move tucson

DELIVERING MOBILITY CHOICES

FALL 2021

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Thanks to the Pima Association of Governments Technical Services Department for providing data and analyses for this plan.

Special thanks to the many representatives of neighborhoods, businesses, advisory committees, working groups, advocacy organizations, government agencies and members of the public who attended meetings, provided comments, or otherwise participated in the development of this plan.

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EXECUTIVE SUMMARY

Executive Summary

Move Tucson is the city's transportation master plan. It is a vision for **Tucson's mobility future** and provides a shared blueprint for **how we get there.** Tucson already has a robust roadway network and transportation infrastructure in place. Move Tucson prioritizes taking care of the city that Tucson is while investing in the city that Tucsonans want to see.

Move Tucson is grounded in analysis and community input. The community guided Move Tucson at every stage of the project, with a specific focus on reaching populations traditionally underrepresented in Tucson planning efforts. Data about the community and Tucsons' transportation system further informed our understanding of and recommendations for the transportation system.

Move Tucson is a living document. As projects are implemented and conditions change, it is important to reassess project needs. Through public input, funding opportunities, and evaluation of network conditions, the City should regularly review and update the project list.

Vision and Guiding Principles

A vision provides the lens through which all future policies, programs, and projects should be developed. Guiding principles shape how Tucson works toward achieving that vision. Move Tucson's vision and guiding principles reflect what we heard from Tucsonans throughout the planning process and build on the six goals of the Complete Streets Policy.

MOVE TUCSON VISION

Tucson is preparing for a future in a rapidly changing world by making economically and environmentally resilient transportation investments. We are working together to create a mobility future that reduces barriers and enables opportunities for all of us by increasing transportation choices, improving safety, and investing in the infrastructure we already have. Tucson will dramatically shift how we invest in transportation to support a thriving, inclusive, and sustainable city for Tucson residents, businesses, and visitors.

MOVE TUCSON'S GUIDING PRINCIPLES

What Problems Are We Solving?

Move Tucson evaluated data about the existing transportation system and asked Tucsonans to share about their experiences traveling in the city.

LEARNING FROM THE DATA

- Tucson is growing. We will need to meet growing demand by increasing the efficiency of Tucson's transportation system. In fact, many roads in Tucson are projected to have excess capacity that can be repurposed for a more balanced transportation system.
- Move Tucson has the opportunity to increase travel options, especially for shorter distance trips that can reduce strain on the city's streets.
- Move Tucson must prioritize safety in the transportation network, with a focus on increasing safe travel opportunities for people bicycling and walking.
- Move Tucson needs to improve multimodal networks in areas where shorter-distance trips are more likely to occur.
- Move Tucson will need to account for differing levels of infrastructure investment and different experiences with transportation access that exist across the city in order to equitably improve Tucsonans' mobility options.

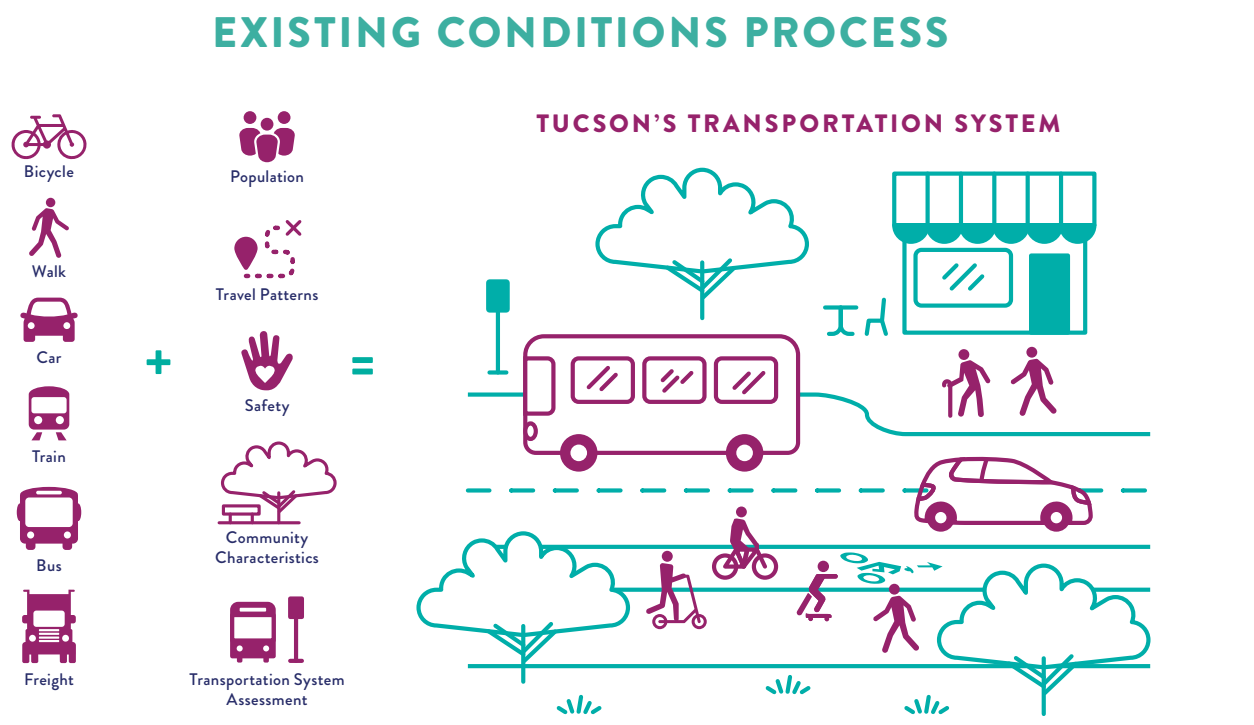
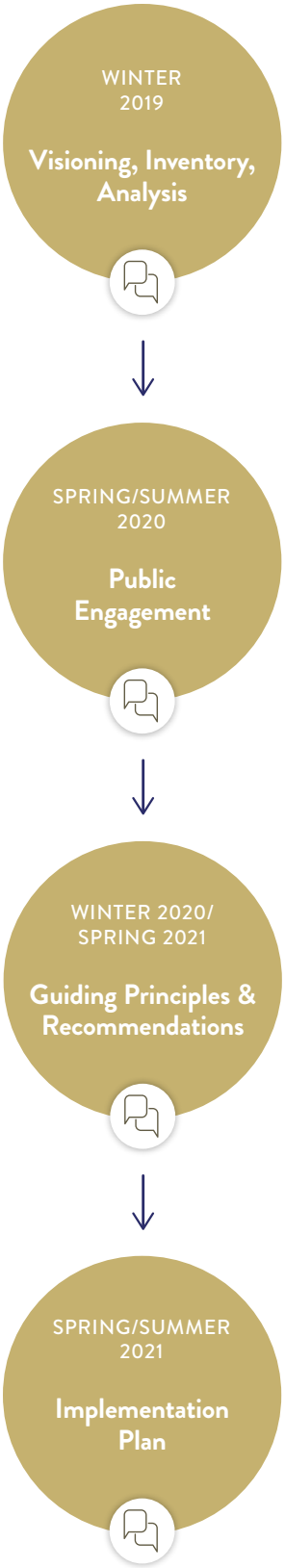


Figure 1. *Move Tucson evaluated each mode based on its unique characteristic but also considered how it relates to demographic, safety, and demand patterns.*

LEARNING FROM TUCSONANS

- **Safety for All Modes** Tucsonans want to prioritize safety for all modes of travel, with emphasis on safety for bicyclists and pedestrians.
- **Invest in What We Have** Deteriorating infrastructure, limited accessibility, and gaps in the network limit travel today.
- **More Options** Tucsonans want more options for how to get around. This includes options for walking, bicycling, taking scooters, using public transportation, and driving.
- **Cross-Town Mobility** whether by car or bus, travel across the city is inefficient and a significant time investment.
- **Heat Resilience** Increased shade, vegetation, and a focus on sustainability will help keep us safe and improve comfort along roads and paths.
- **Make It Comfortable** Reducing vehicle speeds and calming traffic not only helps people feel safer but also more comfortable.
- **Improved Reliability** Trip times and reliability of the public transportation system can make it a more viable travel option.



Throughout the Move Tucson planning process, we learned about Tucsonans transportation needs and priorities. Public input was completed at multiple stages throughout the project.

Tucson's Mobility Future: Move Tucson Recommendations

Tucson's mobility future is shaped by three concurrent paths. Plan recommendations include:

- **Network Improvements:** Capital projects identified for specific locations along the street network. This includes projects like roadway modernization, greenways and bike boulevards, and bus rapid transit.
- **Packaged Improvements:** Capital projects and service improvements that address a system-wide need, such as bus service or pavement repair, or curb ramps.
- **Programs, Policies, and Project strategies:** These initiatives support a well-functioning system and improve outcomes for all projects. Examples include Safe Routes to School, Vision Zero, and flexible project delivery strategies.

MOVE TUCSON RECOMMENDATIONS SNAPSHOT

Network Improvements:

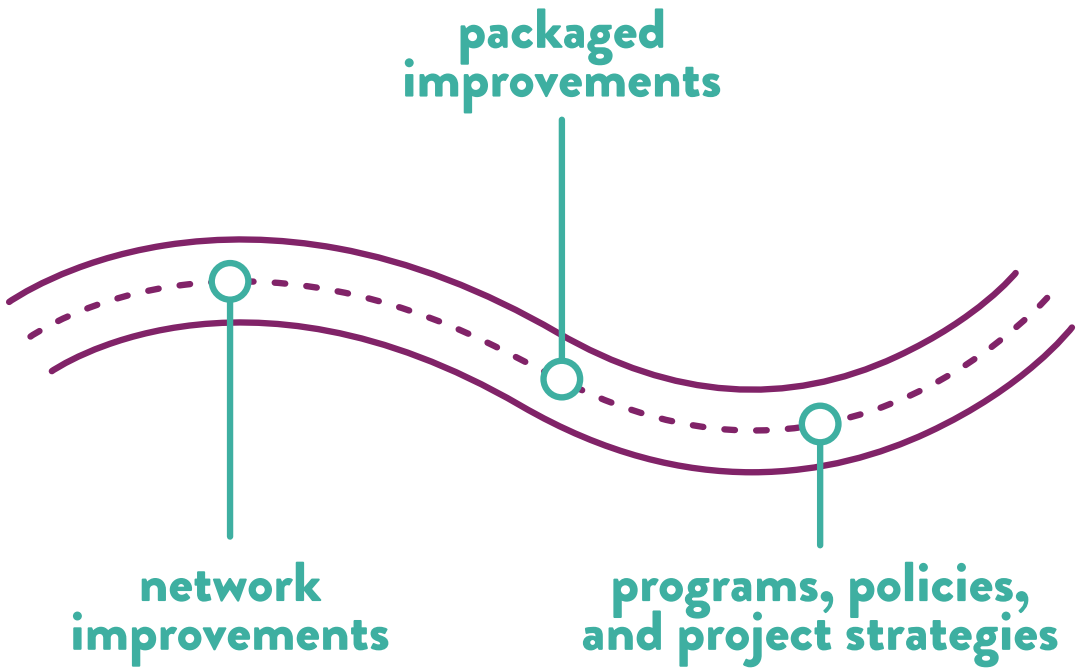
- 4 categories of projects
- 640 miles of roadway and pathway improvements
- 236 individual projects

Packaged Improvements:

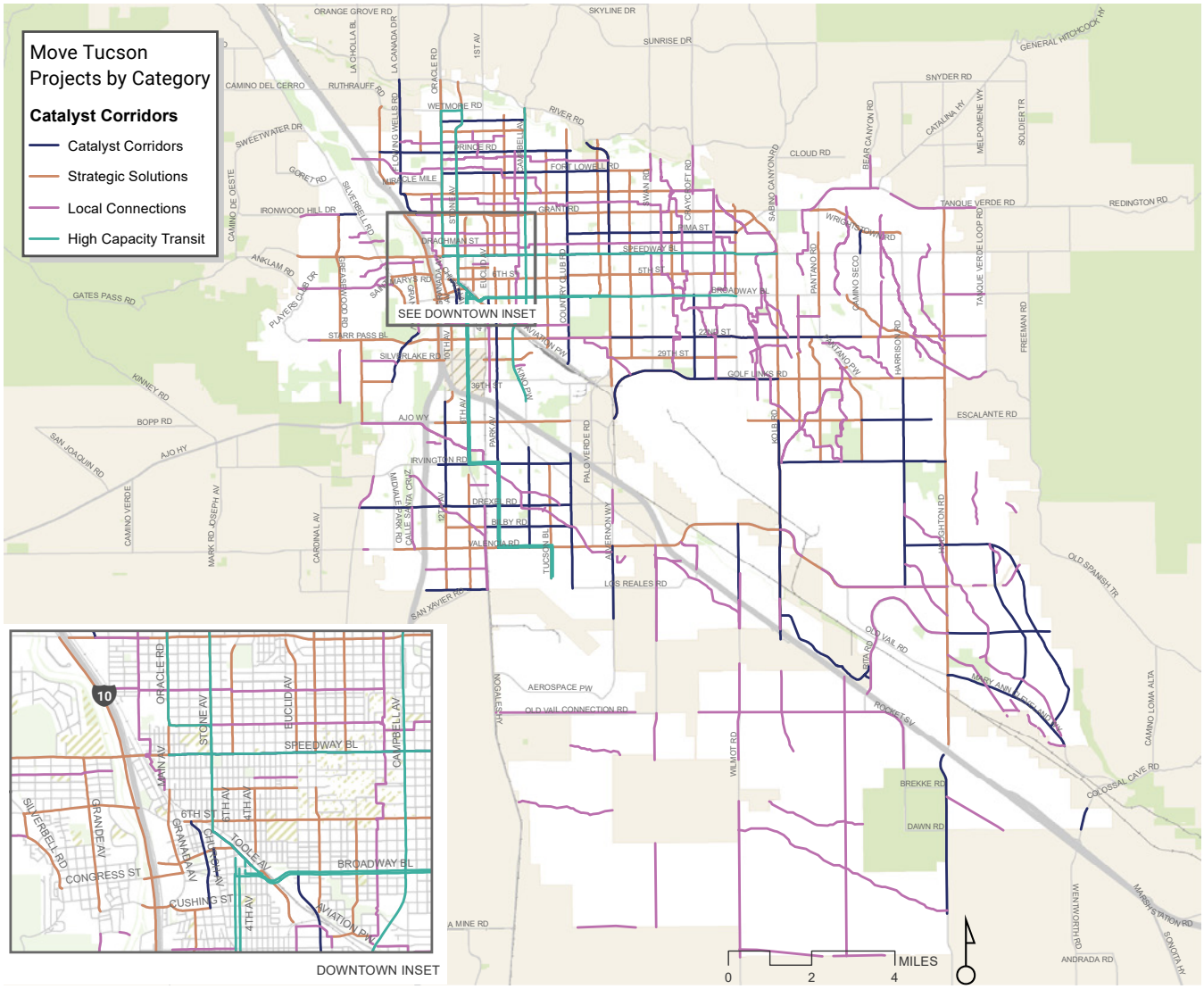
- 6 categories of improvements

Programs, Policies, and Project Strategies:

