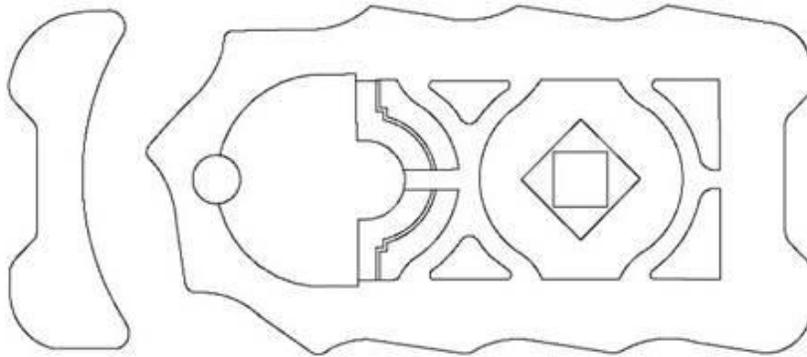
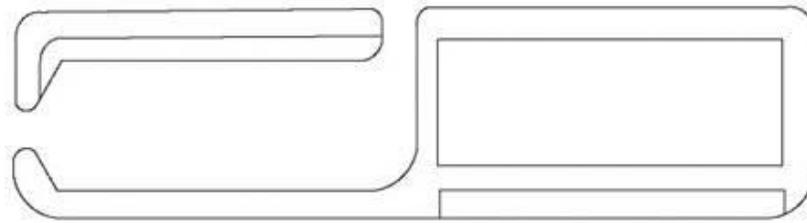


EXPLORING PERCEPTIONS OF SAFETY:



DENVER AVENUE STATION

THE UNIVERSITY OF OKLAHOMA GRADUATE COLLEGE

Exploring Perceptions of Safety:

Denver Avenue Station

A PROFESSIONAL PROJECT

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the Degree of

MASTER OF URBAN DESIGN

Katie Wing

Norman, Oklahoma 2019

Exploring Perceptions of Safety: *Denver Avenue Station*

A PROFESSIONAL PROJECT APPROVED FOR THE

URBAN DESIGN STUDIO

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I. Overview

This professional project stems from an interest in designing healing spaces within the public realm. The term healing can be used for various reasons, but for this project the following concepts come to mind:

restoration / nature / art
clarity / inclusion / **safety**
joy / accessibility / maintenance

Last year I spent the summer as a Transportation Planning Intern at INCOG, which eventually exposed me to Denver Avenue Station, Tulsa’s downtown bus station (Figure 1.0-1.1). My task there was to hand out active transportation surveys to transit users, both at the station and while riding the main bus routes. Doing so allowed me to observe the space at different times, interact with its users and begin to identify areas in need of improvement.

While there, I witnessed multiple people in crisis, and the experience stayed with me. I began to wonder, how can this transit station become a great place that serves the needs of its users, attracts choice riders, and shines as a gateway to downtown?



Figure 1.0 The gateway to Denver Avenue Station, with a view of the downtown offices and hotels of Tulsa’s Arena District in the background.

The timing of this experience as an intern coincided with selecting a professional project for the Masters of Urban Design degree, and the City of Tulsa’s planning efforts for the Arena District Masterplan (where the station is located). All of these factors led me to choose the Denver Avenue Station as the main focus of my study.

In this project, *safety* is the primary aspect of design and programming researched. The community engagement results from the 2018 Arena District Master Plan revealed that citizens view the Denver Avenue Station (DAS) as a **major weakness of the district** due to the site’s **perceived lack of safety**.¹ A weakness heatmap of the Arena District is displayed in Figure 1.2. Another heatmap from the plan shows the strengths of the Arena District in Figure 1.3, all of which are in close proximity to the station.

Denver Avenue Station is located in the Central Business District of downtown. It is within walking distance to multiple hotels, residential towers, the BOK Arena, restaurants and employment centers. It is also located near the jail, courthouse, and multiple homeless shelters. Most discussions surrounding DAS have a negative connotation and conclude that it needs to be relocated because of its proximity to the latter uses.



Figure 1.1 The Denver Avenue Station is shown amidst the urban core of downtown Tulsa.

¹ (MKSK, HR&A Advisors, Kolar Design, The Columbus Architectural Studio, Groundswell Design Group, Wallace Engineering, Zakerion Strategies & Consulting, 2018)

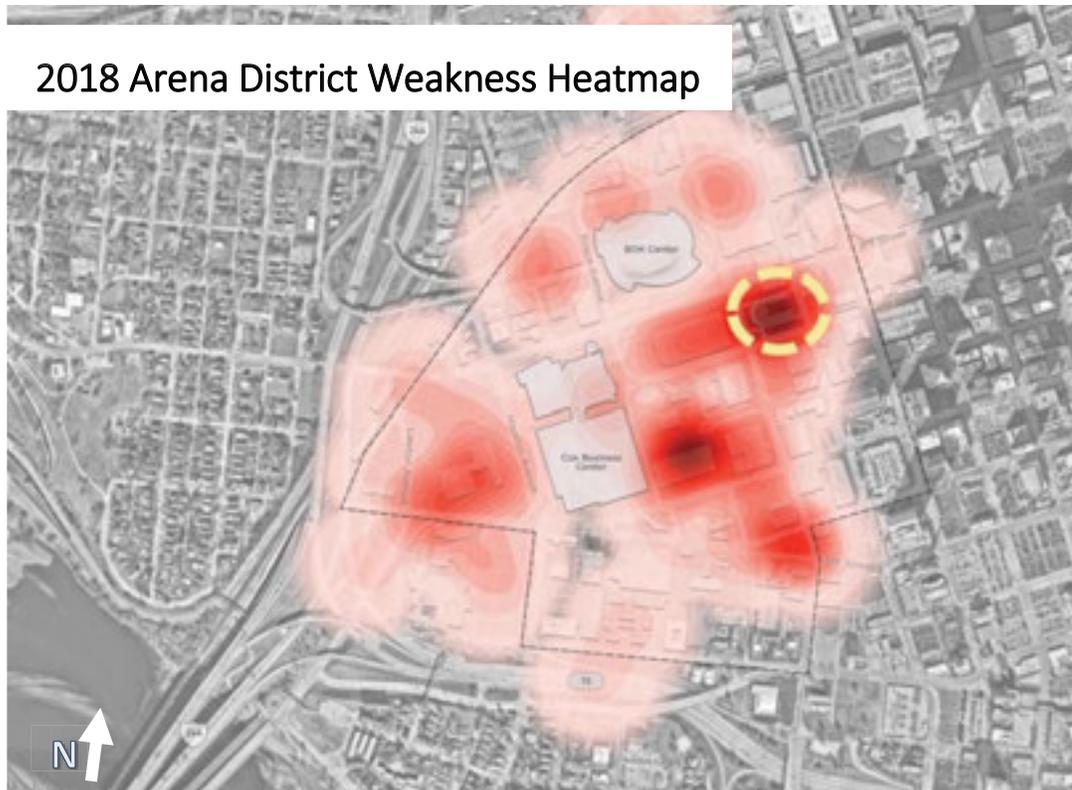


Figure 1.2 The Denver Avenue Station is circled near the Arena District’s northeastern edge²



Figure 1.3 DAS is surrounded by strengths of the Arena District.

² (MKS, HR&A Advisors, Kolar Design, The Columbus Architectural Studio, Groundswell Design Group, Wallace Engineering, Zakerion Strategies & Consulting, 2018)

Denver Avenue Station is one of two existing Metropolitan Tulsa Transit Authority transit hubs in Tulsa’s greater metropolitan area, the other being Memorial Midtown Station in east Tulsa. The majority of the Metropolitan Tulsa Transit Authority (MTTA) bus routes frequently stop at DAS throughout the day (Figure 1.4). According to MTTA’s Director of Planning and Marketing, an estimated 2,000 people pass through the station daily, although there has never been an official count administered during the 19 years she has worked there. Depending on their travels, passengers will wait anywhere from 15 to 90 minutes to connect to their next bus. This is a significant amount of time to spend at the station, so there is opportunity for capturing transit users’ attention with amenities and nearby destinations.

