

MOBILITY HUBS IN SAN ANTONIO

A Path to Equity and Sustainability



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The ULI Curtis Infrastructure Initiative has partnered with six ULI district councils across North America to provide technical assistance as part of a cohort to help build capacity to reconnect communities that are divided—physically, socially, and digitally. This cohort of ULI members and staff, local leaders, and other global experts meets regularly over the course of a year to identify key issues, share best practices, and provide updates on projects to support each other in addressing complex infrastructure challenges.

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CONTENTS

Introduction: Background of the Work	9
San Antonio's Plans and Mobility Policies	11
The Rationale of Mobility Hubs	15
The Process to Identify Mobility Hub Potential in San Antonio	22
Insights and Mobility Hub Typologies	31
Next Steps and Recommendations	40
Notes	45



PEARL

INTRODUCTION: BACKGROUND OF THE WORK

San Antonio is the seventh-largest city in the country and among the five fastest-growing cities. With 1 million new residents expected by 2040, San Antonio will need to expand safe and convenient transportation choices for people to take transit, walk, bike, and roll to reach destinations. To remain competitive, San Antonio can maximize the efficiency and effectiveness of its various transportation systems (roads, transit, sidewalks, and trails) by adding equitable mobility networks with these key considerations:

- San Antonio has the highest poverty rate in the country among the top 25 metropolitan areas.
- Sixty-seven percent of transit riders are living below the federal poverty level, living on less than \$25,000 per year.
- Twenty-five percent of all job opportunities in Bexar County are inaccessible to residents by transit.

As San Antonio moves forward to a post-COVID-19 recovery, the successful embrace of public transit will be critical throughout the region, opening opportunities to pilot and evaluate inclusive people-centered infrastructure that encourages safe, sustainable, and joyful multimodal trips and that integrates “mobility hubs” with existing transportation systems. Mobility hubs are being designed to be specific to the needs and context of San Antonio and can provide a diverse range of enhanced amenities and multimodal infrastructure by prioritizing innovative and equitable mobility services that expand first-and-last-mile solutions within the VIA Metropolitan Transit system.

Curtis Infrastructure Initiative Grant

In November 2020, the ULI Curtis Infrastructure Initiative awarded ULI San Antonio financial support to advance infrastructure investment and catalyze new solutions to local infrastructure issues. This one-year grant enabled VIA and the City of San Antonio, along with experts from the New Urban Mobility alliance (NUMO) and ULI San Antonio, to focus on land use and mobility hubs by investigating the following goals: (1) explore the potential for implementation of mobility hubs incorporating micromobility options (such as e-scooters and e-bikes) as first-and-last-mile solutions through data collection and research of best practices; (2) identify non-fixed route networks connecting places together through real estate density and development around transit; (3) assess potential improved connections to greenway and trail systems to better connect active transportation modes to transit; and (4) form public/private partnerships to guide the process.

The Curtis Infrastructure Initiative has partnered with six ULI district councils across North America to provide technical assistance as part of a cohort to help build capacity to reconnect divided communities—physically, socially, and digitally. This cohort of ULI members and staff, local leaders, and other global experts meets regularly over the course of a year to identify key issues, share best practices, and provide updates on projects to support each other in addressing complex infrastructure challenges.

Overview and Vision

This report presents the process and results of multistakeholder work—led by ULI, VIA, and the city of San Antonio and supported by NUMO with participation from several stakeholders from the public, private, and civic sectors—that aimed to develop a process to identify mobility hubs in the city and assess representative locations that could generate an increase in access to opportunities, goods, and services for residents in the city, with a special emphasis on increasing equity and reducing vulnerabilities. It is a first but significant step in achieving a network of mobility hubs that will help residents go where they need and want to go with affordable mobility.

With this in mind, the siting of mobility hubs should benefit the most vulnerable in the San Antonio region. In the long term, placing mobility hubs in areas where there is latent transit demand may be the critical catalyst to ensuring that the mobility hubs benefit the most vulnerable areas and not just tourist areas. This practice would enable the hubs to connect areas where there is existing affordable housing and planned affordable housing units.

After describing the context of San Antonio and its plans and policies in mobility and urban development, the report describes the process that was followed to define and identify mobility hubs (the “Process” section) and presents results of the process (the “Typology” section), followed by a review of key insights and potential next steps.

SAN ANTONIO'S PLANS AND MOBILITY POLICIES

The following is a summary of the most relevant plans consulted as part of this process.

SA Tomorrow Plans

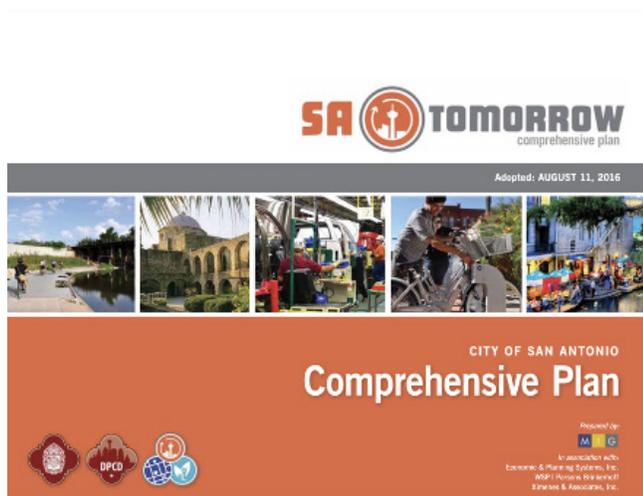
SA Tomorrow is San Antonio's 25-year framework citywide plan that serves as a guide for future growth and development. Five cross-cutting themes were identified to meet the specific needs of San Antonio: equity, resilience, economic vitality, air quality, and water resources. The SA Tomorrow Comprehensive Plan is the umbrella document and part of a three-part planning effort that resulted in the city's Multimodal Transportation Plan and Sustainability Plan. The Comprehensive Plan directs growth and development to 13 "Regional Center Plans," each consisting of separate concentrations of employment. "Community Areas" form the rest of San Antonio and face unique opportunities and challenges as the city plans to provide a full range of amenities and services, housing and transportation choices, and access to jobs to existing and future residents.

SA Tomorrow's Multimodal Transportation Plan was informed by 15,000 San Antonians, who participated

in a comprehensive engagement process and offered insights into their daily travel choices and vision of mobility in the future. The City heard strong support for a multimodal system. High-occupancy vehicle (HOV) lanes, light rail, dedicated bus rapid transit (BRT), bicycle facilities, and an improved pedestrian environment were all welcomed by most of the public responding to the surveys and providing comments during the project. Expansion of the bike share program and the introduction of other shared mobility modes will assist in the diversification of transportation choices.

Keep SA Moving Plan

The 2020 Keep SA Moving is VIA's most updated plan (based on the VIA Vision 2040 long-range plan and VIA Reimagined) for future system improvements with a focus on supporting the growth of San Antonio's economy and population, increasing access to jobs and services, and addressing service inequity that could result from underfunding transit. Keep SA Moving is



informed by a two-year public outreach process that outlined short-term and long-term priorities to improve the transit system by expanding trip options, investing in capital projects, exploring new technology, and putting resources where they are needed most.

Keep SA Moving outlines investment in ideas that make transit easier to use and access, including developing a fully integrated app to plan for connections before, during, and after a trip and expanding payment options and providing real-time customer feedback. *VIA Vision 2040* outlines the characteristics of “transit-oriented development” (TOD) and recommends that this form of housing and transit development be well connected to multimodal transportation options, including the off-street trail network.

San Antonio Climate Change & Adaptation Plan

As San Antonio enters its fourth century as an established municipality, the city launched the development of its first *Climate Action & Adaptation Plan* (CAAP). The CAAP’s goal is to make San Antonio carbon neutral by 2050—meaning that three decades from now, the city will contribute no net carbon into the atmosphere. This goal, though grand, is attainable through specific strategies and policies related to transportation, buildings, industry, and

waste. Transportation accounts for 38 percent of greenhouse gas emissions, and so it is critical to make transportation as clean and efficient as possible. That target will be met primarily through electrification and through lowering vehicle miles traveled (VMT) by providing people with convenient and safe choices to travel without driving a car alone. Thus four of the CAAP’s five recommended transportation strategies deal directly with expanding mobility choices, connectivity, and sustainable land use patterns.

Howard W. Peak Greenway Trails System

The Howard W. Peak Greenway Trails System is a growing network of approximately 82 miles of multiuse and accessible trails that run through San Antonio and an additional 15 miles under construction. The trail has four major segments, including the Leon Creek Greenway, the Salado Creek Greenway, the Westside Creeks, and the Medina River Greenway with over 50 major trailheads and neighborhood connections to access the trail system around the city. Planning and implementation for the Greenway System is led by the City of San Antonio Parks and Recreation Department and is guided by the *Trail Design Strategy* (2018), which defines trail design principles, criteria for application, and enhanced features by combining citywide branded





San Antonio's existing and planned greenway trails.

elements with other features to reflect the unique character of the neighborhoods.

San Antonio Bike Plan 2011

The *San Antonio Bike Plan* was adopted in 2011 and established a long-term vision and foundation for cycling in the city with the objective of providing a low-cost network that relieves traffic congestion, reduces household transportation costs, improves health outcomes and air quality, and transforms the image of San Antonio. The bike plan proposes a 1,768-mile cycling network, comprehensive bicycle facilities, advocacy programs, bike facility design guidelines, and an implementation strategy.

The city's Transportation Department will be developing a revised Bike Master Plan (downtown and midtown) to update policies and introduce feasibility studies



From left: Tomika Monteverille (San Antonio), Jim Bailey (Activate SA/Alamo Architects), and Carlos F. Pardo (NUMO) discuss how to build a culture of cycling in San Antonio by using an inclusive, equity-focused process—and by taking cues from cities like Bogotá, Colombia.

that further support implementation of complete streets, parking restrictions, and accommodation of bike facilities and micromobility infrastructure. On June 21, 2021, ULI San Antonio hosted a “Lunch & Learn on Cycling in SA & Bogotá” with NUMO senior adviser Carlos F. Pardo; San Antonio’s new director of transportation, Tomika Monteverille; and senior principal with Alamo Architects and founder of Activate SA, Jim Bailey. The event hosted discussions on prioritizing building and advocating for bold steps toward regional active transportation via an inclusive process that hinges on an equity-focused update of the city’s master plan for biking.

