

ARROWHEAD PARK PLAN UPDATE



September 2020



Arrowhead Park



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Introduction

Arrowhead Park

Arrowhead Park is a 200-acre master planned research park development on the main campus of New Mexico State University (NMSU) in Las Cruces, NM. Located at the intersection of Interstate Highways 10 and 25, it boasts existing tenants such as the Burrell College of Osteopathic Medicine, General Dynamics, Spaceport America, Vista Photonics, and Alliance DNA, that benefit from a highly skilled local workforce and the student pipeline from NMSU's wide ranging academic and research programs. With a plan for over 2 million square feet of development space, the Park seeks to promote job creation through attraction of new companies and investment, create spaces that foster advancements in innovation and new technology, and be a leader in sustainable real estate development.

NMSU and Las Cruces are spurring growth in new technologies and inspiring innovation in digital health, aerospace, creative media, water and energy, and value-added agriculture. Arrowhead Center (AHC) leads the way for NMSU in economic impact through entrepreneurship with a focus on a broad range of business accelerator and community entrepreneurship programming, SBIR / STTR support, NSF I-Corps resources, and K-12 youth programs. Working with over 700 active ventures across the region, AHC is fostering development of innovative talent that can help your company grow.

With a moderate arid climate, 330 days of sunshine a year, the Rio Grande River providing water for the lush Mesilla Valley, and surrounded by the Organ Mountains / Desert Peaks Wilderness and Gila Wilderness areas, Las Cruces and Arrowhead Park have the location, the talent, and the amenities that you and your workforce are looking for in a community to locate your business.

The Plan

Arrowhead Park is a hub of innovation and entrepreneurship for southern New Mexico and the Borderlands region. Opportunities abound to partner with Arrowhead and NMSU in research, technology commercialization, and growing regional clusters in Life Sciences, Aerospace, Agri-Biz, Digital Media, and more.

The plan update builds off of the current Arrowhead Park Master Plan and focuses on the physical layout of the site and the "feel" of new investment. The plan is designed as a series of mini-campuses that face toward larger public spaces to allow people to mix among those within their own business environment, as well as other businesses and the academic world.

The plan incorporates new investments coming to the campus including:

- Development districts for Education & Innovation, Technology, a Creative Campus, and future Retail, Residential, and Town Center areas
- Development of a 3 MW Solar Power Generation and Battery Storage facility as a key Sustainability and research initiative for NMSU in collaboration with El Paso Electric.
- Inclusion of a new 70,000 SF Film and TV Studio facility, which will be a partnership between the City of Las Cruces and private development.
- A new Creative Media Technology facility for DACC, adjacent to the Film and TV Studio, in order to encourage and foster industry collaboration and student opportunity.
- A Class A 32,000 SF office building, adjacent to the Burrell College Of Osteopathic Medicine site, that will create space for entrepreneurs and innovators to work alongside Arrowhead Center.
- A new proposed interchange that will connect I-10 to Arrowhead Drive.

1. Arrowhead Center
2. Burrell College of Osteopathic Medicine
3. BCOM Expansion
4. Arrowhead Park Medical Academy
5. Arrowhead Park Early College High School
6. Medical Campus Expansion
7. Park Street - A Main Street
8. Mini- Campus Area
9. Arroyo Park
10. Film Studio 1
11. Parking Lot Can Transform into Outdoor Studio
12. Film Studio 2
13. Tortugas Arroyo Multi-use Path
14. Arrowhead Drive Multi-Use Path
15. Central Quad North
16. Central Quad South
17. Town Center
18. Apartments or Mini-Campus
19. New Interstate 10 Exit
20. Grocery Store or Big Box Retail
21. Renewable Energy Field
22. General Dynamics Mission Systems
23. Spaceport America Corporate Office
24. US Geological Survey
25. Gateway to Arrowhead Park
26. Aggie Memorial Stadium
27. Presley Askew Field
28. Intramural Fields
29. Tennis Center
30. DACC Creative Campus Media Building
31. NMSU Creative Media Institute Building



Arrowhead Park



to Aggie Uptown

Main Campus

Wells Street

Arrowhead Drive

Park Street

Interstate 25

Film Street

Cholla Road

Renewable Energy Center

Sam Steele Way

Interstate 10

Cholla Road

Cholla Road

Cholla Road

Diagrams

Conceptual Framework

Arrowhead Park exists to be a hub of innovation and entrepreneurship, opportunities abound to partner in research, technology, commercialization, and growing regional clusters in life sciences, aerospace, agri-biz, digital media, and more.