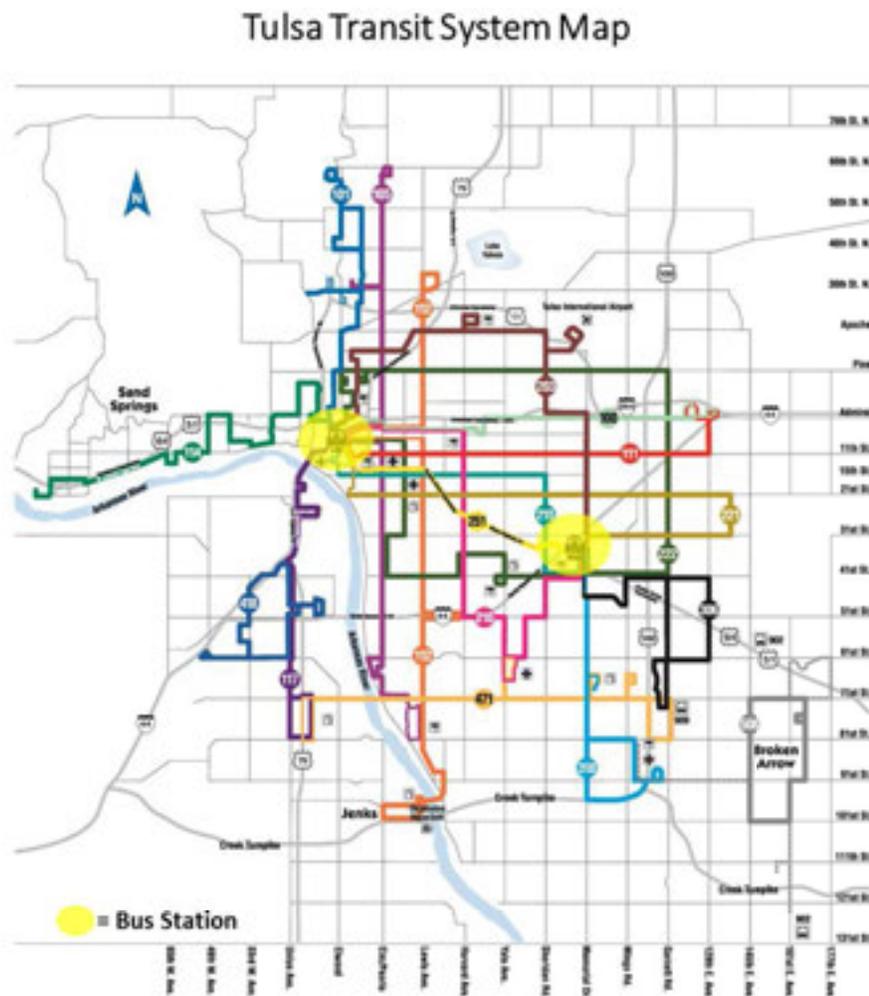


Figure 1.4 The yellow circles above depict MTTA’s two public transit stations in Tulsa; DAS shown is on the left.³

³ (MTTA, 2018)

Hours of operation at the Denver Avenue Station are:

Monday-Friday: 5am -12:30am

Saturday: 6am-11:30pm

Sundays: LIFT SERVICE ONLY; Lobby open from 8am-6pm

There are two CLEET-certified security guards active onsite at DAS during the hours of operation. There are also Public Safety Ambassadors patrolling downtown 7 days a week, as well as the Downtown Impact Squad of Tulsa

Police Department. Recently the Impact Squad has doubled in size and increased their coverage to 18 hours per day, including weekends, specifically serving downtown.

I was able to connect with Ted Rieck, who serves as MTTA’s General Manager, multiple times throughout the research for this project. We discussed some of the social challenges the bus station faces, which primarily include a strong presence of homelessness, loitering and drug use. This is also a repeated comment from stakeholders, who feel the presence of homelessness is one of the major deterrents of the bus station.

Another deterrent is the lack of bus frequency and coverage, however, this issue is being steadily addressed.⁴ In August of 2019, MTTA will premiere Tulsa’s first Bus Rapid Transit (BRT) system, branded as “AERO”.⁵ This new option for public transit is predicted to positively influence Tulsans’ attitudes towards transit and significantly increase ridership. It will increase the frequency of buses along Peoria Avenue, a major arterial in Tulsa, to every 15 minutes. There was an official groundbreaking for the AERO infrastructure in early 2019 (Figure 1.3).



Figure 1.5 January 2019 marked the official groundbreaking for the Tulsa Bus Rapid Transit, AERO.⁶

⁴ (Connecting Progress, 2018)

⁵ Ibid.

⁶ (City Unveils Bus Rapid Transit stop that 'will open the entire city' from downtown, official says, 2019)

Project Goals + Objectives

Goal 1. Determine if the Denver Avenue Station is unsafe.

Is DAS actually unsafe? Or is it just clouded by a perception of unsafety?

- Define safety.
- Conduct interviews of stakeholders, including: MTTA Staff and Security, Tulsa Police Department Crime Analyst and Corporal of the Downtown Impact Squad, as well as users and non-users of public transit.
- Distribute a safety survey to users of DAS.
- Analyze and Visualize TPD Crime Data for a defined area surrounding DAS.

Goal 2. Provide design recommendations for DAS based on research.

Can placemaking have an effect on safety and/or public perceptions of safety?

- Conduct a literature review of Crime Prevention through Environmental Design (CPTED) strategies as well as successful placemaking principles.
- Research case studies involving transit and design.
- Use stakeholder interviews and safety survey data to inform design proposals.

Goal 3. Create a resource matrix to aid the future of this research.

How can this issue that effects so many transit stations be thoughtfully addressed?

- Compile strategic contact information and data into a simple document to provide stakeholders.
-

II. Research

The research involved in this project is multidisciplinary. Through interviews with experts, analysis of site observations, data collection and extensive literature review, I was able to compile a greater understanding of how to design for safety. This section summarizes these research efforts in preparation for providing design recommendations for the Denver Avenue Station.

Define Safety

When defining safety, it is also important to define security:

Building Safety- dealing with *natural* and *unintentional* threats such as earthquakes, hurricanes, floods, and accidental spills

Building Security- dealing with the prevention and detection of *intentional, humanly motivated* threats such as criminal, terrorist, or other malevolent acts directed toward buildings and their occupants⁷

Existing Planning Studies

The following examples are derived from existing planning documents related to Tulsa's Transit and/or Denver Avenue Station, and were therefore reviewed for this project.

PLANitULSA: Tulsa's Comprehensive Plan 2010⁸

Goal 12 in the comprehensive plan mentions improving transit stations:

Goal 12—

Tulsans can rely on a variety of transit options to take them to jobs, shopping and entertainment. Policies to support this goal include:

12.1 **Consistently support the improvement of the system with additional local funding and continue identification and application for State and Federal dollars.**

12.2 **Enhance bus transit services with higher frequency bus service, improved stations/stops** and priorities for intelligent transportation systems (ITS) investments (including bus priority signalization) on the Big T route, which includes Peoria Avenue and 21st Street as portrayed in the Vision Map.

⁷ (Security Planning and Design Part I: Security in the Built Environment, 2018)

⁸ (PLANitULSA: Tulsa Comprehensive Plan, 2010)

GO Plan

Map of Planned Bicycle Facilities in Tulsa

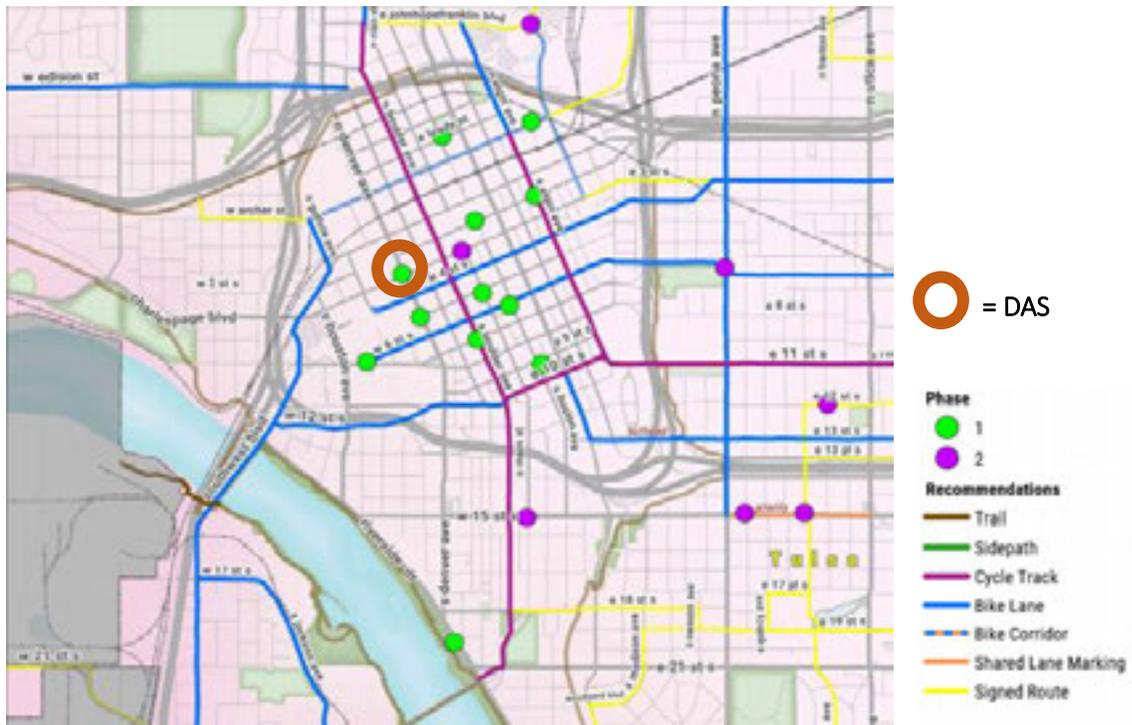


Figure 2.0 This map shows proposed bicycle implementations for downtown Tulsa, according to the 2015 GO Plan. The circle shows a proposed Bike Share station at DAS in Phase 1 of Bike Share implementation.⁹

