

**THE DEPOT** *A New Intermodal Transit Facility in Mazar -i- Sharif, Afghanistan*

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### **Acknowledgements:**

To my family and friends for all of their love and support.

To my instructors for all of their guidance and inspiration.

To the men and women who have served for peace in Afghanistan.





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*When you eventually see  
through the veils to how things really are  
you will keep saying again and again  
this is certainly  
not like we thought it was*

- Rumi

## **Preface**

It all began during a study abroad trip to Oaxaca, Mexico in 2009. As my first experience abroad and being immersed within a culture much different than my own, I was profoundly struck by everything around me. The program in Mexico focused on the architecture of the city and my professor, Lance LaVine, emphasized the concept of place empathetic design which inspired me as I explored Oaxaca. The public street life, vibrantly colored courtyard buildings and a ample sunlight played a significant role in understanding where I was and what made it special. My ensuing studies reunited me with the places I called home in Minneapolis, Minnesota. Re-visiting the context I was already familiar with empowered me to become more engaged with my own surroundings and other parts of the world in order to widen my understanding of why places are unique.

In 2010, a close friend of mine embarked on his first deployment to Afghanistan with the United States Army. Throughout his tour he would periodically send me pictures of his experiences, which ultimately changed my perception of Afghanistan. No longer did I view it as a country devastated by corruption and war as the media had described, but place with a unique

culture and history. It was my first real exposure to the country and I vividly remember pictures and stories of the beautiful landscapes, cultural differences, and quaint village character.

Jumping forward to the fall of 2012, I had the opportunity to be part of a graduate design studio tasked with the objective to design a school for women in Afghanistan. It was exciting to engage with the country on an architectural level, recalling my past experiences abroad in Mexico.

The challenges associated with designing in a foreign context that is already convoluted with a multitude of social, political, and environmental issues removed me from my comfort zone and warranted a rigorous investigation of this new place. During the analysis I came to learn of the railroad, or lack thereof, in Afghanistan and thus this thesis came to fruition. The country is on the verge of industrialization and modernization that will inevitably cause considerable transformations. This project provided me with a catalyst for exploring and analyzing (both historical and contemporary) social, architectural and environmental issues within the context of change in Afghanistan.

## Introduction

Foreign powers<sup>1</sup> have historically vied for control of Afghanistan due to its strategic and desirable location, regularly encountering a resistant Afghan population. Unfortunately these struggles have led to a relatively unstable political and economic state and a slow evolution in the country's public infrastructure, specifically in the transportation sector. Over a century ago during what is now referred to as the "Great Game," Afghanistan's borders were closed to railroad development for fear of the country's vulnerability to foreign occupation. The only completed section of functioning track is located near the northern city of Mazar-i-Sharif in the Balkh Province, connecting Afghanistan to Uzbekistan. The country is slowly beginning to further plan and extend this rail infrastructure in order to realize its potential for becoming a regional center for trade and travel in the coming future.

Influenced by foreign investment driven by profits from mineral extraction as well as an over-extended ground transport system, the proposed railroad expansion is primarily planned for

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<sup>1</sup> USSR, Great Britain and the United States









freight usage only. However, due to the increased attention towards the benefits of rail as an economic form of transport and communication, it is expected that passenger rail will extend throughout Afghan territories, connecting to existing networks throughout the neighboring countries.

Beyond its essential role as a catalyst for economic and social advancement, a passenger rail system can serve as a lens for examination of a unique culture. Furthermore, the complexities of conflict in the country can be revealed as not just defined by war but by collisions of ideas about technology and culture. The railroad can be seen as another layer within the context of collaboration and resistance, providing a rich basis for an architectural discourse that raises important issues regarding the design of mobility and change in a developing nation.

This thesis explores how a proposal for a passenger rail depot in Mazar-i-Sharif can be an important driver in the modernization and identification of a developing nation. Afghanistan will first be analyzed in terms of its physical and social landscapes. The thesis further questions the liminal character of arrival and departure while exploring the notion of chronotopia, the time/space of railroad travel and a discussion on the depot as function and symbol. The project ultimately seeks to investigate issues of contextualism and place empathetic design through the proposal of a new transit typology in contemporary Afghanistan.

As the introductory quote by the well-known Persian<sup>2</sup> poet, Rumi, expresses; the country cannot be understood through the fabricated lens produced by national media outlets with stories of

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<sup>2</sup> Rumi was born near present day Mazar-i-Sharif, Afghanistan.

violence and turbulence. By focusing on a project that thematically explores ideas of cultural, physical landscape, contemporary societal issues, and emerging national development, the intricacies of place can be revealed and through an architectural manifestation we can begin to raise larger issues of modernism existent within any culture or place.

1. *Soldier Handing out Gum to Afghan Children*
2. *Balloon-seller in front of a former teahouse - Kabul, Afghanistan*
3. *Unloading Cement from a Train - Mazar-i-Sharif, Afghanistan*
4. *Current Railroad Link to Afghanistan from Uzbekistan*
5. *Proposed National Railroad with Surrounding Network*

## The Geography of Afghanistan

The landlocked country of Afghanistan is approximately the size of Texas and is dominated by an abrupt contrast between flat plains and towering mountain peaks. Neighboring countries include Iran, Turkmenistan, Uzbekistan, Tajikistan, China, and Pakistan. Subdivided by the Hindu Kush mountain range which constitutes about sixty percent of the country, Afghanistan can be broken down into three distinct geographic areas: the central, northern and southern plains.<sup>1</sup> Regardless of the region, one always has a strong visual relationship with the mountains. As a volatile landform, the Hindu Kush is a governing feature where earthquakes and landslides are a common occurrence making travel and settlement challenging.

The city of focus for this thesis, Mazar-i-Sharif, is located just north of the Hindu Kush mountain range at an elevation of approximately 1,200 feet above sea level. Asian steppe, characterized as being arid desert or grasslands, is the prominent ground cover stretching from Eastern Europe throughout Central Asia. Historically, forests used to cover many of the rolling foothills in the country but due to the deforestation of many profitable species

6. *Rural Village in Afghanistan*

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<sup>1</sup> Emadi, *Culture and Customs of Afghanistan*, 2.



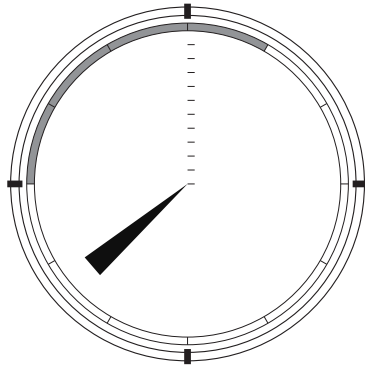


over the years, much of Afghanistan lacks thriving forested lands. Though overcoming the unsupportive characteristics of Asian steppe, small patches of trees do exist throughout the northern provenance, specifically in Mazar-i-Sharif, and mainly where manufactured and natural irrigation systems occur. Poplar is the most common tree species and is highly valuable as a primary building material in both historic and contemporary structures.

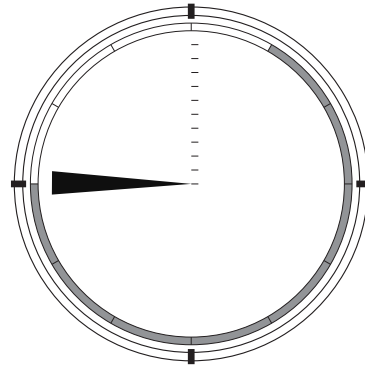
Aside from barren lands and patchy groves of trees, large areas of agricultural lands take advantage of any water source available. The agriculture industry is a major economic driver throughout the region and persists as the dominant visual backdrop to many Afghan cities and villages in this area.

Afghanistan as a whole possesses a continental climate, similar to Denver, Colorado, averaging a low accumulation of precipitation while producing hot summers and cold winters. In Mazar-i-Sharif, the average temperature reaches seventeen degrees Celsius, with lows averaging ten degrees and typical high temperatures reaching twenty-four degrees. Though fairly moderate, the extremes range from forty-seven degrees to minus twenty-three degrees. Furthermore, prevailing winds arrive from the west and southwest at an average speed of ten miles per hour with gusts capable of reaching twenty miles per hour. The city receives an average precipitation of forty-three millimeters between November and April that typically includes snowfall during January and February. Much of the city survives without active

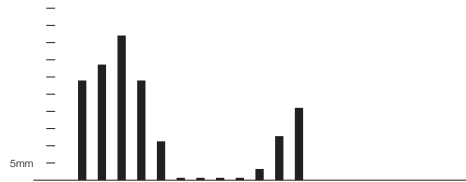
environmental systems and thus this proposal considers the climatic extremes of the city as important design opportunities and explores using passive systems to create comfortable interior environments for the Depot's users.



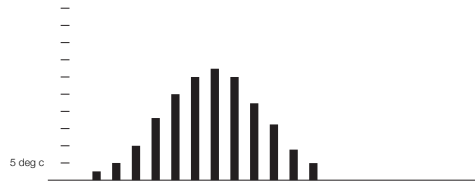
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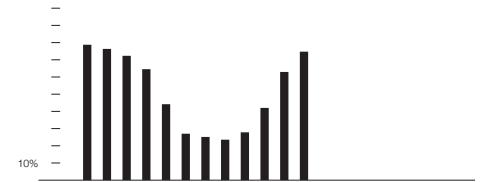
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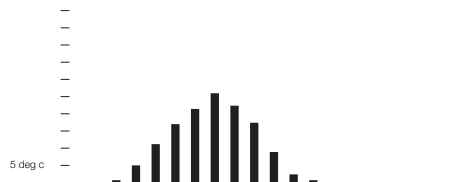
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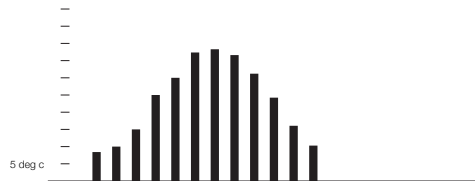
Average Temperature



Humidity



Average Low Temperature



Average High Temperature

## **Social Context: The Gordian Knot**

Generally, Afghanistan is host to a myriad of social, political, and economic issues, best described by Allard Wagemaker as a metaphorical “gordian knot,”<sup>1</sup> Afghanistan’s tenuous future must be fostered by multiple parties focused on a sensible, needs based approach to sustained peace and operable stability. It is important to note that the current economy is shaken and the government is struggling to maintain order. Furthermore, illicit drug trafficking in the region has made opium Afghanistan’s number one export. While the drug lords and other warlords vie for ultimate control, foreign troops, aid workers, and locals concurrently collaborate towards peace and prosperity. Public infrastructures are primitive and outdated. Waste management is scarcely existent, prominently running along the streets of the cities as shallow day lit channels. Energy is unreliable and universal access to potable water is insufficient. Moreover, transportation networks are stressed and cannot maintain any additional economic traffic while domestic mobility is limited and unreliable. The challenges brought forth by these social, political and economic issues require long term and extensive interventions.

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<sup>1</sup> Wagemaker, “The Afghan Gordian Knot,” 122.



9. *Waste Channel and Generator, Mazar-i-Sharif, Afghanistan*

To quote Sultan Barakat, a professor at the Department of Politics at the University of York, UK, “Fragile contexts are made more volatile by the multiple transitions expected of societies recovering from war...”<sup>2</sup> The development of Afghanistan is vulnerable to dominant foreign influence as demonstrated by the development tactics of the current railroad and other public infrastructure projects. The country’s boundless and untapped frontier of potential transit networks, mineral wealth and trade economies hold an allure to political superpowers. A hasty and influential westernization of the country will inevitably bring forth rapid influx of modernization and change that may overwhelm the existing local culture.<sup>3</sup>

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<sup>2</sup> Barakat, “Provide and enable,” 22.

<sup>3</sup> The idea of modernism is a broad topic and for the purposes of this thesis, the focus of the term “modern” will be limited to that of architecture and technology.



If Afghanistan is to modernize through the influence of foreign agencies; policy, laws and the public need to collaborate in order for changes to succeed. When writing about infrastructural development, particularly in regards to the implementation of a river dam in Afghanistan, Nick Cullather states that “to modernize was to lay claim to the future and the past, to define identities and values that would survive to guide the nation on its journey forward.”<sup>4</sup> He further states that all countries have followed a similar path towards development, the “clocks of history set at different hours,”<sup>5</sup> and it is important for established nations to be leaders for those who follow. As an outsider, it is important to understand that interventions need to be sensitive and appropriate for the greater good of a country. Though the “knot” has many ends, this thesis addresses the specific agenda of the railroad with acknowledged respect to the complexity of issues that characterize contemporary Afghanistan.

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<sup>4</sup> Cullather, “Damming Afghanistan,” 514.

<sup>5</sup> *Ibid*, 513.

## Chronotopia – Time/Space of Railroad Travel

Wolfgang Schivelbusch wrote that the railroad is an annihilation of space and time,<sup>1</sup> shrinking distances to the confines of the city. At the inception of rail travel, time was no longer measured in days but in hours, minutes, and seconds. He argues that the spaces between two endpoints were destroyed and the identities of place were isolated. Similarly, a French author in 1840 described the railroad as something that “only serves the points of departure, the way stations, and the terminals which are mostly at great distances from each other...they are of no use whatsoever for the intervening spaces, which they traverse with disdain and provide only with useless spectacle.”<sup>2</sup> John Ruskin also wrote on the topic rail travel concluding that travelers were unaffected by the space in which they traveled, arriving to their destination just as they left their origin.<sup>3</sup> As such, he suggests that passengers of rail become detached with what exists beyond the destination and do not experience the landscape. This thesis contends that journey from one station to another becomes a short cinematic experience in which

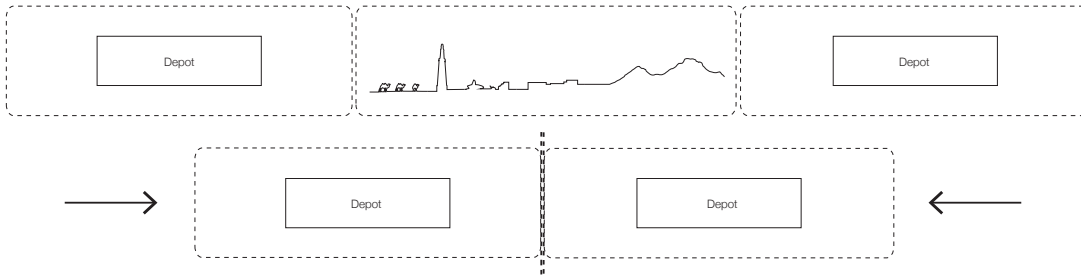
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<sup>1</sup> Schivelbusch, *The Railway Journey*, 36.

<sup>2</sup> *Ibid*, 38. referencing Dunoyer, *Espirit ed méthodes*.

<sup>3</sup> *Ibid*, 39.