Arroyo Connection – Connects Arrowhead Park to NMSU Main Campus through the natural environment

Innovation and Education – Burrell College of Osteopathic Medicine, Arrowhead Park High School, Health Science Campus, Arrowhead Center Entrepreneurship

Main Street – Mixed-use main street area with commercial, office or even residential uses in a central location connecting the Innovation and Education and the Technology centers.

Technology – Private Industry, Startup Companies, Collaborative NMSU Research

Creative Campus – Industry Film/TV Production Facilities, NMSU/DACC Academic Buildings. Supply Chain Companies

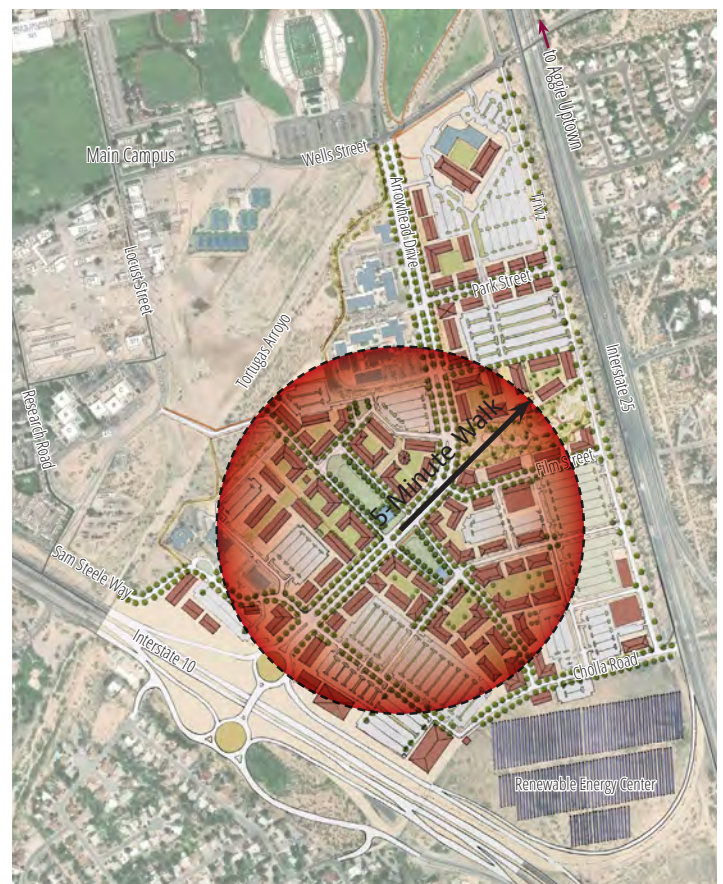
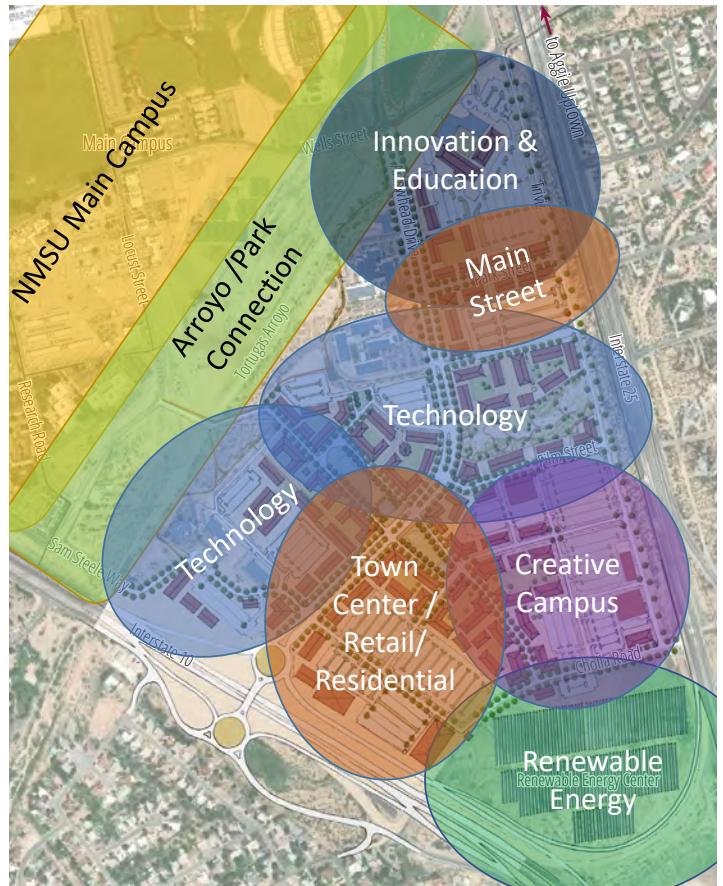
Town Center/ Retail/ Residential – To flesh out the Live / Work / Play urban experience

Renewable Energy Production and Research

5-Minute Walk

The plan for Arrowhead Park is designed as a series of Mini-Campuses focused around a central Green with the Tortugas Arroyo and parking around the edge of campus which is less than a 5-minute walk away. This allows the campuses to be a connected series of people spaces with cars at the edge.