Arena District Masterplan

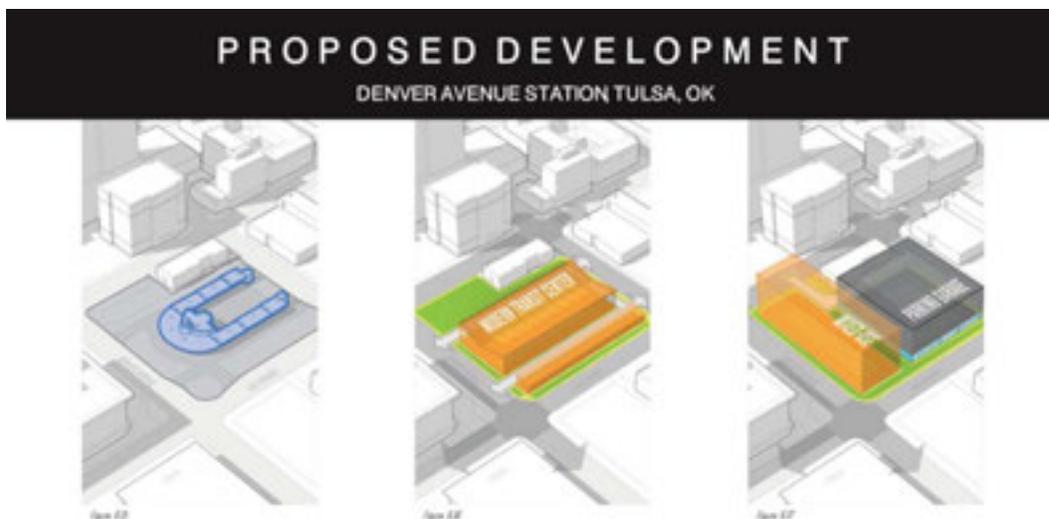


Figure 2.1 The Arena District Masterplan's proposed development from left to right: **Option 1:** Existing Denver Avenue Station, **Option 2:** World Class Transit Center, **Option 3:** Mixed-Use + Parking Structure.

⁹ (INCOG, 2015)

“The district needs to be safer and friendlier for pedestrians: Through better lighting and public spaces designed for people, the district could become one that is more welcoming to pedestrians. The homeless population, paired with streets devoid of non-vehicular activity, perpetuate a perception that the district is not safe or inviting.”¹⁰

The Arena District Masterplan recommends:

- Re-imagining the Denver Avenue Station site into a mixed-use development
- The Denver Avenue Transit Station should undergo near-term aesthetic improvements to address safety concerns
- The City of Tulsa and MTTA should consider finding a more suitable location elsewhere in downtown for the Denver Avenue Station.¹¹

Recommended Governance Structure for Improvements of the Arena District:



Figure 2.2 Above is the recommended governance structure for the processes and parties involved in implementing proposed developments to the Arena District.

¹⁰ Ibid.

¹¹ (MKS, HR&A Advisors, Kolar Design, The Columbus Architectural Studio, Groundswell Design Group, Wallace Engineering, Zakerion Strategies & Consulting, 2018)

Connecting Progress Plan: An Operational Analysis of Tulsa Transit

Map of Proposed Future Subhubs in Tulsa

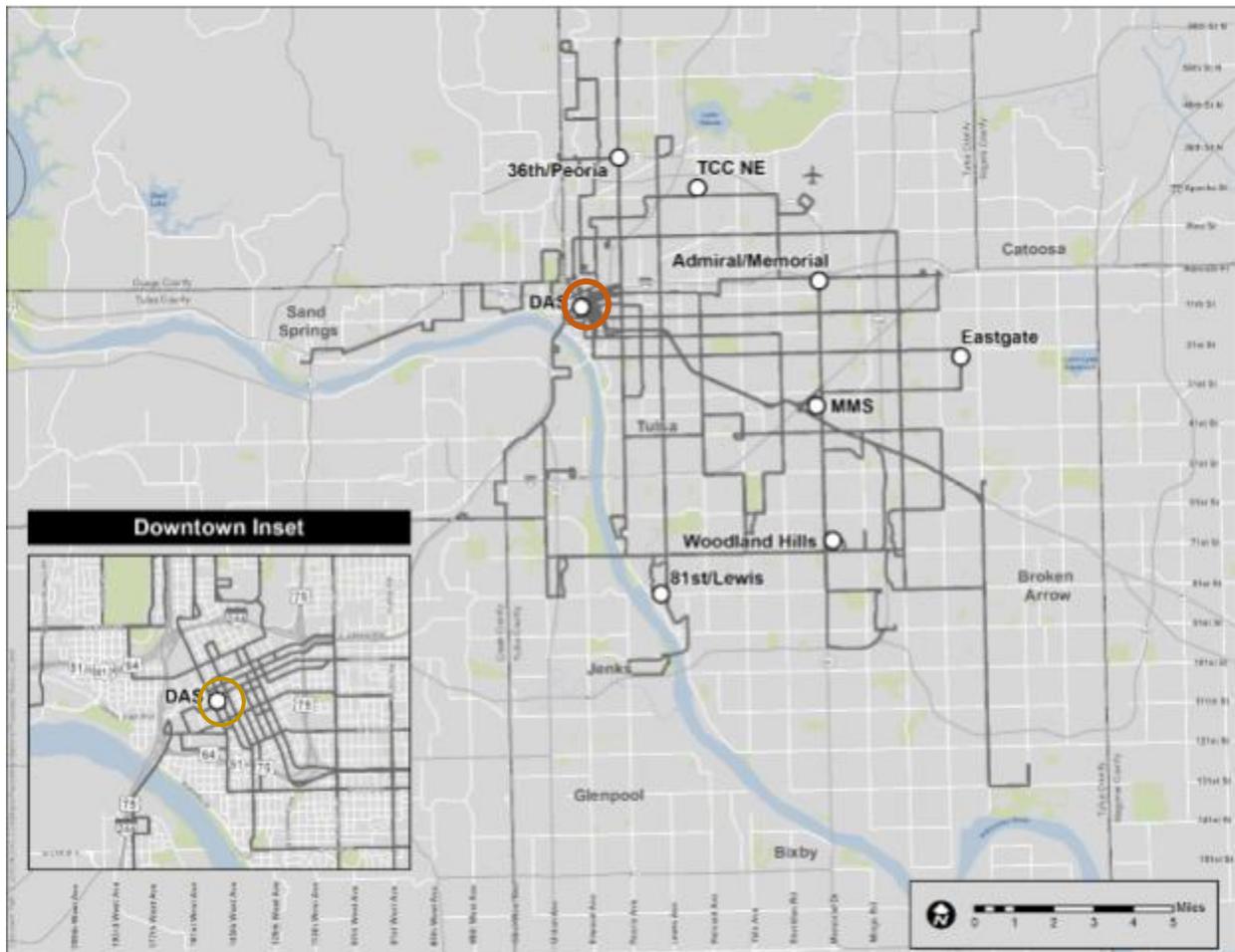


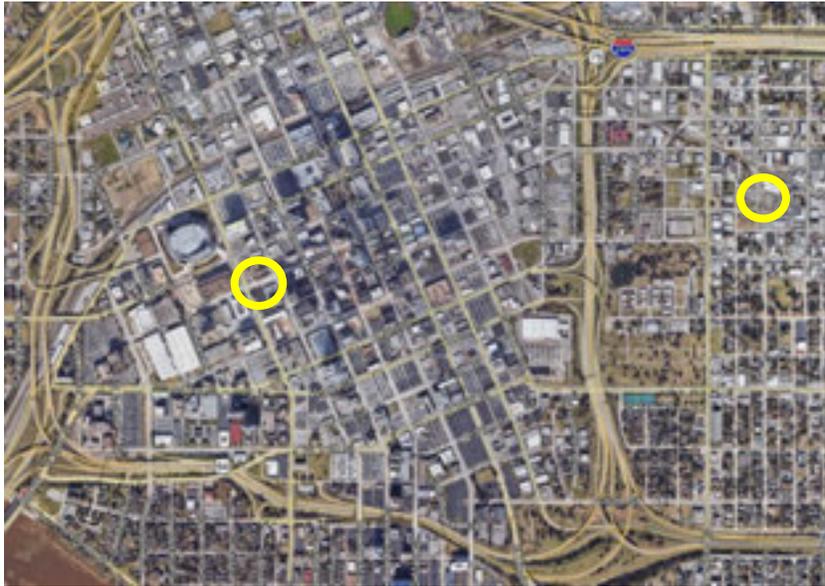
Figure 2.3 The map above displays the future plan to add 6 additional transit “subhubs” to the greater Tulsa area, which will prevent the majority of bus routes from having to make transfers solely at DAS or MMS. DAS will continue to remain a relevant station, and subhubs will be smaller versions of stations.

Community Survey Results

- **43%** of all transfers made by transit users happen at the Denver Avenue Station
- Most people said they use transit to get to work (**43%**) and run errands (**20%**)
- **35%** of transit non-users said they would use transit if there were more bus amenities/safer
- Transit non-users also said important qualities to them in choosing transit were safety/security (**43%**) and convenience (**77%**)¹²

¹² (Connecting Progress, 2018)

MTTA Facility Assessment



Currently, MTTA offices out of a building located at 5th and Rockford, which is 1.6 miles east of DAS. City of Tulsa Vision 2025 funds allocated over \$83,000 towards a facility assessment of the current MTTA offices to be conducted by a collaboration of two firms: Cynergy and HNTB. This information will be important for MTTA's future strategy of where to locate their offices.