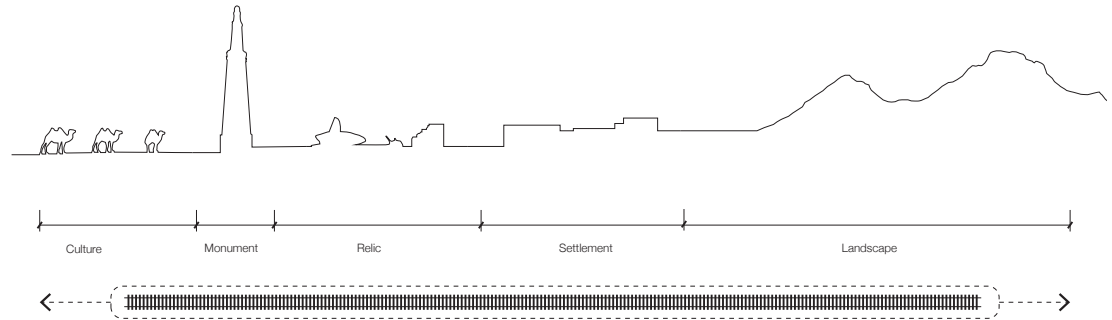
time and space becomes abbreviated and not inconsequential. Afghanistan possesses a unique geographic pallet revealing multiple layers of history that have slowly eroded over time, exposing a physical record of the region. As Orley writes, “All landscapes are liminal, transitory by their very nature, constantly suspended in a state of in-between-ness.”<sup>4</sup> These places are never in a moment of stasis, but constantly changing and adapting to new events over time. The space in-between, the liminal landscape, possesses a physical gradient of time; a place that remembers.<sup>5</sup> These events are important features to travel by which the passengers read the landscape and gain an understanding of a particular place and history. Unlike air travel, railroads connect the passenger to the land, providing an intimate and physical interpretation of the landscape, deepening the ephemeral character of place.

12. *Travel and the Annihilation of Time and Space Diagram*

13. *Chronotope of Afghanistan Diagram*

<sup>4</sup> Orley, “Places Remember Events,” 39.

<sup>5</sup> Orley, “Places Remember Events,” 38.



In the *Dialogical Imagination*, Mikhail Bakhtin writes,

*We will give the name chronotope (literally, 'time-space') to the intrinsic connectedness of temporal and spatial relationships. In the artistic chronotope, spatial and temporal indicators are fused into one carefully thought-out, concrete whole. Time, as it were, thickens, takes on flesh, becomes artistically visible; likewise; space becomes charged and responsive to the movements of time, plot, and history.*<sup>6</sup>

Expanding on this idea, Simon Norfolk, a photographer of landscapes and surfaces created by war, coined the term “chronotopia” (places that register the passing of time) writing, “the chronotopia of Afghanistan is like a mirror, shattered and thrown into the mud of the past; the shards are the glittering fragments, echoing previous civilizations and lost greatness.”<sup>7</sup> The landscape of Afghanistan can thus be seen as being littered with remains of past and present conflicts, a “graveyard of empires.”<sup>8</sup> Monuments of ancient civilizations, fields of dismembered aircraft and busses, equipment and weaponry of foreign occupation dominate the vibrant and diverse landscape. It is a landscape frozen in time, yet changing rapidly in response to

<sup>6</sup> Bakhtin, *The Dialogic Imagination*

<sup>7</sup> Norfolk, *Afghanistan Chronotopia*.

<sup>8</sup> Hobbs, *Fundamentals of World Regional Geography*, 240.



local and global events. The railroad is but another layer adding to a brief history of railroad progress and expanding the story of the landscape. Railroad travel can thus be ascertained as an interpretive device to expose the past and present beauty of the country and its cities.

Afghanistan skipped the age of rail almost entirely, trading camel for car (in some instances) while quickly adopting the convenience of air travel as its primary passenger transport system. Amanullah Khan, King of Afghanistan from 1919-1929, was a pioneer of Afghan forward thinking. His merits not only include primary schools for boys and girls, marriage reform and gender equality<sup>9</sup> but also included the country's first railroad. During his brief period of influence, he managed to overcome widespread opposition and ordered the construction of an eight kilometer rail line in downtown Kabul, connecting the city with the palace Darulaman.<sup>10</sup>

14. Afghanistan's First Train - Kabul, Afghanistan

<sup>9</sup> Shireen, "The Politics of Zan," 46.

<sup>10</sup> "Afghanistan Joins Railroad Era 100 Years Late"

A great cultural triumph of its time, the old steam locomotive is now just relic of progressive thought. The current state of Afghanistan's first train pays eternal homage to its creator in the foreground of the King's war torn palace remains at the National Museum of Afghanistan.

The railroad is a past and present element of this "chronotopia." Afghanistan has the potential to tie together all of the characteristics of the landscape, both cultural and geographic. Accordingly, the destination, or depot, as anchor to the in-between, gains importance as a culmination of the journey, symbolizing the localities of the region and reinforcing, through the design, the physicality of time and place.

## The Depot as Function and Symbol

Railroad stations carry strong nostalgic connotations of places dedicated to structural ingenuity and spiritual associations. The relationship between the existential and technological functional and symbolic associations evident in station design provides a rich field of investigation into their role in society and industrialized achievement. In an 1844 painting titled *Rain, Steam and Speed-The Great Western Railway*, Joseph Mallord William Turner captures the romantic discontent between landscape, technology and society in light of the railroad expansion. In the painting, the locomotive speeds into the horizon, blurred with intense motion. The landscape becomes a collage of color and abstraction contrasted with the human figures on the water. Beneath the bridge is a bellowing inferno that fuels the inextinguishable fury of the train, the demon of technology. The unsettling tension of the painting raises the question of where man exists between these new unknown layers of progress. The intimidating and massive machines at the forefront of modern technology were unsettling as progress brought an uncertain future dominated by industry and technology. Though a stationary element, the depot is fundamentally a place of movement and transfer between many scales and speeds





of mobility. Its function is primarily utilitarian; submissive to constraints of the current train technology yet the station embodies a mental threshold between the time and space of rail travel as well as the merging of man and machine.

The depot symbolized both a departure point from and a destination, serving as this fixed node within a larger system of infrastructure. The structures initially developed through contemporary technologies and building materials of their time that ultimately constituted in an entirely new building typology. The inception of the locomotive dictated this new type of architecture that was previously unprecedented. The stations displayed an “eloquent reflection of the age which produced it both a daring and innovative modernity and a heroic and comforting traditionalism.”<sup>1</sup> They captured design attitudes of their immediate context while adapting to the technologies of the time. Main railroad facilities represented places central to community growth, often spurring economic development and thus becoming part of a town’s business cores. Likewise, they are the convergence of people and places that reflect the societies in which they are situated, being “meeting points of nations, the centre where all converges, the nucleus of the huge stars whose iron rays stretch out to the ends of the earth”<sup>2</sup>

At the inception of railroad stations, the platform served as the heart of the depot. Aldo van Eyck wrote “you cannot leave a real place without entering another” and therefore “departure

15. *Grand Central Terminal, Circa 1930's*

16. *Rain, Steam and Speed - The Great Western Railroad*

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<sup>1</sup> Richards and MacKenzie, *The Railway Station*, 3.

<sup>2</sup> *Ibid*, 3.



must mean entry”<sup>3</sup> When a passenger finally arrives at the depot, they are both arriving from their previous destination and departing from their current location. The platform is the passengers first impression of the destination. Physically, it is a raised surface where people are brought to the level of the train. It extends the length of the train and is typically wide enough for ample circulation on and off the rolling stock. Platforms have the capability of being opened or covered, often roofed with impressive long span coverings made of steel and glass. Though it still common for smaller railroad depots to only possess a platform or loading area and simple shelter, the addition of a great hall became an essential part of the travelers experience in their new surroundings.

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<sup>3</sup> Eyck, *The Child, the City and the Artist*, 56.

The great hall initially revealed the success and power of the railroad company during the early 1800's. Railroads were primarily private enterprises that catered to passengers, competing for customer loyalty and prestige. It was common for the great hall to possess high vaulted ceilings and large, open floor plans where passengers circulated towards the platform, concourse or street. Serving as the primary circulation space, the great hall is a medley of sounds and movement, fluctuating according to the arrival or departure of a train into or out of the station. This central space also serves as an area of pause, where public gathering and waiting occurs among the energy of constant movement.

Though the typology of railroad depots have existed for decades in many parts of the world, the designs have not undergone significant change. They have adapted to meet modern requirements for travel and have been integrated to serve additional modes of transportation, creating intermodal transit facilities. Additionally, as the function of the station solely existed as a gateway between the train and the city, the contemporary transit facility has evolved to meet the needs of consumers with supporting functions that are specific to the local conditions. Modern stations have moved away from the great hall, providing amenity no different than the average shopping mall. Waiting lounges still exist though not at the grand scale and primary waiting occurs on the platform. A depot in Afghanistan needs to recognize the basic functions of a station to integrate into new networks of transit infrastructure while providing social amenities for the local community.



17. Alaskan Railroad Hault - Seward, Alaska

18. Hauptbahnhof - Berlin, Germany

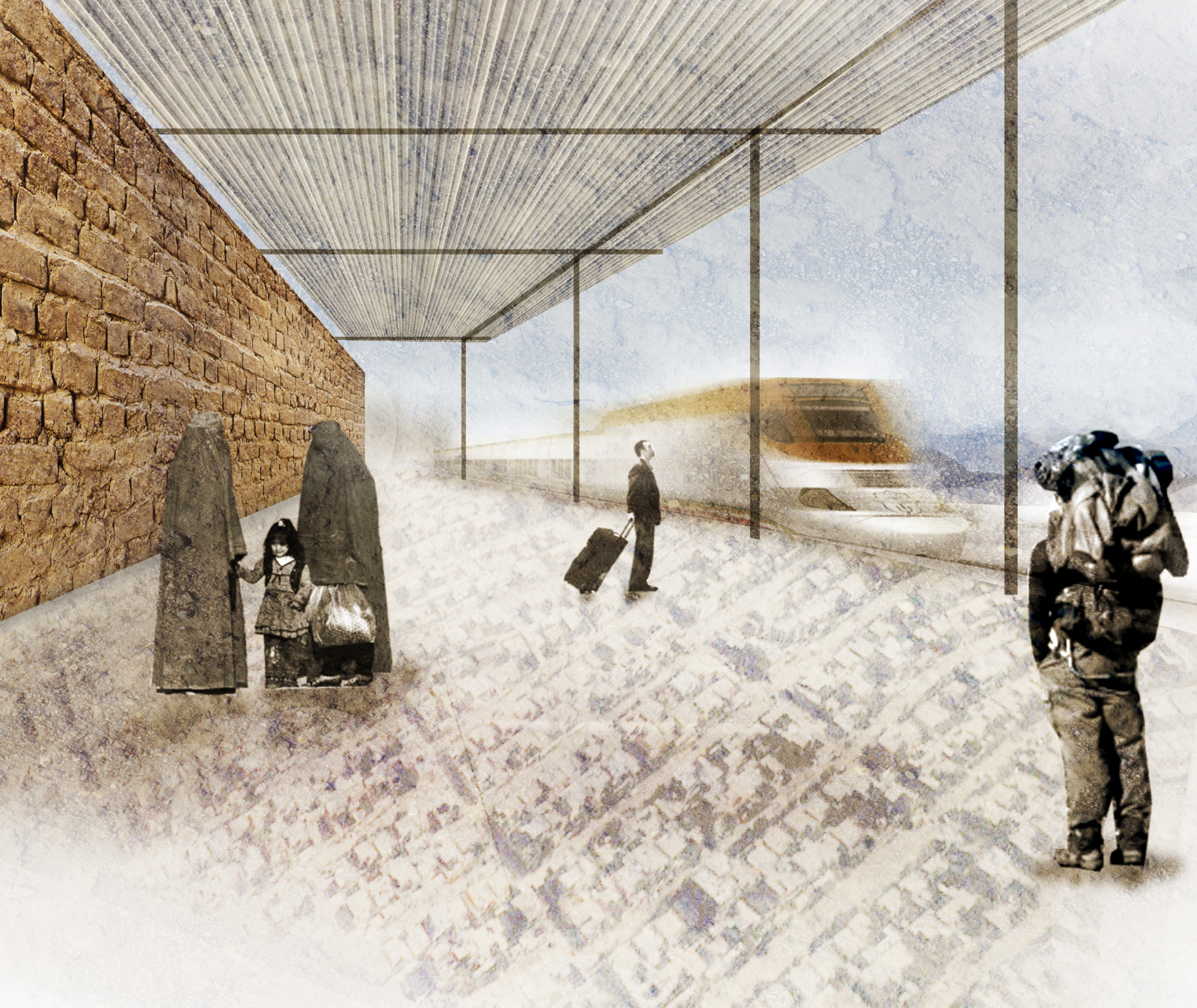


## Design Methodology

The approach for the following design proposal began as a reflection of the previously discussed research. To begin, certain design parameters that reflected the landscape, culture and values of the country were established. The idea of chronotopia resonated as an opportunity to register layers of time in at the scale of the depot. Furthermore, the landscape suggested a design approach that engaged the particularities of the region based in terms of both the environment and local traditions.

To avoid notions that a new transit facility must follow the ill fitting trends of modern stations, it was important to articulate the function and symbolic attitude of a contemporary depot in Afghanistan. Two main examples of transport architecture within the context of Afghanistan, the Caravanserai and the Mazar-i-Sharif International Airport were used as precedents for this investigation. The first example is an ancient typology associated with the Silk Road while the later is a recently completed project in Mazar-i-Sharif. The juxtaposition of these two examples represented the absolute extremes in the design exploration. Both building types represented what the new depot embody; the caravanserai inspired traditionally rooted

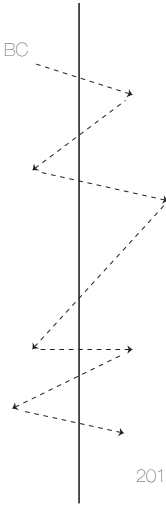






caravanserai

150 BC



2013



mazar -i- sharif international airport

responses to culture and context while the airport represented the pragmatic and utilitarian functions of a contemporary transit facility. A program outlining the necessary spaces and functions was established that is intended to balance the essential aspects of both examples.

Most urban developments were a direct result of the railroad. This project proposal is a unique situation where a railroad is introduced after a period of urban development has taken place. The proposal had to address the pragmatics of the railroad while making decisions as to an appropriate route into the city of Mazar-i-Sharif. Accordingly, this exercise identified a site in the city that proceeded with a rigorous investigation into its unique characteristics and opportunities. Through this analysis, the relationship between urban life and modern architecture was questioned by studying specific conditions throughout the commercial core



of the city. It was concluded that the architecture becomes the facilitator for both formal and informal activity at street level, creating spaces for exchange and socialization . From this, the idea of wall and canopy became the primary concept that influenced the overall organizational qualities of the design.