Alamo Area Bike Share Master Plan

The Alamo Area Metropolitan Planning Organization (AAMPO) developed the *Bike Share Master Plan* in 2018 evaluating the role of bike share and other forms of shared mobility in the Greater San Antonio Region. This plan includes the expansion of or changes to the existing bike share program in San Antonio and a policy overview listing key opportunities in planning for new shared mobility options such as dockless bike share, e-bikes, and e-scooters. Shared mobility



transportation is introduced as an important solution to mobility options that supplements existing transit services, provides health and economic benefits to the communities they serve, and advertises the city as a vibrant and modern city to help attract talent. San Antonio Bike Share (SABS) is an established service that is well supported in the community, and the plan outlines how new shared mobility options can provide an opportunity to increase coverage.

THE RATIONALE OF MOBILITY HUBS

Every trip is composed of different segments. This is true of any journey, regardless of whether that excursion is by walking or by car, or by any other mode. Every city has a crucial challenge of moving many people quickly along its main corridors. Public transport has the ability to carry many people long distances along high-demand routes and, importantly—particularly in a city with low rates of car ownership—at low cost. Overreliance on private car ownership not only leads to growing traffic bottlenecks and congestion but also excludes many residents from access to much of a region’s job market. Therefore, public transport is the backbone of an urban mobility system because it alone has the capacity to carry many people for long distances in narrow high-demand spaces and at a low cost.

A public transport service has a given “transit shed,” which refers to the geographic area that it can serve

adequately. The transit shed of a standard public transit stop or station is bounded by the maximum distance that users are willing to walk, typically between 300 and 500 yards, about one-third of a mile. In practice, this means that a public transit station or stop has a coverage diameter (transit shed) of roughly two-thirds of a mile.

Although public transit can potentially provide fast and efficient service, the spatial coverage is limited because of the fixed-route characteristics of this mode. For instance, the transit shed is limited to one-third mile distance from the transit station if only walking is considered. However, people outside the pedestrian-based catchment area could also be potential users if the transit service were more easily accessible. When other transport services are integrated to public transportation, the transit shed increases substantially.

VIA METROPOLITAN TRANSIT



Different ways to travel from origin to destination in a multimodal trip.



CARLOS F. PARDO

Cycling can complement transit services while creating more flexible integration.



Estimated sheds of different mobility vehicles and services to a transit station.

For instance:

- Including bicycle parking stations, providing bike racks on buses, or allowing bikes inside vehicles could increase the transit shed to a distance of almost two miles (a diameter of four miles).
- Including a similar option with e-bikes could increase this shed to about three miles (a diameter of six miles).
- Providing access to other vehicles, such as shuttles and car-based services, could expand the coverage even more.
- Including charging stations for different vehicles (scooters, e-bikes, cars) also could increase the transit shed.
- New mobility services that are anticipated in the not-too-distant future, such as ride-sourcing and automated vehicles (AV), are other options that are expected to increase that transit shed.

Integrating services could improve the flexibility and coverage of public transit in general and is a good option in low-density areas where public transit networks have less coverage. Integration also is a good way to encourage people to drive less and thus would

increase livability and reduce externalities because of the overall greater efficiency of the transit system.

In order to integrate mobility services effectively, the following must be considered:

- Ensure that land use and services are colocated to reduce separate trips and increase convenience.
- Provide appropriate infrastructure at transit stops and stations in terms of secure parking for bicycles (and charging for e-bikes and other vehicles).
- Provide appropriate infrastructure for pickup and dropoff by users of motorized travel (shuttles, ride-sourcing, AV).
- Charge the right price for integration in public transit (i.e., no additional charge for bicycles or pickup and dropoff, moderate charge for park-and-drive) and in other services (e.g., adequate parking pricing policies in the urban core or other disincentives to travel by private auto to that area).
- Establish clear and explicit policies for bikes-on-buses (or racks) or inside transit vehicles.
- Provide, ideally, appropriate infrastructure to connect to public transit stops or stations (e.g., bikeways or traffic-calmed streets, or similar).

Mobility Hubs Defined

The term “mobility hub” refers to a physical location that concentrates different mobility services in strategic areas depending on demand, density, and other factors. The main purpose of a mobility hub is to connect urban developments with transit and the complement of disruptive services. All these features increase flexibility and the distance traveled and in general improve access to opportunities, goods, and services. Although the idea of integrating services has been known for decades and has applied in several places around the world, the recent surge of interest in mobility hubs has been led by a focus on the deployment of emerging mobility services in concert with public transit and bike sharing.

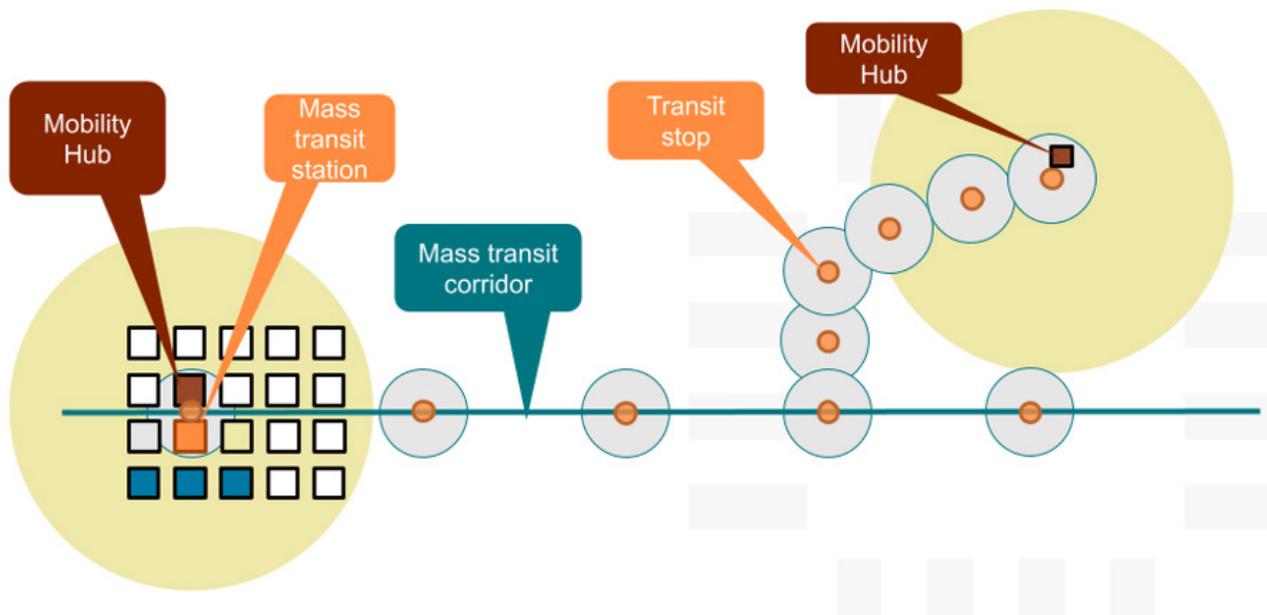
A hub is normally located along a transit corridor, in a mixed-use setting and adjacent to housing and other services (and generally part of a larger urban development). In a larger urban context, hubs complement mobility systems either by increasing the transit shed of existing transit service or by providing

specific services. The spatial location of hubs and their tiers will depend on the specific characteristics of the urban context in which they are implemented, as the following descriptions illustrate.

Mobility Hubs as Part of a Network

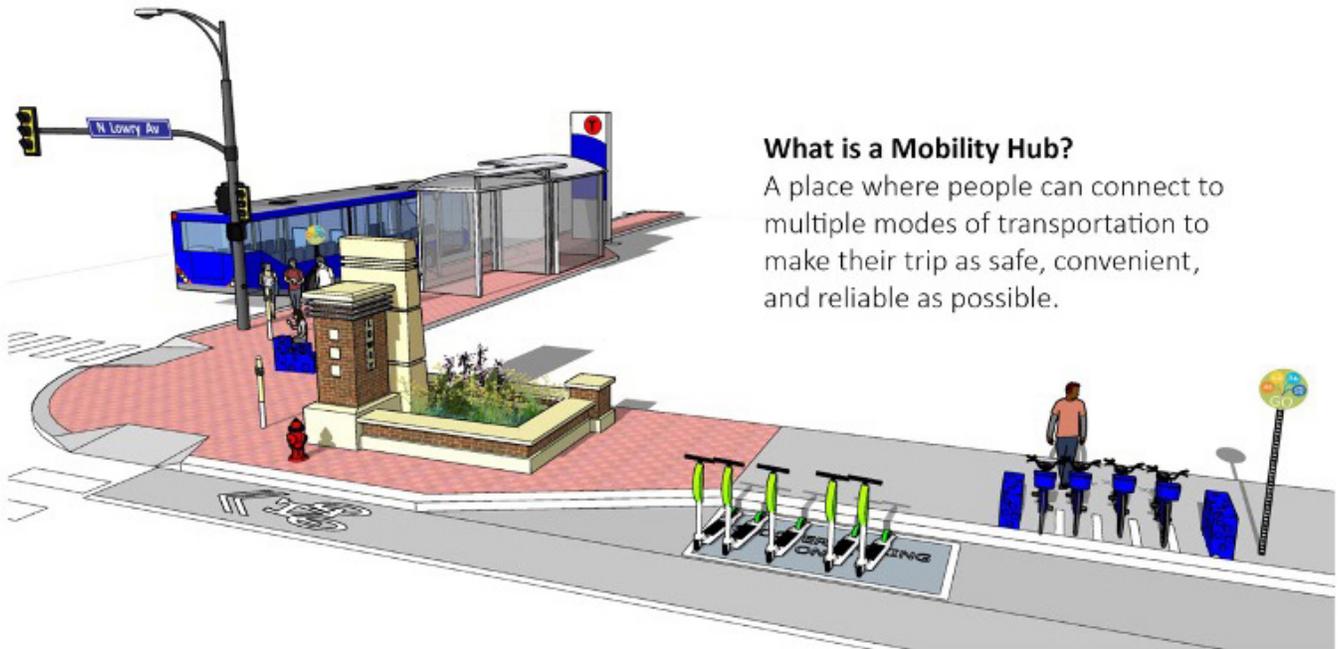
A crucial point: mobility hubs should not stand alone but should always be conceived of as part of a network. Some of the benefits of such a vision include:

- Increased concentration (and intensity) of locations
- Access to relevant destinations
- Expanded level of and variety of transportation services
- Improved placemaking in real estate development
- Improved access by different modes to locations that are close together
- Increased access for communities and improved equitable impacts for lower-income populations



A conceptual diagram of a mobility hub and nearby services and corridors.

CITY OF MINNEAPOLIS



What is a Mobility Hub?

A place where people can connect to multiple modes of transportation to make their trip as safe, convenient, and reliable as possible.

Mobility hubs as described by the city of Minneapolis.

Examples of Mobility Hubs

There are several examples for applications of the concept of mobility hubs. The following are four that emphasize different aspects of integration and implementation of a mobility hub—two are in Europe and two are in the United States.