- 12 new programs supporting six key initiatives
- 26 programs to continue
- 4 policy recommendations
- 6 strategies to apply as Move Tucson projects advance



Map 1. *Move Tucson Projects by Category*



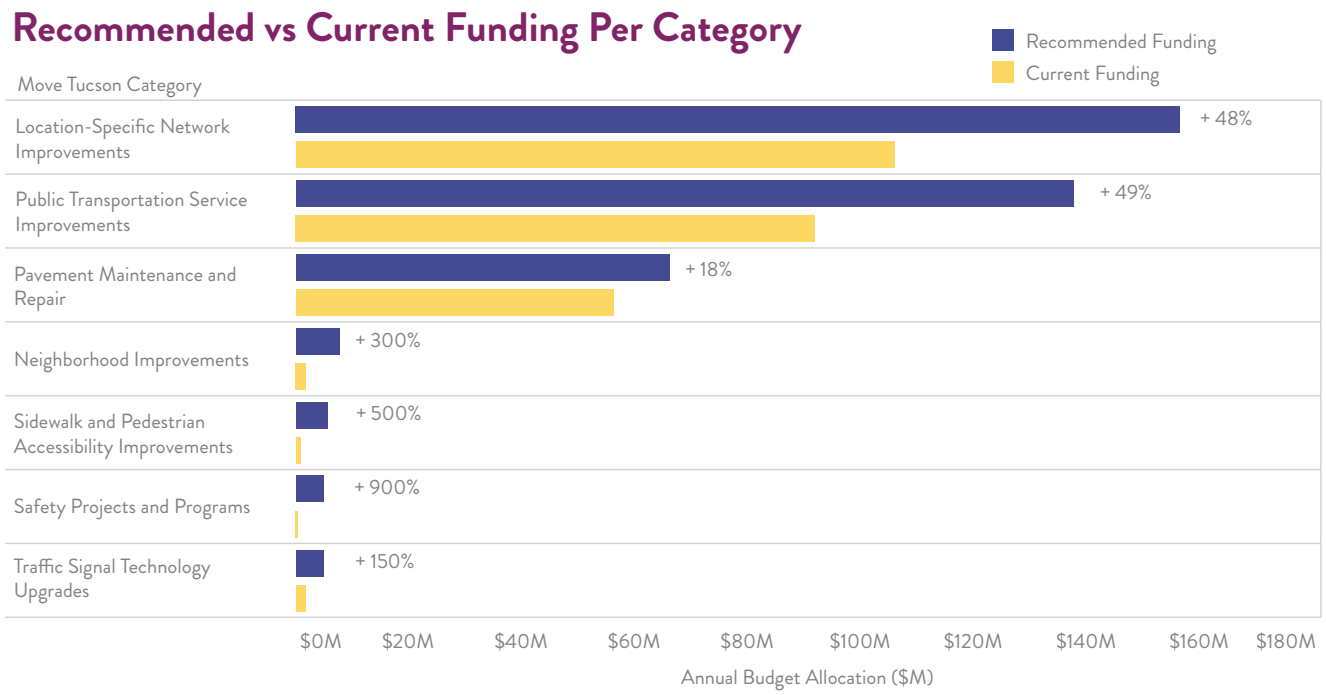
Moving Tucson Forward

Move Tucson aims to be ambitious, demonstrating the full extent of need across the many areas of transportation without a specific cost constraint. The Implementation Plan, however, frames Move Tucson with consideration for potential funding.

To achieve the full Move Tucson vision, the City will need to invest in both the city that Tucson is as well as the city Tucsonans want to see. The Move Tucson need is estimated at over $13 billion over 20 years.

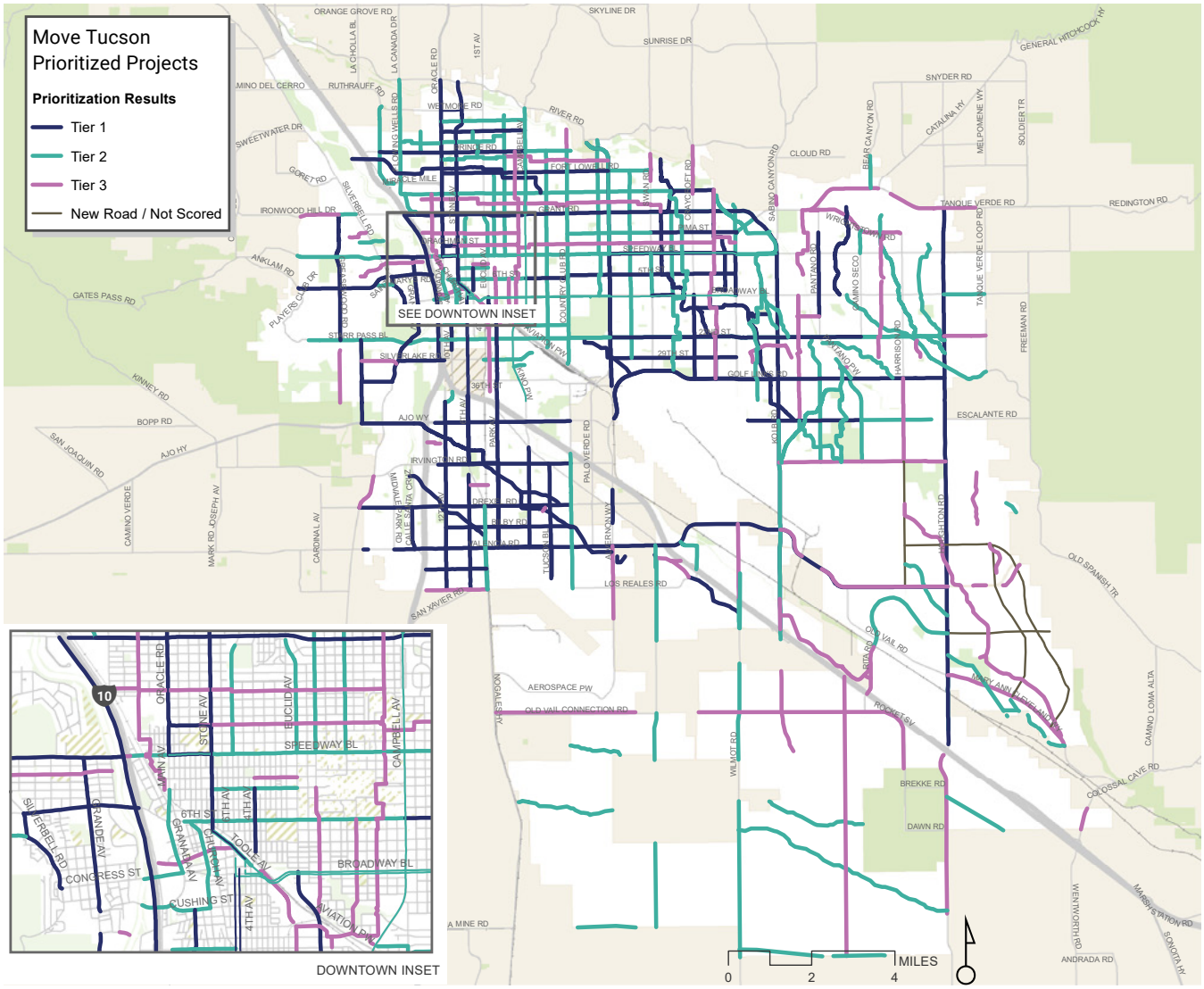
The Implementation Plan explores four funding scenarios to achieve different levels of the Move Tucson vision. Move Tucson recommends that the City increase funding to invest in high-priority needs articulated through regional and local planning efforts as well as the Tier 1 priority projects identified through Move Tucson. This scenario is an ambitious yet achievable investment in our transportation system that makes significant progress in addressing our community's needs and advancing our transportation vision.

Figure 2. *Comparison of Current and Recommended Funding Per Year*



Numbers shown indicate the percentage change in spending in the current finding level versus recommended funding level.

Map 2. *Move Tucson Projects by Priority*



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Hi, I'm Move Tucson.

Move Tucson is our city-wide transportation master plan. We have taken stock of what our transportation services and infrastructure offer, what they lack, and what is needed to navigate a rapidly-changing world. We've analyzed data, connected with the community, and considered the many plans that have come before.

Move Tucson establishes a vision for Tucson's mobility future and provides a shared blueprint for how we get there.

Mobility describes the movement of people and goods—including walking to a bus stop, carpooling to work, package delivery, and much more. Planning for mobility must consider how roads, transit services, neighborhoods, and destinations relate to one another.

Tucson already has a robust roadway network and transportation infrastructure in place. Move Tucson prioritizes taking care of the city that Tucson is, while investing in the city that Tucsonans want to see.

"WE" WHO?

Move Tucson is a plan for all Tucsonans. The City of Tucson's Department of Transportation and Mobility (DTM) is leading the development of the plan and acts as the steward of Move Tucson's vision. In the plan, "we" refers to our department, backed by City leadership and supported by a team of technical specialists who have invested time, energy, and expertise into the planning process.

But DTM won't be doing this alone. Across many departments, and every level of staff and leadership, the City of Tucson operates as "One City, One Team" – reinforced by Mayor Regina Romero's commitment to "Somos Uno, We are one."

DTM Mission Statement: To create and operate a safe and reliable multi-modal system for moving people and goods throughout our community.

DTM Vision Statement: To operate a model transportation system by providing customer-driven services.

DTM Values Statement: To conduct ourselves with integrity, efficiency, civility, courtesy, and respect.

THE PLANNING PROCESS

Move Tucson is a direct result of Tucson's Complete Streets Policy. Adopted in 2019, the Complete Streets Policy seeks to make Tucson a safer, better connected, and more equitable place to live through enhanced mobility options that consider people of all ages and abilities—regardless of how they get around. Move Tucson embraces this vision and identifies key actions to bring it to life.

The planning process for Move Tucson began in Fall 2019 and concluded in Fall 2021. The Tucson Department of Transportation and Mobility (DTM) led the project, with support from across City departments. During these 24 months, our goal was to create a city-wide transportation master plan that is innovative, creative, and inclusive. To tackle a topic this big across all of Tucson, we had to have a process that used data, was balanced, and was rooted in community goals.

- **Phase 1** included establishing a shared vision through community feedback and evaluating existing conditions.
- **During Phase 2**, we identified solutions and shared our recommendations for Tucson's transportation system.
- **During Phase 3**, we created the Implementation Plan to translate these recommendations into clear actions.

The community guided Move Tucson at every stage of the project, with outreach opportunities and materials provided in both English and Spanish.. The guidance came through frequent coordination with the Complete Streets Coordinating Council, the public oversight committee for Move Tucson composed of 20 residents representing a variety of backgrounds and transportation interest. Additional guidance came through stakeholder meetings, online input tools, an in-person event to publicly launch Move Tucson, localized outreach through Move Tucson Street Ambassadors, and one-on-one interviews with people out and about in Tucson (a.k.a. "sidewalk surveys"). In particular, Move Tucson focused on reaching populations traditionally underrepresented in Tucson planning efforts, including communities of color, low-income residents, and residents without access to an automobile. The community engagement process, what we heard, and how we used it in this plan are outlined in the Learning from Tucsonans section of this Plan and Appendix B.

= PUBLIC ENGAGEMENT

COVID-19 IMPACT

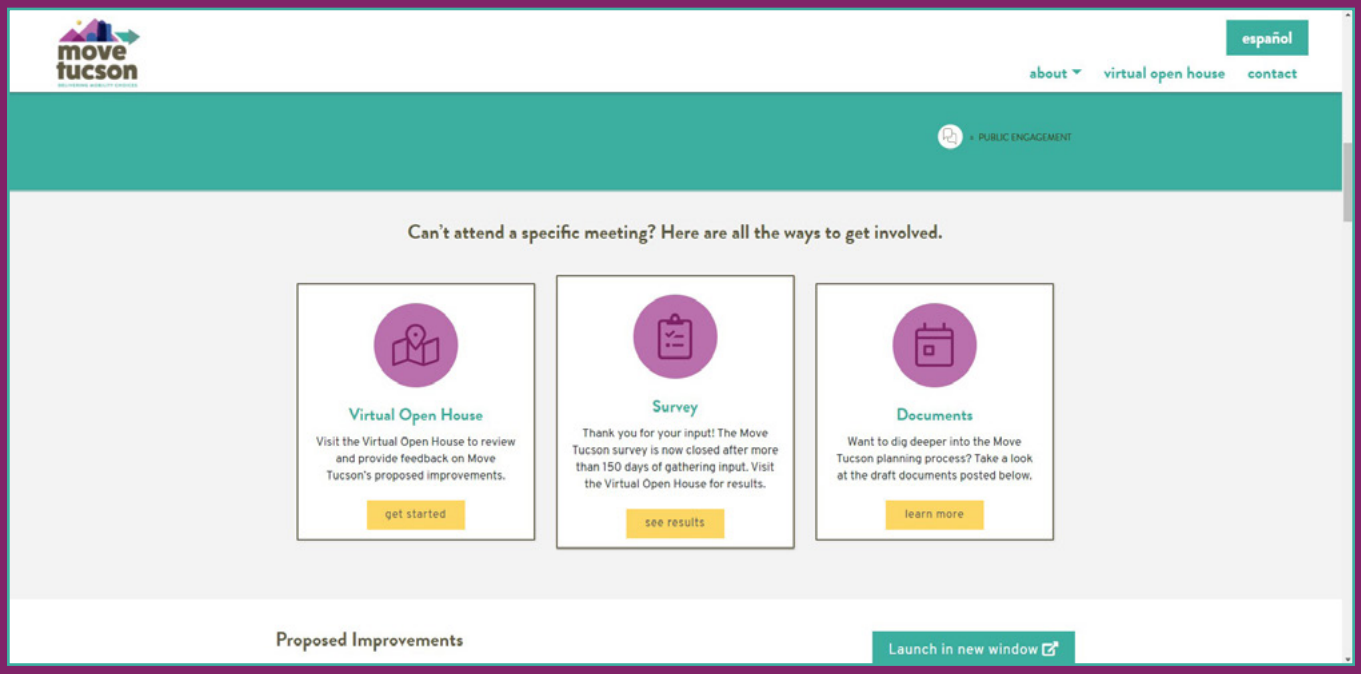
Beginning in March 2020, the COVID-19 pandemic dramatically disrupted Tucsonans daily lives, including the ways we travel and interact in our city. The pandemic precluded many of the in-person outreach events that were planned for Move Tucson. In-person outreach can provide an inclusive and broadly accessible complement to digital, online engagement. Public health precautions limited our ability to reach out to the Tucson community face-to-face, such as through mobile workshops at popular destinations and Street Ambassadors connecting with neighbors at local parks and events.