19. *Early Conceptual Visualization of the Depot*

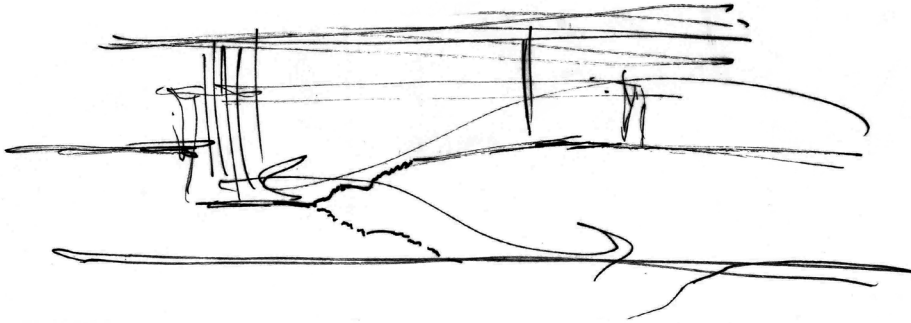
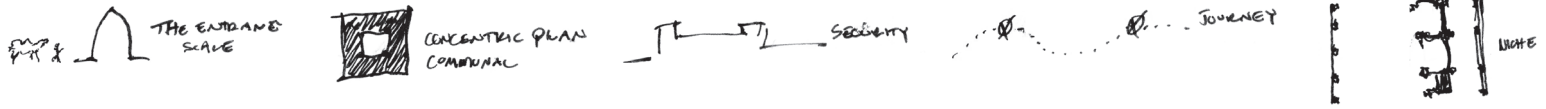
20. *Caravanserai in Iran*

21. *Interior of Mazar-i-Sharif International Airport*

22. *Modern Building and Street Life, Mazar-i-Sharif, Afghanistan*







- 23. Typical Residential Street - Mazar-i-Sharif, Afghanistan
- 24. Canopy Over Street Venders - Mazar-i-Sharif, Afghanistan
- 25. Principles of the Caravanserai
- 26. Conceptual Sketch of the Depot in Section
- 27. Detail Visualization of the Depot Canopy and Wall



## Site

Mazar-i-Sharif is a city located in the northern region of Afghanistan known as the Balkh province. It is the capital of the provincial region and is the fourth largest city in the country. The city itself is centered around the shrine of Hazret Ali, the cousin and brother-in-law of the prophet Muhammad. The shrine, also known as the Blue Mosque, serves as the main public center of the city as well as a popular tourist destination.

It is important to note development of cities in Afghanistan. A high density of low-rise buildings characterizes the overall fabric of the city. As one obtains property, a wall is built around the perimeter ensuring privacy and security for their family or particular land use. Then structures are constructed within the walls to meet the desired needs of the property owner. This building typology, referred to as a qala or compound, is a dominant building form that creates a ubiquitous street presence in the public realm and personalization occurs only with the entry door within the maze of interstitial streets and paths infiltrate city blocks. Much of the commercial activity revolves around the periphery of the shrine at the city center congested with pedestrian and vehicular traffic. Concrete frame with mud brick infill buildings that reach





six floors in height are beginning to dominate the main thoroughfares in this central core and newer construction of glass and concrete facades exhibit a more plastic look, or superficial appearance, decorated in patterned motifs and vibrant colors.

The current rail line terminates just east of the Maulana Jalaluddin Balkhi International Airport. Directly to the south of the airport lies Camp Marmal, an operational center for NATO forces in the region. The rail terminus and airport provide essential networks for troops and supplies and begin to imply a remote zone that threatens the centrality of the city core. Though strategic locations for military agendas, these current hubs are removed from being in positions of convenient connectivity. As a strong and influential commercial and cultural center in the Balkh region, new nodes of transportation in Mazar-i-Sharif must possess strong relationships

29. *Railroad from Uzbekistan to Mazar-i-Sharif, Afghanistan*

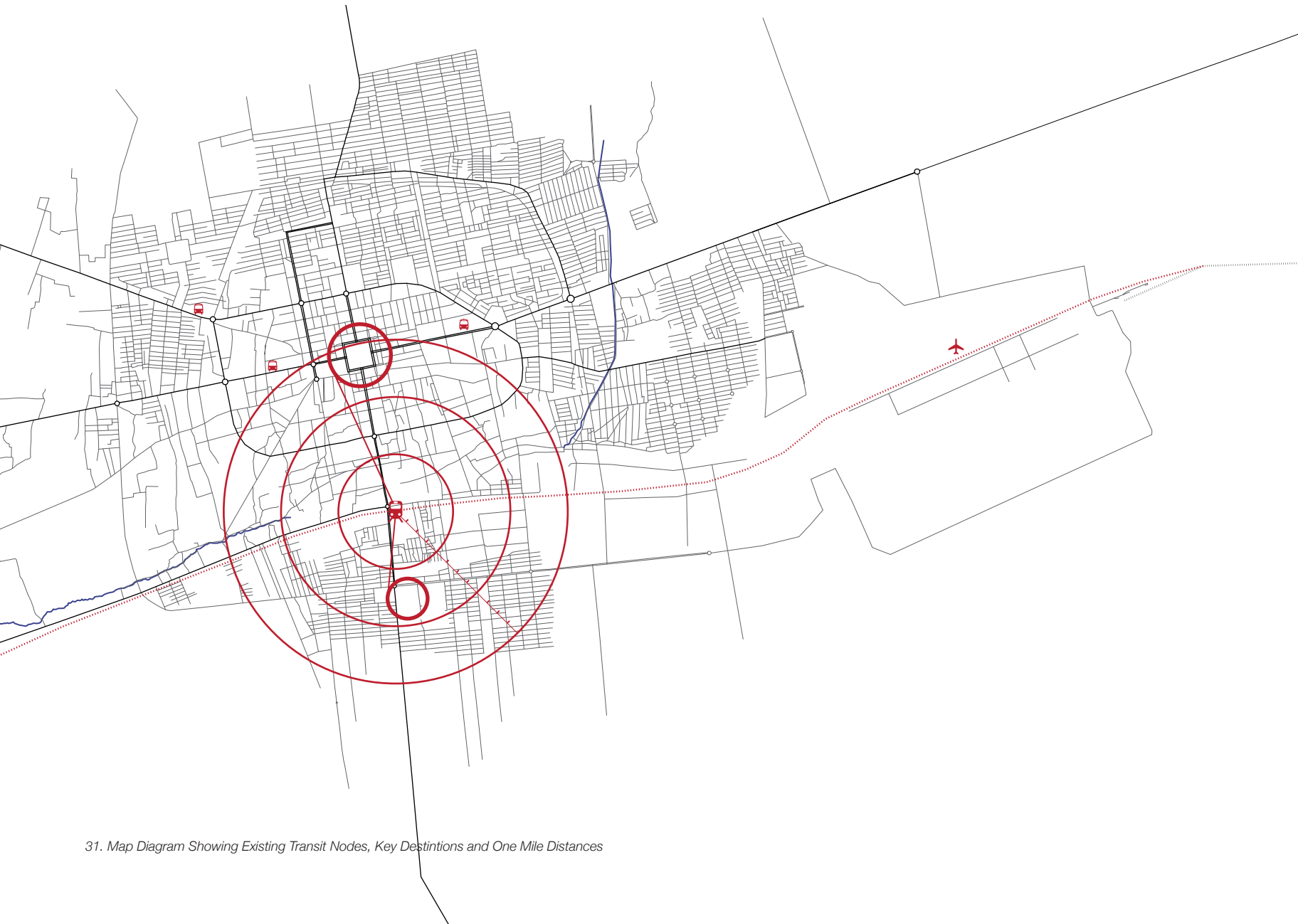


with important public destinations in the city. Airports, due to the operational constraints and scale, are planned for outlying areas and require additional forms of transportation to access. Unlike airports, railroad stations have historically been unique because they occupied centralized urban positions.

*30. Proposed Site in Mazar-i-Sharif, Afghanistan*

This thesis proposes an extension of the current rail line to pass by the existing airport further into already established urban fabric where it can occupy a location of dynamic development patterns and mixed land use serving wide diversity of social classes. Additionally, the site chosen for this intervention possess a proximate relationship with existing bus stations along the main arterial through the city center and to the airport.

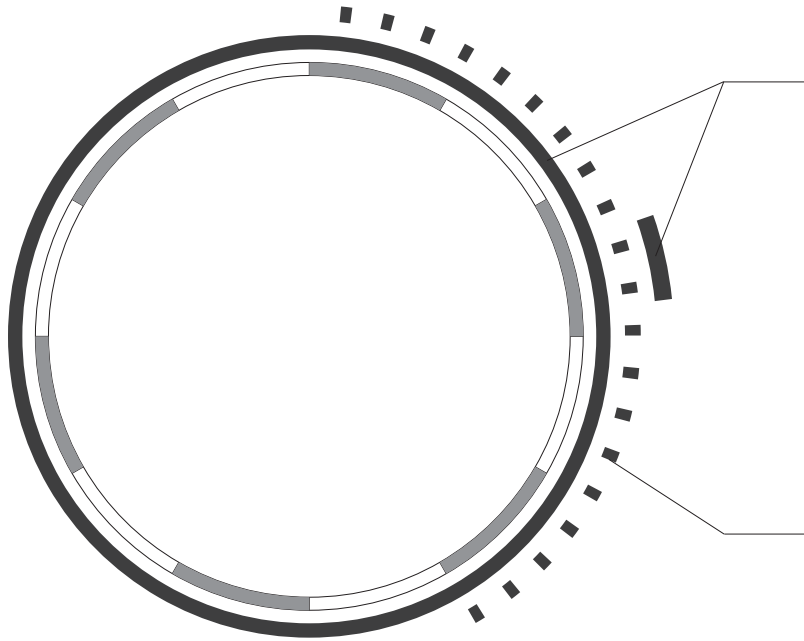


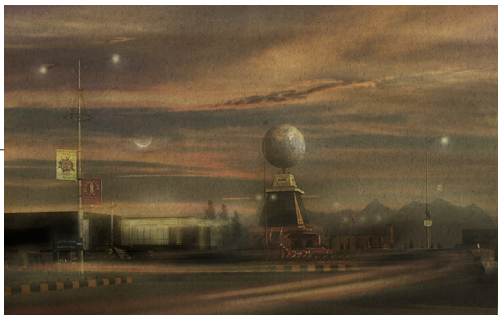


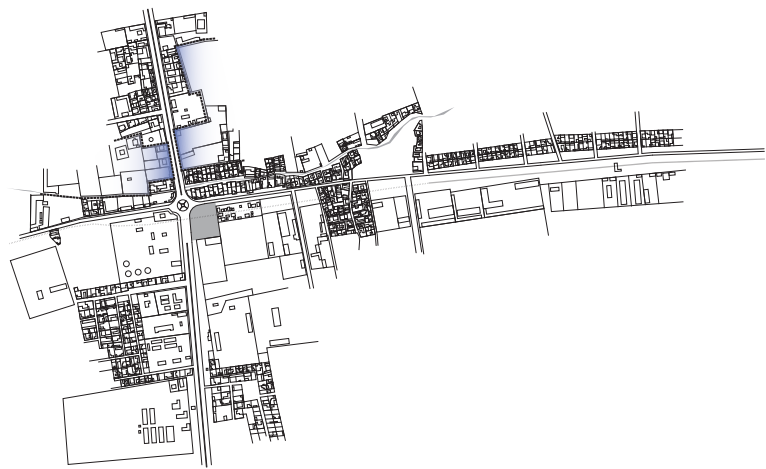
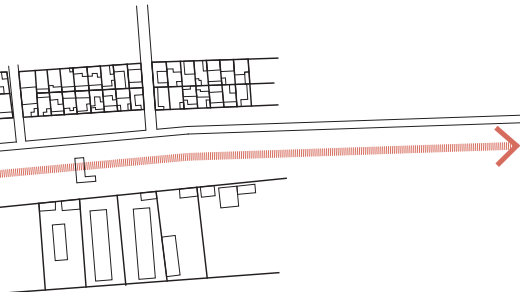
31. Map Diagram Showing Existing Transit Nodes, Key Destintions and One Mile Distances

Just to the north of the site, anchoring the round about, is Noor Square. The occupiable monument, adorned with a large globe, acts as a beacon to the site that can be seen from an estimated one mile away. Popular destinations in Mazar-i-Sharif influential to the selection of this site location include the previously discussed Shrine of Hazrat Ali to the north, a year round tourist destination for both Afghans and Foreigners and the location of the Nowruz, or Persian New Year. Nowruz takes place during the March equinox and draws thousands of visitors annually. Directly to the south is the buzkashi stadium, home to a very popular game in Afghanistan similar to polo. Participants on horseback compete to place a headless goat carcass in their opponents' goal. The highly competitive sport draws thousands of spectators throughout the season from around the region.

The recent development and commercialization of Mazar -i-Sharif has lead to an industrialized zone in the southern part of the city. Intertwined within this zone is a core of residential and commercial developments that continue to sprawl south towards the barren landscape. Furthermore, a ring of agricultural properties stemming from an irrigation channel that cuts through the southern extents of the city. The area in which these three main zones collide (the site for this thesis proposal) presents an opportunity for the proposed new depot to engage in the convergence of the distinct land use patterns.





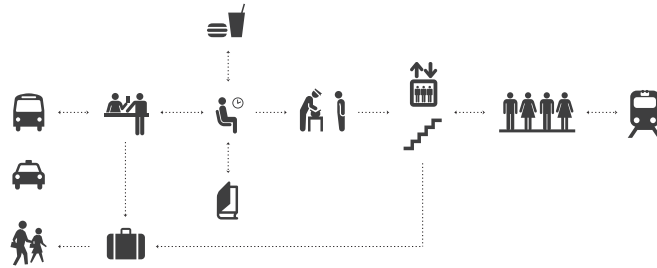


33. Proposed Site and Contextual Visualization

34. Industrial Land Use

35. Residential Land Use

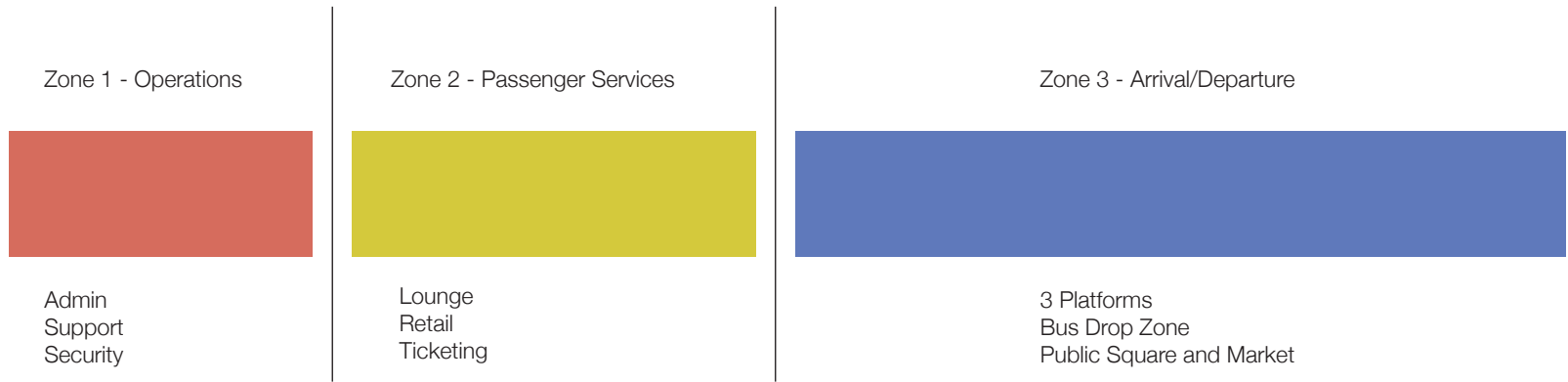
36. Agricultural Land Use



## Program

This thesis proposes a 2,500 square meter facility that has the capability to handle 50-175 railroad passengers per peak hour, or 1,500 railroad passengers/day. The program will be divided into three separate zones: operations, passenger services, and arrival/departure. Space requirements were determined based on a standard diagram conveying station circulation and processes and sized appropriately for the proposed passenger flow. Enough space is allocated on the site to accommodate up to six coach busses with space for the loading and unloading of passengers. The depot is also designed to serve the existing regional passenger rail system in Uzbekistan with the flexibility of introducing high-speed rail in the future. The railroad stock currently used throughout Uzbekistan consists of eleven railroad cars, nine of which are coach. The average coach car is twenty-five meters in length, requiring a minimum platform length of 225 meters. Two platforms and four railroad spurs are proposed to accommodate an assumed flow of passenger rail traffic.