Minneapolis, Minnesota: Defining a mobility hub for the U.S. context

In recent years, Minneapolis has developed a comprehensive concept of mobility hubs, which began

with an equity-centered methodology specifically designed for the city. Twenty-five mobility hubs are strategically placed in a network at centralized locations near metro transit stops and bike share stations to provide residents with greater access to a range of mobility options, including bike lanes, e-scooters, bikes, and car share. The network is designed to facilitate making multimodal trips as “safe, convenient, and reliable as possible” by reducing the reliance on personal car trips and by encouraging public transportation connections.



CITY OF MINNEAPOLIS

Minneapolis uses placemaking strategies at mobility hubs and integrates micromobility at transit stations.

The City employs equity-based data as a guide to select locations in areas of concentrated poverty. Visibly placed transportation elements and wayfinding help users identify mobility hubs. Volunteers from community organizations that partner with the city serve as on-site Mobility Hub Community Ambassadors to ensure that the spaces remain active and safe. The Twin Cities Shared Mobility Collaborative was formed to implement the *Twin Cities Shared Mobility Action Plan* (2018), fostering collaboration among government, nonprofits, and the private sector to expand and improve multimodal and shared transportation options.

Pittsburgh, Pennsylvania: Partnering with disruptive services to increase partnerships and mobility

Pittsburgh’s Department of Mobility and Infrastructure (DOMI) issued a request for proposals for building a coalition of collaborative mobility providers to work in partnership with the city and communities in order to develop an integrated and organized system of transport. The result was the Pittsburgh Mobility Collective (PMC), the nation’s first-of-a-kind consortium consisting of private/public/nonprofit partners envisioning a network of mobility hubs near transit stops and bikeshare stations across the city



Diagram of a mobility hub within the MovePGH partnership in Pittsburgh.

that expands the transit shed in lower-density and low-transit-equity areas.

A PMC program, called Move PGH, integrates a coalition of existing and new “first-and-last-mile” service providers, including (1) a new fleet of shared low-speed electric scooters; (2) expanded car share services; (3) a fleet of electric mopeds; (4) carpool matching and commuting services; (5) electric charging for e-scooters; (6) real-time transit and mobility information on digital screens at mobility hubs; and (7) digital trip planning and booking.

This new system of integrated services enables the second program, a “Universal Basic Mobility” pilot, which will provide up to 100 low-income residents with monthly transit subscriptions and shared mobility services to address mobility insecurity. Both programs

support the city’s equity principles, which are centered on ensuring that all Pittsburghers can easily access fresh food, afford basic transportation, and travel safely without reliance on a car.

Utrecht, the Netherlands: Increasing the transit shed by massively increasing bicycle parking

Utrecht is a medium-sized city in the Netherlands with the largest bicycle parking station in Europe, and possibly the world, with over 12,000 parking spaces at the main train station. This bicycle parking station was built to cater to the large number of people who arrive at the station by bicycle and who plan to continue their journey by train to Amsterdam and other locations in the country or all over Europe. The Utrecht station offers an example of a large-scale mobility hub with a specific integration: bicycles and high-capacity mass transit.



CITY OF PITTSBURGH

Pittsburgh’s mobility hubs are part of MovePGH.



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A user exits the massive 12,000-space bicycle parking lot at Utrecht's main station.

Munich and Leipzig, Germany: Improving access by providing a set of services in a network of mobility hubs

With the concept of "Mobilpunkte," some German cities have created spaces where citizens can access several mobility services in one location. This concept began in Bremen in 2003 and expanded with greater emphasis starting in 2013 in several other German cities.¹ The

Munich location represents an option to host the following:

- Two pedal-assist e-bikes with four charging points,
- Three parking spaces for car-sharing stations,
- One charging column for e-car sharing,
- Four parking spaces for car sharing,
- Two parking spaces for e-vehicles, and
- One charging station for citizens charging their own automobiles.

In the case of Stuttgart,² the city developed an application with information, a booking service, and billing, whereas the physical "station" equipment offered was the same throughout the city:

- A blue and yellow column with a control terminal,
- Parking bar for five bicycles,
- Five rental bicycles,
- Two parking spaces for car-sharing vehicles, and
- Two parking spaces for electric vehicles, including a charging column.



MONTERRAT MIRA MONTES VILLARREAL

Mobility hubs in Germany.

THE PROCESS TO IDENTIFY MOBILITY HUB POTENTIAL IN SAN ANTONIO

The process to identify mobility hub potential in San Antonio involved five steps:

1. Brainstorming ideas with key City of San Antonio partners and VIA Metropolitan Transit to arrive at a collective definition of mobility hubs, appropriate to the city
2. Discussion around values drawn from recent citywide plans, transit agency plans, policies, and community engagements and determination of how they could be reflected in criteria and metrics for mobility hub site selection
3. Technical work on refining how the definition and values would be translated into a set of

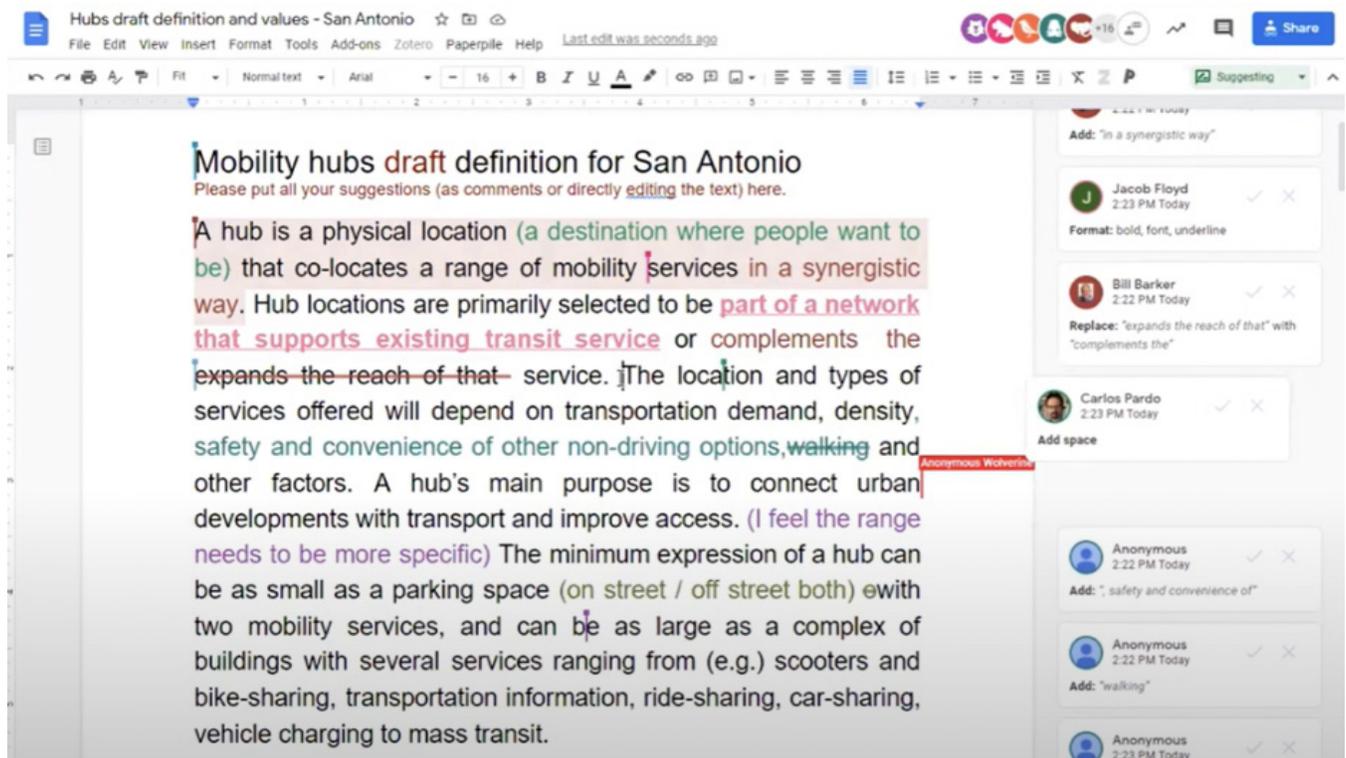
criteria, which were later analyzed in a geographic information system (GIS) analysis

4. Additional analysis complemented by site visits to potential mobility hub locations and interviews with relevant stakeholders
5. Discussion of initial results and next steps

This process is described in detail in the following subsections.

Step 1. Defining a Mobility Hub Collaboratively

The first step was to meet (virtually, in March 2021) with a group of key stakeholders from government, the



NUMO

The live process of collaborative writing of the mobility hub definition.

private sector, and others in order to collaboratively define “mobility hub” in the context of San Antonio. The stakeholders used a shared online document on which all participants could add their views to a draft definition provided by NUMO. As participants wrote the document collaboratively, impromptu discussions were held among participants about specific issues. NUMO later reviewed the contributions and produced a draft that was then finalized. The resulting definition is the following:

A hub is a “smart”³ physical location (a destination where people want to be) that co-locates a range of mobility services in a synergistic way, with safe pedestrian connections between all modes, and helps San Antonio to become more equitable and resilient, and build long-term community value.

A hub’s main purpose is to connect people to destinations with transport and to improve access, and it can also be a destination for nonmobility services that are of interest to a community (child care centers, grocery or drug stores, libraries, recreation centers, food pantries or other rotating community services such as health care).

Hub locations are primarily selected to be *part of a network that supports or complements existing transit service*. The *location and types of services* offered will depend on transportation demand, density, safety, sustainability, and convenience (among other factors). Although services may include car sharing or transportation network company (TNC) pickup locations, hubs emphasize the availability and promote the use of other nondriving options. Specific services could include scooters and bike sharing, bike lockers/ bike parking, bike repair, ride sharing, car sharing, electric mobility options, electric vehicle charging, and mass transit.

Hubs may also include nontransport services such as information, mobile phone charging, and wi-fi access. They may provide other information such as local neighborhood-level destination information and may include technology (mobile applications and

web platforms, information systems, etc.) to support multiple mobility options.

The size of a hub can be as small as a space currently used for parking (on street or off street) with two mobility services and can be as large as a complex of buildings with multiple services and commercial facilities.

A *mobility hub* should have the potential to provide access to all segments of the community (regardless of level of income or whether users have access to cellphones or digital platforms, etc.). *Users* of mobility hubs include the range of people who walk and roll (including wheelchair access) and who are essential users of mobility services.