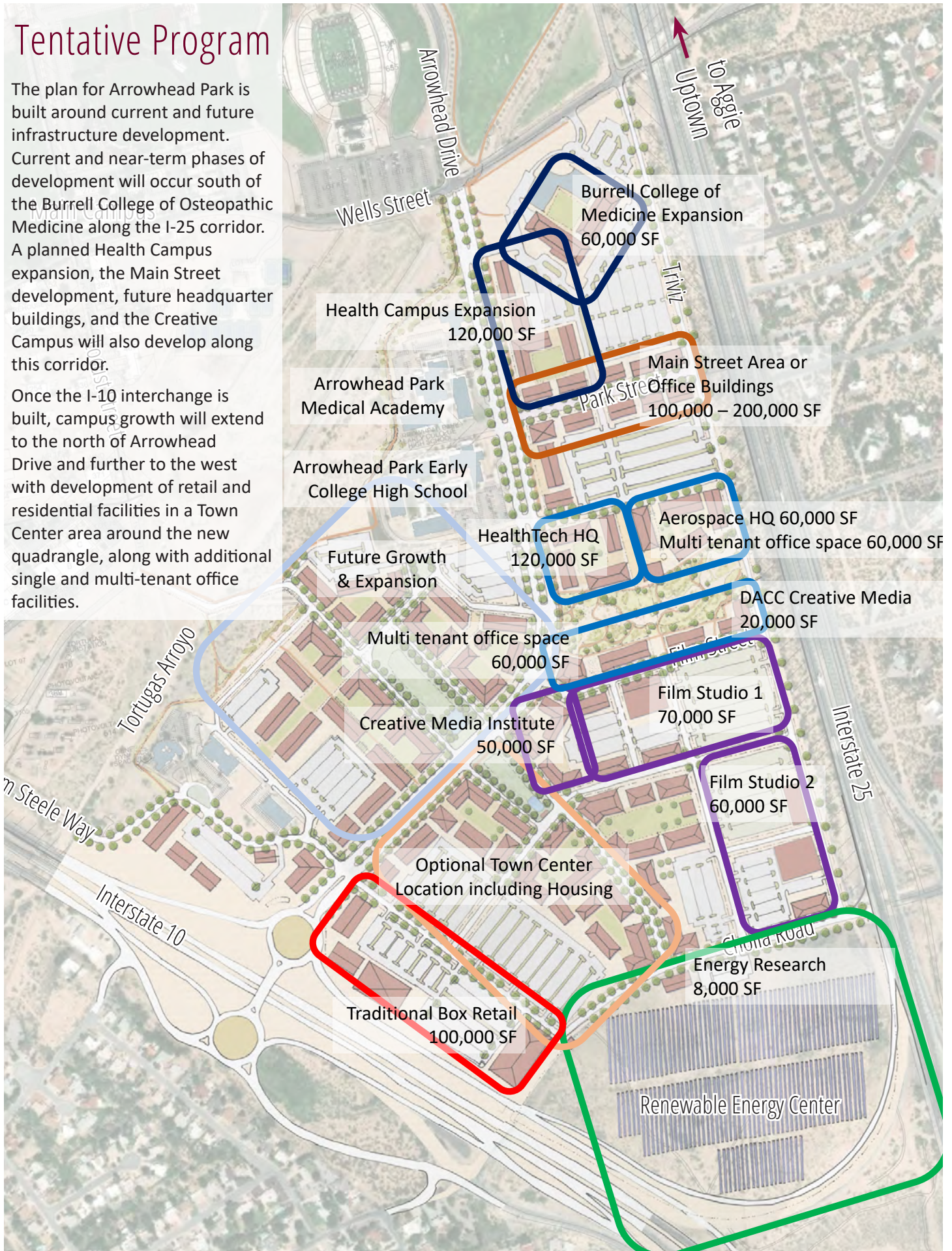
As a general rule, most people are willing to walk a distance of approximately ¼ mile (1320 feet, or approximately 5 minutes) before turning back or opting to drive or ride a bike rather than walk. The ¼ mile radius has become a benchmark for creating communities that are inherently walkable.