Accordingly, the depot aims to serve four main user groups: commuters, tourists, leisure visitors, and employees.



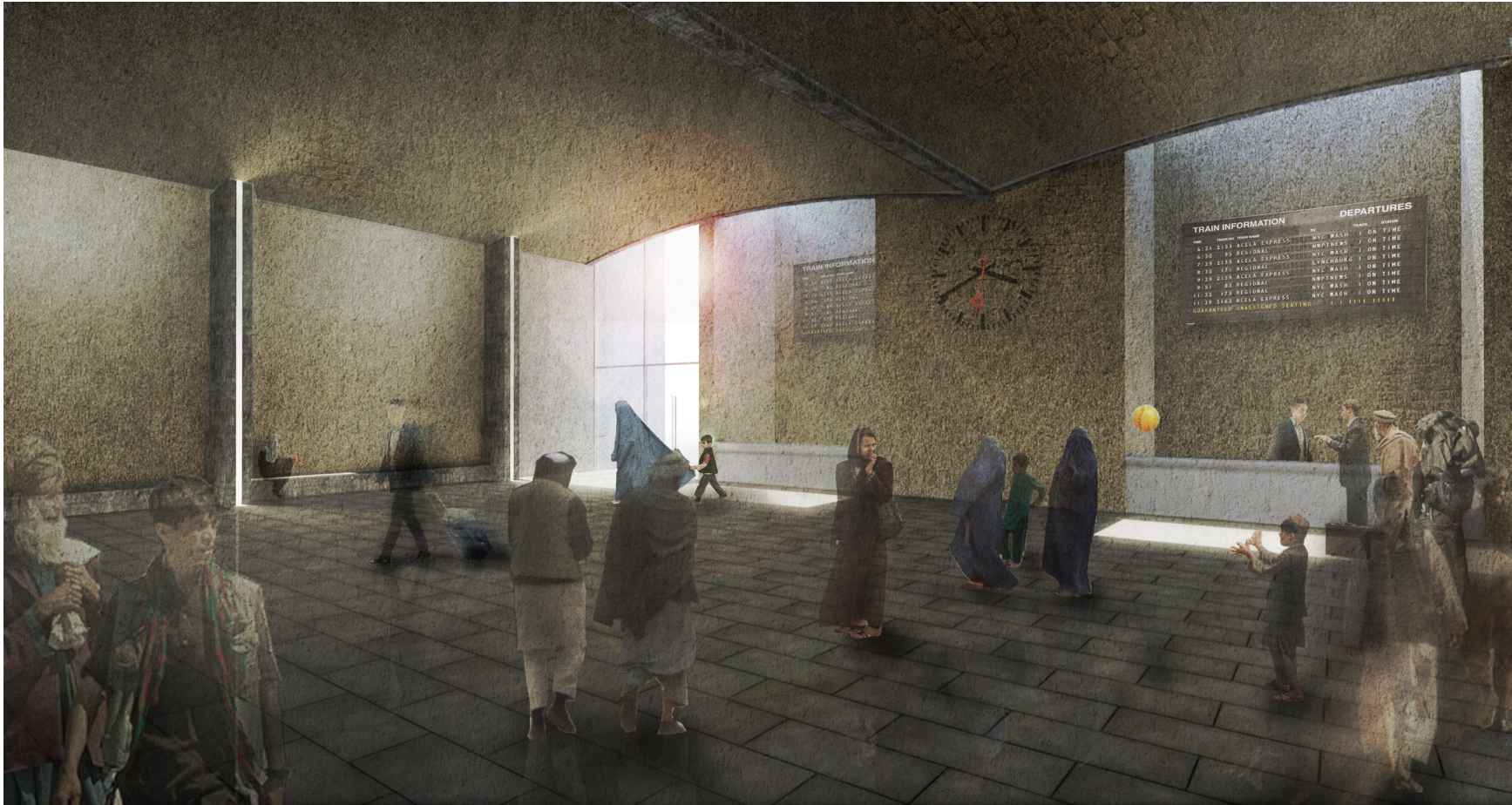
37. Typical Station Circulation

38. Program Diagram

Commuters are local and regional travelers that use the railroad frequently. They are familiar with the procedures and patterns of the station and require efficient and accommodative services. They are most likely to spend time in the waiting lounge and on the platform. Business travelers can be both frequent and occasional users. Their time spent in the station is minimal and require services geared towards visitors to the city unlike commuters who may be residents.

Religious tourism and pilgrimage are popular in the region. The station must accommodate intense periods of arrival and departure during peak religious events. Additionally, the Buzkashi events draw both tourists and spectators. Tourists are unfamiliar with the depot and the city. Their first impressions are determined upon arrival and last impressions upon departure.

Leisure visitors are users mainly occupy the outdoor plaza and occasionally the indoor waiting lounge for special events. They are frequent users and see the station as amenity for their local community and greater urban population.



*The station, as he entered it, was murmurous  
With the immense and distant sound of time.  
Great slant beams of moted light  
Fell ponderously athwart the station's floor,  
And the calm voice of time  
Hovering along the walls and ceiling  
Of that mighty room,  
Distilled out of the voices and movements  
Of the people who swarmed beneath.*

...

*Few buildings are vast enough  
To hold the sound of time*

...

*For here, as no where else on earth,  
Men were brought together for a moment  
At the beginning or end  
Of their innumerable journeys*

...

Thomas Wolfe  
The Railroad Station

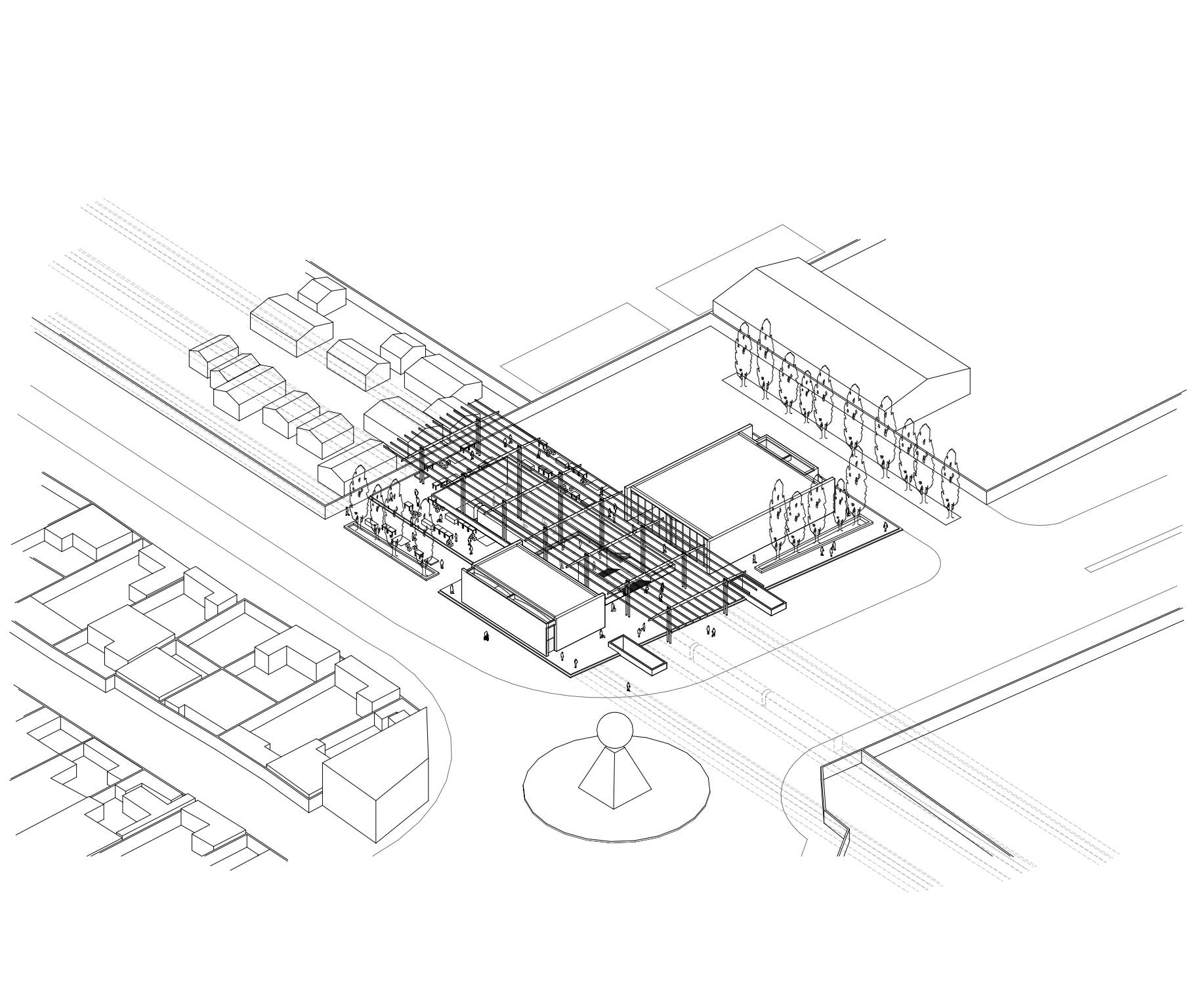
## The Design

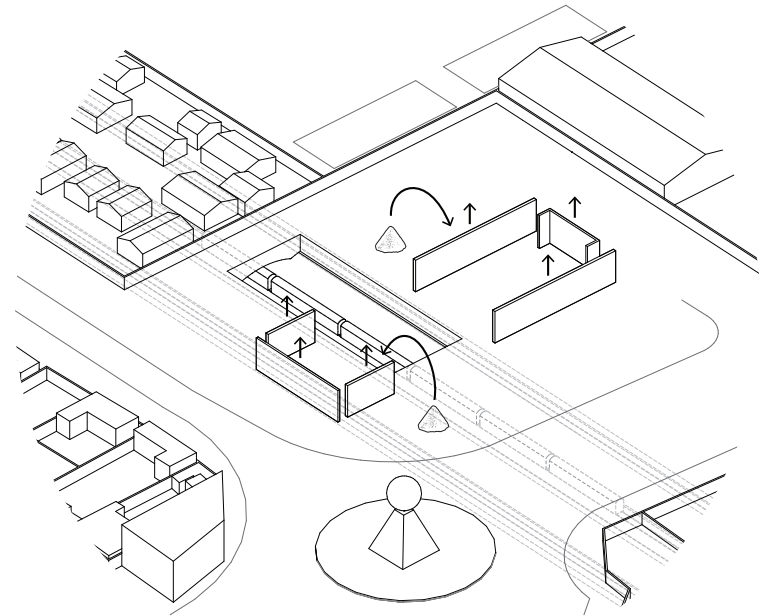
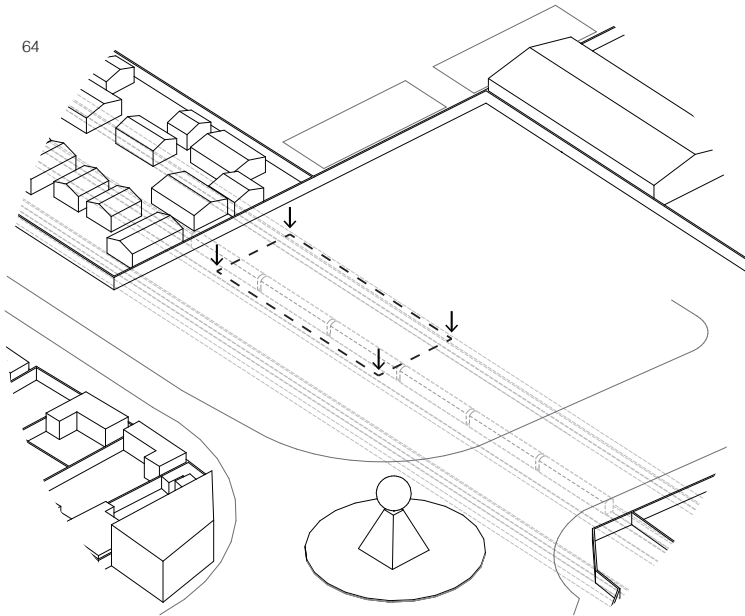
The design was conceptualized with the idea that the depot can be phased in order to benefit from the chronological development of the railroad and its subsequent economic facilitation. Taking a “from the ground up” approach, the various components of the depot are layered into the design to sequentially register time as it relates to the logical order of pragmatic building processes and spacial relationships. The tunnel, access hole, pavilions, steel structure, canopy, and plaza will be defined as the layers and will symbolically embody the idea of chronotopia at the scale of the depot.

As to not disturb the existing fabric of the city, it is proposed that the tracks descend below grade, boring a tunnel approximately two miles in length through the site. The earth excavated to access the tunnel is proposed as being material for producing mud brick, the primary building material for the two station pavilions. Further implementing building practices commonly utilized in the region, long span mud brick barrel vaulting is implemented to create the open floor plans of the pavilions. A concrete frame provides necessary structural assistance to the mud brick infill system.