Figure 2.4 The western circle is DAS, the eastern circle is MTTA's headquarters.

Site Observations & Photographs: Station Interior



Figure 2.5 The entrance into DAS provides clear visibility to see into where you are entering.



Figure 2.6 The main indoor seating area at DAS.



Figure 2.7 Right inside the entrance, pay phones and schedules greet you. There is also a view of the courtyard.

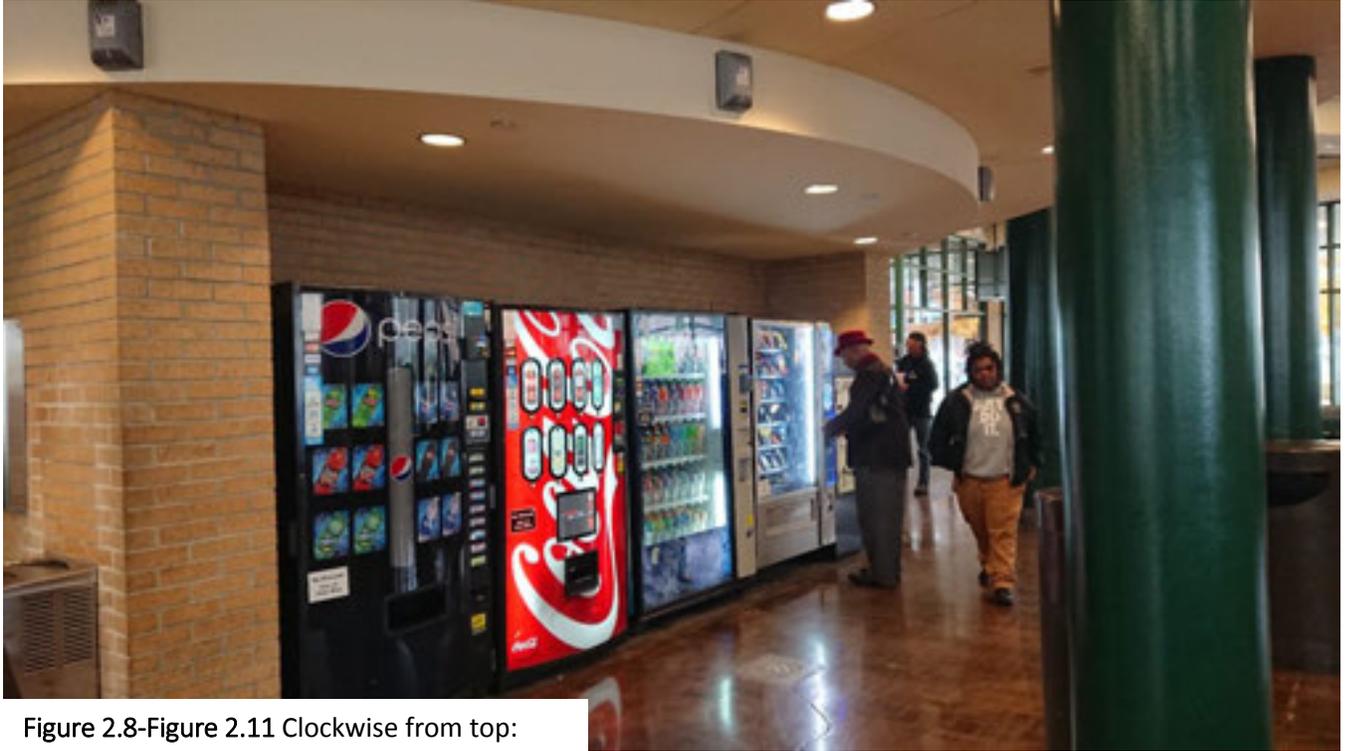


Figure 2.8-Figure 2.11 Clockwise from top: Vending machines, ticket and help desk, children’s area, Family and Children’s Services mobile outreach inside DAS.



Site Observations & Photographs: Station Exterior



Figure 2.12 One of two entrances to the building. Available trash cans represent a good symbol for maintenance. Also, notice the 3-sided marquee that displays bus route maps and other wayfinding info.



Figure 2.13 Over 15 cameras are placed throughout the station, along with lights and speakers.



Figure 2.14 A photograph taken at noon outside a neighboring building to the station.



Figure 2.15 The new metal fence outside the MidCo. building adjacent to DAS is a strong statement to deter people from lingering.



Figure 2.16 A view of the courtyard from under the existing shade trees.



Figure 2.17 Bay 11, a street facing bus stop. In the safety survey, this site was marked as unsafe due to observed drug activity and extended loitering.



Figure 2.18 This area around Bay 11 has great potential for creative seating and intentional activities.

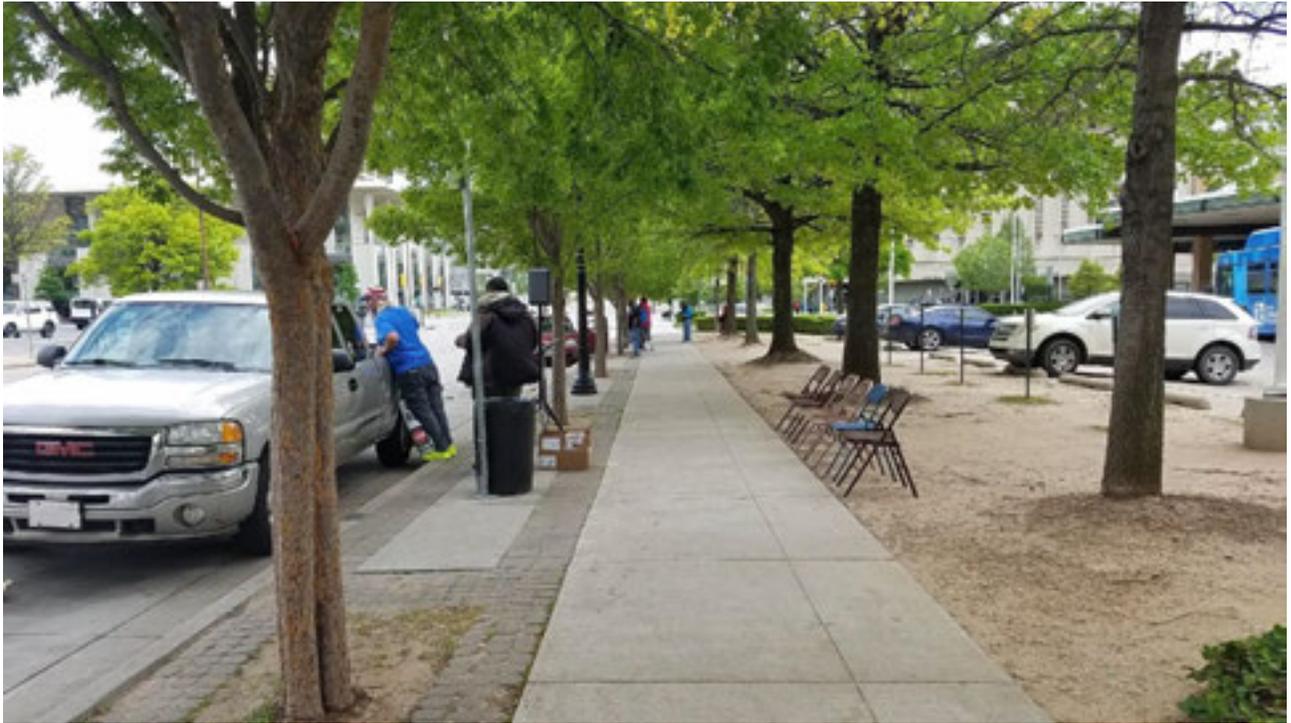


Figure 2.19 There is a local religious organization that visits this area of the station weekly, in the public right of way, abutting West 4th Street. They sing and hand out lunch sacks. The area underneath the trees can be transformed into a seating area with moveable tables and chairs, and food trucks could pull into the street parking spaces to attract people to the area and create eyes on the street.



Figure 2.20 A view underneath the U-shaped awning, with windows and a wide clearance sidewalk to circulate throughout. Bay numbers are also clearly visible and seating allows users to face various directions.



Figure 2.21 Some wayfinding information is attached within each bay. Also, a view of the triple-layered fence between DAS and the MidCo. Building blocks a restaurant's patio and part of the BOK Arena.



Figure 2.22 View of the parking lot at the station abutting West 4th Street. Security car(s) are always parked there.

