Ballpark events. Closures will need to be approved by the City of El Paso.

Santa Fe Street will have four lanes of travel, two in each direction from Wyoming Avenue to Main Drive with no left turn pockets. Durango Street between Missouri Avenue and San Antonio Avenue will become a two lane road. In addition, at the intersection with Main Drive, the southbound deceleration lane and the northbound right-turn lane will be removed and converted into sidewalk as per the Pedestrian Pathway project.

The Durango Street Bridge will be converted from four lanes of travel to two lanes, one in each direction to accommodate a wider pedestrian walkway to and from the Ballpark.

Main Drive will undergo changes that will provide additional sidewalk due to the expected high pedestrian usage of this street. The parallel parking located on the north side will be removed to widen the sidewalk. In addition, the south side angle parking will be converted to parallel parking with sidewalk expansion as well. Travel lanes will continue to be one lane in each direction.

TEMPORARY ROADWAY CHANGES

During major events, temporary roadway operational changes may go into effect. These types of operational changes would depend on location and will mainly occur at intersections controlled by

Police officers. The Police officer at each intersection will use judgment to limit or prohibit certain vehicular movements such as left and right-turns and control the flow of pedestrians.

INTELLIGENT TRANSPORTATION SYSTEMS

The purpose of the Intelligent Transportation System (ITS) is to provide information to transportation users on routes to the Ballpark and to alert everyday commuters to upcoming games via variable message signs, including freeway dynamic message signs and local portable changeable message signs. CCTV cameras, used to monitor traffic conditions and identify incidents, are also part of the system.

EPDOT will need to coordinate with TxDOT in order to display the messages on their Dynamic Message Signs since some events may fall at a schedule beyond TransVista's operating hours.

SECTION 9: STAKEHOLDERS, TASK FORCE AND PUBLIC OUTREACH

In order to obtain input from the various venues and key members of the Downtown area, two meetings were held with the Downtown stakeholders which included representatives from the El Paso Museum of Art, the Main Public Library, the Convention and Visitors Bureau, the El Paso Museum of History, El Paso Police Department, El Paso Fire Department, the Downtown Management District, the Texas Department of Transportation, Mountain Star Sports Group, and the City of El Paso representatives.

A special task force with key stakeholders was created to develop the Traffic Operations Plan. The task force met numerous times during the development of the Traffic Operations Plan to provide input and recommendations for the different scenarios included in this report. Input from the task force members was based on their previous experience handling traffic and parking operations during major Downtown events that required the use of various resources such as police control, crowd control and road closures.

As with many major projects, the general public was also invited to participate in the discussion of this study to understand citizen concerns. A public meeting was held on December 11, 2013 at the Main Public Library located downtown. Advertisement for this meeting was published in both El Diario USA and El Paso Times local newspapers on Sunday December 1st, 2013. There was good attendance at the public meeting and citizens had the opportunity to ask questions to both the Consultant and EPDOT representatives. No major issues were recorded and the public provided good feedback. **TAB THREE** of the **APPENDIX** provides the sign-in sheet and meeting minutes of the stakeholders meetings, the task force meetings and the public meeting.

SECTION 10: CONCLUSIONS AND RECOMMENDATIONS

Several resources will need to be used to make the event a successful driving and parking experience for any person attending an event Downtown. This study identified several possibilities that the different stakeholders can implement to ease the flow of traffic before and after an event.

Figure 20 illustrates the recommended flowchart to prepare all the resources for the different scenarios.