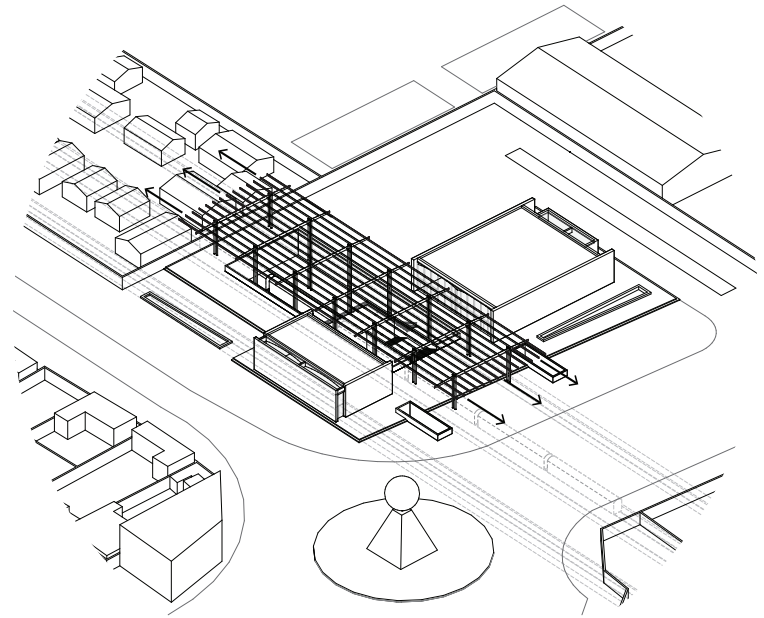
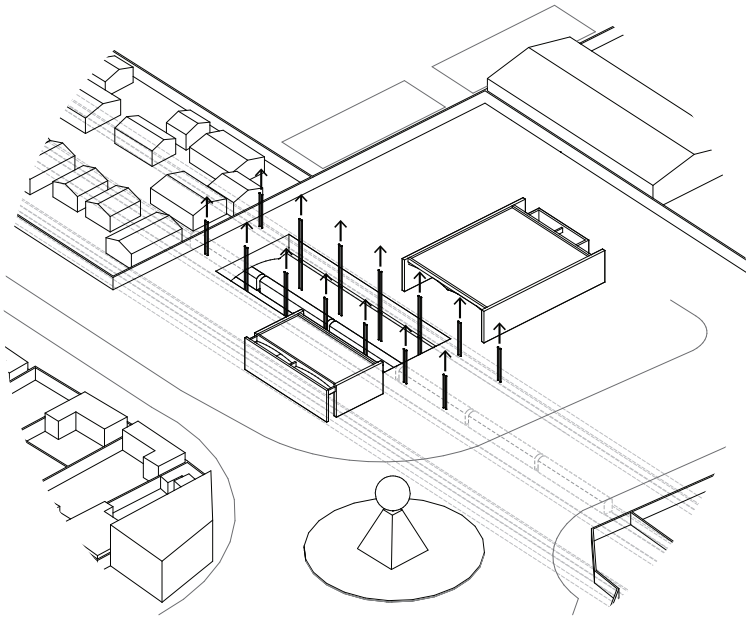
*39. Interior Visualization of Ticketing Area*

*40. Axonometric Drawing of Proposed Depot*





As a reference to idea that the railroad is the symbol of industrialization and being that its primary development influence is the iron ore mining operations planned for the country, round hollow core steel columns rise from the platform below, supporting a steel canopy consisting of a steel grating hung from simple beam and purlin system above. Steel grating was chosen because it is a standard steel product that possesses some structural capabilities and is also permeable. The canopy is intended to provide both the platform below and surrounding plaza with protection from the extreme summer sun and precipitation. The plaza, articulated by the operations pavilion to the north and the passenger services pavilion to the south, steel canopy and opening to the tunnel below, creates a series smaller spaces to facilitate various

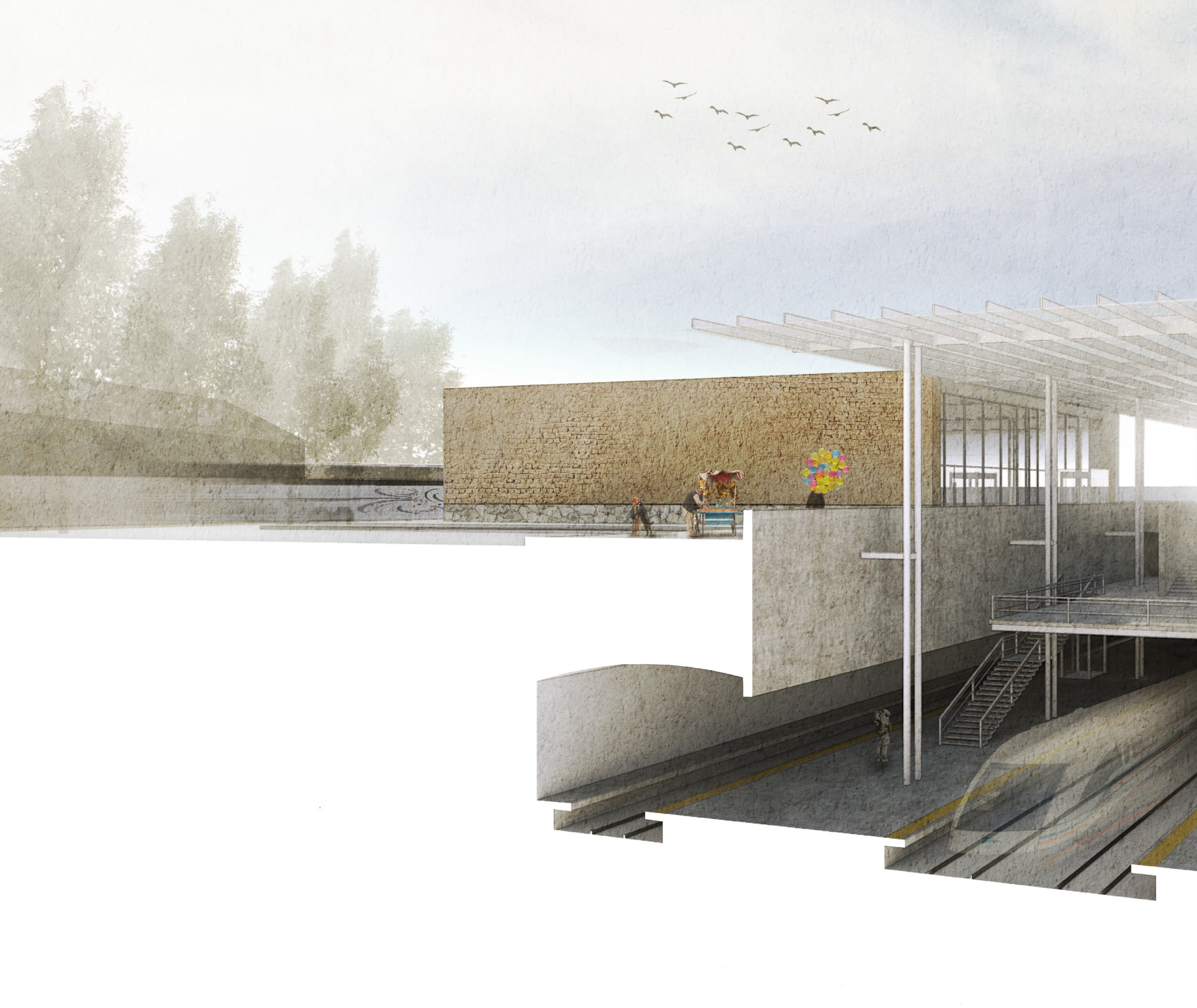


41. Train Enters Site Below Grade

42. Access Hole and Resulting Building Organization

43. Steel Columns Emerge from Access Hole

44. Steel Canopy and Plaza





scales of public activity. The poplar trees around the site are envisioned to provide shade to the areas of the plaza not benefiting from the protection of the canopy.

The southern portion of the site has been allocated to function as a vehicular drop zone. Taxi's, shuttles, domestic vehicles and busses enter from the main arterial street and circulate around the planted grove of poplar trees returning them to the south entrance of the passenger services pavilion. Regional and commuter buses have been accommodated with an area connecting to both the plaza and passenger services pavilion. This larger area allows for the buses to maneuver and park to load and unload passengers.

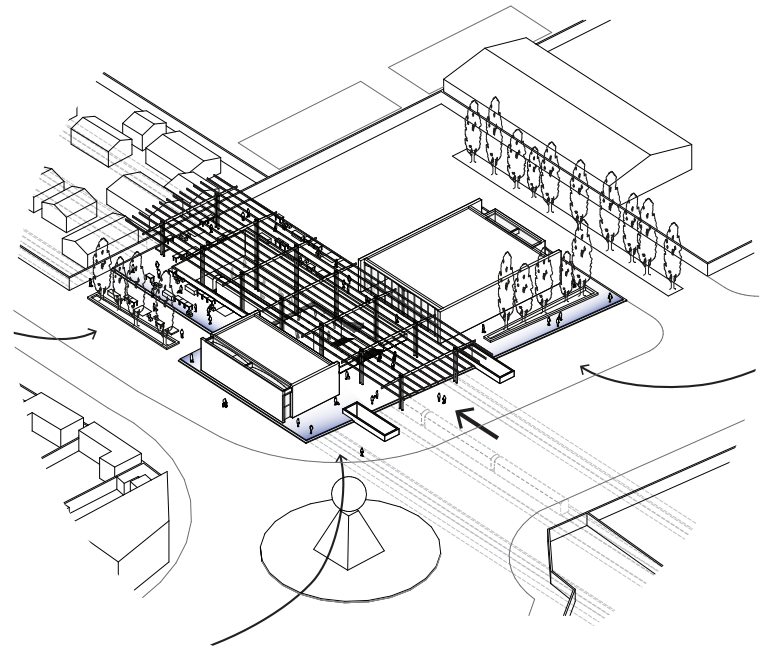
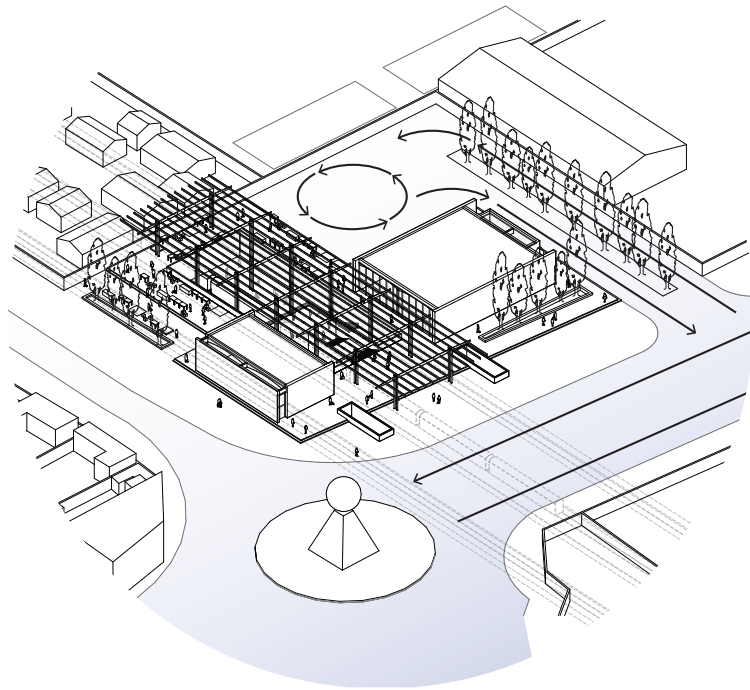
The plaza is articulated in such a way to provide welcoming access points at three key areas for passengers arriving by foot, bicycle or other mode of transportation. These areas are intended to draw visitors from the city center, residential areas to both the east and west, as well as the buzhashi stadium to the south.

Due to limited resources in the city, the operations pavilion (zone 1) and the passenger services pavilion (zone 2) are proposed as being semi-conditioned spaces, meaning that they possess a sealed building envelope but rely on passive heating and cooling as well as natural day lighting strategies. The platform, considered the main waiting space, is left unconditioned as well as the plaza and drop-off areas (zone 3).

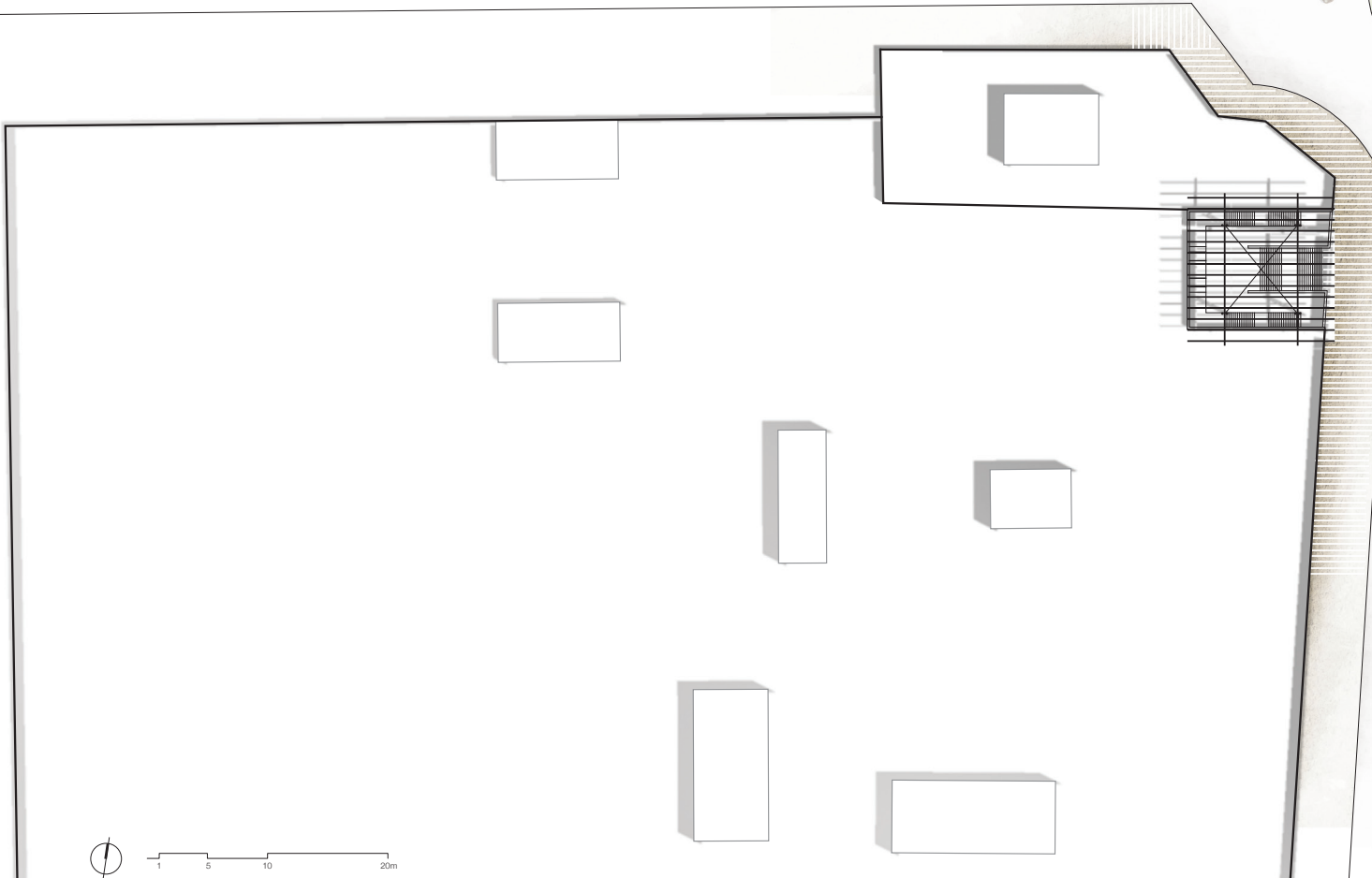
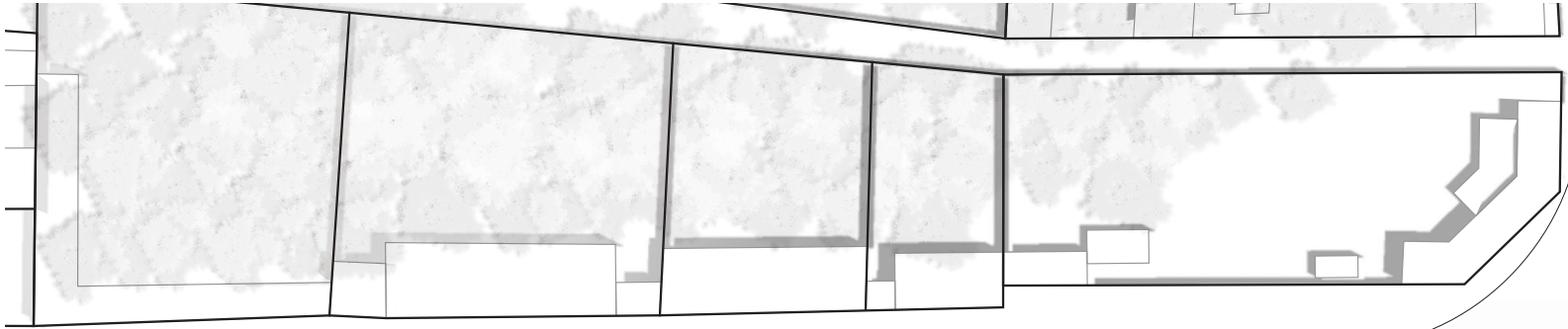
*45. Section Perspective Through Platform and Plaza*