Tentative Program

The plan for Arrowhead Park is built around current and future infrastructure development. Current and near-term phases of development will occur south of the Burrell College of Osteopathic Medicine along the I-25 corridor. A planned Health Campus expansion, the Main Street development, future headquarter buildings, and the Creative Campus will also develop along this corridor.

Once the I-10 interchange is built, campus growth will extend to the north of Arrowhead Drive and further to the west with development of retail and residential facilities in a Town Center area around the new quadrangle, along with additional single and multi-tenant office facilities.



Green Network

The green network for Arrowhead Park is planned as a series of larger central green spaces that numerous campus areas frame, smaller human scaled green spaces made up of courtyards and open spaces that each mini-campus centers around, and the pedestrian paths that connect them all together. This interconnected network of greens and open spaces allows someone to traverse Arrowhead Park in a comfortable and inviting way while minimizing their interaction with larger roadways and moving vehicles. The network of green spaces is what makes campuses inviting and which makes it possible to create an environment where you can park and walk to multiple destinations.

- Human Scaled Spaces
- Central Green Spaces
- Pedestrian Paths



Drainage Plan

The Drainage plan follows those basins proposed in the 2016 Arrowhead Park Master Plan. The existing central detention basin maintained by Elephant Butte Irrigation District has been broken into Basins A through E. Basins C and D will be permanent water features also supporting intermittent storm water retention. The arroyo around Basins A and B will be designed with landscaped trails to encourage outdoor walking and biking activity. Basin E will be the final detention area allowing a controlled flow into the arroyo.

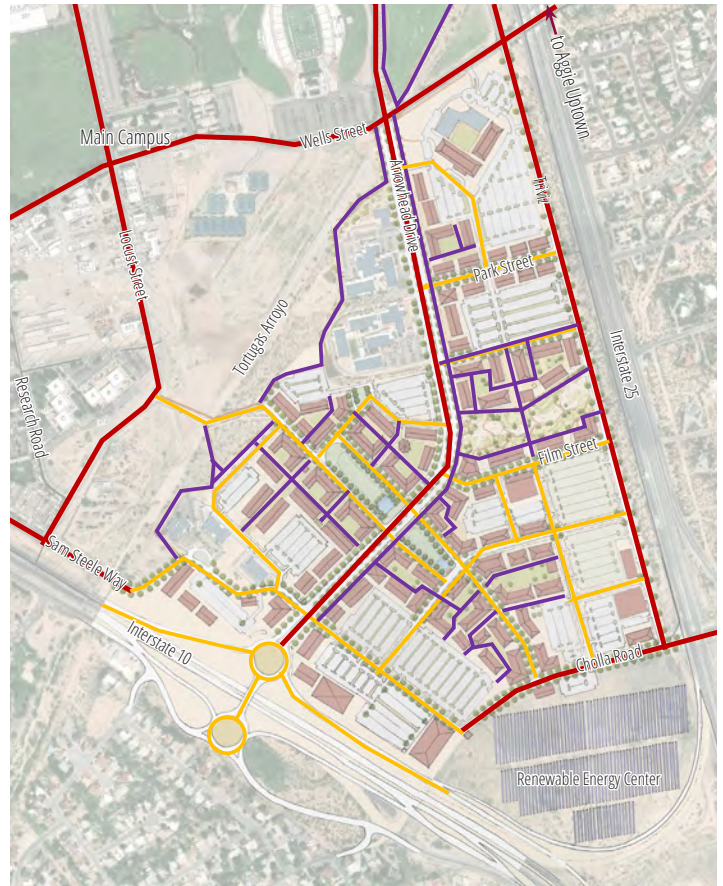


Street Network

Existing Street Network: There is a network of existing streets that are made up of the edge streets (Cholla Street, Triviz, and Sam Steele Way) and a central street, Arrowhead Drive. The site has limited connectivity to I-25 to the east and I-10 to the southwest.

Proposed Street Network: The proposed street network provides multiple links between the edge streets as well as providing a connection to Locust Street and the main NMSU campus. Upgrades are underway to the existing I-25 and University Avenue interchange that will improve access to the Park, along with the planned new interchange at Arrowhead Drive and I-10.

Pedestrian and Bike Network: In addition to the street network, there is a series of pedestrian and bike-only spaces that make the site able to be traversed without a car and for there to be more people spaces for residents to come together and interact across all of the mini-campus areas.