Step 2. Agreeing on Values

The second step after discussing a definition was to agree on the values that represent a mobility hub in San Antonio, with an effort to align these with existing values, plans, and principles of other major adopted policies such as the *SA Tomorrow* plans (see the previous section that offers details on this and other plans). This step also was virtual. Participants were asked to envision “looking back from a *point in the future* at a successful San Antonio deployment of a network of mobility hubs.” They were asked, from that vantage point, to complete the sentence, “The key thing was . . .” and describe the most important factors in defining that mobility hub network as successful and the values that contributed to that success. NUMO later reviewed and synthesized those suggested actions and values and created a consensus document. As part of this review, NUMO identified and aligned the commentary with other values and principles from recent San Antonio documents that featured wide and extensive public engagement, describing the aspirations and issues/obstacles facing the city over the coming decades.

The resulting values associated with mobility hubs were as follows:



NUMO

Virtual workshop held to define mobility hub values.

- **Community oriented.** Families are as important as individuals and need a place for communities to gather. The hubs are built on existing neighborhood/community hubs and neighborhood activity centers and play a dual role as a destination and as a point from which to leave the neighborhood for other parts of town.
- **Participatory.** Planners work with residents/children/high school students to personalize hubs and obtain significant input from public transportation users and cyclists/pedestrians/families with strollers as well as addressing Americans with Disabilities Act needs. The process engages the community in coming up with all the ideas.
- **Strategic and visionary.** The design is aspirational yet pragmatic; the vision is achievable and affordable. New mobility in the hubs is designed to attract more people to transit. Public/private partnerships work with private mobility providers (transportation network companies, bike and scooter share providers, etc.). The design is scalable and replicable.
- **Democratizing and equitable.** The program democratizes access and choice and levels the playing field for people who either do not have a car or do not want to use their car, either by choice or by economics. The project redirects highway funding to reinvest in mass transit and local street networks and

makes getting around the community without a car far easier and safer. Mobility access and choice are made available irrespective of age, race, class, ability, and income level.

- **Recognizable.** Public art or other features demarcate the mobility hubs as a recognizable place.
- **Transformative.** Mobility hubs enable San Antonio to get away from being a car-centric city and to focus on an identity as a walkable city.
- **Resilient and sustainable.** The mobility hubs help San Antonio to get partially off the power grid and become truly resilient and sensitive to environmental and sustainability issues.
- **Accessible and accommodating in design and layout.** The mobility hubs offer flexibility of location by using both public and private rights-of-way that are open to the public. The hubs are established in locations that are comfortable with shade, seating, and shelter from the weather.
- **Placemaking.** The mobility hubs become amazing urban spaces that combine mobility with placemaking.
- **Integrated, connected, and convenient.** The hubs serve as a single stop that takes care of all a person’s needs by connecting to San Antonio’s fabulous bike/hike trail network and helping to make transit use safer and more convenient. By connecting to various

parts of the city through various modes, mobility hubs become a place that provides more choices in transportation.

- **Conveniently located.** The hubs are located in the places that need them the most—dense and walkable neighborhoods, places where people would like to be or naturally come together and linger and that are made better by the additional services. Desired and aspirational land uses are tied around the mobility hubs.
- **Regionalized to San Antonio’s culture, including**
 - Enhancing its culture and lifestyle,
 - Changing the paradigm of transit in the city, and
 - Aligning with the local climate, culture, and economics.

Step 3. Identifying Selection Criteria

The third step of the process was to identify the location selection criteria that could best represent the definition and values consensus and that had enough quantitative information available for analysis. Given that the city of San Antonio has a robust open data collection process and has the generous support of VIA, it was possible to identify a full set of metrics that could be used. See the sample results in the image for more details.

	Pedestrian and micromobility access	Location and transit access	Land development opportunity	Equity	Implementability
Of the highest importance	21.4%	50.0%	14.3%	7.1%	7.1%
Important	35.7%	21.4%	0.0%	28.6%	14.3%
Of medium importance	28.6%	21.4%	7.1%	14.3%	28.6%
Sort of important	14.3%	0.0%	28.6%	42.9%	14.3%
Not so important	0.0%	7.1%	50.0%	7.1%	35.7%

NUMO

Sample results from the criteria weighting process.

The discussion on those initial metrics with a core group of stakeholders helped define the most useful metrics that could support the analysis. The five criteria and the way they were quantified or defined are described below. It must also be noted that, while having a comprehensive list of criteria is always desirable, the list is most useful when the criteria are precise and don't overlap. Criteria such as sustainability could have been added, but they were too broad to quantify adequately. The following criteria were determined to be more specific and better able to achieve specific improvements in the social, economic, and environmental aspects of San Antonio. However, future phases of this work might include other criteria such as air quality, if desired.

During the implementation stage, citizen engagement and feedback on the proposed mobility hubs is a necessary step to reconfirm their viability and potential. The "Next Steps and Recommendations" section at the end of this report outlines some questions to answer in that process. Given that this report is proposing initial criteria to identify potential locations, it does not include a criterion focused on citizen feedback because feedback will be included at a later stage.

Criterion 1: Equity

At the forefront of all criteria is the need to improve equity in the city and the use of mobility hubs as a



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Having good transit in a community increases the access to opportunities for vulnerable populations.



CARLOS F. PARDO

Walking and cycling are the most sustainable modes of transport and play a crucial role in mobility hub deployment.

tool to achieve it. The city of San Antonio had already developed and mapped an "equity index," which was a combination of several factors that included the concentration of both people of color and low-income households in a census tract. Those data were combined with the density of households with either one or no car. This information helps identify locations that are more transit dependent and that could benefit from the creation of mobility hubs.

Criterion 2: Pedestrian and Micromobility Access

This criterion was chosen because of the fundamental role of the walking component in multimodal trips (all people are pedestrians at some point in a trip, and walking is the main connecting mode between services) and the priority that must be given to modes and services that don't have an engine such as bicycles, strollers, and wheelchairs.

To measure this criterion, several variables were identified (infrastructure for bicycles and scooters, road safety indicators, greenways and pathways, etc.) and one of the indicators—sidewalk score—was chosen on the basis of the completeness of the dataset and the ease with which it could be interpreted and integrated with the rest of the variables.

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San Antonio city center is a location with high transit access, where goods and services are easily accessible by walking and transit.

Criterion 3: Location and Transit Access

A third criterion was related predominantly to transit access, in terms of the prevalence and proximity to high-frequency VIA bus routes. This was also combined with the location of nonmobility services that increase access to goods and services (such as child care centers, grocery, food pantry, or other community services such as health care services). Data for both of these variables were available and could be easily identified in maps provided by the city. Although other variables could have been used for this purpose (for instance, the most prominent origin-destination pairs or routes connecting to major employment centers), the main focus of this work was to use at most two variables that could clearly present the criteria in maps and that could be transparently quantified.

Criterion 4: Land Development Opportunity

A fourth criterion was related to the opportunity for land development near denser and more walkable locations that exist or are planned, and the proximity to places such as city parks and trails. (Recent efforts in San Antonio suggest that proximity to parks and trails has been a factor in the attractiveness of sites for development.) Those two variables were available and well mapped by the city and were used to define this criterion. Other variables that were assessed



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Land development has been identified as an opportunity in several locations in San Antonio and could continue to be sought with a more explicit focus on access.

but were not available or were difficult to quantify were the presence of large contiguous parcels with appropriate zoning, location of publicly owned land or vacant properties, and the opportunity to incentivize development. The process followed in this report focused mostly on existing land use because it could apply to the immediate potential of mobility hubs. However, a long-term view of “land development opportunity” for sites with future potential is also part of the overall idea of this criterion.

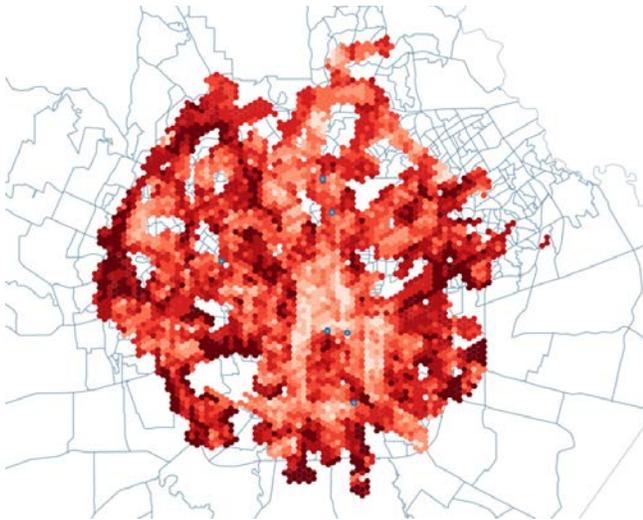
Criterion 5: Implementability

A fifth criterion was discussed related to “implementability” with regard to perceived political will and the potential to actually develop a mobility hub in the near future. However, quantification of this criterion was not possible with existing data, and so this was used as a question for discussion with key stakeholders during site visits (i.e., questions around how they viewed the feasibility of mobility hubs in certain locations were used to assess potential in terms of “implementability”).

Step 4. Assessing “Hubability”: Data Analysis

Having defined mobility hubs and their values, and having identified key data, the team performed a thorough GIS analysis to determine the “hubability” of

NUMO



The resulting “hubability map” of San Antonio, where darker red represents locations with greater need and potential for improvement via mobility hubs.

different locations. This process had several inputs from stakeholders in terms of specific locations that they felt were appropriate as mobility hubs and that aligned with values defined by the group.

Locations Identified by the Stakeholder Group

During discussions with stakeholders at the front end of this process, participants identified a few locations according to their understanding of “mobility hubs.” These locations were identified for review during the site visits, and relevant information was gathered for each. Those locations were not defined as the final locations but were rather identified as initial ideas for further analysis. Those initial locations also provided good insight into the types of places that stakeholders would identify as potential mobility hubs.