*46. Vehicular Circulation*

*47. Pedestrian Access and Plaza Points of Entry*

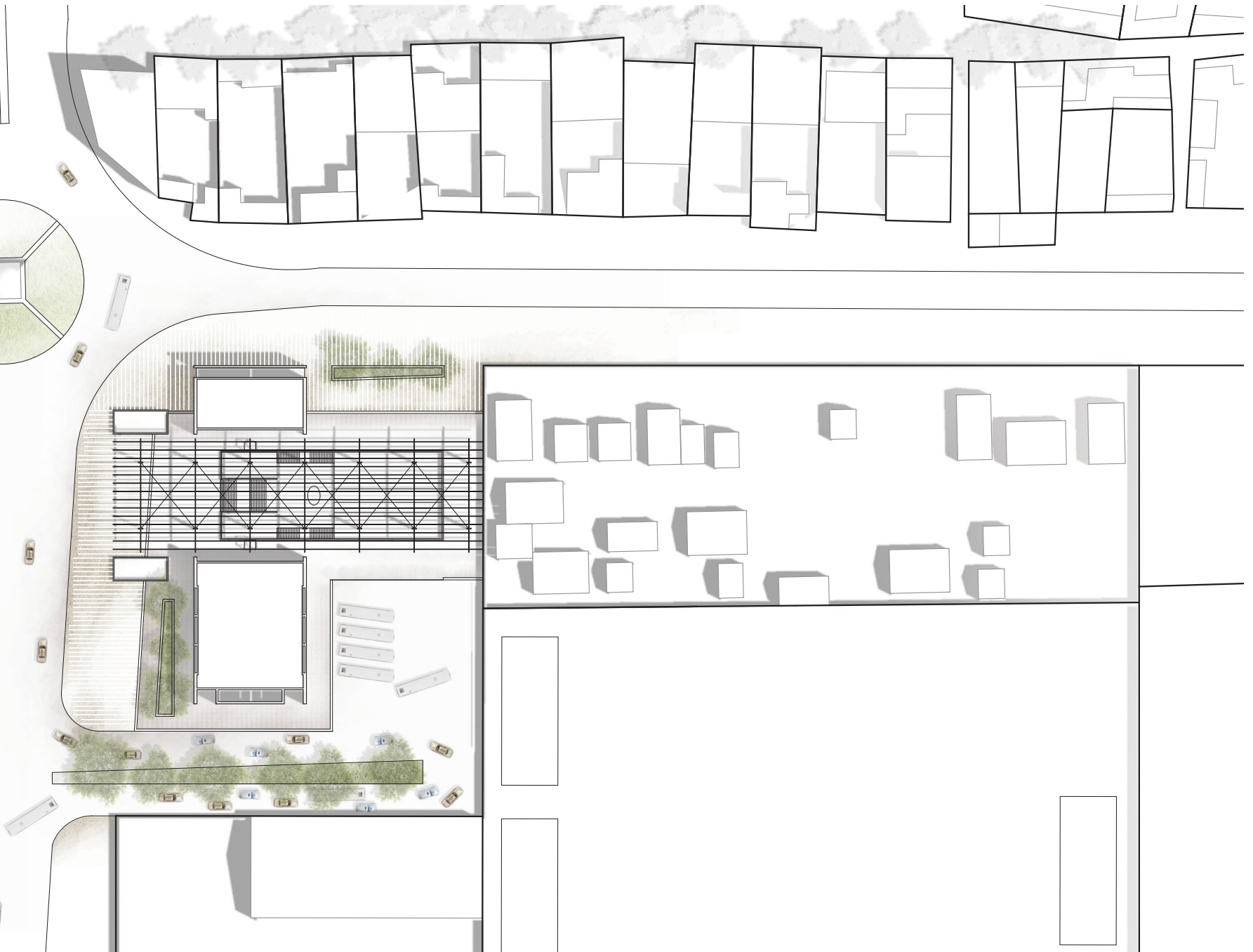


70



1 5 10 20m





When entering the plaza from the city, the visitor ascends up two steps to signify the physical removal from the street zone. Greeted by an outdoor bazaar, or marketplace, a vibrant life of the city is invited to the depot. Local merchants around the peripheral of the tunnel opening tend informal market stands selling goods ranging from produce to world-renowned textiles. The blank walls of the two depot pavilions serve as a backdrop to the unstructured events of the plaza. Similarly, the grand gesture of the steel structure acts as a framework for goods to be strung up on display. As discussed previously, the canopy allows filtered light through to the activities below, defining space through light and shadow. As one makes their way through the market, around the tunnel opening to the passenger services pavilion, the sights and sounds of the platform area below raise awareness to the primary function of the facility.

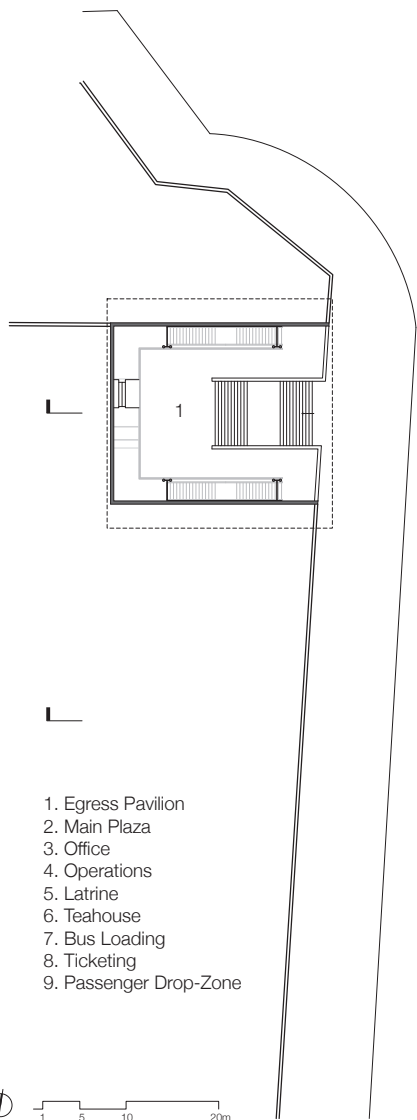
*48. Site Plan*

*49. Visualization from Street into Plaza*

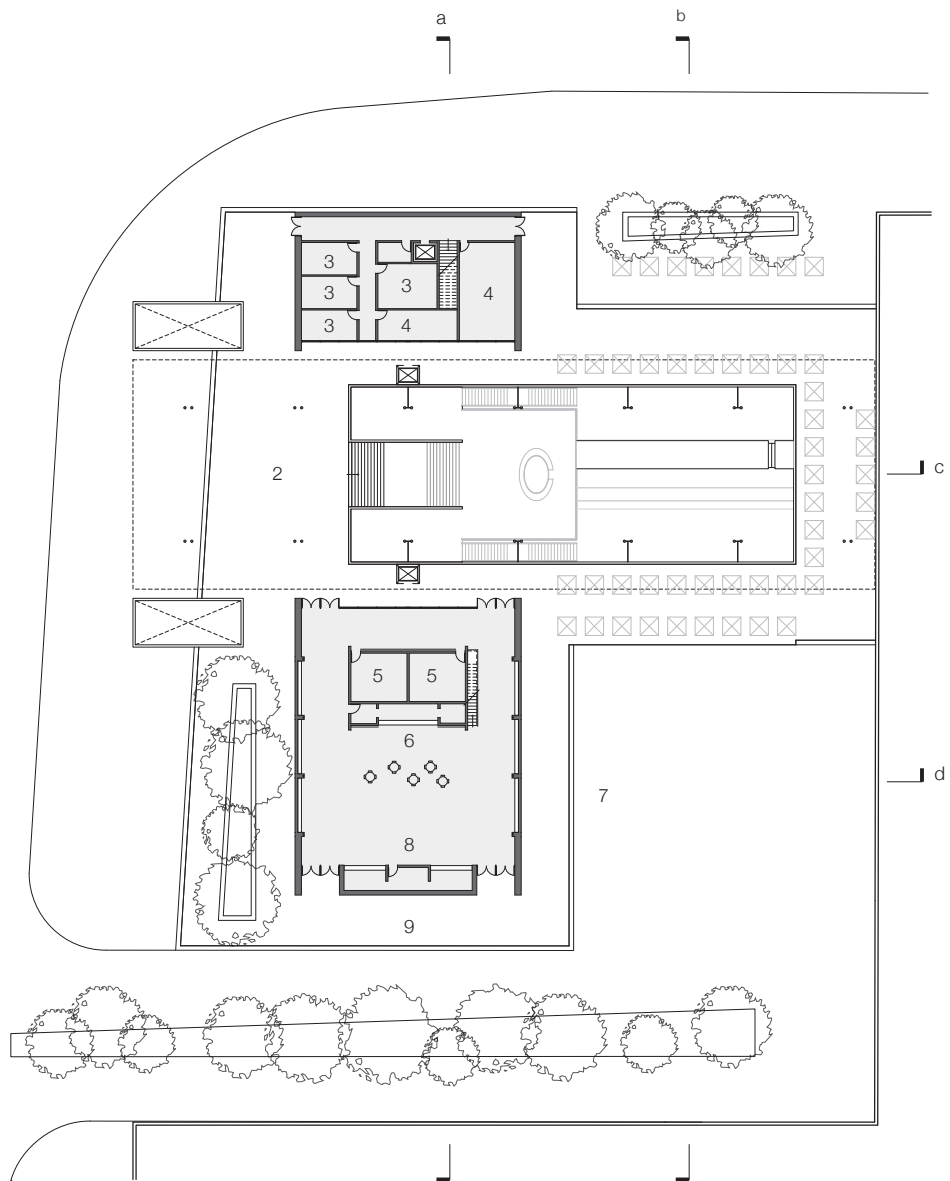


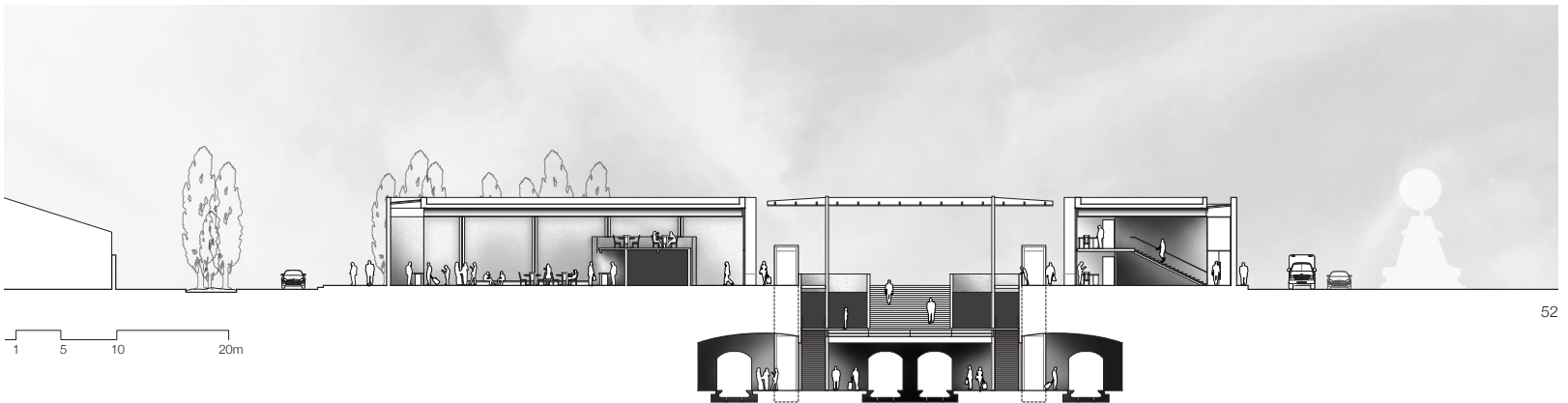
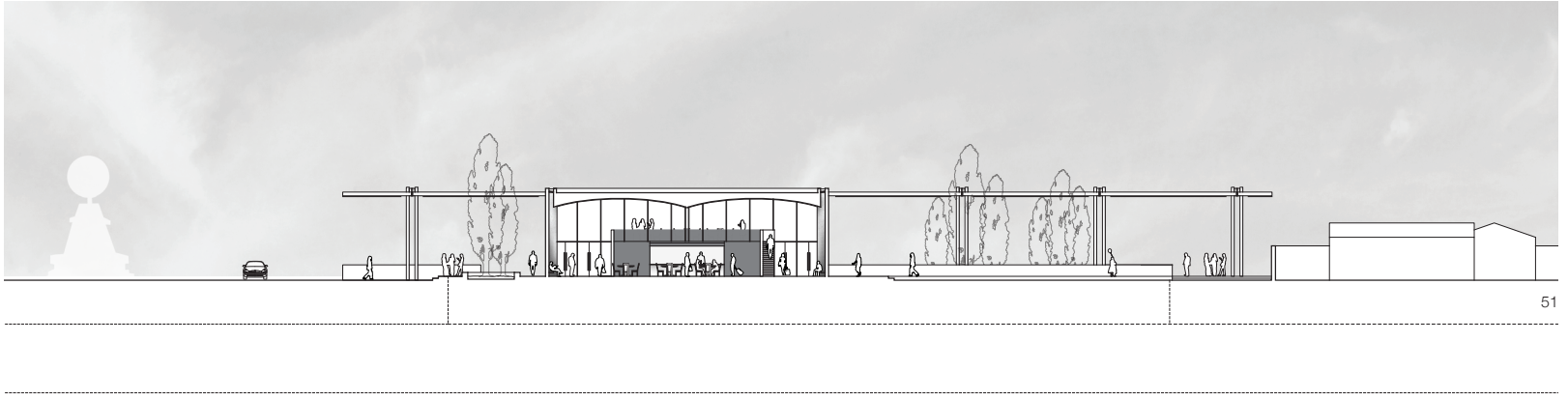
The passenger services pavilion exemplifies traditional construction techniques in northern Afghanistan. Using the Persian architecture as precedent, the massing of the space allows a dynamic contrast between light and shadow while expressing the textures of the earthen materials. Large barrel vaults span between the two encompassing walls but are held back in certain instances to allow natural light to enter from above. The walls are also carved out to allow for seating along the perimeter of the space. A channel integrated into the concrete columns houses strips of artificial lighting that provides supplemental illumination into the space. The ticketing area occupies the southern wall, flanked by two main entrances from the drop-zone outside. Passengers are able to purchase boarding passes for either the train or bus and find departure and arrival information above the counter. A permanent teahouse and latrine facility anchor the opposite end of the pavilion, providing the option to occupy the upper level of the volume. As stated earlier, this facility is semi-conditioned space. If exterior weather conditions are unfavorable, the passenger services pavilion becomes a more comfortable waiting space for users.