Potential Bus Loops

Short-Term Bus Loops: Park Street and Film Street will be built first. This provides an opportunity to provide initial bus loops that build off of existing bus routes. The Aggie Transit Loop 1 and the Road Runner routes 2 and 8 can come down Triviz, loop through Film Street and back up Arrowhead Drive.

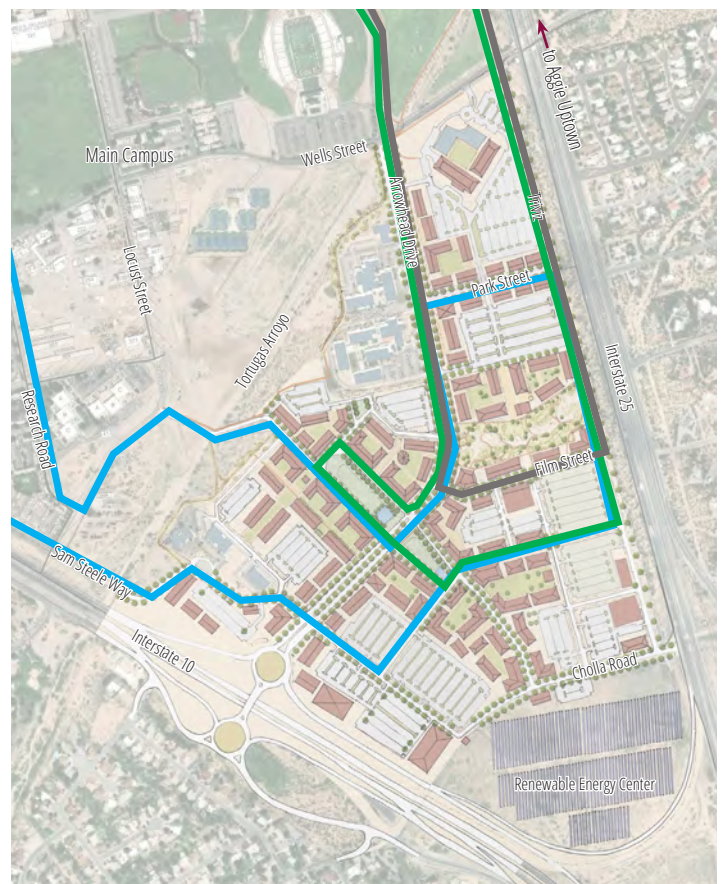
— Aggie Transit Loop 1, & Road Runner Route 2 & 8

Long-Term Bus Loops: Once the full street network is developed there are additional potential loops that can service this area in the long-term.

— Aggie Transit Loop 1

— Aggie Transit Loop 2

— Road Runner Route 2 & 8



Renderings

The Quad





Transit Stop at the Quad



The Quad is the central green space within Arrowhead Park and provides a focal point for a series of mini-campuses to frame it. The Quad can be a series of xeriscape landscaped areas, green space for recreation and meeting people, and water features. The Quad will be designed to detain storm water before releasing it safely into the Tortugas Arroyo.

Each of the mini-campuses can have their own character, but all should follow the style of the campus architecture to keep this area connected to the main NMSU campus area. The local building vernacular is replete with know-how regarding climate, construction, and culture. New buildings should be designed to learn from local traditions. While new buildings should not be compelled to mimic their historic predecessors, designers should pay attention to local practices regarding materials and colors, roof pitches, eave lengths, window-to-wall ratios and the socially significant relationships of buildings to their site and the street.

Aerospace Campus

New Mexico is one of the few places in the world to host a spaceport and aerospace and space exploration is a key emerging industry. The Headquarters design features a public realm shaped by private buildings whose location and configuration contribute to its safety, spatial definition, functionality, and visual interest.

Natural light and ventilation, solar orientation, energy-efficient design, sustainable building materials, and on-site energy creation help create a campus that is a model in sustainability.





Night View



Arroyo Paths

In a well-designed campus plan every building should be located within an easy bicycle ride or walk of a continuous park system so that a day of hiking or trail biking need not begin with a drive. The arroyos of the site, dry creek beds of ancient rivers which spring to life after rain, provide natural corridors that can be linked into continuous systems.





Xeriscape Greens

The Plan Update recommends the use of plants that require less watering and care. While the lawn has become an integral part of the American image of a campus, it is only appropriate selectively where it is truly necessary for campus activity. In Las Cruces water is scarce and xeriscape is an alternative to thirsty and labor-intensive turf. The term xeriscaping refers to gardens of native and locally adapted plants, typically drought-resistant, that require little attention to flourish.