In response, the project team quickly pivoted to make sure we still heard from a broad range of Tucson residents. We shifted resources to directly seek input from areas that often face the highest barriers to participation, including areas identified as priority populations through the study's equity analysis.

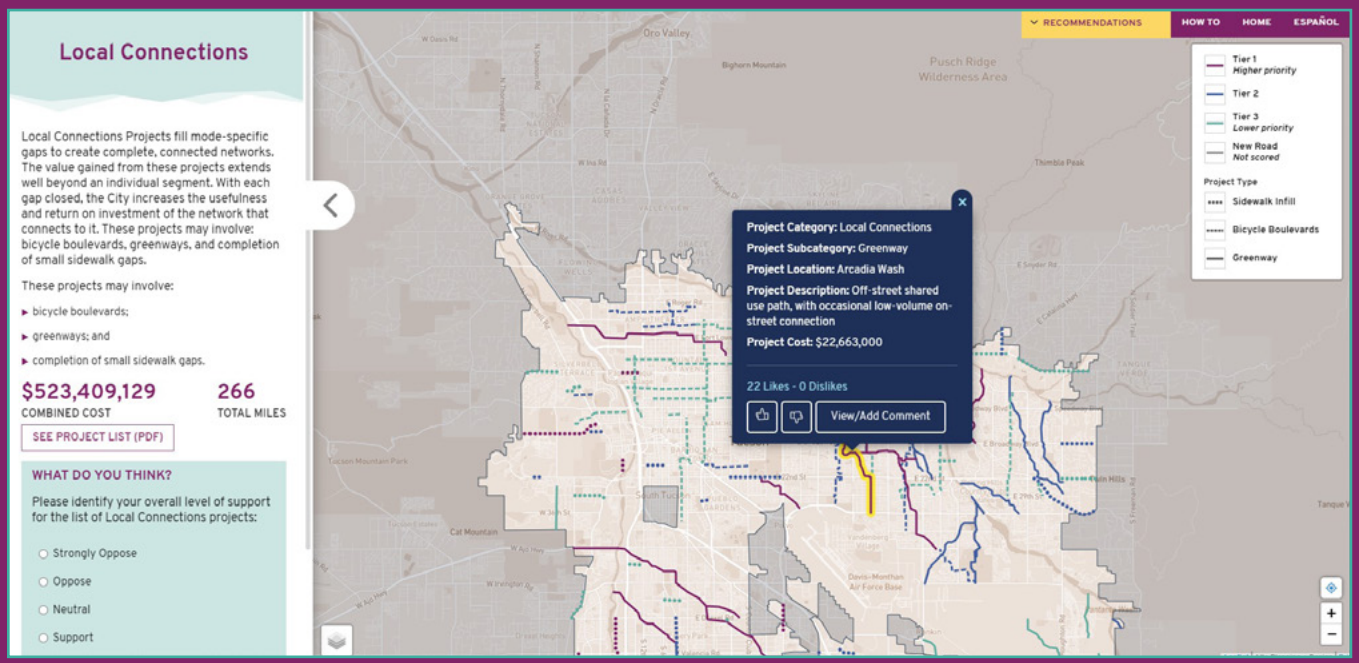
Adjustments to Move Tucson engagement in response to COVID-19 included:

- Extending comment periods and providing for more robust, interactive digital tools;
- Partnering with Street Ambassadors to reach their community networks virtually;
- Working with a professional surveying firm to conduct random-sample surveys of underrepresented populations in the community; and
- Focusing survey outreach on communities of color and communities with low incomes, low motor vehicle access, or other indicators of limited access to transportation.

Move Tucson Online Engagement



Move Tucson community Survey. The Move Tucson project website linked visitors to the latest Move Tucson project documents, upcoming meetings and input opportunities, and online engagement platforms.



Move Tucson interactive map. The Move Tucson interactive map collected participants feedback during multiple project phases, including Inventory and Analysis as well as Recommendations and Implementation.

VISION AND GUIDING PRINCIPLES

Vision and Guiding Principles

A vision provides the lens through which all future policies, programs, and projects should be developed. Guiding principles shape how Tucson works toward achieving that vision.

Over the past year, we connected with you through events, meetings, conversations on the sidewalks and at bus stops, online surveys, and interactive web maps. Woven through these interactions, we heard a clear desire for increased transportation choice, increased safety, and increased investments in the infrastructure we already have. Move Tucson's vision and guiding principles bring this direction to action.

CONNECTING TO TUCSON'S COMPLETE STREET POLICY GOALS

These guiding principles align with – and do not replace – adopted policies and goals of DTM. With Tucson's passage of a Complete Streets Policy in February 2019, the City solidified its commitment to enhanced mobility for people of all ages and all abilities in a connected and equitable manner including, but not limited to, meeting the needs of people walking, biking, using wheelchairs or other mobility devices, taking transit, or driving (in both private and commercial vehicles). The City's Complete Streets Policy provides guidance for right-of-way allocation and street design based on six goal statements:

- **Safety;**
- **Accessibility;**
- **Equity, Diversity, and Inclusivity;**
- **Land Use;**
- **Environment and Health; and**
- **Economic Vitality.**

Move Tucson's Strategic Transportation Vision reflects those statements of intent, and extends the goals to consider the full scope of Tucson's future transportation system.

Vision

Tucson is preparing for a future in a rapidly changing world by making economically and environmentally resilient transportation investments. We are working together to create a mobility future that reduces barriers and enables opportunities for all of us by increasing transportation choices, improving safety, and investing in the infrastructure we already have. Tucson will dramatically shift how we invest in transportation to support a thriving, inclusive, and sustainable city for Tucson residents, businesses, and visitors.


The Original GREEN CHILE CHEESEBURGER
3 TUCSON LOCATIONS
The FIRST THERE WAS.
The BEST THERE IS.
EVERYONE IN HERE IS
AWESOME
Blake's
LOTABURGER

Guiding Principles

AUTHENTIC

There is no place like Tucson. The city is approachable and open, and is unique in its history, people, landscape, weather, cuisine, aesthetic, industries, and more. Residents are proud to live in a multicultural and creative city that still carries an easy, natural small-town feel. As Tucson grows in population and visitors, the city can change while still maintaining core values and lifestyle.

Intention: Move Tucson projects are context-sensitive, reflecting a neighborhood or district's character and the preferences of community members who live there, and support community and cultural attractions and events.

CONNECTED

Travel options and the infrastructure that serves them allows residents and visitors to enjoy what Tucson has to offer and to meet their daily needs – connecting to school, work, recreation, attractions, shopping, and healthcare. Barriers exist, however, in connecting across different parts of the city. And connections largely favor travel by car rather than access for a range of modes.

Intention: Move Tucson investments will remove physical barriers to movement, such as unsafe intersections or network gaps, and find new ways to provide cultural and technological connections that improve residents' access to opportunity.

OPTIMIZED

Optimizing means getting the most out of the current system and making strategic, cost-effective investments that offer a high return on investment. This can be achieved through preserving and maintaining what Tucson has, as well as through using new technology and tools to make the current system more efficient and effective.

Intention: Move Tucson will make the roadway network available to more people – regardless of mode of travel – and will leverage new technology and tools to make the current system more efficient and effective. This includes improving the condition of existing infrastructure including pavement, sidewalks, bicycle lanes, stormwater management, and bus stops, among others.

SAFE

Tucsonans have a right to travel in the city without undue risk of serious injury or death. Safety is not optional – it is a requirement for an effective and functioning transportation system that enables all residents and visitors to get where they need to go.

Intention: Move Tucson will advance safety by focusing on policies and programs to eliminate traffic fatalities and serious injuries and by developing continuous networks that serve all ages and abilities.

EQUITABLE

The experience of living in Tucson varies depending on where you live in the city and the resources you have access to. The City's leadership and community organizations recognize that a successful future is contingent on all community members moving forward as "one Tucson," together.

Intention: Move Tucson will expand and improve practical mobility options for Tucsonans who face the greatest barriers to access and opportunity by increasing investments in the highest-need communities while being sensitive to processes of gentrification and displacement.

RESILIENT

Tucson is both oasis and desert. It offers shade and the comforts of a city within an arid, rugged, and vast landscape. How people travel can help reduce the production of greenhouse gases and pollutants that are contributing to air pollution and increases in global temperatures. How streets are designed can also help improve the local experience and reduce the impact of stormwater runoff, pollution, and heat.

Intention: Move Tucson projects apply sustainability best practices and increase the resilience of the city's transportation infrastructure and systems, enabling Tucson to be more responsive to its natural context and to be nimble in the face of climate change.

WHAT PROBLEMS ARE WE SOLVING?

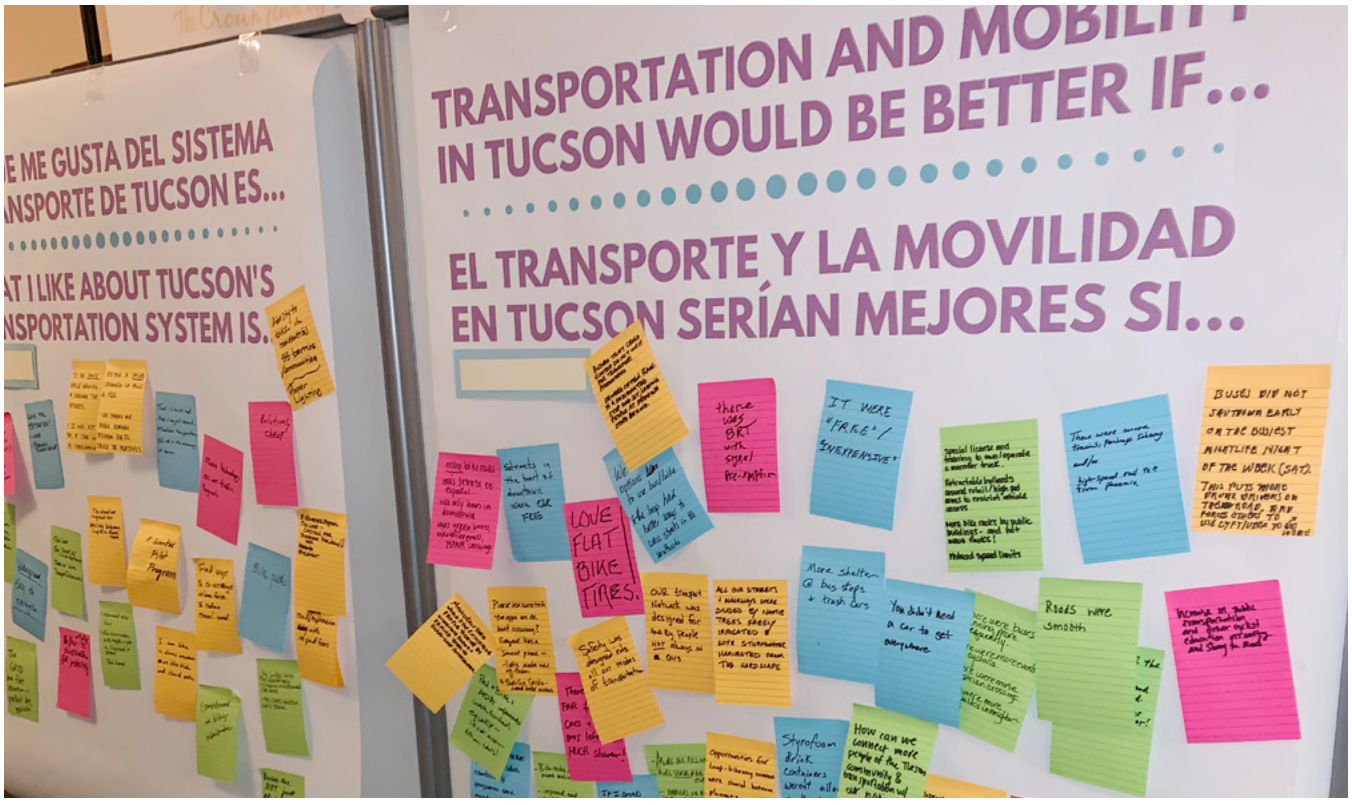
What Problems are We Solving?

Through Move Tucson, we looked at the transportation system from every angle to better understand what Tucson's future mobility options should offer. This required listening to community concerns and conducting technical analyses. When we combined the results of these qualitative and quantitative assessments, we gained a more complete picture of what's actually happening on Tucson's roads now and what Tucsonans will need in the future.

The process was designed to uncover:

- **Population and Visitors**: Who needs to get around Tucson?
- **Travel Patterns and Travel Options**: How do they do it?
- **Safety Assessment**: How safe are Tucson's transportation choices?
- **Community Development Patterns and Characteristics**: What influences their choices?
- **Transportation System**: What services and infrastructure enable movement?
- **Special Topics**: What else do we need to know?

Listening to community concerns was a core part of understanding Tucson's transportation system.



Tucson's Story

Across both the data analysis and the direction provided by stakeholders and community members, we found that Tucson has the opportunity to dramatically shift how the City invests in transportation and how people get around each day.

The next two sections describe what we learned from data (our technical analyses) and what we learned from Tucsonans (community input). Detailed analysis of Move Tucson's engagement activities can be found in Appendix B.

The major takeaways from each area of focus in our analysis and outreach were:

- Tucson can absorb growth by optimizing the system and assets it already has.
- Tucsonans desire multiple travel options and want investment and policy decisions that allow for the safe, practical use of those options.
- Safety is a citywide priority, and action needs to be taken to reverse collision trends and reduce traffic fatalities and serious injuries, while addressing the disproportionate risk borne by people walking and bicycling. Safety disparities further limit Tucsonans' ability to choose preferred travel options.
- High-demand areas across the city are ripe for walking and bicycling investments that facilitate short trips. Areas of high social inequity are also hubs of activity and employment; Tucsonans in these communities will likely have the most to gain from increased transportation access.
- Tucson's transportation system is robust, but it is also incomplete, deteriorating, and inefficient. Substantial assets are underutilized, including roadways with excess capacity and wide rights of way, and many areas are in need of maintenance.
- Incomplete sidewalks and curb ramps limit accessibility for people of all ages and abilities, reducing the utility of the network for all Tucsonans.

TUCSONANS SHOWED A CLEAR DESIRE FOR:

- increasing choice,
- improving safety, and
- investing in the infrastructure Tucson already has.

Figure 3. *Tucson residents shared their transportation priorities during the first phase of public engagement. While safety was identified most frequently, this exercise also revealed that priorities vary based on location. The map above shows the priorities most commonly identified based on the zip code of survey participants. For example, cross-town mobility was commonly identified by residents located in areas furthest east or west in the city, whereas interest in more travel options was more frequently identified in central areas of the city.*

Learning from Data

APPROACH

The existing conditions analysis evaluated Tucson's transportation network. The analysis considers who uses the networks, the quality of the networks, and opportunities for improvement using spatial data, site observations, demographic data, and previous planning efforts. We evaluated each mode based on its unique characteristic but also considered how it relates to demographic, safety, and demand patterns.