GOOGLE MAPS, NUMO, ULI

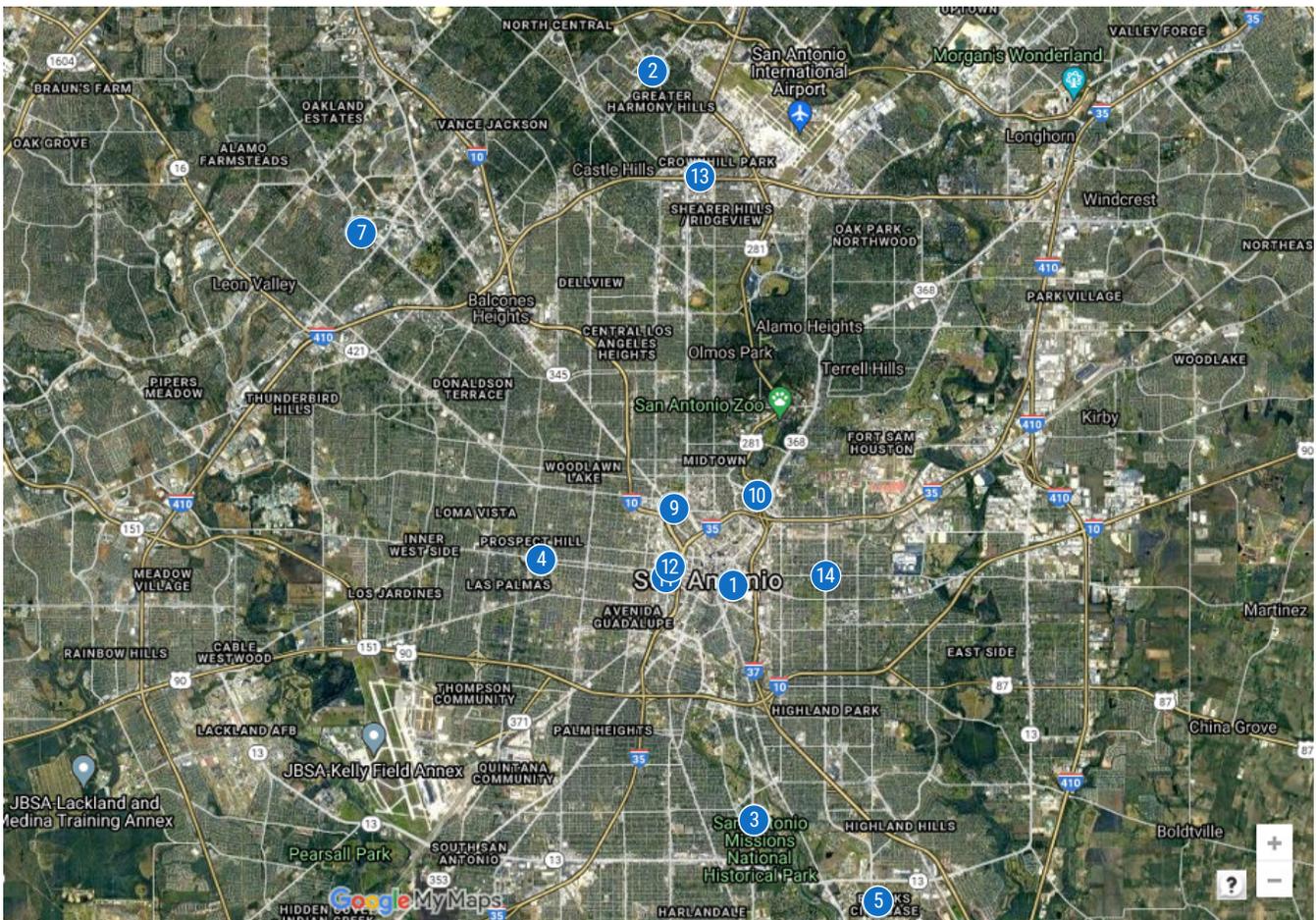


Image of resulting locations on a Google map.

Locations That Resulted from the GIS Analysis

NUMO implemented a GIS analysis to assess four of the five criteria in one map (implementability was not mapped but rather discussed in on-site visits). This process included giving all layers specific weights corresponding to their relative importance to representing the values and definition of a mobility hub in San Antonio. The results were presented in a map that would identify the best areas for mobility hub placement in terms of their potential (represented in the map at the beginning of this section by the gradation of red). A hexagon-shaped spatial unit of 500 meters in width was the basis for analysis. The best interpretation of this process is that mobility hub locations prioritized in the GIS results (i.e., hexagons with darker red tones in the final map) were those where the following was true for the first four criteria:

- **Pedestrian and micromobility access:** Sidewalks are in need of improvement.
- **Location and transit access:** There is poor transit access that could be improved if hubs were implemented.
- **Land development opportunity:** Density is low but could increase if hubs were available, and mobility hubs could satisfy existing needs for nontransport services.
- **Equity:** The location is in a zone with a high proportion of disadvantaged communities and a high proportion of households with one or no car.

Locations were identified as being most relevant for mobility hubs on the basis of their potential to improve access and mobility (especially to vulnerable populations) at the time mobility hubs were to be implemented rather than on having great existing conditions where mobility hubs would act as reinforcement. The section on mobility typologies

presented later in this report provides an overview of how these conditions were interpreted in terms of different needs and “vocations.”

Step 5. On-Site Visits

The full week of June 21–25, 2021, was used to visit locations and to interview key stakeholders from government, the private sector, and general public stakeholders. The visits and discussions emphasized the following:

- Explaining the idea behind the process
- Visiting the locations identified by the group and areas resulting from the GIS analysis
- Understanding the interests and concerns of stakeholders
- Confirming the results of all previous analyses
- Confirming interest in future implementation from a wide array of stakeholders

At the end of the visits, a meeting was held in San Antonio with a group of stakeholders from the City, VIA, the private sector, and other key stakeholders to discuss all preliminary findings and insights and to review a list of 13 specific locations to get feedback on whether the locations were relevant as potential mobility hubs.

These discussions were later reviewed in a virtual meeting in which the group discussed how the results could be presented in this report and how they could be presented in the form of typologies or archetypes. The results are identified in the following section.

INSIGHTS AND MOBILITY HUB TYPOLOGIES

This section presents general insights related to San Antonio and the potential for mobility hubs, as well as a series of typologies that describe some of the types of places that could benefit from having mobility hubs and that could create a network. The locations that have been identified here are not necessarily places where decisions have been made to implement mobility hubs, but rather good examples of the types of places that could benefit from mobility hubs in the future when adequate conditions are met.

Four Insights from Site Visits

The following are overarching insights that resulted from the visits and discussions in San Antonio.

Insight 1: Potential and Interest

In general, an overarching insight is that there is great potential for mobility hubs, both in terms of interest from stakeholders and places in great need of increased access for vulnerable populations. This is especially important given San Antonio's condition of economic segregation and growing population. Having equitable and affordable mobility services would increase access to goods, services, and opportunities. Having an explicit interest from stakeholders who have necessary resources and a mandate to implement mobility hubs increases the probability of success.

Insight 2: A Nascent Network of Mobility Hubs

VIA already hosts seven "transit centers,"⁴ which are essentially an expression of mobility hubs: as described by VIA, "Transit Centers offer limited parking and are used primarily as major transfer stations. We offer enclosed waiting areas with restrooms, vending machines, and staff to assist customers." They also provide bicycle parking (in some cases covered spaces with facilities to lock and protect bicycles) and spaces for nonmobility services such as food trucks. The fact that some of these locations have air-conditioned



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VIA's Centro Transit Center on the West Side of the city.

waiting areas presents a clear message to users that the users are important.

These transit centers could be used as the first iteration of mobility hubs and could be improved by the work done in this project and complemented by other locations (in fact, some of the locations that were reviewed in this project are VIA transit centers). Using the existing sites would also strengthen the importance of a network of mobility hubs for the city.

Insight 3: Unlocking the Potential of Available Parking Space

San Antonio has a surplus of parking spaces. In addition, cars may be parked on the street and there is generally little or no charge for parking at any location. In the few places where on-street parking has a price, the cost is particularly low and there is no mechanism established to assign prices to off-street parking. This implies that the City must change its parking pricing policies (by adjusting prices to market rates that manage demand appropriately) and that its excess of

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Parking is widely available in several places in the city at no cost to drivers.

parking spaces should be controlled by reducing their number and repurposing them to other services.

Mobility hubs could play a crucial role in transforming parking spaces into locations that improve the city's access to mobility services that are equitable and affordable, especially for vulnerable users and transit-dependent populations. In addition, implementing mobility hubs could increase the variety of nonmobility services in certain locations. For instance, food deserts could benefit from a mobility hub that increases access to fresh fruit and vegetables by dedicating some of its space to these services in addition to good transit.

Insight 4: Trails as a Crucial Asset

San Antonio, its government, and citizenry are very proud of their large network of trails, and they should be. The 82-mile and growing network of high-quality trails (Howard W. Peak Greenway Trails System; see the section "San Antonio's Plans and Mobility Policies") not only increases access to places where people can

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Trails throughout San Antonio have resulted from a comprehensive effort of the city.

gather and have an opportunity for physical activity, but also provides a great network for very safe travel by bicycle and other nonmotorized modes to and from key locations, sometimes connecting places that are dozens of miles apart. Trails are a crucial asset to increase access for San Antonians, and mobility hub locations could benefit as well from their incredible connectivity.

Four Mobility Hub Typologies

After reviewing data and results from the analysis and discussions with the group, the team identified four mobility hub typologies for San Antonio. The typologies are designed to be aligned with the value considerations for mobility hubs and for achieving a varied network of mobility hubs that increases access to San Antonio's goods, services, and opportunities for their entire population. It must be noted that some locations are mentioned in more than one typology, given that these are not necessarily mutually exclusive.

Access to Jobs/Equity for Vulnerable Populations

As was made evident by several stakeholders, equity is at the forefront of these typologies. A central goal of these hubs is to increase access to opportunities for vulnerable groups and for those with lower income and low motorization rates (i.e., households with one or no car).



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Several locations identified throughout San Antonio could increase access to jobs and equity for vulnerable populations. (Pictured: a building for rent at a parking lot at West and Blanco, one of the suggested locations in this report.)

Specifically, these hubs are aimed at improving access and services at the beginning and end of the trip, increasing access to locations that are far from current high-frequency transit lines.

Some example locations that were identified for this typology were the intersection of West Avenue and Blanco Road, VIA Five Points, VIA Centro Plaza, Elmendorf Lake Park, and the Medical Center Transit Center. Although a site visit was not made to San Antonio Housing Authority's East Meadows Neighborhood, this location was also identified as a potential location for the San Antonio Eastside communities.

Access to Higher Education

In addition to equity, improving access by sustainable modes of transport to higher education locations is also a crucial goal of mobility hubs.

The fact that transit stops are already located near or at higher education facilities is a positive aspect, but these locations could be further enhanced and complemented by other services and access to trails. Mobility hubs could strengthen these transit stops.

There are several locations identified as part of this typology, including Texas A&M University-San Antonio, University of Texas at San Antonio (UTSA) Main campus and UTSA Downtown campus.



UTSA

The University of Texas at San Antonio main campus.



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Access to tourism locations has been predominantly designed for cars, but access by other modes could be improved with the implementation of mobility hubs.

Tourism and Heritage Locations

Given that San Antonio is home to several historical sites and five World Heritage missions, a goal of mobility hubs could be to increase access to these sites for everyone, especially for those who do not have access to a private automobile. These locations also include tourist and commercial attractions.