Gateway

The gateway will mark the pedestrian and cyclist entrance from the Arrowhead Center and main campus to the Quad. It will serve as a bridge over the Tortugas Arroyo with access to the trail. The trellis over the sidewalk creates shade and comfortable walk from one area of campus to another allowing a “park once” and walk method to campus. This will replace street trees which may incur more maintenance cost and water usage. The trellis can also be lined with solar powered lighting to provide a pleasant and evening walk. The landscaping and signage follows the NMSU Monument Signage Master Plan (2018). All vegetation proposed is rainwater supported after establishment.



Turn Lane

Cross Markings to raise awareness

Transit Stop



Protected Bike Lane

Signage

Shaded Sidewalk Trellis

Access to Arroyo Trail

Tortugas Arroyo Trail

Arroyos, Spanish for dry streams, are recognizable geographic features of the southwestern Chihuahuan Desert surrounding Las Cruces. The main function of arroyos is to channel stormwater away to low-lying lands. The arroyos are dynamic. The shape, size and depth of arroyos responds to the climate conditions. While arroyos can be dry for a significant portion of the year, floods sometimes happen after major storm events. The vegetation in and adjacent to arroyos provides habitat for many Chihuahuan Desert wildlife. Development and open spaces exist together, through sound development standards, the ecologically sensitive areas around the arroyo can be protected. It is also important to maintain the historic drainage patterns by preserving the arroyos.

The Tortugas Arroyo is also culturally significant. The Fiesta of Our Lady of Guadalupe is a pilgrimage that has taken place from the Tortugas Pueblo to Tortugas Mountain every year for over a hundred years, and the Arroyo is used by some as a portion of the route.



Arroyos can also provide various recreational opportunities; trails can be designed to meet the needs of all users. A new multi-purpose trail can showcase the unique ecological environment of the Tortugas Arroyo and bring people close to the local ecology. The arroyo trail system can also connect the main NMSU campus with Arrowhead Park. Outdoor classrooms can also be designed to create engaging outdoor learning environments. Art installations that represent the indigenous culture can enhance the cultural experience along the trail.



Community Gathering



Indigenous Art



Outdoor Classroom



Native Plants

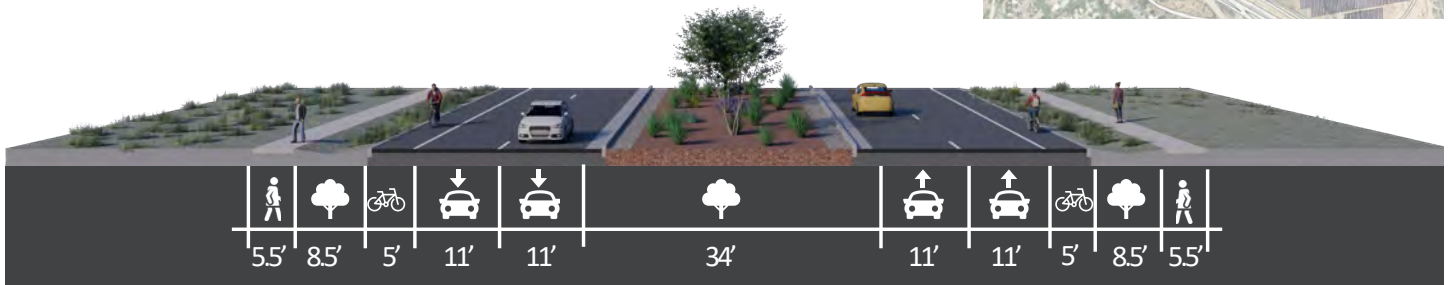
Street Redesign

Arrowhead Drive

Arrowhead Drive is the primary vehicular connection that runs through Arrowhead Park. This roadway is effectively the spine for all development in Arrowhead Park to develop around. Today the roadway consists of two 11' travel lanes in each direction with a 5' bike lane. There is a wide center median and a 5' sidewalk on each side of the road.



Existing Condition



The investment made in this crucial spine should be supplemented by making wider sidewalks and a two way bicycle facility on the east side to facilitate walking and cycling away from cars. These additions will make bringing buildings closer to Arrowhead Drive to front the street more palatable than the existing suburban roadway.