GROWTH IN JOBS, POPULATION, STUDENTS, AND VISITORS

While the Tucson region is not growing as quickly as once projected, Tucson continues to see a steady increase in both population and jobs. Current projections anticipate an 11% increase in population and 32% increase in jobs over the next 25 years. Combined with a growing student population and tourism industry, the City of Tucson and nearby communities will witness increased demand on the transportation network.

Move Tucson will need to meet growing demand by increasing the efficiency of Tucson's transportation system through modernizing the street network and improving opportunities to walk, bike, and take public transportation.

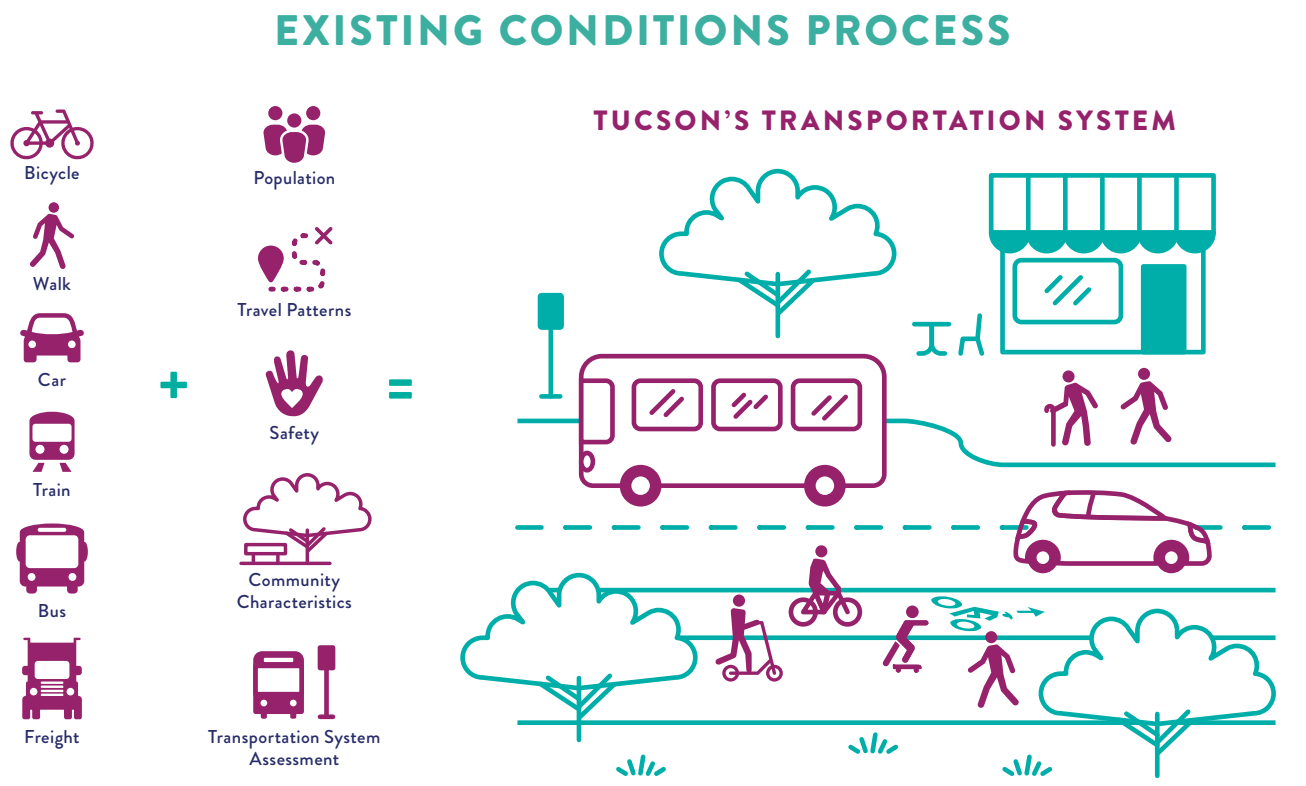


Figure 4. *Move Tucson evaluated each mode based on its unique characteristic but also considered how it relates to demographic, safety, and demand patterns.*

Figure 5. *Tucson's travel patterns documented in the U.S. Census, 2017 American Community Survey.*

TRAVEL PATTERNS AND TRAVEL OPTIONS

Today, most of Tucson's workforce drives alone to work, while only about 10% of people walk, bicycle, or take transit. This likely reflects a legacy of auto-centric development patterns.

However, average commute times across all modes are 22.4 minutes, which is comparable to similar sized peer cities. A significant number of workers also travel into Tucson each day from nearby communities, resulting in a 25% increase in Tucson's daytime population. Each work day, Tucson experiences a significant uptick in traffic, with more cars traveling through the city to reach economic opportunities.[1]

Move Tucson has the opportunity to increase travel options, especially for shorter-distance trips that can reduce strain on Tucson's streets.

SAFETY

Transportation safety is a significant concern in Tucson. Between 2014 and 2018, there were more than 29,000 reported crashes on Tucson's streets, resulting in more than 270 deaths. While the rate of serious injuries and fatalities for drivers and passengers has declined, the rate of severe injury and fatal collisions have increased for bicyclists and pedestrians. In 2019 alone, 39 pedestrians were killed on Tucson's roadways, representing over 50% of all traffic fatalities. This is despite only being involved in less than 4% of all crashes.

While roadway safety, especially for people walking and biking, is a growing concern nationally, it is important to note that the Federal Highway Administration has designated Tucson as a pedestrian and bicycle safety focus city due to the exceptionally high severe and fatal crash rates in the city.

Move Tucson must prioritize safety in the transportation network, with a focus on increasing safe travel opportunities for people bicycling and walking.

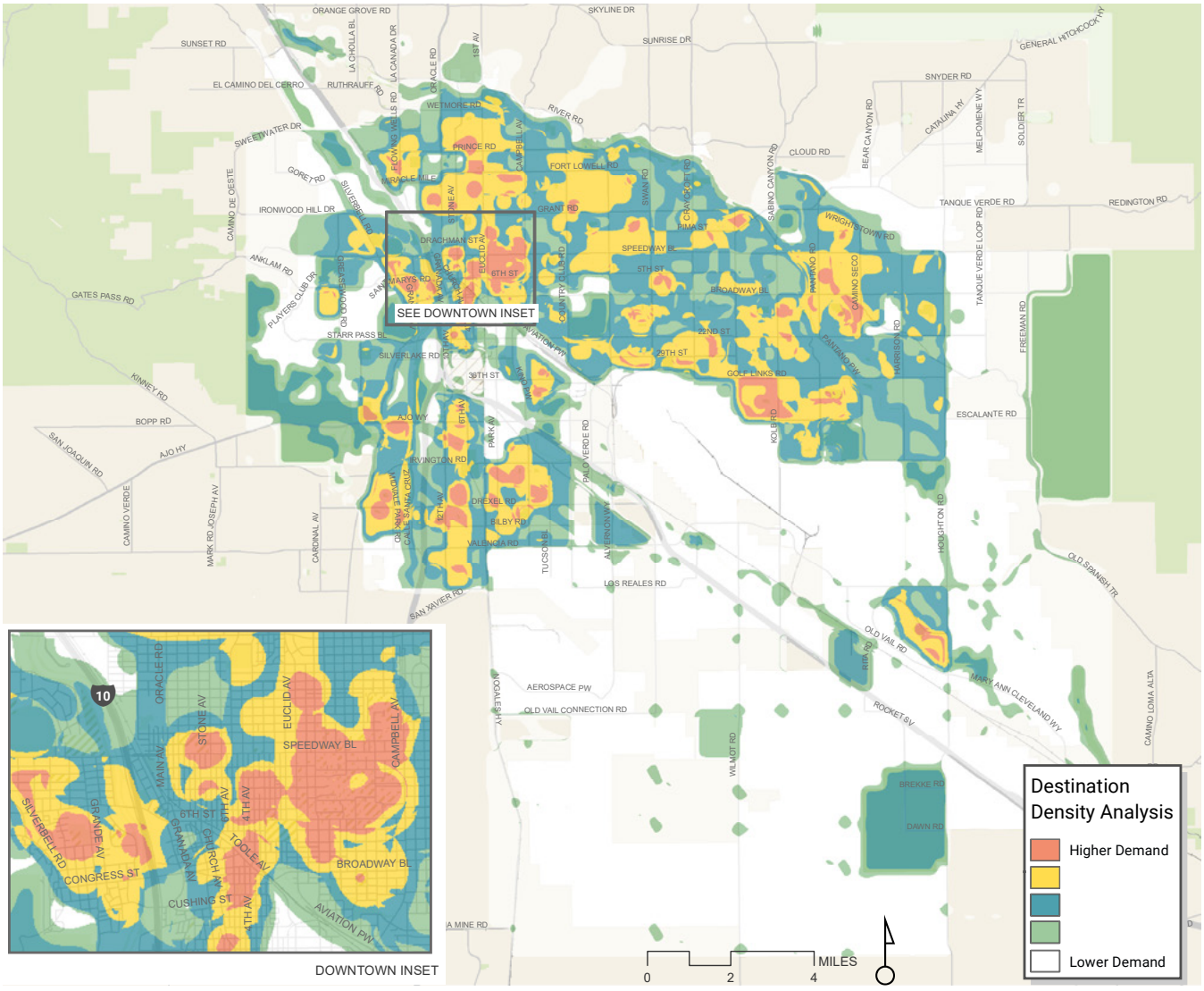
[1] This data reflects pre-COVID-19 travel patterns. While the pandemic's long-term impact on travel behavior are not yet know, the City will continue to monitor this in the years to come.

COMMUNITY CHARACTERISTICS

Destination Density Analysis: Not all transportation options will be equally effective throughout the city. Land use context and where people are traveling to and from will impact the potential success of different transportation solutions. For example, high quality bicycle and pedestrian networks can provide more travel options for shorter trips, while cross-town trips may be better supported through public transportation or motor vehicles. The destinations density analysis explores the potential demand for biking and walking trips by evaluating the density and proximity of where people live, work, learn, shop, play, and access transit. The highest areas of demand, when coupled with high-quality infrastructure, have the potential to support the greatest diversity of mobility options to get to daily destinations.

Move Tucson needs to improve multimodal networks in areas where shorter-distance trips are more likely to occur.

Map 3. *Destination Density Analysis*

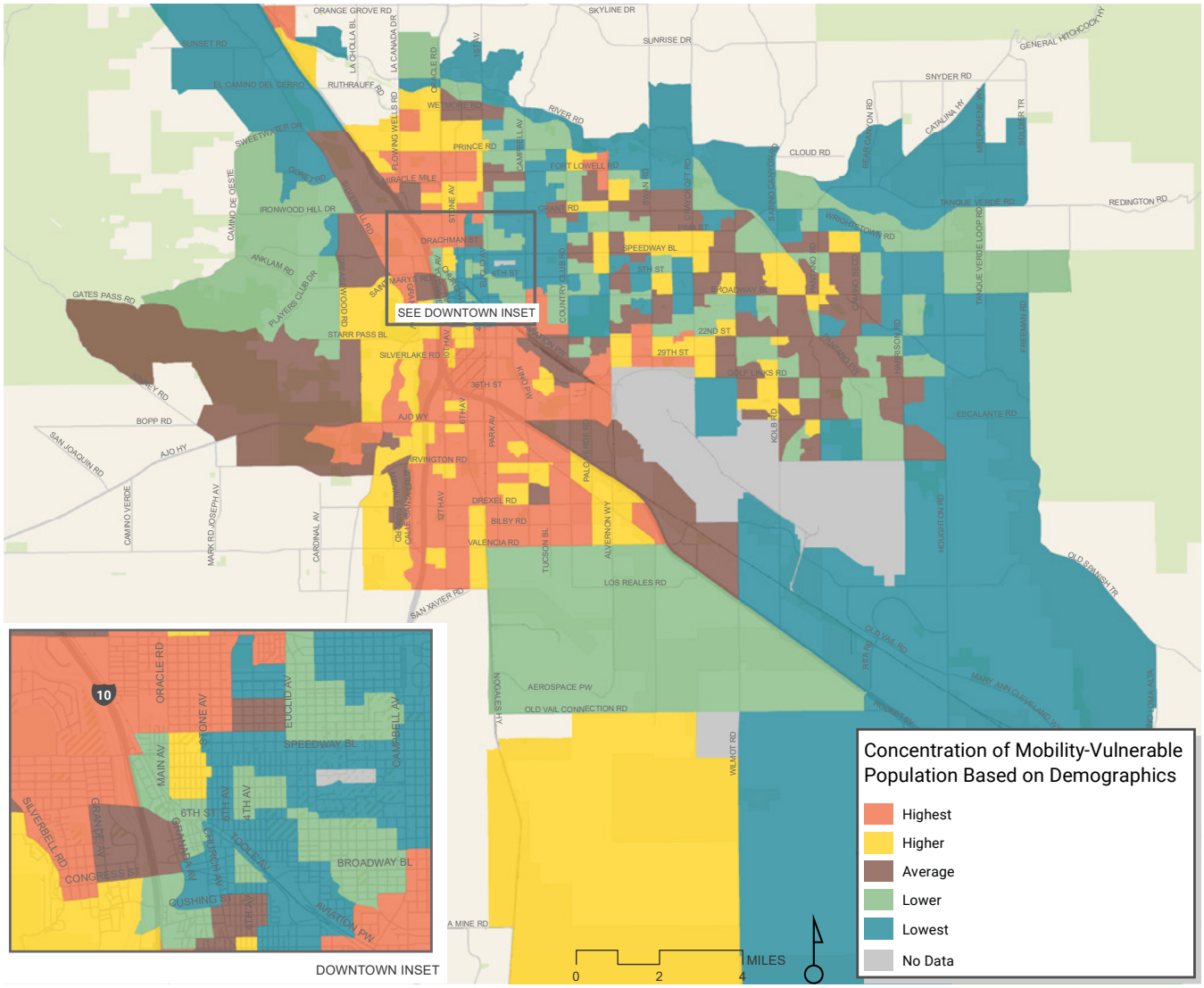


Equity Analysis: Using demographic data, this report assessed Census block groups with higher concentrations of historically disadvantaged and vulnerable populations. More than 20% of Tucson's population is located in areas identified as higher need. Households in these communities tend to have lower access to private automobiles, therefore relying more on public transportation, walking, and biking for daily trips; experiencing longer commute times; and facing longer distances to reach safe crossing opportunities.

As the City of Tucson seeks to support increased transportation options and imrove safety of its streets, it is also important to consider how Tucson's mobility future can best meet the needs of all residents. Historic and systemic inequities have limited access to economic opportunity, influenced where investment occurs, and have been reinforced through development patterns over time, making it more difficult for people living in high need areas to get around.

Move Tucson will need to account for differing levels of infrastructure investment and different experiences with transportation access that exist across the city in order to equitably improve Tucsonans mobility options.