Some of the locations that were identified for this typology are Pearl, Hemisfair, the Torch of Friendship Plaza, and all five World Heritage Missions including the Alamo, as well as North Star Mall, The Quarry, The Rim, and La Cantera.

Innovation

In catering to the interest of some stakeholders to deploy innovative mobility services such as autonomous shuttle services and micromobility routes and infrastructure, this typology aims to highlight locations



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Innovative services, integration, and technologies could increase the effectiveness of mobility hubs.

where innovation can be a focus. However, this type of innovative mobility continues to emphasize the integration of those services to transit for longer trips.

Some of the locations that could be part of this typology are Brooks, Texas A&M, Medical Center, and Port San Antonio.

Example Locations for Potential Mobility Hubs

The following presents some example locations and how they could benefit from mobility hubs and the typologies they would represent.

Elmendorf Lake Park

Described as “a hidden gem on the Westside,”⁵ Elmendorf Lake and Park are “located on a portion of the land once known as the Coulson Tract that comprised 687 acres on San Antonio’s west side.”⁶ The trails on the West Side of San Antonio connect with several key places of the city. As described earlier, the network of trails provides access to many people who walk or ride bicycles on these comfortable facilities. Making Elmendorf Lake park a mobility hub would strengthen the role of trails and connect them better to nearby transit stops. **This hub could serve as a location for access to jobs and as a tourism and heritage location.**

SAN ANTONIO PARKS AND RECREATION DEPARTMENT



Elmendorf Lake Park is a recreational location that is also well located to add a hub and increase access to the city’s downtown by different modes.



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The southeast quadrant of the intersection of West Avenue and Blanco Road is strategically located for a mobility hub and already has several transit services nearby.

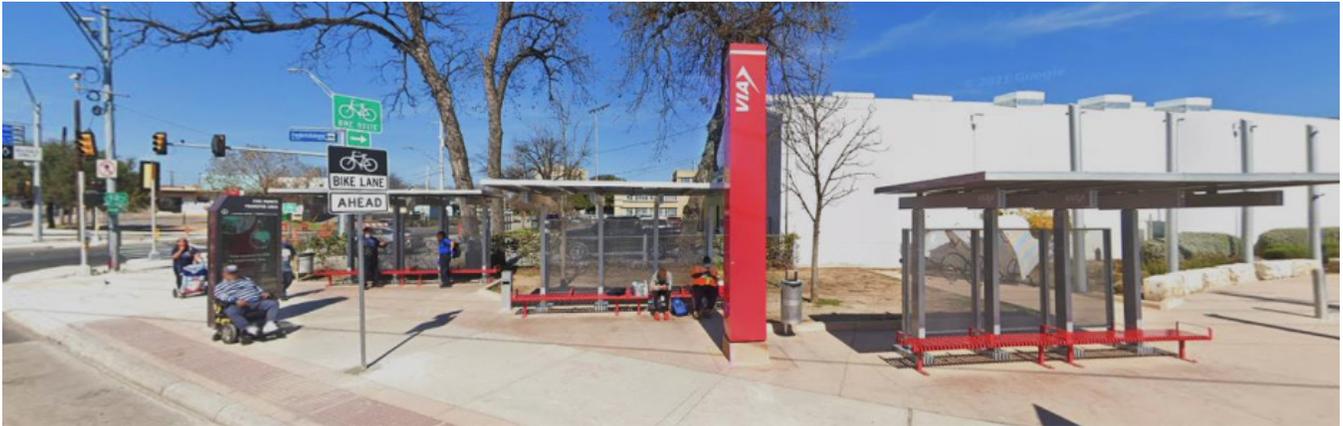
West and Blanco

The northwest quadrant of the intersection of West Avenue and Blanco Road is a commercial area with a massive parking lot that could be easily repurposed for a mobility hub, given that the nearby area is of medium-density residential character and that there are three nearby VIA stops that could be integrated into one central location. Owners of the space appear to be positive about the prospect of such an intervention, and the area already has an empty building that could be used as the main building for the hub (originally a Sombrero Rosa restaurant). **This hub could serve as a location for access to jobs.**

VIA Five Points and VIA Centro Plaza

VIA’s Five Points Transit Stop and Centro Plaza are obvious candidates to become part of a network of mobility hubs and would need little effort to become such (needing only to integrate charging stations and improve their information to users). Their locations already make them a strong node for the network. In addition, Five Points has also been identified as one of the locations for development in the San Antonio Corridors program, and the city has developed a Station Area Plan for the location that could easily become a strong mobility hub.⁷

The Centro Plaza location in the near west side of downtown makes it a great connector to the rest of the city and downtown core, providing access to jobs



VIA METROPOLITAN TRANSIT

Five Points is one of the stops with highest demand in the VIA network.

in many parts of the city. The Five Points stop, which serves as a primary link between downtown and the Medical Center, is VIA's highest ridership local stop/transfer stop and recently had some significant improvements, including a new inbound shelter location constructed to the south of a newly divided roadway, which provides southbound access to North Flores Street. **These hubs could serve as locations for access to jobs.**

Medical Center

The Medical Center Transit Center is a park-and-ride facility that hosts 123 parking spaces and is located on the west side of the San Antonio Medical Center, San Antonio's largest medical complex with several hospitals and significant multifamily density. The transit center is also the primary transit facility in the

Medical Center Area Regional Plan, as identified in the *SA Tomorrow Comprehensive Plan*.

Benefiting from advocacy focused on the Medical Center area, infrastructure throughout the center is of good quality and connectivity; however, pedestrian infrastructure at intersection locations, while well-defined, is generally in the context of "free right turn" conditions, which reflect the vehicle-centric focus of the Medical Center. Given the existing infrastructure for mobility access, the parking area (which is 10 to 15 feet below the adjacent street grade) provides for an enclosed space, surrounded by green screen material, that could transition to a robust mobility hub function with very little additional capital improvement required.

This hub could serve the access to jobs and the equity typologies.

UTSA North and Downtown Campuses

UTSA is constantly improving its campuses (and it intends to expand to over 45,000 students by 2028⁸), and the university has great interest in connecting its campuses to each other and with the rest of the city, as expressed in its Campus Master Plan in 2019.⁹

The existence of land currently devoted to a VIA stop and some parking at the Main Campus and the opportunity at the Downtown Campus to be better integrated to the urban fabric on the West Side could improve travel by sustainable modes while making better use of the university's available space with



VIA METROPOLITAN TRANSIT

The Medical Center area could improve its characteristics to cater to more nearby trips to and from the existing transit center.

UTSA



UTSA's Downtown Campus could become a complementary location for a mobility hub, increasing access to the West Side of the city for its students and nearby population.

the implementation of mobility hubs. Having better nonmobility services at the mobility hubs in the Downtown location (Monterrey Building parking lot) would also satisfy a need for the nearby community and for students. **This hub could serve as an education location.**

VIDA Community

VIDA is a 600-acre master-planned community underway adjacent to Texas A&M University-San Antonio with mobility improvements in this area that are expected to benefit the nearly 12,000 enrolled students from several educational institutions. The bold development of an entire neighborhood in the southern portion of San Antonio and the ambition to

SOUTHSTAR COMMUNITIES



VIDA Community, being planned with a vision giving great priority to walking and smaller vehicles, could integrate a mobility hub at that location.



PEARL

A former brewery, Pearl is an urban redevelopment with several amenities where a mobility hub could increase transit access to those who choose not to use a car.

create a street network with micromobility services in mind are great opportunities to promote use of these services and to connect them to transit with a mobility hub that would replace an existing VIA transit stop along the main avenue. **This hub could serve as an education location, as well as an innovation location.**

Pearl

The redevelopment of a former brewery into a high-end commercial space has generated a significant demand for travel to the area, which has already increased pressure for better transit service and connectivity. The developers describe the area as “a thriving and vibrant community, home to many spirited visionaries who each paint a unique portrait of the South Texas past, present and future.”¹⁰ The implementation of a mobility hub in an existing parking lot along Grayson Street could increase the connectivity of transit services to the area and improve access to all by non-car modes, while also providing an opportunity for shared mobility services and e-charging stations in this area. **This hub could serve as a tourism and heritage location.**

Hemisfair District and the Torch of Friendship Plaza

Hemisfair Park Area Redevelopment Corporation (HPARC) and the Hemisfair Conservancy are working together to redevelop and activate the site of the 1968 World's Fair into a series of three parks in the heart

HEMISFAIR



Hemisfair has been redeveloped to become an attraction for citizens and is adjacent to the Torch of Friendship Plaza and the core of downtown San Antonio.

of San Antonio. HPARC, a 501(c)3 nonprofit local government corporation, is responsible for acquiring property, planning, developing, constructing, managing, maintaining, and financing projects at Hemisfair.¹¹

In addition, the adjacent Torch of Friendship Plaza is the entry to San Antonio and Texas history and is generally known for attracting a great influx of visitors. At the same time, the adjacent Hemisfair and its public spaces have become places of encounter for the community. However, travel to these places is generally by car and can thereby exclude those who do not own a motorized vehicle. Improving access by high-quality transit and other shared modes with a mobility hub and connected services in between Hemisfair and the Torch of Friendship Plaza not only would increase access for all, but also would reduce congestion and travel times to and from these locations. **This hub could serve as a tourism and heritage location as well as access to jobs.**

World Heritage Missions

The Missions are a destination with great foreign, national, and domestic interest. They are well connected by roads and trails, and there is some available transit service available near and at their entrances. However, there could be a stronger



MARK STEELE/FICKR

A core destination for tourists and locals, the World Heritage Missions could integrate mobility hubs to complement their connectivity with the city's trails.

presence of services that could connect everyone to this tourist attraction, and mobility hubs could be easily implemented in one or more of the missions to achieve better access and integration. **This hub could serve as a tourism and heritage location.**

North Star Mall

The North Star Transit Center, a primary transfer center in the VIA network, is a staffed center with an enclosed waiting area and full customer amenities. It hosts almost a dozen local and express routes, and it provides connections to most areas in the city, including north to Loop 1604, around the city via the 410 "Looper" service, and south to downtown on San Pedro with Express service, with paired service further south to serve Brooks. The transit center is also the key transit facility in the Greater Airport Area Regional Center, as defined in the *SA Tomorrow Comprehensive Plan*, due to the high



VIA METROPOLITAN TRANSIT

North Star Mall has an adjacent transit center that could be easily integrated with some good will and could improve connectivity.

level of commercial activity—the third-highest level in the city behind downtown and the Medical Center—and its proximity to the airport.