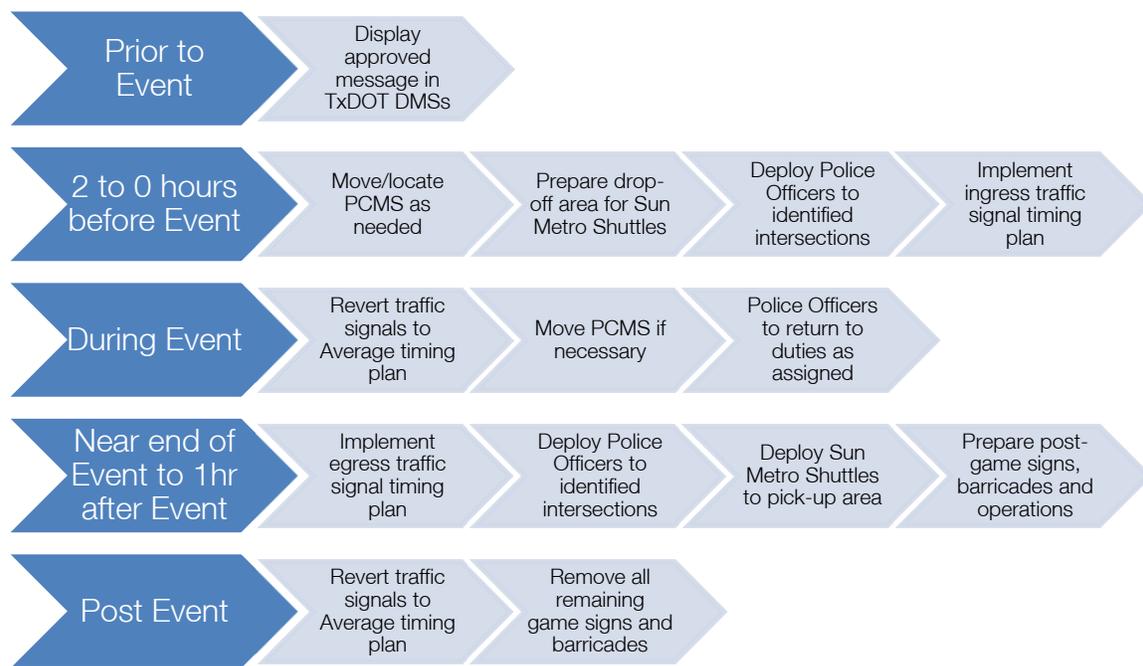


Figure 23: Event Operations Flowchart

The success and positive experience for people attending events at the new El Paso Ballpark and concurrent events at the major adjoining venues will depend on easy access to and from the Ballpark and other venues. This study analyzed three different scenarios. In order to make the regional and local transportation systems operate as efficiently as possible, the following recommendations are suggested.

Scenario 1 includes the anticipated trips to the Ballpark based on full capacity attendance at the Ballpark with no major events in the vicinity. Traffic conditions for this scenario, based on the

capacity analysis, will have minimal impact to the Downtown street network. Most of the signalized intersections were able to move using their existing cycle length with the exception of Santa Fe Street. For Scenario 1, it is recommended that the cycle length increase to 85 and 90 seconds for the ingress and egress hours during a Ballpark game or event, respectively. This increase in cycle length will provide priority to Santa Fe Street and help the incoming traffic to access the major garages.

For Scenario 2 and due to the number of trips expected with four Downtown events, the complete Downtown grid will require an increase in cycle length of 110 and 100 seconds for the ingress and egress hours of the events, respectively. Moreover, for the ingress hour of these events, it is recommended that Santa Fe Street use contraflow for the southbound movement. The high demand of the major parking lots near Santa Fe Street will require additional capacity for the southbound movement. This can be achieved by simple traffic control measures such as barriers and signs prior to games. For the egress hour of Scenario 2, it is recommended that all users of the Convention Center garage exit through the San Antonio Avenue exit. This will allow users a more direct connection to Paisano Drive and will allow better progression for vehicles wanting to use Santa Fe Street to go north. If possible, it is recommended that EPDOT test the timing plans prior to an event at the Convention Center area to observe and better understand traffic conditions on a similar event. Furthermore, due to the high demand of the public parking garage at the Union Plaza Transit Terminal located at San Antonio Avenue, a traffic signal is recommended to be installed at San Antonio Avenue at Paisano Drive. Details of the traffic signal changes can be found in the Traffic Operations Plan.