Map 4. *Move Tucson Equity Analysis*



TRANSPORTATION SYSTEM ASSESSMENT

Tucson's transportation system is composed of roadways, including multimodal travel lanes and freight routes; bicycle infrastructure, including shared use paths, protected bike lanes, bike lanes, bicycle boulevards, and signed routes; sidewalks and unpaved paths for pedestrians; and public transportation options including local bus routes, express bus routes, and the streetcar. The quality and reach of each of these systems varies by mode and location:

BICYCLE AND PEDESTRIAN

Over half of major roadways in Tucson lack complete sidewalks, and 41% of major streets are considered to be high stress for people walking due to limited sidewalks, high travel speeds, and large volumes of motor vehicles.

Similarly, nearly 70% of major streets are also considered high stress for people bicycling. Neighborhood streets provide opportunities for low-stress travel for people walking and biking when safe crossings are provided at major roadways and pavement conditions are improved and preserved. Opportunities for improvement include closing gaps in network infrastructure while also prioritizing a complete, connected network of high-quality bicycle and pedestrian facilities.

Bicycle and e-scooter share provide even more active transportation options for people traveling in central areas of the city. Since launching in 2017, TUGO has grown to 40 stations, with more than 24,000 trips completed during 2019. The e-scooter program logged more than 200,000 during the six-month pilot; the program was extended in Spring 2020.

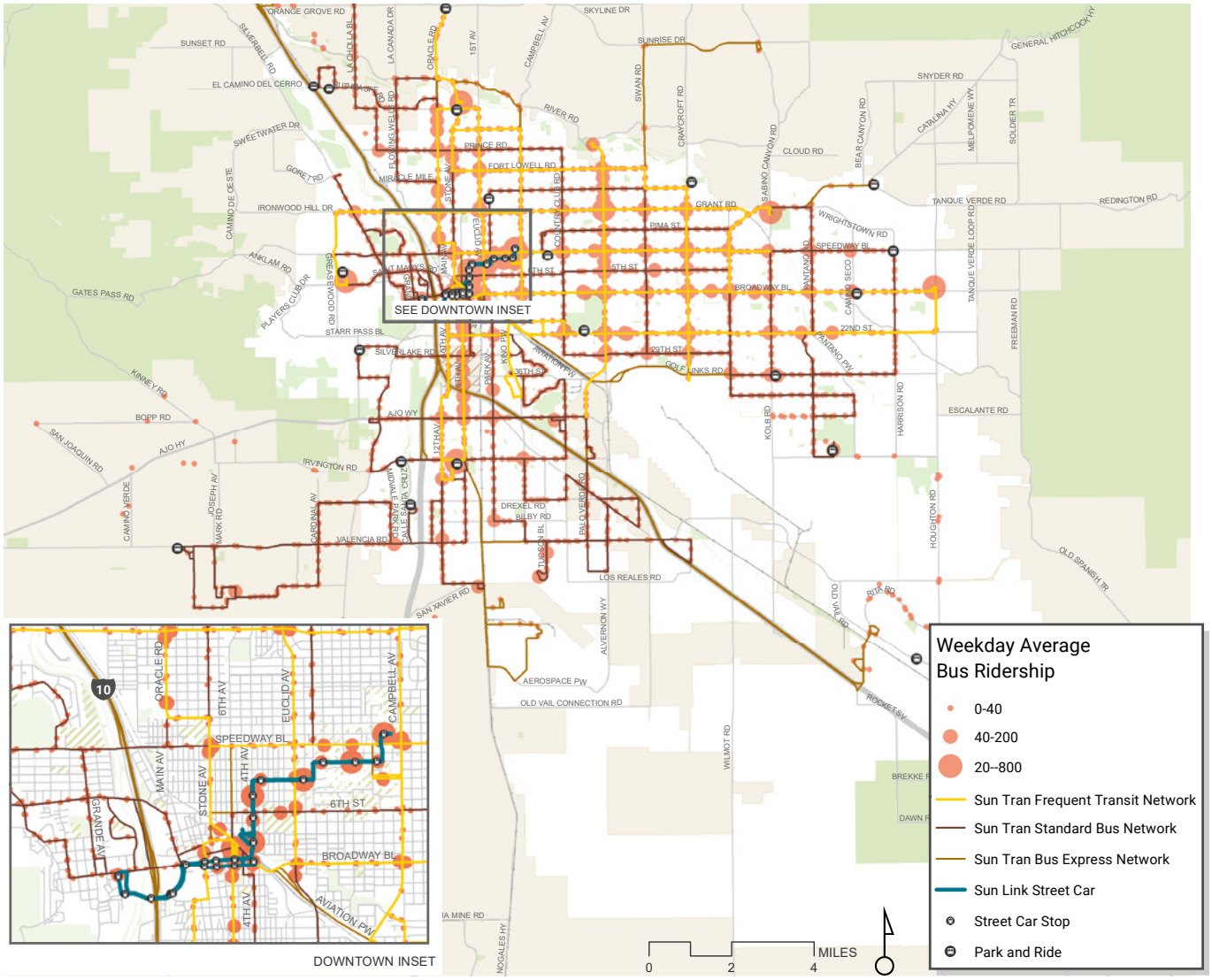
PUBLIC TRANSPORTATION

Sun Tran provides a comprehensive network of transit services that outperforms peer cities and rivals much larger metropolitan areas in service quality and ridership. Sun Tran provides more than 80 million annual miles of service, built on the backbone of a robust network of 11 frequent bus lines that operate on frequencies of 15 minutes or less during the day. Further, the SunLink street car located in Dowtown Tucson is performing well more than five years after completion. SunTran and SunLink provide very good access to both households and jobs today, with more than 72% of people working within a 10-minute walk of a frequent transit stop.

However, ridership declined significantly over the previous decade—part of a larger national trend—and the impacts of the COVID-19 pandemic present an additional challenge in building back ridership. The average transit commuter in Tucson faces a travel time twice that of the average car commuter, and non-riders say they're most interested in transit if travel times can more closely match a car commute. In addition to longer commute times, weekend frequencies and late night service are significantly less dependable for the existing transit network.

Further it's important to consider the ease and comfort of accessing local bus stops. Limited benches, shelter, and lighting in addition to limited crossings opportunities and poor quality or incomplete sidewalks can discourage those who may choose to use public transportation and increases the stress and difficulty for those who rely on this mode.

Map 5. *Weekday Average Bus Ridership*



MOTOR VEHICLES

More than 1,700 miles of roadway and more than 400 traffic lights support travel across Tucson. Across much of the network, today's infrastructure meets both current and future travel needs. However, to efficiently manage the street network today and in the future, it is important to understand the volume of traffic of the City's streets in combination with the capacity those streets are designed to accommodate.

According to data from the Pima Association of Governments' (PAG) regional travel demand model, most of Tucson's major streets carry much less traffic than they were designed to accommodate. Only 47% of the major street network's total capacity is used during the morning rush hour, and 48% is used during the evening rush hour. Nearly three quarters of major streets (74%) operate at less than 60% of their maximum capacity, and only 7% experience any congestion[2] at the busiest times of day.[3] Outside of the morning and evening rush hours, there is even more capacity that goes unused across the city; in fact, 97% of all streets operate at less than 60% capacity during the middle of the day. On many streets, the daily maximum traffic volume is low enough, that entire lanes could be removed with minimal impact on drivers.

Based on PAG's future travel forecasts for 2045, and assuming no new road construction projects, much of this excess capacity is projected to remain unused even as Tucson's population and economy grow. In 2045, 56% of the major street network's overall capacity is projected to be used during the morning rush hour and 57% will be used during the evening rush hour. This is shown in Figure 6.

Move Tucson has the opportunity to reallocate excess network capacity to make space for more modes of travel and improve safety.

Figure 6. *As a whole, Tucson's streets have the capacity to handle current and projected future traffic volumes.*

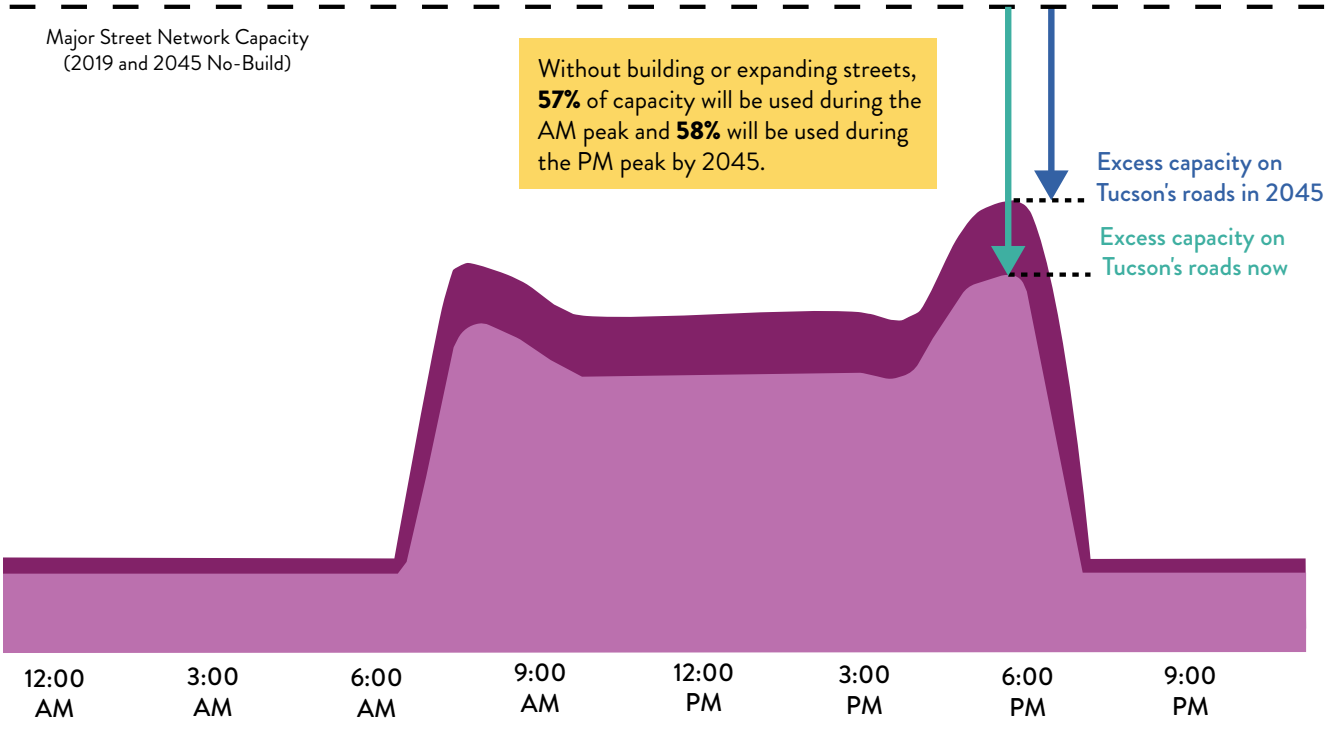


Figure 7. *Tucson's existing infrastructure is a major asset. Current and projected use reveal opportunities to accomodate more travel options and support a more balanced transportation system.*

Today, less than

50%

of Tucson's **major street network capacity** is used during peak travel periods

In 2045, without building or expanding our streets,

58%

of network capacity will be used during peak travel periods

In fact, over

170 **lane miles**

of roadway could be **repurposed for other modes of travel**

Repurposing excess capacity on Tucson's roadway can provide a number of benefits to the City, including:

- **Saved Maintenance Costs**: In Arizona it costs more than $17,000 to maintain one lane-mile of roadway each year.[4] Tucson may be spending millions of dollars each year to maintain unnecessary roadway capacity.
- **Improved Transit Reliability**: Excess capacity is found on many public transportation routes. Repurposing excess capacity for bus-only lanes can speed up transit service and improve reliability without major congestion.
- **Improved Safety**: Wider streets have been shown to lead to higher vehicle speeds. Narrowing the right-of-way could decrease speeds and improve safety for all roadway users. Reducing crossing distance for pedestrians and adding protection to bicycle lanes can further improve safety for the most vulnerable road users.
- **Reduced Impervious Surfaces**: The unused capacity in Tucson's street network equates to millions of square feet of impervious surface that traps heat and worsens stormwater drainage in rain events.

Excess capacity can be repurposed for bus only lanes to improve transit speed and reliability.

[2] Congestion is defined here as more than 80% of the streets capacity being used at the busiest times of day.

[3] Vehicular capacity, as defined in the regional travel demand model, does not take some network characteristics into consideration, such as intersection traffic signal timing and phasing or access control.

[4] Arizona Department of Transportation roadway maintenance estimates for 2019.

FREIGHT

In addition to commutes or trips to reach services and other destinations, it's important to also consider the other roles that Tucson's roadways have. Sitting at the juncture of Interstate 10 and Interstate 19, Tucson has great potential to be an important logistics hub for the Southwest United States and key gateway to and from Mexico. Because of its location, each day hundreds of millions of dollars in goods travel to, from, and through Tucson.

Freight directly supports over 130,000 jobs in the region and generates billions of dollars in activity for the local economy.

Interstates 10 and 19 are the busiest freight corridors in the Tucson area, with truck volumes averaging between 3,000-7,000 vehicles per day on the busiest segments, or between 5 and 13 percent of total traffic volumes. Most of these trucks originate in Los Angeles or at the Mexican border and are bound for other areas of the country.

While the interstates are critical freight arteries for the nation and the region, local roadways serve an important function supporting Tucson's freight generating industries and ensuring on-time deliveries to homes and businesses. Major freight generators in and around Tucson include copper mines, aerospace and defense industries, and other advanced manufacturers.

The busiest surface roads in Tucson move as many as 1,200 to 1,500 single unit trucks per day and up to about 800 combo trucks, representing as much as 1-3% of total traffic volumes. The busiest freight-generating areas of the city include the area around S. Alvernon Rd and SR-210, S. Kolb Road, and the area near Prince Rd. and I-10, with major freight assets including the Port of Tucson, Tucson International Airport, the Union Pacific Classification Yard, and the Kinder Morgan Terminal.

Because of the importance of freight to the local economy, Move Tucson has incorporated Regional Freight Corridors into the plan to make sure that important local freight roads, such as Kolb Rd. or Grant Rd. are designed to facilitate the safe and reliable movement of goods through the city.

SPECIAL TOPICS

MAINTENANCE

Transportation system maintenance helps to preserve network investments and support a system that works for all Tucsonans. Maintenance needs include all facets of the system, such as landscaping, roadway striping, traffic signals and communication networks, bridges, signs, streetlights, and more. Each of these components facilitate travel in the city. For example, overgrown vegetation can impact sight lines or restrict pedestrian travel.

In addition to the items listed above, pavement is a significant component of the transportation system.

Tucson's roadways are in significant need of repair, with 76% of local roadways and 27% of major roadways in very poor or worse condition at the time of this report. Much of Tucson's infrastructure is in need of replacement or repair. In addition to pavement upgrades, replacing aging traffic signals and communications technology can help improve traffic flow.