Proposed Street Section



Arrowhead Drive has the opportunity to provide an off-street multi-use bicycle facilities that are separated from vehicular traffic. A trail along Arrowhead Drive will connect all the campus' major destinations. It is important to establish the existence of the trail now before new buildings locate at Arrowhead. The network of trail spurs which extend off the Arrowhead Drive Trail to use a variety of bike and trail types as contextually appropriate.



Park Street

The mixed-use “Main Street” is intended to become Arrowhead Park’s premier destination for commercial and mixed-use activity to foster a work, live, and play environment. Two-story buildings will allow for offices and residences above retail to help bring users to the shops and restaurants creating a synergy between land uses.

Park Street is anchored along a curbless shared street. Curbless shared street, or woonerf, stems from a concept in which typically narrow streets with low vehicle volumes are designed without a curb and with high-quality streetscape materials, enabling the street to function like a plaza or a paved yard. Through the use of design elements such as paving treatments and strategically placed vertical elements, curbless design cues drivers to behave differently than on conventional streets. In addition to being safe and comfortable streets for pedestrians, curbless streets are often beautiful places to visit. Shoppers can enjoy ground floor retail from the shade of arcades and galleries to protect from the sun and heat and reduce the cooling needs of shopfront windows, providing a sustainable addition to shade trees.





A Successful Retail Environment

Illustrated in the images on the right are a series of shopfront elements that should be considered when creating a commercial main street environment. The sequence demonstrates how each component can positively contribute to the overall function and composition of the street.

Street lighting and trees are vertical elements that help to define the public realm while also making the pedestrian feel safer and more comfortable. Trees add a sculptural quality and interest to the streetscape.

On-street parking allows easy vehicular access to store fronts and also acts as a buffer from traffic that is moving within the roadway. Adding benches, trash/recycling bins and planters is a simple way to transform a street into a place; these components combine to prompt the pedestrian to linger next to the retail shops.

Providing space on the sidewalk for restaurant dining is another method for activating the public space. Extending sidewalk dining into the on-street parking zone, also known as a “parklet”, quickly and affordably maximizes retail opportunities.



1
Street-oriented architecture and wide sidewalks are essential “building blocks” of the streetspace. In addition, on-street parking or protected bike lanes can help to separate people walking from moving vehicles.



4
Awnings protect pedestrians from the weather.



7
Adding an outside display zone close to the street will increase retail visibility.



2

Canopy street trees provide shade and visually define the public space.



3

Street furniture helps to transform a sidewalk into a place.



5

Appropriately-scaled signage and adequate lighting contribute to the street composition.



6

Sidewalk dining activates the public space.



8

Parklets that extend into the on-street parking area are an easy way to gain more dining.