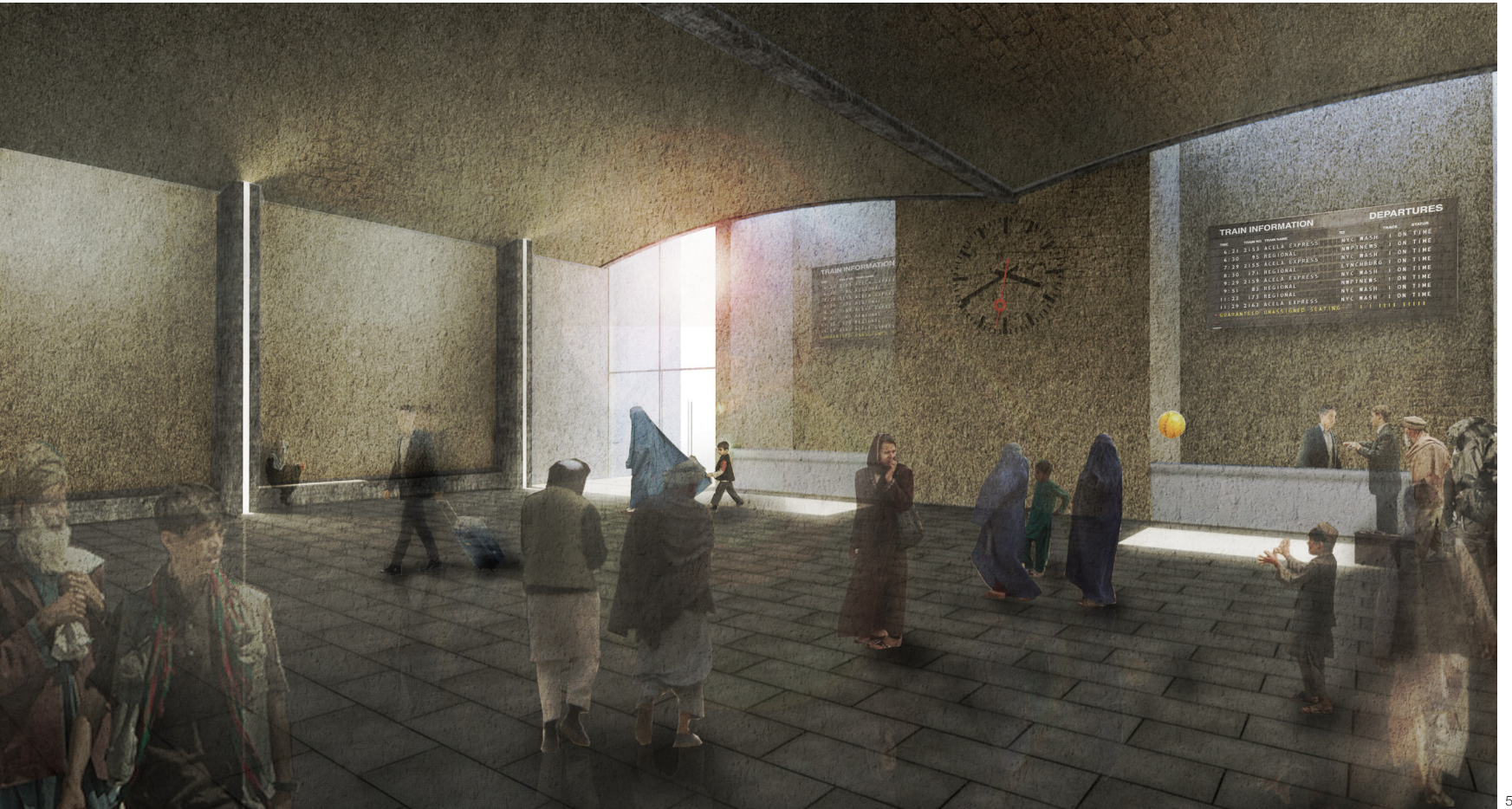
*50. Plaza Level Plan*



1. Egress Pavilion
2. Main Plaza
3. Office
4. Operations
5. Latrine
6. Teahouse
7. Bus Loading
8. Ticketing
9. Passenger Drop-Zone







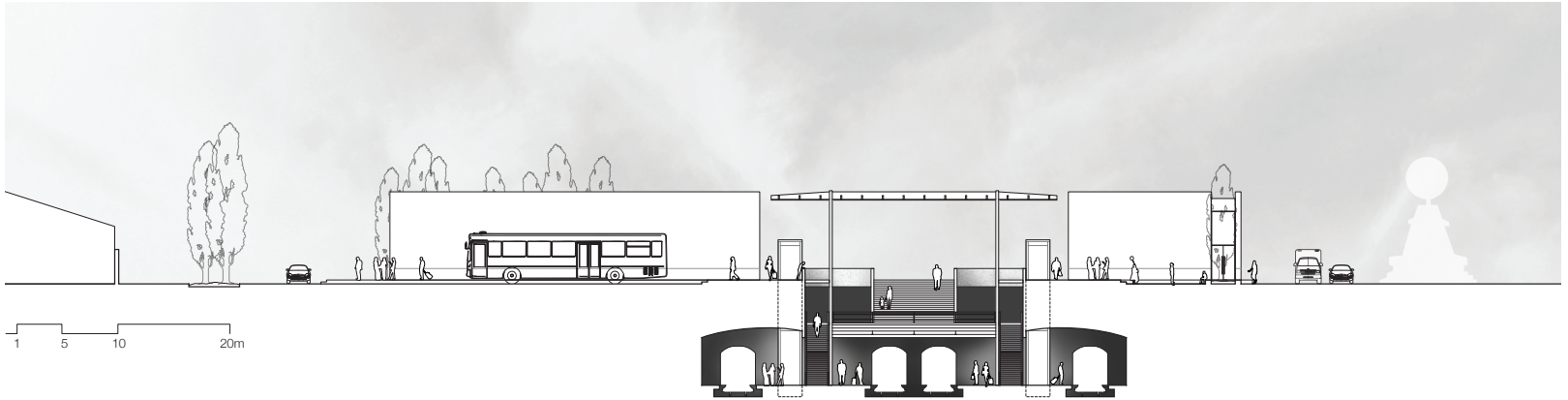
TRAIN INFORMATION

TIME	TRAIN	TO	STATUS
9:21	3155 ACELA EXPRESS	NYC WASH	1 ON TIME
9:30	85 REGIONAL	NYP NEWS	1 ON TIME
9:39	2155 ACELA EXPRESS	NYC WASH	1 ON TIME
9:40	171 REGIONAL	NYC WASH	1 ON TIME
9:49	2155 ACELA EXPRESS	LYNCHBURG	1 ON TIME
9:51	85 REGIONAL	NYP NEWS	1 ON TIME
11:20	122 REGIONAL	NYC WASH	1 ON TIME
11:29	2140 ACELA EXPRESS	NYC WASH	1 ON TIME

DEPARTURES

TIME	TRAIN	TO	STATUS
9:21	3155 ACELA EXPRESS	NYC WASH	1 ON TIME
9:30	85 REGIONAL	NYP NEWS	1 ON TIME
9:39	2155 ACELA EXPRESS	NYC WASH	1 ON TIME
9:40	171 REGIONAL	NYC WASH	1 ON TIME
9:49	2155 ACELA EXPRESS	LYNCHBURG	1 ON TIME
9:51	85 REGIONAL	NYP NEWS	1 ON TIME
11:20	122 REGIONAL	NYC WASH	1 ON TIME
11:29	2140 ACELA EXPRESS	NYC WASH	1 ON TIME

\* GUARANTEED UNASSIGNED SEATING \* 9 11 1111 1111



Continuing to the platform, visitors first must exit the passenger services pavilion back onto the plaza where they then descend down a main staircase to the mezzanine. Midway between plaza level and the platform, the mezzanine's primary function is a place of redirection for the traveler prior to proceeding to their appropriate platform below. The mezzanine is free of informal market activity with exception to an information/security kiosk and rentable market stall beneath the stair. This level is also where users are given the opportunity to experience the connection between the plaza and the platform. The canopy looms high above while activity, both human and machine, is fully experienced from this one vantage point.

*51. Section 'd' Through Passenger Services Pavilion*

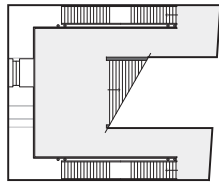
*52. Section 'a' Through Passenger Services Pavilion*

*53. Interior Visualization of Ticketing Area*

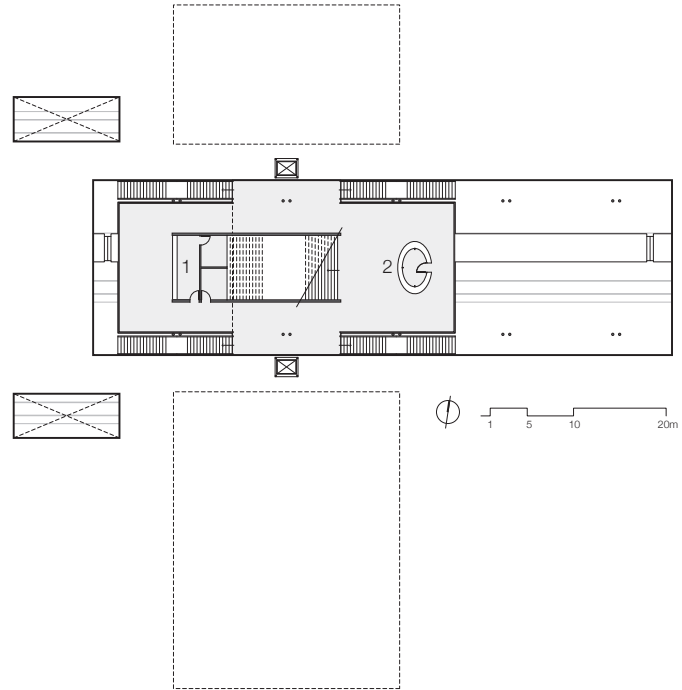
*54. Section 'b' Through Platform and Plaza*

*55. Visualization of Plaza connection to Below*



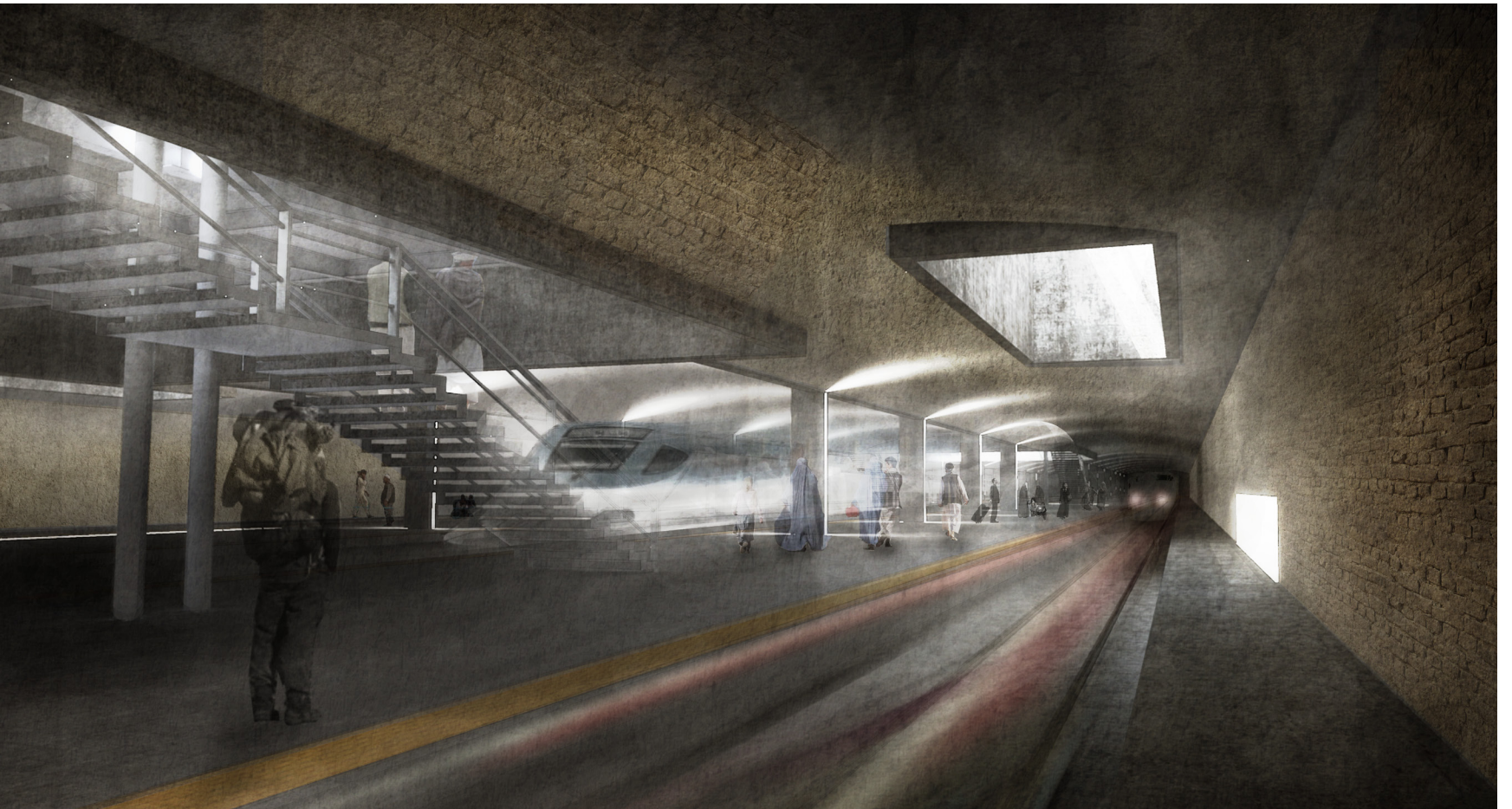


- 1. Rentable Market Stall
- 2. Information/Security Kiosk



56. Mezzanine Level Plan

57. Visualization of Platform

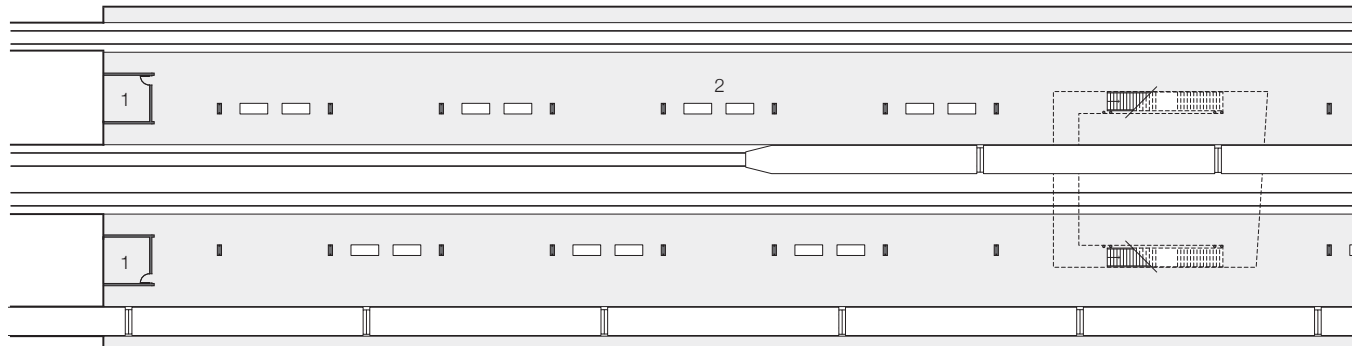
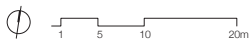