For Scenario 3, it is recommended that the traffic signals remain with the existing cycle length but with the new offsets to allow improved progressions for ingress and egress vehicles.

To help reduce the congestion generated by the Convention Center garage at Santa Fe Street and Sheldon Court, it is recommended that all four lanes of the garage open prior to the game for incoming traffic. Another strategy recommended that needs to be explored by the City of El Paso and the Ballpark is the ability to have a prepaid parking option for Ballpark or event patrons. In addition, it is recommended that the existing on-street parking remains free after 6:00PM in the Downtown area. Furthermore, the Ballpark should reach out to the private parking garages and surface lots to increase the number of parking spaces available for event patrons. If possible,

Ballpark staff should try to use private parking and can take a shuttle or the free circulator to reach the Ballpark, this would allow the use of public parking lots for the general public. Moreover, it is recommended that before and after the events, the north crosswalk of the intersection of Santa Fe Street at Sheldon Court be closed to pedestrians. This will allow entering and exiting traffic from the Convention Center garage to load and unload quicker. Pedestrians can be directed to Main Drive to cross Santa Fe Street.

A pick-up and drop-off area is recommended to be located at the south side of Main Drive between Santa Fe Street and El Paso Street. This location will be designated for school buses and serves the Museum of Art during its regular hours but can be used during Ballpark games provided the schedules do not overlap with the Museum's regular hours. If an overlap occurs, the north side of Main Drive, which has on-street metered parking, will be used as the pick-up and drop-off area. The pick-up and drop-off area can be seen in the Traffic Operations Plan.

Police-controlled intersections play a key role in ensuring traffic mobility and pedestrian safety. For each scenario and illustrated in the Traffic Operations Plan, are the locations where police control is recommended. Police officers will be able to make decisions and prohibit certain conflicting vehicular and pedestrian movements and assist large groups of pedestrians crossing Santa Fe Street to get in and out of the Ballpark.

The use of regional Dynamic Message Signs (DMS) and local Portable Changeable Message Signs (PCMS) will help direct event goers to the different parking facilities in the Downtown area in a quick and efficient manner. Informing Ballpark patrons and event spectators in advance provides them with better information and the ability to make better driving decisions. Coordination between the City of El Paso and the different venues will need to occur in order to determine the days the DMS and PCMS will be needed. The recommended messages and location of PCMS can be found in the Traffic Operations Plan. Drivers should be notified via DMS along the freeway using TxDOT signs and along area roadways leading into the Ballpark using Portable Changeable Message Signs as to the available parking. There are currently DMS's on IH-10 at Piedras Street for westbound traffic and IH-10 at Executive Boulevard for eastbound traffic.

The use of the local and regional CCTV cameras is also recommended before and after the events. A preferred traffic route has been identified however, each event may attract patrons from different parts of town and traffic patterns can change after a few events. It is recommended that EPDOT records the traffic patterns before and after events and discuss operations with the already established task force.

As one of the most widespread sources of information, the media have an important role to play in giving out information about the events. In order to improve the information that is disseminated to visitors, a central website should be considered. This website should have the complete parking information for the different venues. In addition, the website can guide patrons to the preferred access routes and available transit options.

Additional wayfinding parking signs are recommended throughout the Downtown street network to inform drivers of the public parking facilities. The recommended signs can be seen in the Traffic Operations Plan.

Although there are many initiatives taking place with the new Ballpark, this report presents several recommendations that require future coordination from the task force in order to ensure the use of various resources. It is recommended that the City of El Paso continue to have meetings with key members of the task force to ensure that these recommendations can be met or adjusted as needed. In addition, until traffic patterns are established and the proper mitigation measures are implemented, the Traffic Operations plan will likely undergo numerous iterations.

Expectations regarding event traffic needs to be clear. The traffic volumes associated with a Ballpark or any major event Downtown will be substantial, and events will cause delay for all transportation users. The City of El Paso has taken on this challenge and will proceed with implementing mitigation measures to minimize impacts and create an overall positive experience in conjunction with Ballpark and Convention Center events.

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