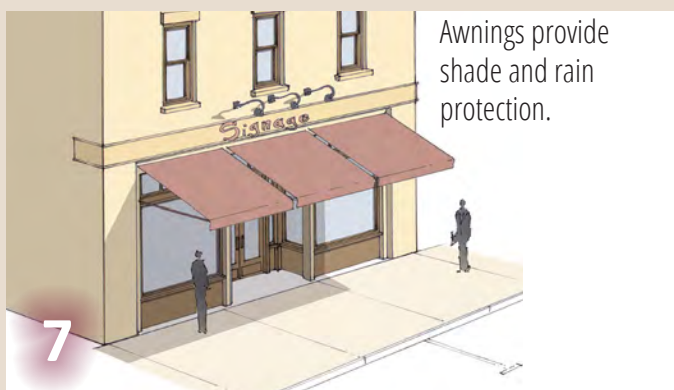
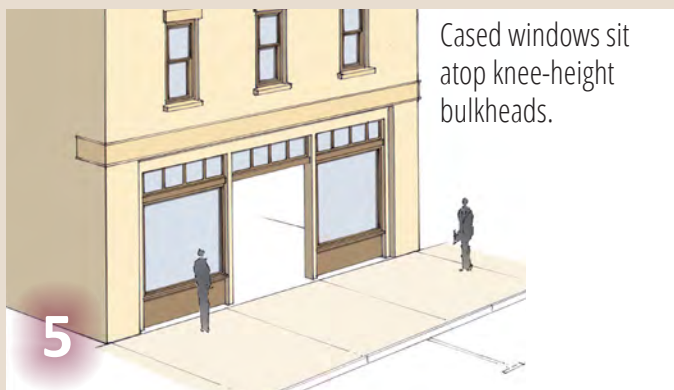
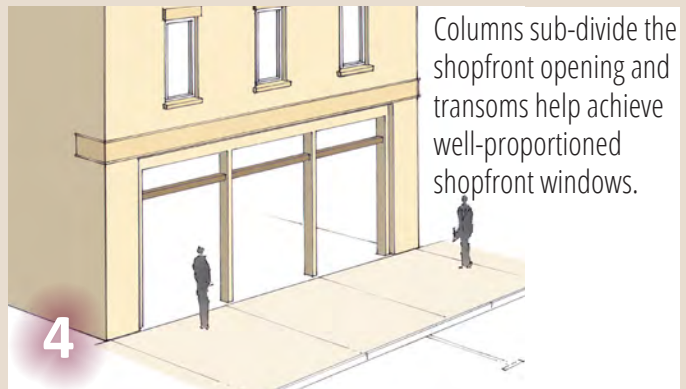
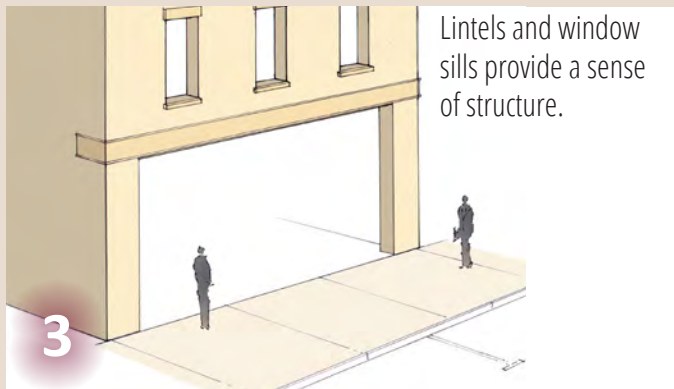
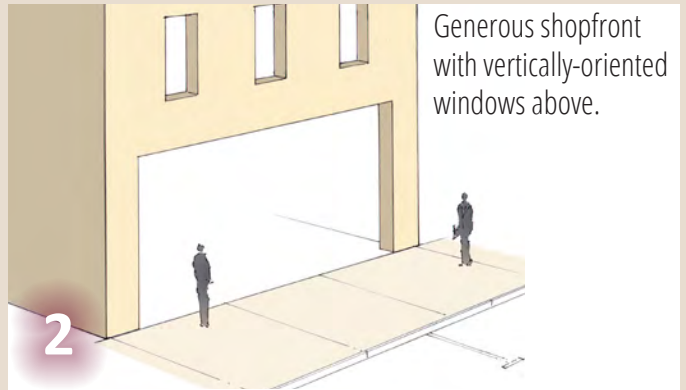
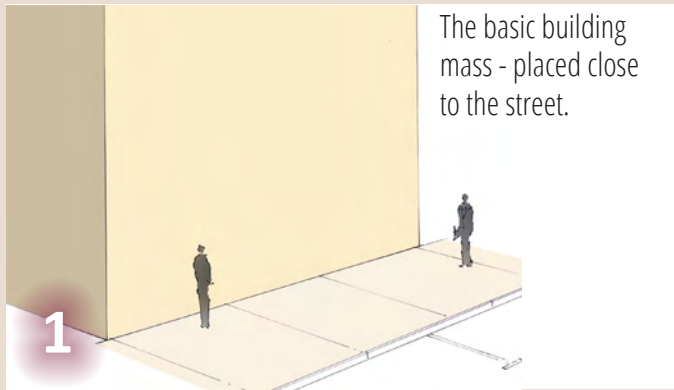


9

Street lamps allow social and commercial activity to continue into the night. In addition, the spill lighting from shop windows adds to the warmth and safety of the pedestrian zone.

The Anatomy of a Storefront

There is an economic advantage to creating unique one-of-a-kind environments such as main streets. Park Street should be lined with shopfronts that welcome customers that come on foot, by bike, or by car.



Film Street

Film Street is one of the primary connections between Triviz and Arrowhead Drive. This street will be built prior to the proposed development that will surround it so it should be designed in a way that allows vehicles to connect between these two streets while keeping the flow of traffic calm and also allow for the addition of on-street parking once development occurs in this area.

Film Street is envisioned to have one 10' travel lane in each direction. It is planned to be a narrow street. Street trees should be planted at regular intervals that will allow on-street parking to occur between the trees once it is needed. Sidewalks should be wide with a minimum of 8' but 10' wide sidewalks preferred.

Expected building development along Film street includes the DACC Creative Media Technology building, the NMSU Creative Media Institute building, the proposed film studio complex, and multi-tenant buildings that will support the Creative Campus digital media ecosystem.



Proposed



Contact Information

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Arrowhead Park

NM
STATE