STORMWATER MANAGEMENT

Tucson's roadways also play an important role for stormwater management. Particularly in the summer monsoons, major and local roadways carry and store stormwater. During large storm events, flooding of roadways impacts route options, and the presence of stormwater also negatively affects roadway quality. Ongoing efforts to improve all weather access and green stormwater infrastructure should be considered as part of this plan.

Move Tucson will need to account for pavement maintenance and green infrastructure improvements within proposed projects, as well as part of ongoing systemwide investments.

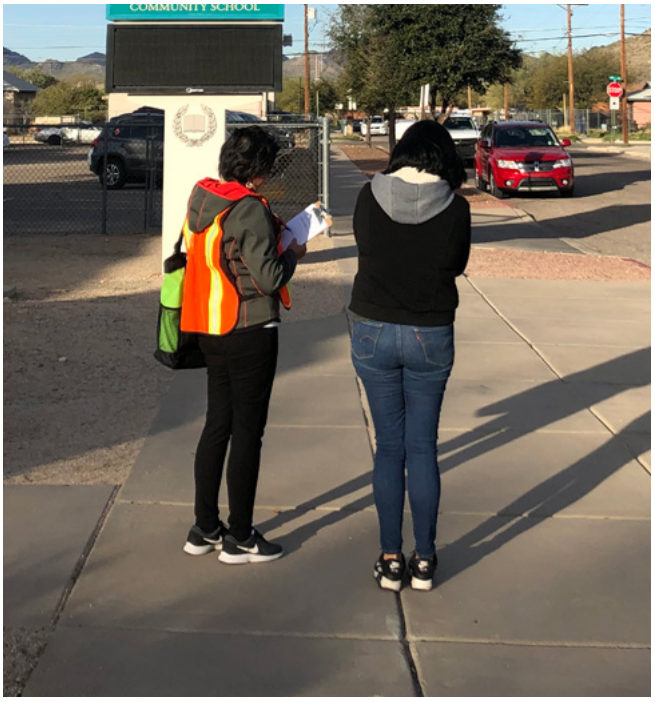
Limited stormwater infrastructure relies on Tucson's roadways for water conveyance during rain events. In addition to impeding travel during major storms, this also leads to increased pavement maintennace needs.

Learning from Tucsonans

To better understand the needs of our community, we listened to voices across the city, both in-person and online—at events, in meetings, in conversations on the sidewalk and at bus stops, as well as through online surveys and interactive web maps. In this section, we share what we heard from you and how we used this feedback as the foundation of our vision and transportation priorities and ideas for how to get there, outlined in Chapters 4 and 7.

WHO PARTICIPATED?

From November 2019 to August 2021, over 4,000 people actively participated in the Move Tucson planning process. Activities included both more traditional engagement events, such as stakeholder interviews and advisory committee presentations, as well as unique opportunities to share feedback both in person and online, such as sidewalk surveys, virtual open houses, and the Move Tucson launch event. Additional resources were dedicated to hearing from areas of the city with higher concentrations of mobility vulnerable populations, as identified in this



Sidewalk surveys helped us connect with Tucsonans as they traveled by foot, bus, bike, or car. We spoke with travelers across the city during the first phase of the plan.


BOSS


3428


24

Move Tucson's outreach included:

4,570 Online Surveys

Beginning in early February 2020, an online survey asked Tucson residents and visitors to share about how they get around today, how'd they like to get around in the future, and what their priorities are. This survey was directly impacted by the COVID-19 pandemic, and we explored new ways to hear from a wider range of Tucsonans. A targeted phone survey, completed in Summer 2020, helped us hear from areas that have have higher barriers to participation.

6,000+ Interactive Web Map Interactions

The interactive web map asked participants to share about specific challenges or opportunities they see in Tucson's transportation network today. It opened in February 2020 and by the beginning of August received over 6,000 interactions. The input received through the Interactive Web Map directly informed project development at later stages of Move Tucson.

700+ Participants and 3,700 Visitors for the Virtual Open House

In Spring and Summer 2021, Tucsonans shared feedback on Move Tucson's Vision and Guiding Principles, project recommendations, and funding priorities. The Virtual Open House format supported continued engagement during the COVID-19 pandemic and was conducted in two phases. The input from the Virtual Open House directly influenced the development of the Implementation Strategy.

200 Move Tucson Launch Attendees

Move Tucson officially kicked off in February 2020, with a community event at the Fox Theater that both set the stage for the planning process and initiated the first phase of public input. Attendees had the opportunity to provide feedback on transportation priorities.

6 Stakeholder Meetings

We met with stakeholder groups in November 2019 and February 2020 to hear more about Tucson's transportation needs and vision. Meetings included more than 30 members from the business and development community, nonprofit and advocacy groups, and coordinating agencies.

56 Handlebar and Sidewalk Surveys

We spoke with people walking, biking, waiting for the bus, or at the end of a car trip to learn about what is and isn't working for people today. By meeting with people as they went about their day, we were able to engage with a wider range of the public and learn about how people experience transportation in real time.

11 Complete Streets Coordinating Council Presentations

We collaborated with the Complete Streets Coordinating Council (CSCC) throughout Move Tucson. Across 11 meetings, the CSCC guided the Vision and Guiding Principles; developed a robust and authentic prioritization process; shaped the recommendations included in Move Tucson; and explored implementation approaches to make Move Tucson a reality.

36 Speakers Bureau Presentations

City staff trained in Move Tucson joined neighborhood and community meetings to introduce Move Tucson and why it is an important step forward for mobility in Tucson. Over **1,075** Tucsonans participated in the Speakers Bureau sessions.

8 Online Meetings

Hosted in both English and Spanish, virtual meetings corresponding with input opportunities invited Tucsonans to learn more about how to share feedback and ask questions about the planning process. More than 183 people attended these meetings throughout the plan.

11 Street Ambassadors

For projects and programs developed through Move Tucson to accurately reflect the needs and values of the Tucson community, the City of Tucson partnered with a team of 11 community members to pilot a peer-to-peer model of community engagement for the Move Tucson plan. Acting as trusted partners in historically underserved communities facing the greatest barriers to participating in traditional public outreach methods, the Street Ambassador team engaged hundreds of Tucsonans through in-person and online events with their social networks and neighborhoods.

Move Tucson's Street Ambassadors

Eddie Barron

Jesus Vejar

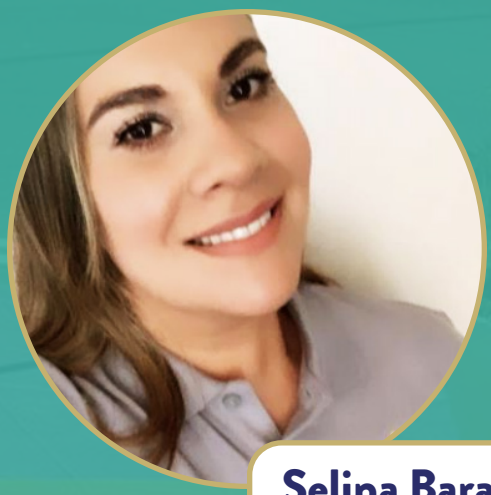
Lucy Libosha

Mallary Parker

Margie Mortimer

Mely Bohlman

Noe Mencias



Selina Barajas

Mike Slick! Edmonds

Tylee Nez

Valentina Andrew

WHAT WE HEARD

Throughout the Move Tucson planning process, Tucsonans expressed a wide range of needs, challenges, and opportunities for Tucson's mobility future. While participants highlighted challenges specifically related to Tucson's roadways and how they move in personal motor vehicles, many also expressed significant desire for increasing choices for how people get around and reducing reliance on motor vehicles. Consistent themes across all activities include interest in:

- A balanced **transportation system** that serves the needs of all modes
- Improved **cross-town mobility** for all modes
- Improved **network safety** across all modes, but in particular for those walking and biking
- Investment in the existing network through **improved maintenance**
- Increased **transportation choices**
- A transportation system that is **equitable** and supports a **sustainable** city
- Improved **connectivity** and **accessibility**

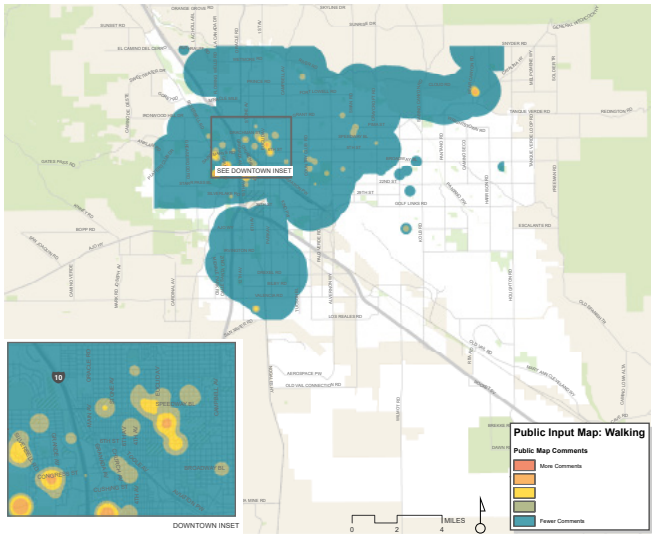
Through these results, it is clear that there is potential for a shift in how Tucsonans understand and use transportation as part of their daily lives. To implement this direction, we incorporated these themes into the Move Tucson Vision and Guiding Principles (outlined on page 10) and carried them through to recommended strategies and actions for the future of transportation in the city. The key themes of each planning phase are summarized below. A more comprehensive review of engagement results can be found in Appendix B.

PHASE I: VISIONING, INVENTORY, AND ANALYSIS

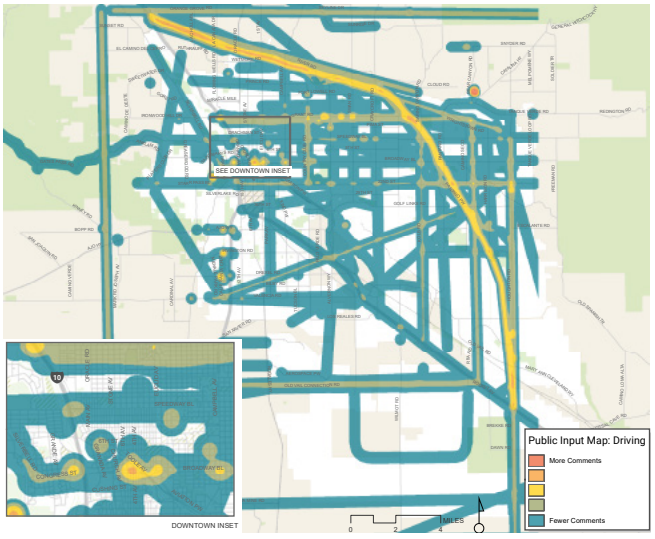
In the first phase of the project, we asked Tucsonans to share their experiences, challenges, and successes traveling in the City today. What we heard provides context to what the data revealed in the existing conditions review through an online survey, interactive web map, sidewalk and handlebar surveys, and the Move Tucson Launch Event, we heard not only what residents and visitors envision for Tucson's mobility future but also how Move Tucson can improve their current travel patterns.

Map 6. *Input Maps*

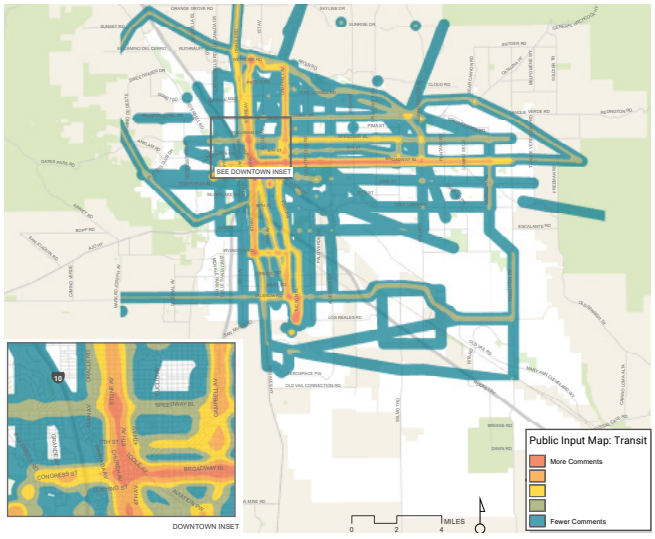
Walking Input Map



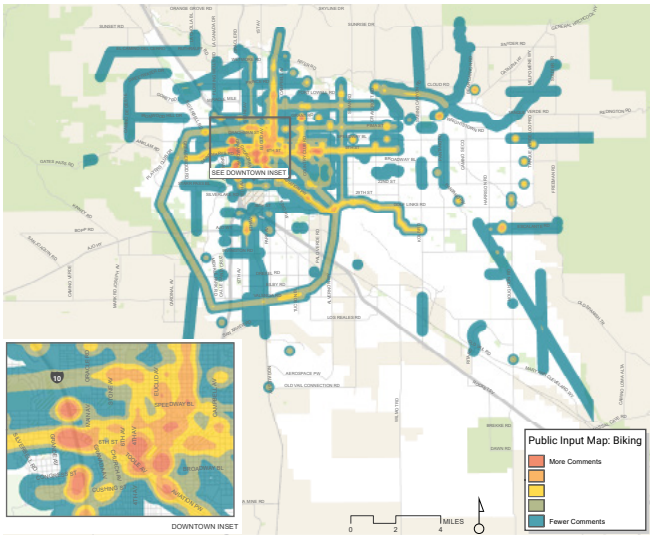
Driving Input Map



Transit Input Map



Biking Input Map



The maps above depict comments received during Phase I's online input map. Areas in orange represent locations with a greater number of comments or project ideas.

What Tucsonans need

Safety for All Modes

Tucsonans want to prioritize safety for all modes of travel, with emphasis on safety for bicyclists and pedestrians.

Invest in What We Have

Deteriorating infrastructure, limited accessibility, and gaps in the network limit travel today.

More Options

Tucsonans want more options for how to get around. This includes options for walking, bicycling, taking scooters, using public transportation, and driving.

Cross-Town Mobility

Whether by car or bus, travel across the city is inefficient and a significant time investment.

Heat Resilience

Increased shade, vegetation, and a focus on sustainability will help keep us safe and improve comfort along roads and paths.

Make it Comfortable

Reducing vehicle speeds and calming traffic not only helps people feel safer but also more comfortable.

Improved Reliability

Trip times and reliability of the public transportation can make it a more viable travel option.


N Alvernon
5 PCC WEST
GOLDBERG
OSBORNE


CROSSING
CROSSING
ONLY

PHASE II: GUIDING PRINCIPLES

Move Tucson's Vision and Guiding Principles establish the intentions of the plan and guide all phases of plan development. They shape how we identify and prioritize projects, what programs and policies we recommend, and the strategy for implementing Move Tucson. The Vision and Guiding Principles were directly informed by input from Phase I and coordination with the Complete Streets Coordinating Council. In Spring 2021, we asked Tucsonans if they agreed with Vision and Guiding Principles.