The opportunity to leverage the transit center as a centerpiece for multimodal connections from all areas of the city to employment opportunities in the Regional Center—from the adjacent regional North Star Mall to the concentration of area retail/office to the San Antonio Airport—is tremendous. There is an opportunity to take advantage of the air-conditioned indoor waiting area and substantial outdoor customer waiting platforms, which offer generous space for micromobility storage, and celebrate the pedestrian path from the transit center to the adjacent mall facility (which is currently separated by fencing and a grade change) and offer more substantial wayfinding elements for the entire pedestrian network at the interchange area. **This hub could serve as an access to jobs typology.**

Brooks

Formerly an Air Force base, Brooks is now an open community located in San Antonio with a mission to develop the 1,308-acre campus in a way to bring prosperity to the region. It is home to nearly 50 businesses, which include four international companies and three U.S. headquarters across various industries such as medical, retail, light industrial, and tech. More than 3,200 people work at the businesses located



VIA METROPOLITAN TRANSIT

Brooks already has a transit center, which could be complemented with other services to increase its transit shed.

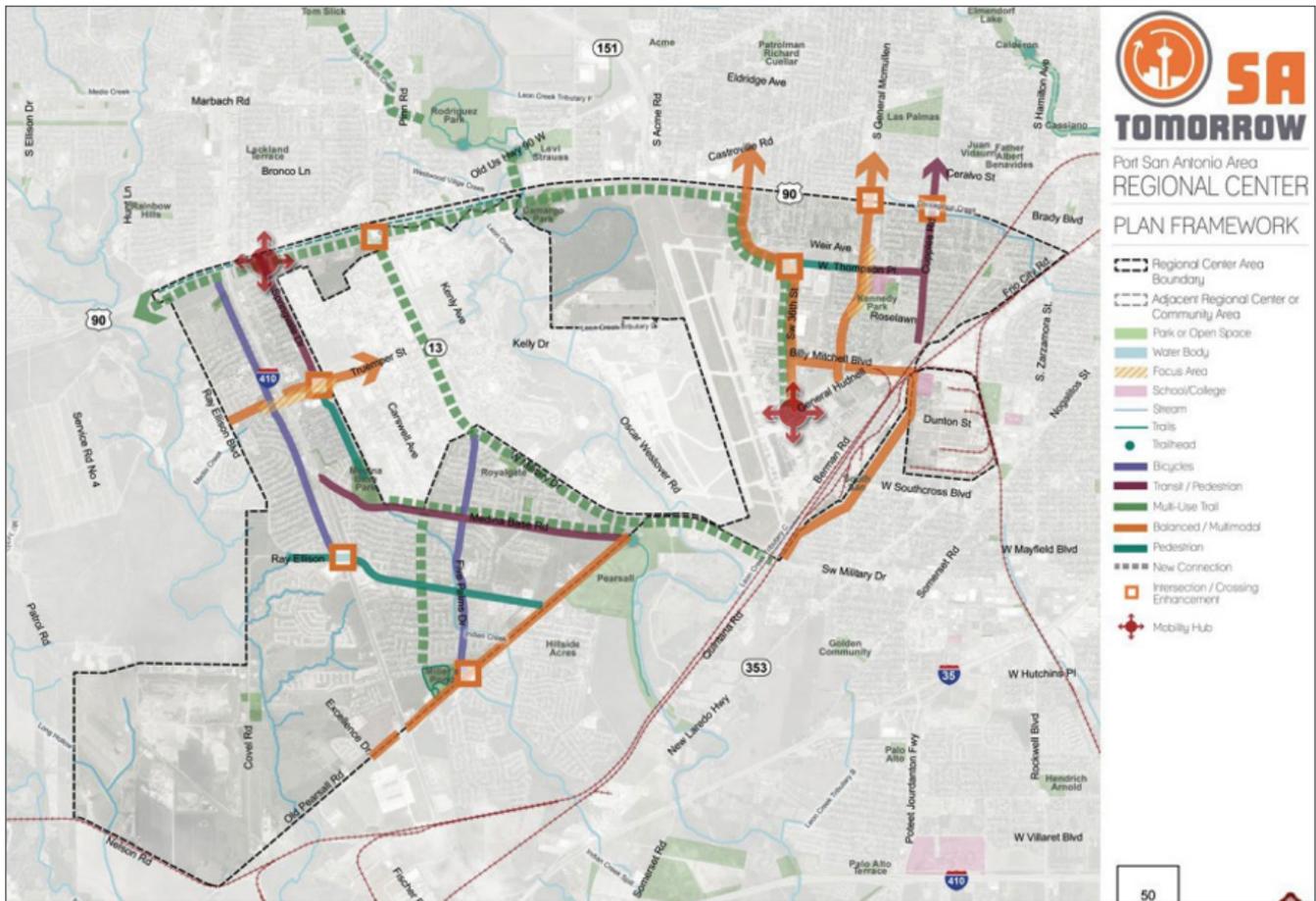
across the dynamic Brooks campus with an additional 2,000 jobs being added over the next few years. As an anchor of the southeast region of San Antonio and one of only three designated Innovation Zones, Brooks is actively coordinating with the city of San Antonio and VIA Metropolitan Transit to enhance connectivity and access for pedestrians, vehicles, and mass transit. With the addition of the VIA Brooks Transit Center, Brooks and various partners are working toward adding “complete streets” to serve as a testbed for innovative technologies like autonomous vehicles to reduce car dependency in the area and to serve as a model for other areas across the city. **This hub could serve as an innovation typology.**

Port San Antonio

The *SA Tomorrow Plan* for San Antonio includes the Port San Antonio Regional Center, an ambitious plan from the city now in its final phase.¹² This particular center has a special focus on mobility and innovation, as described in its latest document: “With a focus on cybersecurity, aerospace, manufacturing, and incubating innovation in Port San Antonio, this regional center is poised to become a major employment center beyond its already large contribution to current employment opportunities.

“The mobility vision for the Port San Antonio Area focuses on linking this growing employment center with its surrounding neighborhoods and increasingly using transit to transport Port San Antonio Area employees that live beyond the regional center plan area.”¹³ The plan itself also mentions two suggested mobility hubs “located purposefully in two different areas of the regional center that are anticipated to have an increase in demand for transit.

“The first mobility hub is located just south of U.S. Highway 90 near the Kel-Lac transit center and park and ride location. Its location near Springvale Drive is intended to complement the community’s vision for pedestrian-oriented streetscape improvements along that corridor south to Valley Hi Drive/Truemper Street and the main visitor entrance to JBSA Lackland Air



Port San Antonio is in its last phase of development and already includes two mobility hub proposals.

Force Base. The second mobility hub is located at the intersection of Southwest 36th Street and General Hudnell Drive, adjacent to the future eSports arena that Port San Antonio is developing within their Innovation Center.¹⁴ **This hub would be an innovation typology.**

Eastside Community

The Mobility section of the SA Tomorrow Eastside Community Area Plan discusses mobility hubs, describing them as locations envisioned as nodes with multiple mobility options available such as frequent transit, shared rides, bicycling and micro-mobility. Based on community and stakeholder engagement in this ongoing planning process, the Public Draft for the Eastside Community Area Plan, to be released February 2022, identifies a proposed mobility hub at East Houston Street and South New Braunfels Avenue.

The mobility hub location is intended to complement

VIA's planned Advanced Rapid Transit service along Houston Street and Primo service planned along New Braunfels Avenue. During the planning process, this location was identified as an important location for a mobility hub based on stakeholder engagement and input received from area residents and the project Planning Team when discussing mobility within the Eastside Community. Please note that while this mobility hub location is in the Public Draft, the Eastside Community Area Plan is not yet adopted by San Antonio City Council and there could be recommended changes to the plan between the time the Public Draft is released and when the plan is adopted by City Council. The Eastside Community Area Plan is scheduled to go through the adoption process this spring and could potentially be adopted over the summer, making this a great opportunity to coordinate ULI's work effort with the City's Planning efforts.

NEXT STEPS AND RECOMMENDATIONS

The work presented in the previous sections represents a few of the first steps toward implementing mobility hubs in San Antonio. The future looks promising, and steps can be taken to achieve the implementation of mobility hubs both in the short term and long term. This section describes some of the steps that can be taken to achieve success in their deployment.

Overall, it must be noted that this was an initial exercise. Reviewing criteria and how they are measured, improving data quality and availability, and redefining some of the issues would be a good next step toward a more robust process and could also identify some blind spots in the initial phase of the work.

An Overarching Goal: A Network of Mobility Hubs That Increase Equity

As was referenced in the previous section, it is suggested that San Antonio has a nascent network of mobility hubs through the use of VIA's Transit Centers. These centers could be strengthened with more locations and following the typologies presented in order to satisfy the needs of residents of San Antonio. A network of mobility hubs would also increase the visibility of transit and other services and could be used further as a basis for the improvement of the image of multimodal transport. When well placed in locations with latent transit demand and where affordable housing is planned, mobility hubs will increase access to jobs and generate more equitable urban development for San Antonio. This report presents a first step toward that goal.

This work identified more than a dozen specific locations that could be part of a mobility hub network in San Antonio. These locations could be expanded by following the same steps outlined in the section "The Process Followed to Identify Mobility Hub Potential

in San Antonio" and by assessing other locations in their potential to improve access to opportunities, goods, and services for vulnerable populations or in achieving other goals related to the hub typologies proposed in the "Insights and Mobility Hub Typologies" section. Applying an equitable approach, with a focus on providing greater access to jobs for the city's most vulnerable populations, must always be a guiding point in the process.

The initial "mobility hub" locations were a test of the application of preliminary criteria, based on a set of values drawn from citywide community planning and engagement processes. A stakeholder-led process with ULI and VIA integrated "ground-truthing" of the analytical exercise with a series of site visits. However, the first phase of this project was primarily about defining a framework for identifying potential mobility hub locations.

The hope for the next phase is to refine criteria, to involve community members and residents in the process of proposing possible future locations, and to design the elements of mobility hubs. The next phase should further include proposing a broader set of possible locations and outlining approaches for implementation. This report can spark future funding and more opportunities for community engagement and public participation in the cocreation of mobility hubs. It can also make mobility hubs more visible as a tool to increase equity and access to opportunities for vulnerable groups, which can complement and increase the positive impacts of new housing and amenities throughout the city.