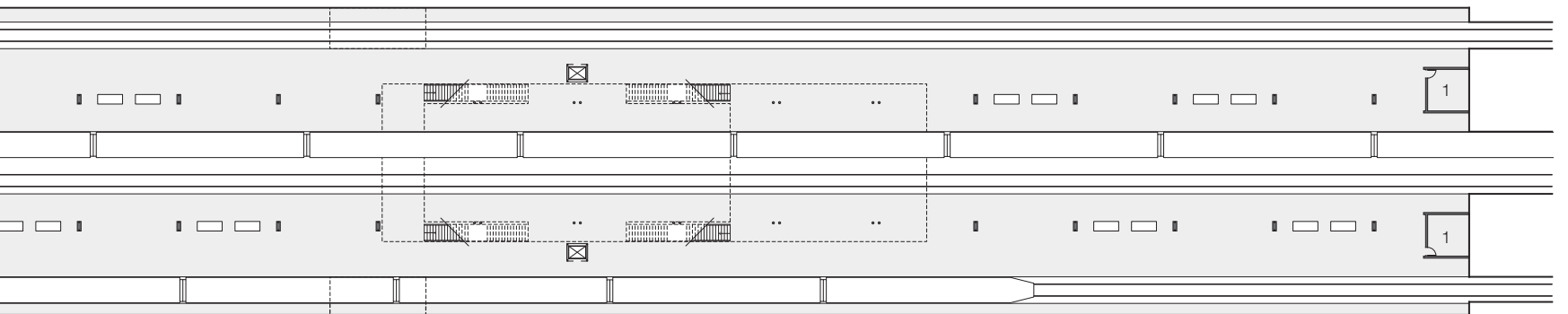
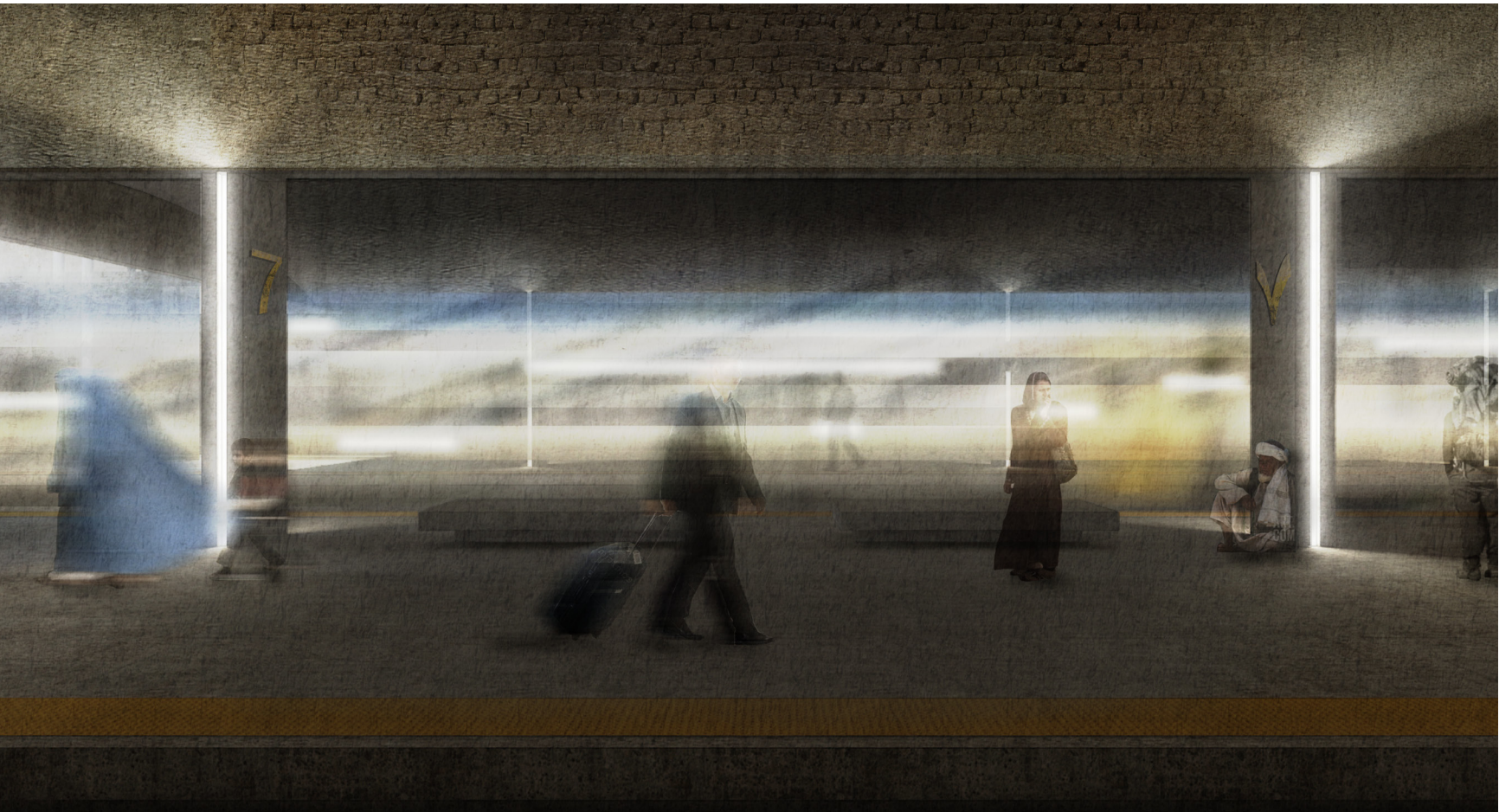
Upon final descent, travelers enter the primary waiting space of the depot; the platform. One of four steel staircases brings one down from the mezzanine to either one of the two waiting platforms. A series of columns define waiting bays that correspond with the train car assigned to their ticket. Like in the passenger services pavilion, channels integrated into the columns allow for artificial lighting on the platform. Commonly found in Afghanistan are low seating platforms where individuals crouch rather than sit to rest and socialize. Within the column bays are seating platforms that allow a variety of waiting options. Shafts bring natural light down into the tunnels while also allowing for natural ventilation induced by the suction of moving train. After boarding, the train departs and the rhythm of columns and light raises one's awareness of movement, signifying the relationship between time and space while entering the landscape beyond.

58. Visualization of Platform

59. Platform Level Plan

- 1. Storage
- 2. Waiting Stalls





## Final Thoughts

In “Invasive Aesthetics: A Manifesto for Reviving Architectural Identity in Developing Nation,” Zaheer and Zarrin Allam stress that we as architects are designing a generic world and that

“We must recognize that any architectural piece is fundamentally related to its emergent locality and so should be endowed in its spirit and symbolism. We must take inspiration from a community’s identity to shape our designs, and in so doing, bring back glory to our cities and their people.<sup>1</sup>”

Moreover, current modernism has become a superficial idea that neglects traditionalism and creates architecture devoid of lasting symbolic value. Modernism typically implies the mechanization of technology and a larger connection to a global economy.<sup>2</sup> Though Afghanistan has undergone many instances of modernization due to years of foreign occupation, the railroad represents the critical link to strong global economies and new

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<sup>1</sup> Allam “*Invasive Aesthetics: A Manifesto for Reviving Architectural Identity in Developing Nations*”

<sup>2</sup> Curtis, *Modern Architecture Since 1900*. 587.

technologies. Through this new global network will come change and subsequently an impulse to retain local traditions and values. This empathy towards a particular place resonated most specifically to this thesis in terms of the built environment and the processes of design and construction in the country.

Lance LaVine, a professor of architecture at the University of Minnesota, defines place empathetic architecture as *place being its history*, expanding that “history is an accumulation of context specific memories that serve as a source of people’s identity.”<sup>3</sup> An investigation into the chronotopia of Afghanistan sought to uncover these layers of memory existent within the landscape, a key part of railroad travel and a concept brought forward into the design proposal. Additionally, the depot is the first and last place of a city experienced by the railroad traveler. As such, this thesis proposal strove to reflect the character of the city while accommodating modern railroad concepts and technology. The depot as both a function and symbol for Mazar-i-Sharif influenced design decisions regarding scale and site location while reinforcing the social component of the project. The plaza brings the local public identity of Mazar-i-Sharif to the depot; where natives and visitors can interact and engage, further reinforcing the idea that the depot is a crucial node within the city.

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<sup>3</sup> LaVine, *Architecture, Place, Empathy*, 68.



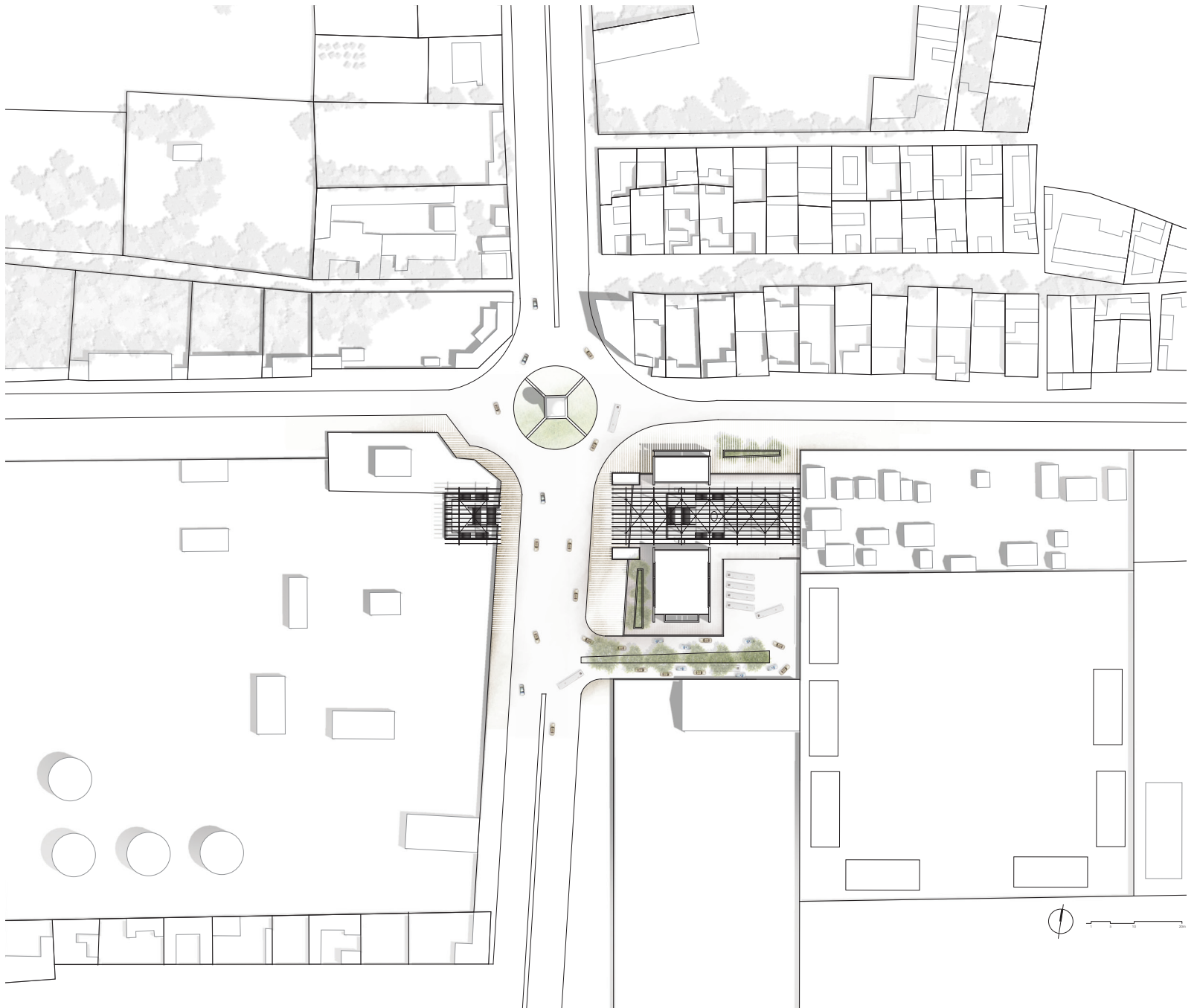
1 5 10 20m



60. Section 'c' Through Platform

This thesis began as an investigation of a unique place through an architectural intervention related to the development of a railroad network. The challenges of working within this context are obvious and there are many issues surrounding this topic that this thesis does not explore in depth including gender issues, economic and political factors relating to the railroad, as well foreign collaboration. It was not the intent of this thesis to neglect such issues but to focus the investigation onto primary influences affecting the initial stages of the depot's development. As a next step to this proposal, many of these previously noted issues could inspire an iteration that could become stronger and remain undeniably Afghan.

Much was learned throughout the process of researching and preparing this thesis document. For many there will always be the question whether architects have a right to design within a foreign context. To conclude this document I will say that the journey is well worth the risk.



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## Image References

*All images created by the author unless noted below.*

Image #1 - Photograph courtesy of Nicholas Tieman, United States Army. 2010

Image #2 - Norfolk, Simon. 2002. *Afghanistan Chronotopia*.

Image #3 - Asian Development Bank, "Hairatan to Mazar-e-Sharif Railway Project," photograph, 2012, [www.flickr.com](http://www.flickr.com/photos/asiandevlopmentbank/8428331725/), <http://www.flickr.com/photos/asiandevlopmentbank/8428331725/> (accessed December 10, 2013).

Image #6 - Author Unknown, "Logar Province, Afghanistan," photograph, 2011, <https://publicintelligence.net>, <https://publicintelligence.net/wp-content/uploads/2011/11/afghan-landscapes-5.jpg> (accessed December 10, 2013).

Image #9 - Jan Chipchase, "Urban Etiquette," photograph, 2010, [www.janchipchase.com](http://www.janchipchase.com), <http://janchipchase.com/2010/09/urban-etiquette/> (accessed December 10, 2013).

Image #10 - Jerome Starkey, "MCC mining camp at Mes Ainak," photograph, 2011, [www.flickr.com](http://www.flickr.com/photos/35604701@N07/6349904680), <http://www.flickr.com/photos/35604701@N07/6349904680> (accessed December 10, 2013).

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Image #20 - ix4svs, "Abandoned caravanserai, Lut desert, Iran," photograph, 2009, [www.flickr.com](http://www.flickr.com/photos/39967291@N04/4210174139/), <http://www.flickr.com/photos/39967291@N04/4210174139/> (accessed December 10, 2013).

Image #21 - Pamirjan, "Mazar-e-Sharif International Airport," photograph, 2013, [www.panoramio.com](http://www.panoramio.com/photo/91776467), <http://www.panoramio.com/photo/91776467> (accessed December 10, 2013).

Image #22 - Joao Leitao, "Market in Mazar-i-Sharif Afghanistan," photograph, 2012, [www.flickr.com](http://www.flickr.com/photos/joaoleitao/7892571650/), <http://www.flickr.com/photos/joaoleitao/7892571650/> (accessed December 10, 2013).

Image #23 - Jan Chipchase, "Location Unawareness," photograph, 2010, [www.janchipchase.com](http://www.janchipchase.com), <http://janchipchase.com/2010/08/location-unawareness/> (accessed December 10, 2013).

Image #24 - Joao Leitao, "Mazar-i-Sharif, Afghanistan," photograph, 2012, [www.flickr.com](http://www.flickr.com/photos/joaoleitao/7892528688/), <http://www.flickr.com/photos/joaoleitao/7892528688/> (accessed December 10, 2013).

Image #28 - Joao Leitao, "View from Mazar-i-Sharif from window of Hotel Barat, Afghanistan," photograph, 2012, [www.flickr.com](http://www.flickr.com/photos/joaoleitao/7892603724/), <http://www.flickr.com/photos/joaoleitao/7892603724/> (accessed December 10, 2013).

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## Process Models