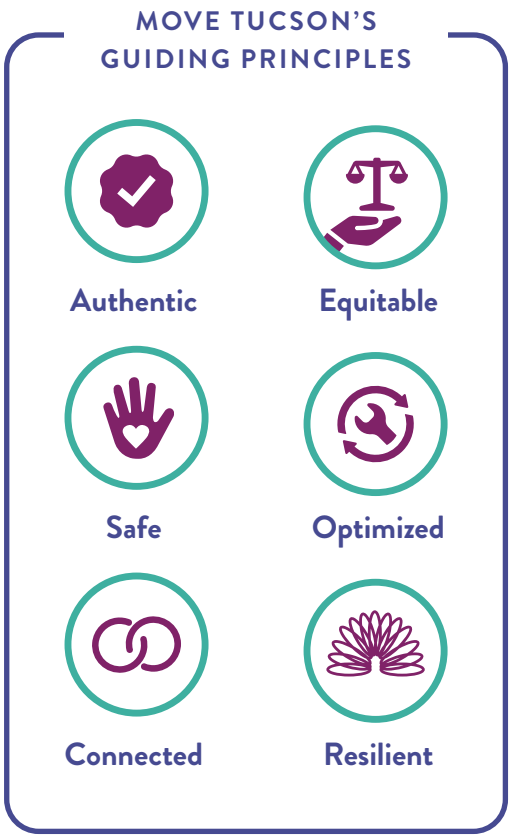
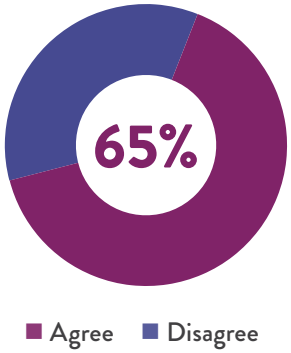
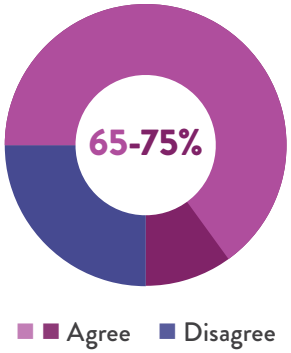


Figure 8. *Feedback from Spring 2021 Virtual Open House Public Outreach*



Nearly **two-thirds agree** with the **Move Tucson Vision**



Nearly **three-quarters agree** with each of the **Guiding Principles**

In addition to supporting Move Tucson's Vision and Guiding Principles, participants indicated that the following aspects should be prioritized through Move Tucson:

- **Improving safety** for all users, particularly vulnerable modes, through reduced traffic speeds and protected infrastructure.
- Recognizing **climate change** and seeking to reduce emissions, improve shade and heat resilience, and invest in existing infrastructure.
- Acknowledging the **connection** between transportation, land use, and economic opportunity.
- Developing an **implementation strategy** that makes Move Tucson a reality.

Today is my day off, so I'm just goofing off. It's east to get from Point A to Point B on a bike. I use the bus racks all the time, but I just learned I could take my bike on the streetcar. The biggest problem is the weekends and getting up the hill. The buses don't run as often on the weekends. People still work weekends. Our lives don't stop on weekends. Why do they?

I took the bus to go shopping for groceries. I always take the bus to shop. I've been all over the country. The bus system is one of the best in the country. You can count on your bus to arrive on time.

I drove to the park to meet a friend and walk our dogs. The park is nice so its worth the drive to get here. The Loop Trail is awesome. It's well taken care of and clean. I have no complaints. There is a lot of traffic. People need to behave better. That includes getting people off their phones while driving.

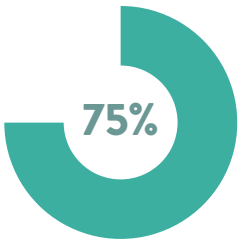
I work here at the food truck most days. I drove here for work. I've been working here for 17 years. Lots of people that work near the intersection walk here during lunch time. Every day it's busy. You could make it safer and easier to cross the street to get to where you are going.

PHASE III: RECOMMENDATIONS

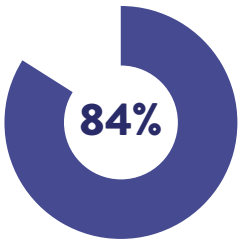
Move Tucson recommends not only specific project opportunities but also systemwide improvements, programs and policies, and a strategy for bringing Move Tucson to life. In July 2021, we asked Tucsonans to review the recommended projects and systemwide improvements and to provide feedback on funding priorities. The results of this exercise help us understand if Move Tucson's Vision and recommendations align and include solutions that match Tucsonan's expectations.

Tucsonans gave the following feedback to guide recommendations:

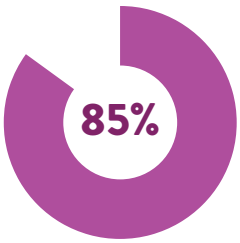
- Participants support the projects identified in Move Tucson, with more than 70% indicating support or strong support for each category
- The most liked projects include those that advance connectivity for growing areas of the city, especially in the southeast; provide high-quality transit connections between key destinations; and advance a more balanced transportation system through corridor modernization.
- While many participants expressed support for projects that expand the roadway network in growing areas of the city, many also commented on the conflict of these project types with sustainability goals – including both investing in what we already have as well as supporting transportation options.
- Participants acknowledged the role that high-quality infrastructure can have in attracting users; for example, corridors that included both an option for Bus Rapid Transit (BRT) or streetcar, preference was generally indicated for streetcar. However, comments indicated that a BRT route that provided a dedicated lane, off-board fare collection, signal priorities, and similar would also support this vision.
- Participants prioritize investment in specific projects to improve Tucson's transportation network. When asked to allocate funding across projects and systemwide improvements, participants on average identified nearly two-thirds (65%) of available funding for roadway and trail capital projects.



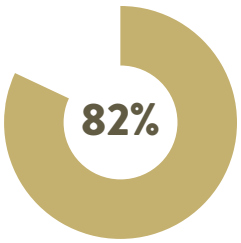
Support/Strongly Support
Catalyst Corridors



Support/Strongly Support
Strategic Solutions

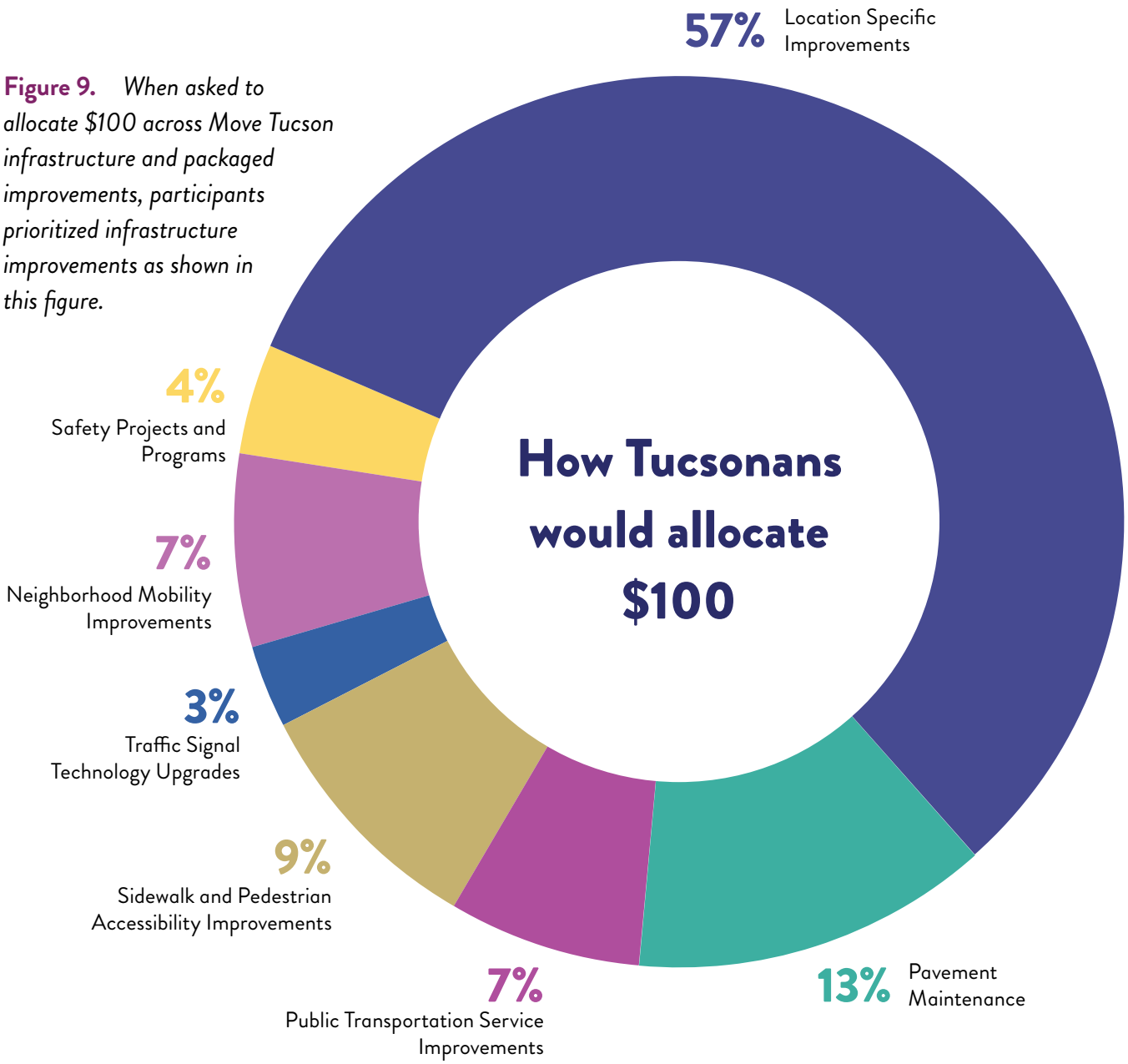


Support/Strongly Support
Local Connections



Support/Strongly Support
High Capacity Transit

Figure 9. *When asked to allocate $100 across Move Tucson infrastructure and packaged improvements, participants prioritized infrastructure improvements as shown in this figure.*



TUCSON'S MOBILITY FUTURE

Tucson's Mobility Future: Move Tucson Recommendations

Transportation systems are a dynamic mix of physical infrastructure that is built and installed (like sidewalks, bus stops, stormwater drainage, and traffic lights) with less tangible elements that may be harder to see (like scooter share service, parking policy, and educational campaigns). Every aspect of the transportation system is part of a complex ecosystem that shapes how people move through the city and their own neighborhoods each and every day.

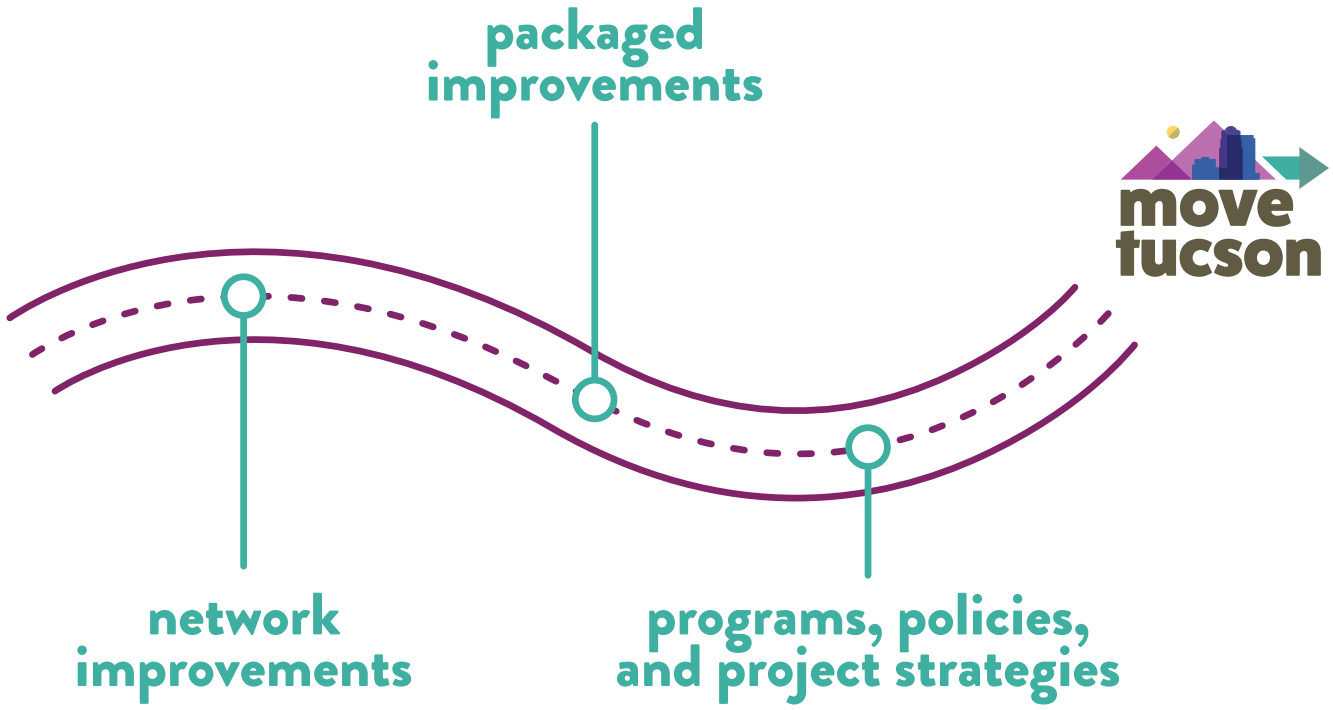
Tucson's mobility future will develop across three concurrent paths. Each is complementary to the other and each plays an important role in meeting the goals of Move Tucson.

Network Improvements: These are capital projects that are identified for specific locations along the street network.

Packaged Improvements: These are capital projects and service improvements that are not tied to a specific street but address a system-wide need, such as bus operations, pavement repair, or curb ramps. These can be delivered where needed, beyond the locations where a network improvement is proposed.

Programs, Policies, and Project Strategies: These initiatives support a well-functioning system and improve outcomes for each capital and service investment.

Move Tucson documents what is needed to improve the city's transportation system in a way that solves today's critical problems while advancing toward the communities' priorities for the future. See Appendix D for a summary of Move Tucson projects.



Move Tucson Recommendations Snapshot

Network Improvements:

- 4 categories of projects
- 640 miles of roadway and pathway improvements
- 236 individual projects

Packaged Improvements:

- 6 categories of improvements

Programs, Policies, and Project Strategies:

- 12 new programs supporting six key initiatives
- 26 programs to continue
- 4 policy recommendations
- 6 strategies to apply as Move Tucson projects advance

Network Improvements

A combination of big and small, short and long, simple and complex projects are needed to create the mobility future that Tucsonans want. Through the Move Tucson process, we've learned that biggest needs on Tucson's roadways include making roadways safer, providing more transportation choices, and preserving the infrastructure we already have. That's what these projects are intended to do.