2015 Ridership Data

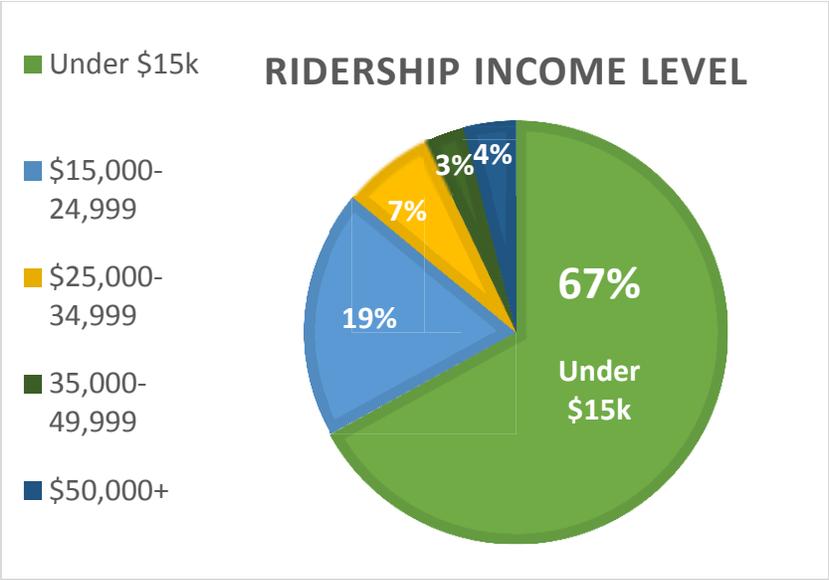


Figure 2.23 The majority of the riders at DAS make under \$15,000 per year which is below the poverty level.

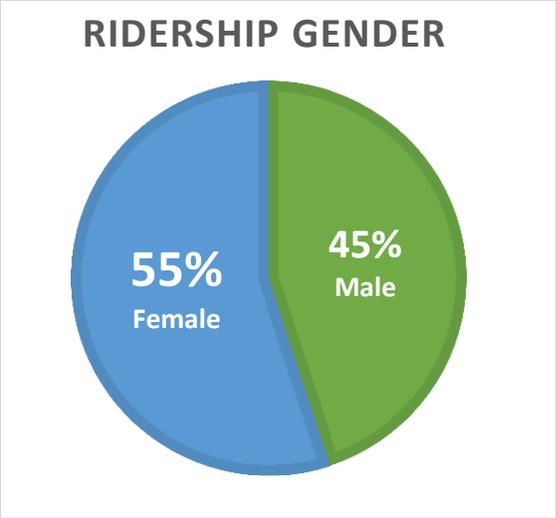


Figure 2.24 There is a fairly even distribution of gender association at DAS, with a slightly higher percentage of female riders.

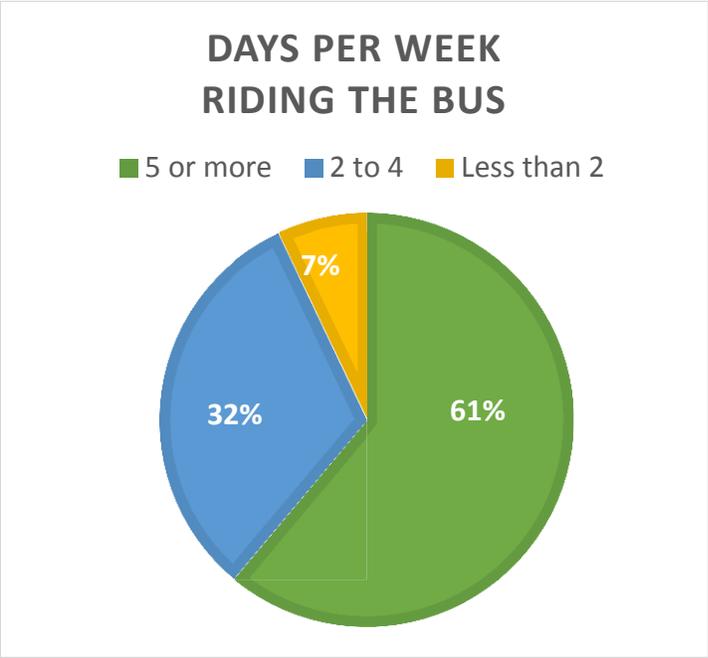


Figure 2.25 Most riders use the bus 5 or more times per week.

According to this survey, the majority of the ridership at DAS uses the bus 5 or more times per week, has an average income of \$15,000 or less per year, and there is a relatively equal distribution of gender.

Interviews of Stakeholders and Experts

- Security Guards at DAS:

“There are 2 security guards present at all times. From November 2017 to April 2018 there were a lot of felony arrests for drugs at the station. The other problems we mainly see are trespassing and intoxication. Overall, the station is safe. The Family and Children’s booth inside the station has helped people at the station; they’re here usually 3-4 days a week.”

- Adams Building Project Manager, Rose Rock Development:

“I setup a camera on top of the Adams building last summer pointing towards the bus station and I could also view it remotely. I ended up noticing a pattern of drug dealing and was able to let the police know as it was happening in real time. The drug dealers prey on the homeless people that pass through the station and the area. The dealing has decreased as repeat offenders have been arrested, but I wonder if it will pick back up this summer as crime is usually seasonal. I have shown the apartments to interested people, mostly females, and they are always concerned about the safety surrounding the station.”

- Corporal of TPD Downtown Impact Squad:

“Overall, downtown Tulsa is pretty safe. We are always downtown and can get to a call quickly. We have experience a lot of cases mental illness and homelessness around DAS. The bus station is generally safe, although we have had to deal with a good amount of drug dealers. We started tracking repeat offenders and targeted them for arrest, which has seemed to cut down on that type of crime there. I wouldn’t necessarily feel afraid there, although it can be annoying to get asked for money when you’re just trying to ride the bus.”

- Broken Arrow Police Department, CPTED Professional

“I have found that strategic placement of seating is highly effective for crime prevention because you think someone is watching you. Another idea that has worked is playing music that teenagers wouldn’t like to keep criminal behavior away. I will send you a specific CPTED manual for transit facilities. Also, in regard to the homeless population, maybe you should advertise the John 3:16 organization that will pick up any person in need and bring them to their shelter to get the resources they need.”

Case Studies

The Porch at 30th Street, Philadelphia, PA

The Porch at 30th Street in Philadelphia, PA is a prime example of transit oriented placemaking. In 2011, managing entity University City District (UCD) opened The Porch, which spans a 55' by 500' area of sidewalk that was previously 33 parallel parking spaces abutting 30th Street Station, a multimodal transit hub¹³. UCD implemented the tools shown in Figure 2.26 during first year of operation, which set the scene for transit users to rest, engage with others, and enjoy the city scene. They programmed the space with weekly events, such as featuring a food truck daily, hiring weekly musicians or performers, and providing lush planters to enhance the aesthetic. Their strategy for the space has been the infamous mission “lighter, quicker, cheaper” from Tactical Urbanist principles.¹⁴ This has allowed UCD to incrementally develop funding partnerships as their efforts gained success. Eight years later, this public space is a leader in placemaking case studies.



Figure 2.26 -These are the core tools UCD started with to implement their placemaking endeavor, The Porch at 30th Street, in 2011. Below are images of more recent implementations at The Porch.



¹³ (Realizing the Potential of the Porch, 2013)

¹⁴ (The Porch at 30th Street Station: 5 Years, 5 Lessons, 2016)



Figure 2.27 (Top to Bottom) The evolution of the porch from a row of parking into an activated sidewalk, to a thriving public space.¹⁵

¹⁵ (The Porch at 30th Street Station: 5 Years, 5 Lessons, 2016)

Music City Central Station, Nashville, TN



Figure 2.28 Front facade of Music City Central Station.

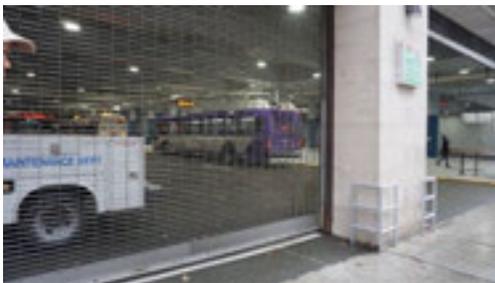


Figure 2.29 Approaching the bus bay from sidewalk.



Figure 2.30 View of inside the covered bay.



Figure 2.31

I interviewed the principal architect of the MKSK design firm that produced the Arena District Masterplan, and he told me that the recommendations they were making for the Denver Avenue Transit Station are inspired by Music City Central Station in Nashville.

I was driving through Nashville last winter and observed this transit center to see why it was an influence in MKSK's recommendations. I was greeted by a stark, dark and cold design. As you can see from the photos (Figures 2.28-2.39), there is no natural lighting in the transit bays, giving you the feeling that you are underground.

It felt less safe and more desolate than the existing Denver Avenue Station in Tulsa. I understand the motivation for redeveloping DAS to add a mixed use component to the transit station, however I would advise implementing some alternative interventions to the station before committing to this specific type of design.

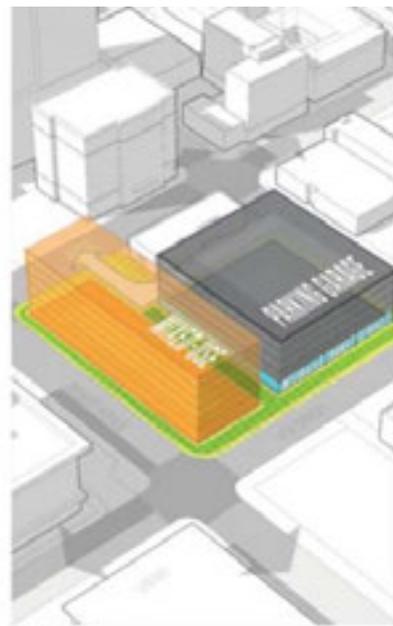


Figure 6.07

MKSK's recommendation for DAS



Figure 2.32



Figure 2.36 Ticket machine inside.