Community Engagement: A Crucial Component of Implementation

Although this report presents some locations that were identified for mobility hub implementation using collectively defined values and criteria from a group of key stakeholders, these locations still need to be confirmed by those who live in and around those areas. The potential for success of these mobility hubs will increase substantially once residents and communities are engaged in their planning, design, and implementation. To achieve a more inclusive planning process, a comprehensive engagement and robust outreach plan can be developed with a goal of co-creation with residents, communities, and community-based organizations and incorporating community feedback into the details of mobility hubs. This means, for example,

- Having residents and communities learn about the project from its first phases and integrating their input actively into key decisions of the design and implementation;
- Finding creative ways to integrate community residents as contractors that can build parts or all of the mobility hubs;
- Asking nearby residents of the preliminary locations what services and potential land uses could be included in the mobility hubs—for instance, apart from mobility services, some other services that could be considered are mobile phone chargers, broadband internet, maps and information on nearby services, public art, a coffee shop;
- Giving space inside the hubs to locally owned shops and services, either by providing information about their location or having entire shops inside the mobility hubs;
- Integrating the community into design details of the mobility hubs themselves—for example, determining whether a hub will have more space for seating or open space and how much space should be

dedicated to one or another service; having local artists integrate some of their art into the hub.

This process will require additional funding and time for programming and implementation, which must be part of the mobility hub budgeting process. The process can also integrate lessons from the city of Minneapolis Mobility Hub program, which hires “mobility hub community ambassadors” in partnership with community organizations, or Pittsburgh’s MovePGH process of developing a hub definition that fits the local context and embedding cocreation in the implementation of a network of 50 mobility hubs.

Reconnecting Divided Communities

The Curtis Infrastructure Initiative has an overarching goal of reconnecting divided communities—physically, socially, and digitally. While mobility hubs seem to be an eminently physical intervention and provide a clear social impact by improving access and equity, their benefits can be broadened by adding improvements in digital services and digital infrastructure. The Mobility-as-a-Service (MaaS) paradigm could easily fit into a mobility hub by providing better access to a larger suite of mobility services and by increasing deployment and equitable access of broadband within mobility hubs infrastructure (e.g., free 5G or wireless service). Integrating these can also increase the likelihood of success of the network of mobility hubs.

Metrics of Success

The success of a mobility hub can be confirmed only by means of metrics. A good starting point is to use the criteria identified in the “Process” section of this report as a baseline for changes produced by mobility hubs, while adding some other aspects such as how well the community has adopted mobility hubs and how well the mobility hubs generate impacts in terms of air quality and sustainability in general. For instance, demonstrating that sidewalk quality has improved near transit stations, that coverage of transit is greater with

the integration of new mobility services, that low-income populations have affordable access, that an equity lens is applied to data analysis of trip origin and trip destination to ensure underserved transit areas are accounted for, and that vulnerable households have improved their economic conditions in and around mobility hubs would clearly demonstrate their usefulness.

Other metrics that could be used are those that the City has produced to measure the city's accessibility, neighborhood quality-of-life indicators, and residents' well-being. Other measures such as congestion, pollution, and perceived well-being could also be integrated into an assessment of mobility hubs whenever clearly identified and defined and when the relationship to a hub is well established.

If these metrics are to be employed, an agency or stakeholder (with adequate funding) must be tasked with determining, among other factors, the consensus of metrics to be used, the frequency of measurement (e.g., yearly), goals (e.g., improve equity index in the location by 20 percent), process-related milestones (e.g., 10 mobility hubs are implemented), and the timeframe in which these metrics must be established.

Five Questions to Confirm “Hubability”

Having an explicit goal of improving access by means of a network of mobility hubs could also generate a virtuous cycle in which stakeholders can propose mobility hubs or services in locations that have not been previously identified but that could complement the existing network and planned locations. Therefore, having an open and fluid process of mobility hub identification and deployment in which citizens and other stakeholders can provide suggestions would be a useful way to expand the network.

In a process of identifying and choosing mobility hub locations and assessing their usefulness and feasibility, the following questions could be relevant to make that process transparent and accountable:

1. Does the location meet the criteria and is it aligned with the city's values and policies?

This question is answered by following the criteria that the city has identified for mobility hubs and the values that its policies have expressed. The work prepared for this report considered the guiding principles of the *SA Tomorrow Comprehensive Plan*¹⁵ in preparing its own values as presented in “Process” section of this report and transformed those principles into criteria that can be used as a basis for a quantitative analysis of a proposed location. Using those methods as a reference to identify locations can make things clearer for developing a process to identify mobility hubs and assess proposals.

2. Is land available?

Knowing that a location is suitable for a mobility hub is useful, but the availability of land is a crucial reality check. This means not only that the land is, in principle, “empty” (e.g., there is no building in operation or land is currently dedicated to parking), but also that owners and development codes allow for a mobility hub development or that a process to approve the land for the hub is available.

3. Is there a champion?

Having an institution or person who can champion the effort of developing a mobility hub is a fundamental aspect of its success. Champions are excited about the prospect of a mobility hub and find that such a hub would complement their own efforts in the area, location, or sector. Champions may also have the funding to implement the mobility hub, but that is not necessarily a requirement (a champion may promote the cause and get others involved and eager to support it financially). There are also opportunities to fund mobility hubs from government funds, public/private partnerships, and philanthropic investors that can be sought.

This research has identified several champions in the public sector (e.g., government agencies related to transit, urban development, parks and recreation), private sector (e.g., urban developers and owners of urban amenities), and community advocates (e.g.,

nongovernmental organizations promoting livability and access to better mobility and urban services). In many cases, more than one stakeholder expressed interest in promoting a mobility hub in a specific area.

4. Are stakeholders aligned and is the community actively engaged and part of the decision process?

Alignment between stakeholders is also relevant, and in the case of San Antonio, it was possible to align stakeholders in the early stages of this work by agreeing on the definition, values, and criteria of mobility hubs. This helped create a strong basis from which discussions could be led regarding the process to choose mobility hubs, and it is hoped that this report will solidify those views in order to continue a process by which stakeholders are aligned in addressing the following stages of the work.

Nonetheless, it is always useful to have active engagement to incorporate other stakeholders into the process of identifying, assessing, and implementing mobility hubs. Given that work done here is only the first of many stages, and that a network of mobility hubs will hopefully have hundreds of locations to be identified, others will and must be involved in the process and some may provide useful feedback to the process and specific inputs to increasing the benefits of new mobility hubs in the network.

Also, it could be useful to integrate different stakeholders from public, private, community, and community-based organizations and advocates so that they can support and (constructively) criticize and improve the process of implementing mobility hubs equitably. These stakeholders can enrich the discussion and improve the likelihood of success for all residents, particularly lower-income residents and vulnerable groups.

As has been described, getting community feedback and engagement is a crucial step to take toward implementation and confirmation of mobility hubs. Future planning and engagement efforts can focus on developing criteria for mobility hubs with an inclusive and broader engagement and outreach plan—that

is, co-creation with residents; black, indigenous, and people of color communities; and community-based organizations, by creating avenues for deep engagement and community input.

Finally, external stakeholder innovations (things that could positively influence mobility hubs in the future, e.g., city policies, technology) can maximize the potential of hubs and identify stakeholders who can have a positive impact.

5. Is there enough technical knowledge and capacity to implement them?

Although mobility hubs are a particularly straightforward concept that city officials and stakeholders from urban development and other related sectors can easily grasp, it is always useful to reconfirm that the community has enough technical knowledge and capacity to implement them. If the process followed here is favored, staff or experts with GIS knowledge are necessary to carry out an analysis of hub characteristics. Expertise may be available, but time will need to be allotted for such analysis.

Synergies with Complementary Measures

Although mobility hubs are clearly beneficial on their own, they must be complemented by good policies and their own good performance in order to be truly successful. In the case of San Antonio, the implementation of the plans related to *SA Tomorrow* can only increase the benefits of mobility hubs. Also, updating the city's new multiyear cycling policy could increase the benefits of integration between bicycles and transit. Other general plans related to housing and improvement of equity would also benefit mobility hubs (and benefit from them).

Several difficult measures could be taken that would be unpopular with certain sectors of the population: changing parking requirements for new developments,¹⁶ adjusting parking pricing, and reallocating street space to other noncar uses are some examples of these

measures. Although proven to work well in improving mobility, many of these measures are strongly opposed by some sectors of the population in the initial stages of planning and implementation. Boldness and courage in moving forward are necessary and will generate great rewards.

NOTES

- 1 A review of the sustainability of these interventions is available in the following study: Montserrat Miramontes Villarreal, *Assessment of Mobility Stations: Success Factors and Contributions to Sustainable Urban Mobility* (dissertation, Technische Universität München), <https://mediatum.ub.tum.de/doc/1446304/1446304.pdf>.
- 2 “Leipzig mobil macht Multimodalität,” Verkehrsclub Deutschland, <https://www.vcd.org/themen/multimodalitaet/beispiele/leipzig-mobil/>.
- 3 The *smartness* of a hub should be defined by the effective use of technology when and where relevant, combined with physical and other measures that, as a whole, increase quality of service and access to the community.
- 4 “Transit Centers,” VIA Metropolitan Transit website, <https://www.viainfo.net/transit-centers/>.
- 5 Gloria Almaraz, “The New Elmendorf Lake Park: A Hidden Gem on the Westside,” *San Antonio Report*, April 15, 2017, <https://sanantonioreport.org/the-new-elmendorf-lake-park-a-hidden-gem-on-the-westside/>.
- 6 San Antonio Parks and Recreation, “Elmendorf Lake,” <https://www.sanantonio.gov/ParksAndRec/Parks-Facilities/All-Parks-Facilities/Parks-Facilities-Details/ArtMID/14820/ArticleID/2661/Elmendorf-Lake/Park/64>.
- 7 City of San Antonio Planning Department, <https://www.sanantonio.gov/Planning/Resources#133573534-sa-corridors>.
- 8 University of Texas at San Antonio, “Fast Facts,” <https://www.utsa.edu/about/glance/>.
- 9 University of Texas at San Antonio, “Campus Master Plan,” <https://www.utsa.edu/masterplan/>.
- 10 Silver Ventures Inc./Pearl Brewery, LLC, “About Pearl,” <https://atpearl.com/about/>.
- 11 Summarized from Hemisfair Area Park Redevelopment Corporation, “Who We Are,” <https://hemisfair.org/about/>.
- 12 *SA Tomorrow Sub-area Planning: Port San Antonio Area Regional Center Plan*, https://portsanantonio.sacomplan.com/upload/application/pdf/PortSA_Admin_Draft_08252021.pdf.
- 13 *Port San Antonio Area Regional Center Plan*, 38–39.
- 14 *Port San Antonio Area Regional Center Plan*, 13.
- 15 SA Tomorrow, “Background and Vision: Vision Framework,” <https://sacomplan.com/background-and-vision/vision-framework/#guiding-principles>.
- 16 See ULI’s database of parking-related measures here: <https://knowledge.uli.org/en/reports/research-reports/innovations-in-parking-policy?q&sortBy=relevance&sortOrder=asc&page=1>.



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