Figure 2.33 Crosswalk towards indoors.



Figure 2.37 Real time route display.

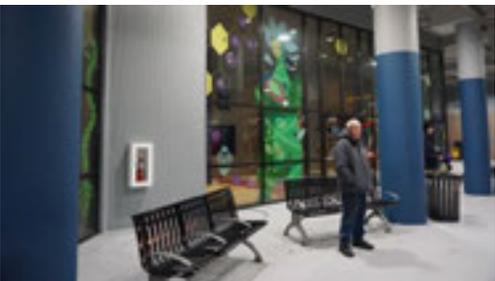


Figure 2.34 Benches outside the indoors.



Figure 2.38 Gift Shop inside.



Figure 2.35 Doors to the inside area.



Figure 2.39 A sign demarcating that the site was historically a slave trade center.

CPTED Literature Review

”Crime Prevention through Environmental Design (CPTED) is the application of **designing safety and security into the natural environment** of a specific area.”

CPTED STRATEGIES:

Natural Surveillance – strategically placing people, physical features and activities in ways that maximize **visibility**

Natural Access Control – determining the **channel of flow** for people moving throughout the space by using judicious placement of entrances, exits, fencing, landscaping and lighting; creating a perception of risk for adversaries

Territoriality- notifies the users and non-users of the space where the boundaries are, which deters crime by letting people know there are purposeful activities taking place in such boundaries; creating **identity**

Activity Support- by encouraging authorized activities in public spaces, the community and transit system ridership understand its **intended use**

Maintenance- **care** and upkeep demonstrates expression of ownership for the intended purpose of the area; a lack of care indicates loss of control of a space or area and can be a sign of tolerance of disorder¹⁶

Table 2.0 The core strategies utilized in CPTED practice are defined above.

¹⁶ (Crime Prevention Through Environmental Design (CPTED) for Transit Facilities, 2010)

Tulsa Police Department (TPD) Crime Data

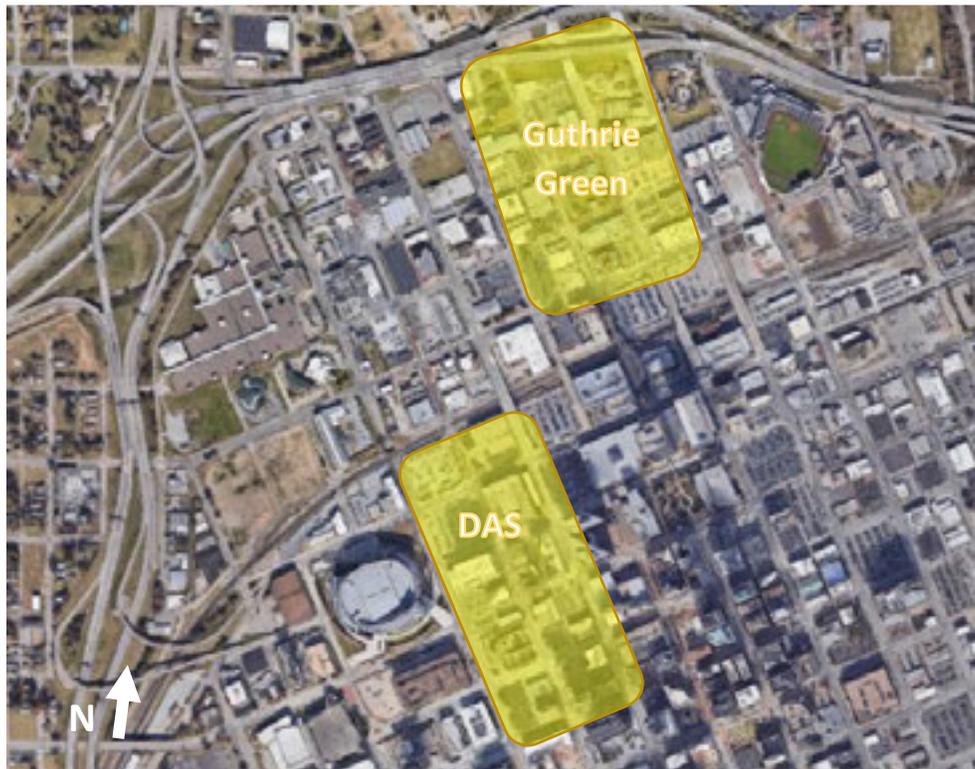


Figure 2.40 The map above shows the distance between crime analysis locations downtown

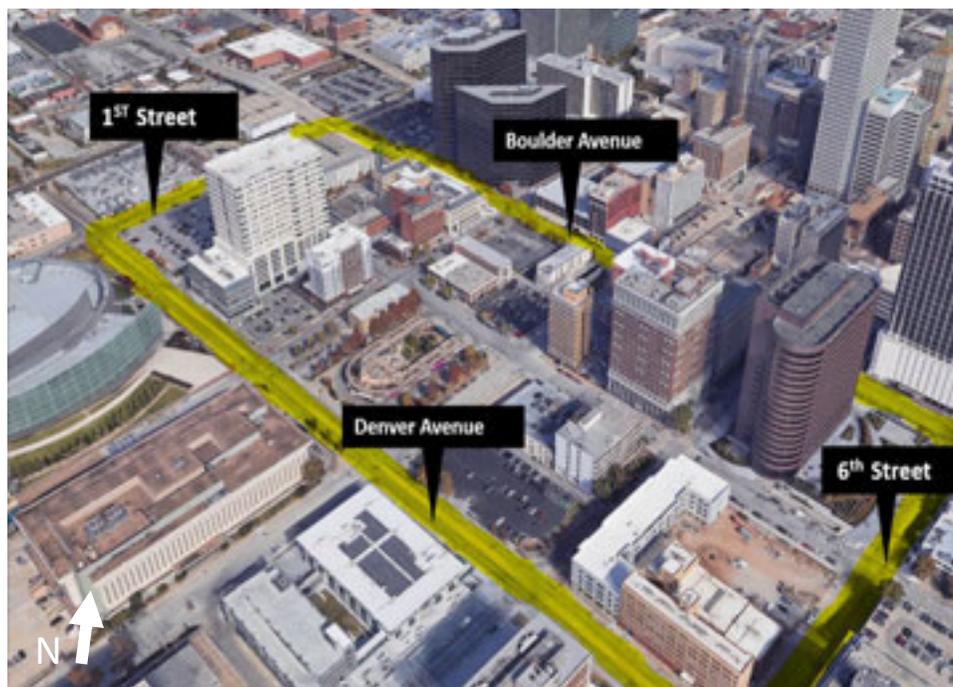


Figure 2.41 This map shows the geographic boundaries of the TPD Crime Data collected around DAS.



Figure 2.42 The map above shows the geographical boundaries of the 2013-2018 TPD crime data collected around Guthrie Green.

The portion of this research involved an analysis of the crime data for the surrounding blocks of DAS and also Guthrie Green, which is a popular destination of downtown Tulsa that most would consider a safe and successful public space. The data below shows that within the two boundaries, there is a drastic difference in trespassing counts but not in the other categories.

TPD Crime Data Counts (2013-2018)

	Trespassing	Traffic Collision	Simple Assault (non-aggravated)	Larceny (\$200+ from vehicle)	Assault (dangerous weapon)
DAS	483	83	74	32	26
Guthrie Green	0	185	87	124	30

Table 2.1 The table shows the top five most commonly reported crimes within the two defined study areas of downtown Tulsa.

Safety Survey



Figure 2.43 Explaining the survey to a consenting transit user at DAS.

SAFETY SURVEY

The purpose of this survey is to help add to research on how to design and create safe urban environments. It should take around 20 minutes to complete. Your identity will remain completely anonymous. You may stop the survey at any point. Thank you for your time and feedback!

Zipcode _____ Gender _____ Age _____

PLEASE MARK AREAS ON THE SITEMAP BELOW THAT FEEL UNSAFE WITH AN "X".
PLEASE CIRCLE ANY AREAS THAT FEEL SAFE.

Notes:

Figure 2.44 The front side of the safety survey.

A survey handout was developed to use as a public outreach tool to gauge transit user's perception of safety at DAS.

The front and back pages of the survey were utilized. The **front** page asked transit users demographic information such as zip code, age, and gender. It also asked them to demarcate on the station's site plan, using an "X" for areas that felt unsafe, and a circle "O" for areas that felt *safe*.

The **backside** of the survey involved a placemaking/creative exercise that asked users to sketch their ideas for improving two spaces shown in photographs at the bus station: a curved brick wall and the greenspace of the outdoor courtyard.

In order to distribute the survey, it had to be approved by the Institutional Review Board (IRB). Once approved, the survey was distributed at DAS on a Saturday afternoon in March. The duration of distribution was under 2 hours, and there were 9 respondents total.

The weather was cold and wet that day. There were less than 20 people present at the station during the duration of the time I was there. People were approached randomly to ask for their participation. Overall, the majority of respondents clearly understood the survey's purpose.

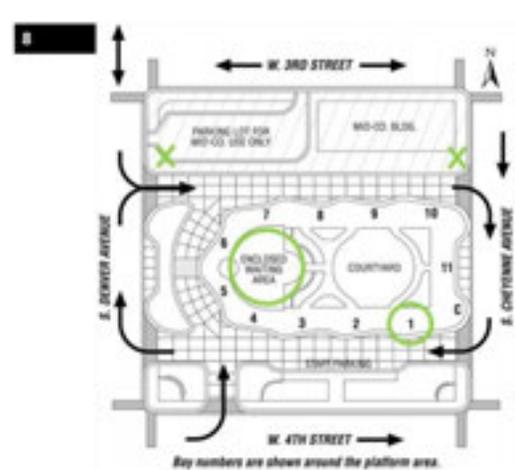
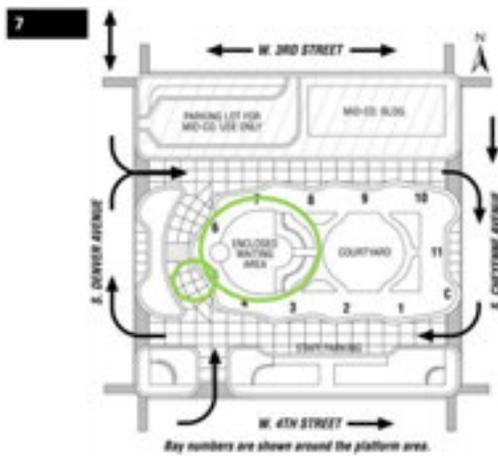
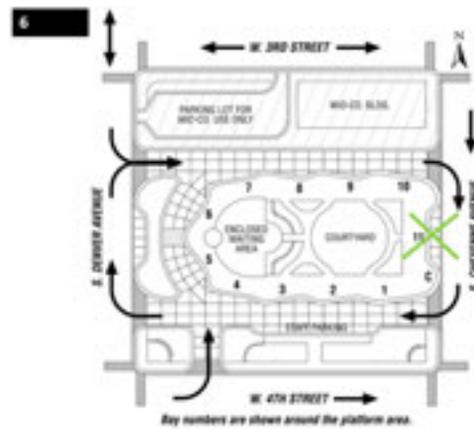
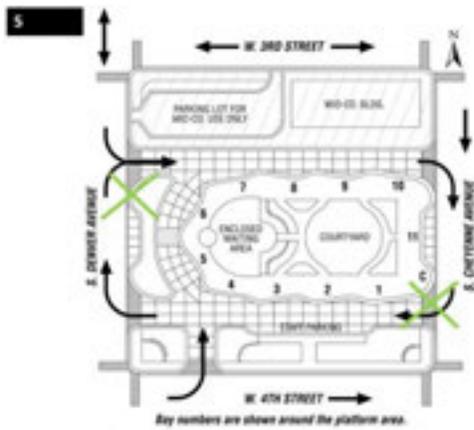
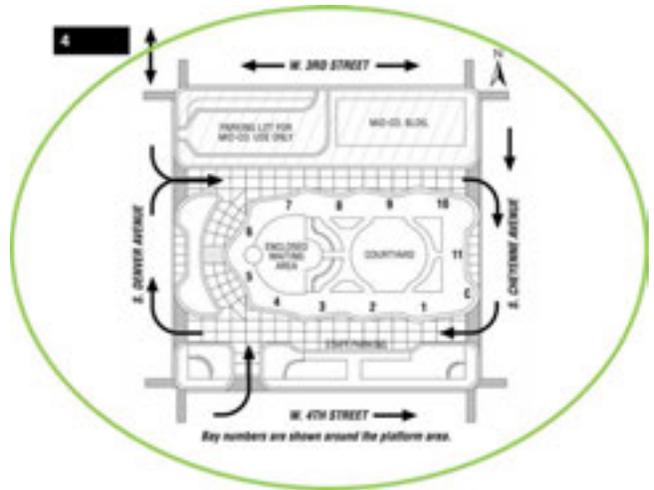
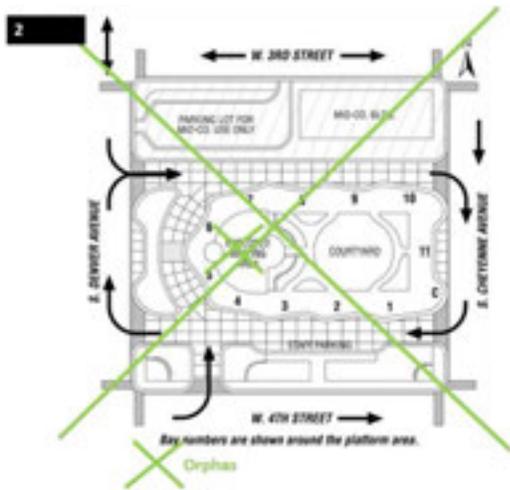
Survey Front Page Results

Number	Zipcode	Gender	Age	Notes
1	74134	M	59	"Prayer- Let Preachers Preach the Gospel of JESUS Christ on property. Change rules to let preachers"
2	74127	F	40	"Lots of meth here, a guy took his pants off"
3	74110	M (West)	36	"Thank you! Bus Station Customer John West"
4		F		"Safe. Keep Homeless away"
5	74103	F	39	"Due to detours the connections don't connect on time"
6	74119	M	60	"Street people hang at bay 11, drugs go from hand to hand morning noon night, panhandlers"
7	74127	F	40	"More Buses."
8	74116	F	40	"Maybe more security outside. It seems pretty safe inside. I have seen some drug activity outside in the past. That's the only thing that worries me."
9	74115	F	48	_____

Figure 2.45 Above: The demographic and "notes" results of the safety survey. The "number" listed left of the table will correspond to the respective survey respondent's maps with markings below.



Figure 2.46 An example of how survey respondent number 9 expressed their opinion.



The most extreme opinions were found in survey 2 and 4, with one marking the entire site as unsafe and the other marking it as safe. Three surveys marked the interior of DAS as safe, and the rest of the markings were unique to individual survey respondents.

Back Page of Survey Results



a. The Courtyard



b. The Outside Wall

The backside of the survey included the above photos and asked participants to sketch ideas for these two areas of the bus station. Colored pencils were provided for optional use. Most survey participants were not interested in the colored pencils or providing input for this exercise. A potentially more effective exercise would have included example renderings to rate, along with the additional blank renderings shown above.

Back Page of Survey Results

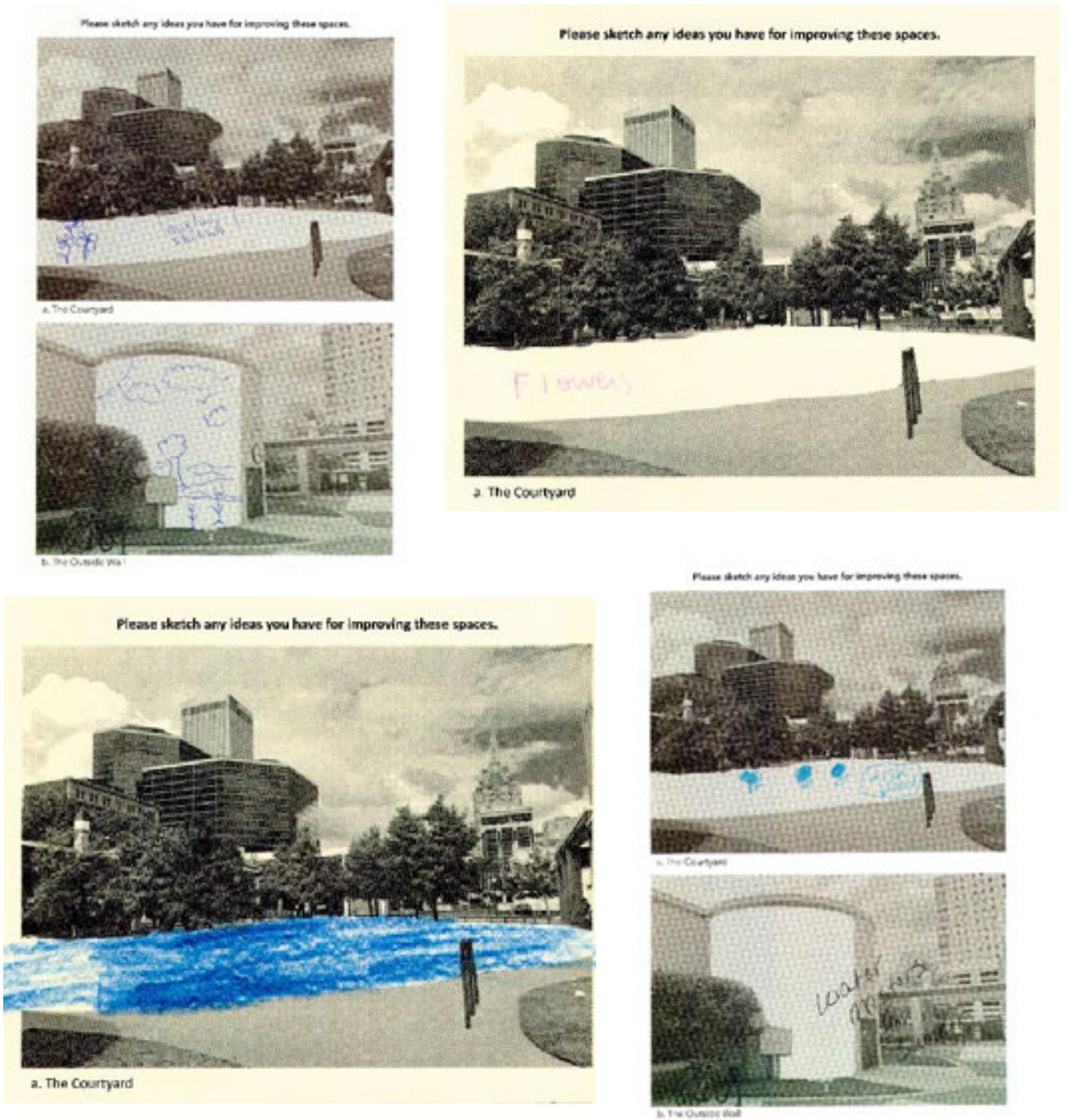


Figure 2.47 A display of the multiple responses from users; Flowers, misters, and water were common themes expressed by survey participants.

III. Recommendations: *Designing for Safety*

The following recommendations integrate all of the research modalities that were explored for this project: CPTED principles, placemaking principles, case studies, existing planning studies and the results from the transit user safety survey.



Figure 3.0 Above is the 10-15 year development recommendation rendering by MKSK from the Arena District Master Plan, which proposes eliminating the existing DAS completely and building a parking garage with a ground level transit center instead.¹⁷

“Development at the Denver Avenue Transit Station, which would include an operational Transit Station on the ground floor, can occur in step with development at the Page Belcher Building although development will be dependent on the maturity of the market. Prior to redevelopment, **the Denver Avenue Transit Station should undergo near-term aesthetic improvements to address safety concerns**”¹⁸

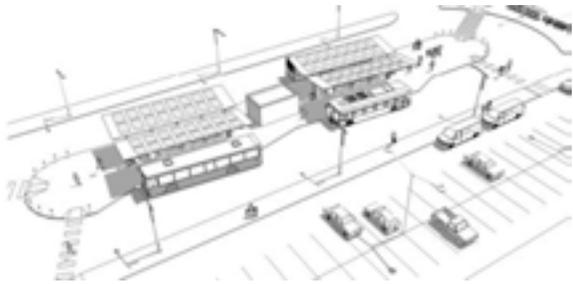


Figure 3.1 An example of future transit station design in Nashville, including solar panels atop roofs.¹⁹

¹⁷ Ibid.
¹⁸ (MKSK, HR&A Advisors, Kolar Design, The Columbus Architectural Studio, Groundswell Design Group, Wallace Engineering, Zakerion Strategies & Consulting, 2018)
¹⁹ (Transit, 2019)



Figure 3.2 An example of the misters and flowers that survey respondents proposed.



Figure 3.3 An overview of design recommendations for DAS, including solar and an activated courtyard.

III. Recommendations: *Designing for Safety*

Enhanced Wayfinding



Figure 3.4 Artistic lighting can attract attention in a way finding manner that also enhances territoriality.



Figure 3.5 Local bus route map is illuminated.²⁰

- Utilize light and color to create interest and meaning.
- Provide clear signage for ingress and egress, as well as other essential functions.
- Ensure lighting enhances human activities and overall security.

²⁰ (Transit, 2019)

Strategic Seating Placement



Figures 3.6-3.7 Above: Live music, a food truck and moveable tables and chairs creates a variety of natural surveillance at the Porch at 30th Street in Philadelphia, PA. **Below:** Seating at DAS can be expanded upon to create alternating viewpoints.



Maintenance Upgrades



- Placing more waste bins inside and outside of the station will provide the increased opportunity to dispose of waste and recycling.
- Cigarette disposal receptacles onsite will cut down on amount of cigarette butts at station.
- Attending to the landscape more frequently will keep trash from resting in plantings.
- Growing indoor plants inside of DAS will refresh air quality and improve atmosphere.

Figures 3.8-3.10 Top to Bottom: Examples of trash onsite. Better upkeep of the site projects a low tolerance of disorder according to CPTED principles.

Public Art



Figure 3.11 A sculpture outside the 30th Street Station in Philadelphia, PA serves as a “selfie-magnet” and gateway art to the city upon exiting the transit station.



Figure 3.12 There is a prime location at DAS for an artistic mural, green wall or lighting sculpture to create identity.

Public Art



Figure 3.13 Word art on the side of the building is eye-catching, and unique wooden seating provides various perspectives.

“Transit centers will be the focal point of permanent public art installations that promote placemaking. Public art helps build civic pride and adds a unique element to each transit center.”²¹

- *WeGo Public Transit Design Guidelines*

²¹ (Transit, 2019)

Shade



Figure 3.14 Shade canopies draw attention to opportunities for sitting.

Music



- Program weekly pop-up concerts to bring life (and “eyes”) to the bus station and foster identity through activity support.
- Create calming playlists to relax transit users and deter crime.

Figure 3.15 Chamber Music Tulsa has expressed interest playing at DAS²²

Landscaping

The Vision (continued)

- All future transit projects should emulate the following principles:
 - Creation of pedestrian friendly stations that are accessible, safe, encourage transit ridership and contribute to the public realm through street-level activation and high quality materials and detailing
 - Contribution to a sustainable urban environment by following low impact development standards and incorporating appropriate native landscaping
 - Integration of streetscapes that enhance and encourage pedestrian activity while safely accommodating all modes of transportation
 - Enhancement of economic development potential along transit corridors and transit-oriented development around stations



Figure 3.16 Dallas Transit Design Guidelines highlight the importance of using native species in landscaping.²³

²² (Tulsa, 2018)

²³ (Department, 2017)

Landscaping



Figure 3.17 An example of Piet Oudolf's infamous perennial prairies. It is wise to incorporate native wildflowers and native grasses into landscaping, especially in the DAS courtyard.

- The courtyard's steep grade moves water quickly and the deep rooting systems of native grasses help in distributing excess water and preventing erosion
- Native grasses give structure to flower plantings.
- Native grasses and flowers provide habitat for pollinators, which contributes to a healthy ecosystem.²⁴



Figure 3.18 Because the courtyard slopes westbound, storm water flows into a drain.

²⁴ (How to Build a Pocket Prairie, n.d.)

IV. Resources

- Transportation Safety Institute (TSI): provides transit specific training for CPTED, a training program within the United States Department of Transportation (USDOT).²⁵
- Information for acquiring the Mid Co. building adjacent to the bus station for use as the proposed MTTA Office relocation and also for testing the mixed use concept projected in the Arena District Masterplan:



Figure 4.0 Leasing contact information for the Midco. building neighboring DAS

- Tulsa’s Downtown Coordinating Council (DCC) Holds Quarterly Public Safety Forums that serve as educational and networking opportunities for local business owners, municipalities, public safety professionals, and interested citizens. The DCC is planning a future training for staff, business owners and interested parties in how to effectively and compassionately communicate with vulnerable populations. Here is a flyer from their first meeting in March 2019 (next page):

²⁵ (Crime Prevention Through Environmental Design (CPTED) for Transit Facilities, 2010)

Public Safety Ambassadors

Downtown Tulsa's Public Safety Ambassadors are on the job seven days a week to serve all Downtown stakeholders. PSA's provide public safety contact with businesses, engage and serve visitors, workers, and residents, and report potential or actual emergencies that might require police, fire, or EMS resources. They work hand in hand with the region's service and outreach organizations to aid Tulsa's most vulnerable populations.

To reach our PSAs, call (918) 596-9100 or email psa@cityoftulsa.org for non-time sensitive reports

What Our PSAs Can Do For You

- Be a visible presence to promote positive activity throughout Downtown and assist visitors walking, biking, or driving through the area
- Meet with Downtown business owners during daily patrols to discuss topics of need or interest
- Collaborate with service and outreach organizations in working with vulnerable populations in need of assistance
- Meet with business owners during District meetings to discuss upcoming events as well as answer questions and concerns from participants
- Assist with courtesy escorts of local business owners
- Provide public relations and tourism materials

When To Call 911

Call 911 (TPD Downtown Impact Unit) for any emergency situation, including:

- Criminal activity or behavior
- Intimidating or combative conduct
- Trespassing or vandalism
- Abusive and violent language or actions
- Aggressive begging or panhandling
- To report any crime

Important Numbers:

For emergencies, call 911 (TPD Downtown Impact Unit)
Non-emergencies, call (918) 596-9222

To reach your Public Safety Ambassador, call (918) 596-9100

Always file a TPD police report for any vandalism or criminal activity

Figure 4.1 Informational flyer from the DCC's first public safety forum in spring 2019.

Conclusion

The Denver Avenue Station is an essential public place in Tulsa. The majority of Tulsa Transit's ridership relies on the services at DAS to meet their daily needs. The research performed in this design study, including the crime data, demonstrates the power of perception over actual circumstances. Changes to the built environment and programming of a space can influence the overall and perceptions of safety. Implementing gradual changes over time and consistently evaluating their affects can lead to an improved Denver Avenue Station and whole Arena District.

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