There are 235 projects identified in Move Tucson, totaling approximately $5.7 billion dollars. These projects focus on modernizing the transportation network using a Complete Streets approach, improving safety for all users, and increasing viable transportation choices and alternatives, consistent with the needs identified in the existing conditions analysis and the public input we've received through the process.

The focus of these projects is not primarily aimed at adding additional vehicular capacity, except for in some fast-growing parts of the city, especially in the southeast.

Recommended improvements to Tucson's roadway and greenway network are shown in a series of maps on this page. These projects are grouped into four categories based on their characteristics: Catalyst Corridors, Strategic Solutions, Local Connections, and High-Capacity Transit. Each map displays one category of these network improvements.

HOW WE DEVELOP PROJECTS

Move Tucson's network recommendations take into account a combination of existing and proposed projects, previous plans and studies, existing conditions analysis, public input, and discussions with city elected officials and their staff. The following are some of the sources that informed the proposed network:

- Pedestrian Safety Action Plan
- PAG Regional Mobility and Accessibility Plan
- PAG Long Range Regional Transit Plan
- Bicycle Boulevard Master Plan
- Safe Routes to School
- Houghton Area Master Plan
- Pima Regional Trail System Master Plan
- Neighborhood Walkability Assessments

In addition to the new projects identified as part of Move Tucson, this plan also includes committed projects identified through the RTA and Proposition 407. These projects represent key network improvements that expand connectivity in the local and regional network. The complete list of these projects can be found in Appendix C.

Note: All project alignments and extents are conceptual and may be further refined as projects are funded and advance into project planning design.

CATALYST CORRIDORS

Catalyst Corridor projects are large-scale Complete Streets projects that create space for multiple modes along an entire corridor, creating significant change to the look, feel, and operations on the street. These projects improve safety and access for most modes of travel and will involve: reconstructing pavement, adding continuous sidewalks and enhanced bike lanes, and upgrading traffic signals, among others.

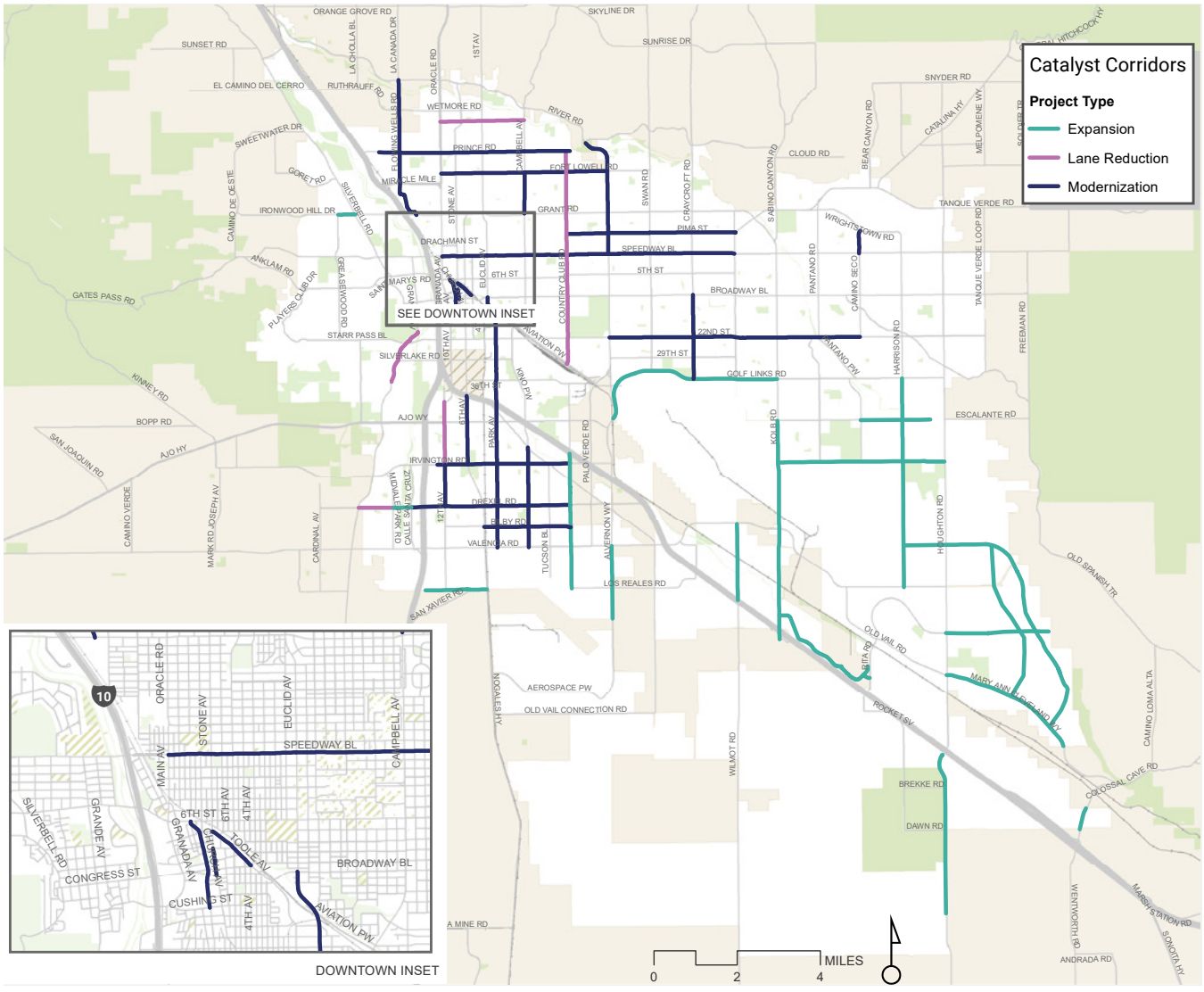
Catalyst Corridors are organized into:

- **Modernization Projects**, which improve the corridor without changing the number of lanes;
- **Lane Reduction Projects**, which remove a travel lane; and
- **Expansion Projects**, which add new travel lanes.

Combined Cost: $1,828,792,775

Total Project Miles: 122

Map 7. *Catalyst Corridors*



STRATEGIC SOLUTIONS

Strategic Solutions Projects improve access for two or three modes and are generally smaller in scale, less complex, and/or less expensive than Catalyst Corridors. These projects may involve: protected on-street bikeway improvements, expanded sidewalks and ADA improvements, or improved connections.

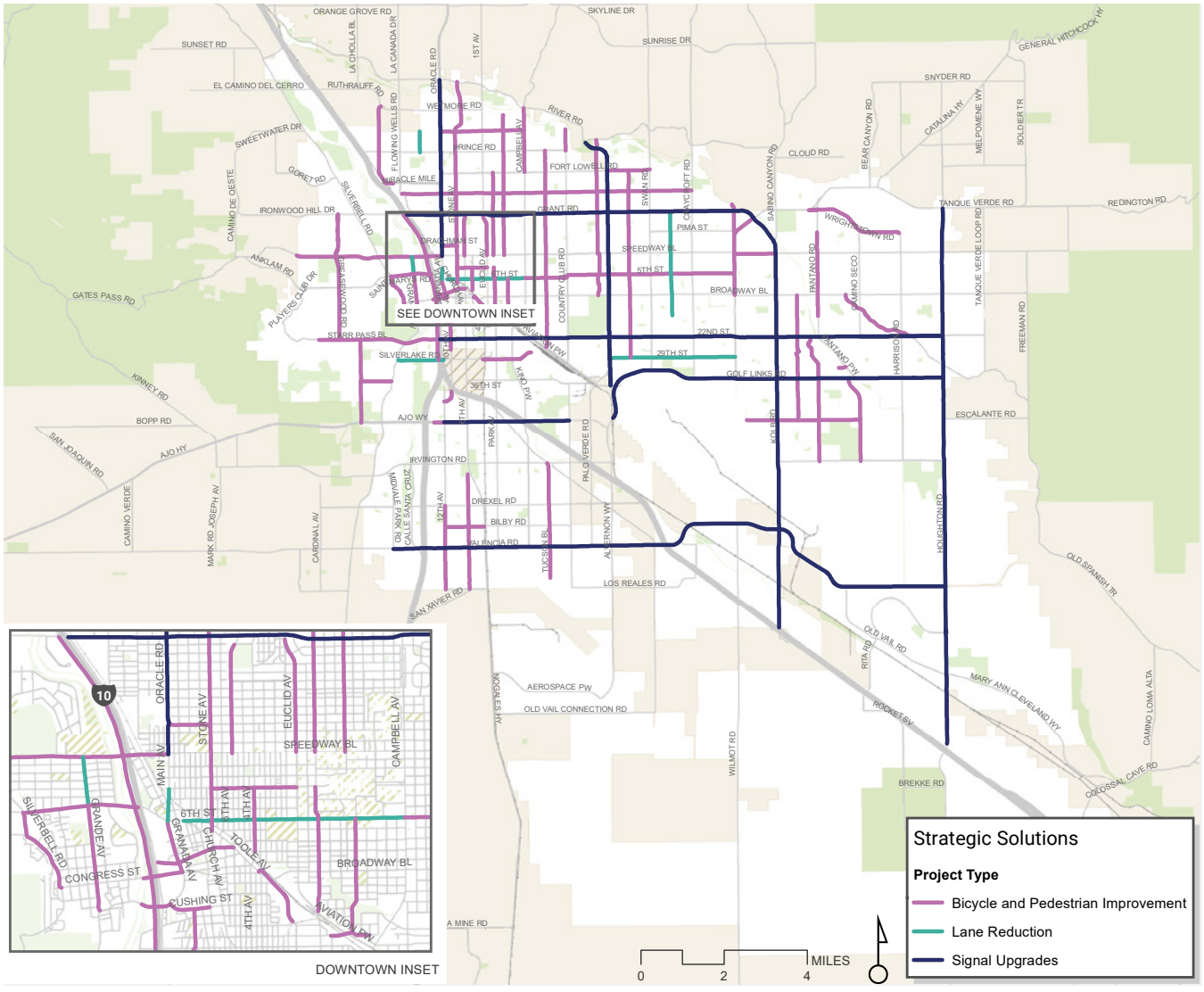
Strategic Solutions are organized into:

- **Bicycle and Pedestrian Improvement Projects**, which upgrade bicycle lanes and pedestrian facilities;
- **Lane Reduction Projects**, which remove a travel lane; and
- **Signal Upgrade Projects**, which improve safety and mobility by modernizing traffic signals.

Combined Cost: $522,729,285

Total Project Miles: 199

Map 8. *Strategic Solutions*



LOCAL CONNECTIONS

Local Connections Projects fill mode-specific gaps to create complete, connected networks. The value gained from these projects extends well beyond an individual segment. With each gap closed, the City increases the usefulness and return on investment of the network that connects to it.

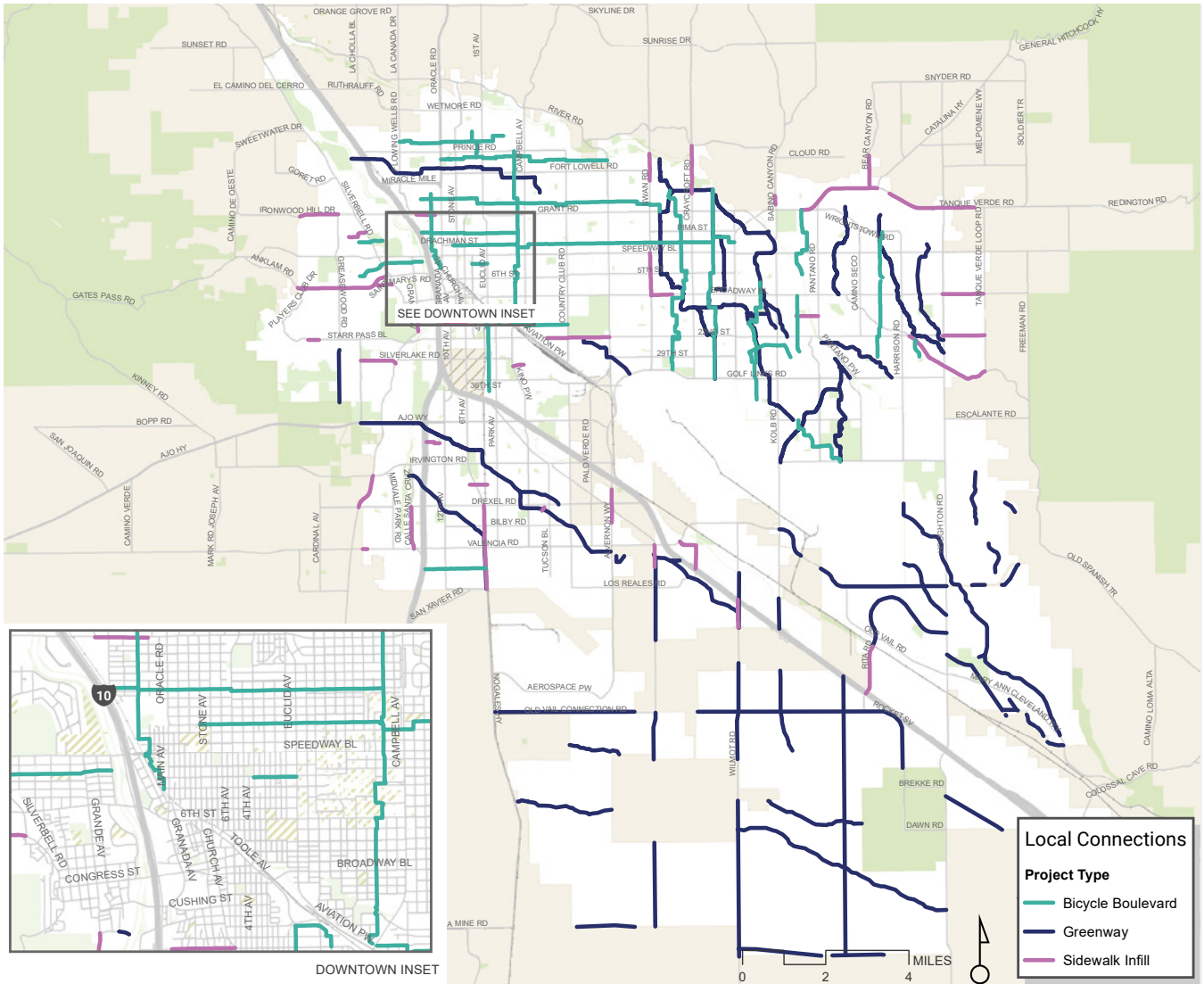
These projects may involve:

- **Bicycle boulevards**,
- **Greenways**, and
- **Completion of small sidewalk gaps**.

Combined Cost: $523,409,129

Total Project Miles: 266

Map 9. *Local Connections*



HIGH-CAPACITY TRANSIT

High-capacity transit projects include Bus Rapid Transit (BRT) and Streetcar, which provide faster and more frequent service that can serve more people. High-Capacity Transit projects often include upgraded transit stops and may change street design. Some segments overlap with Catalyst Corridor Project segments, but the two types of improvements do not have to occur at the same time.

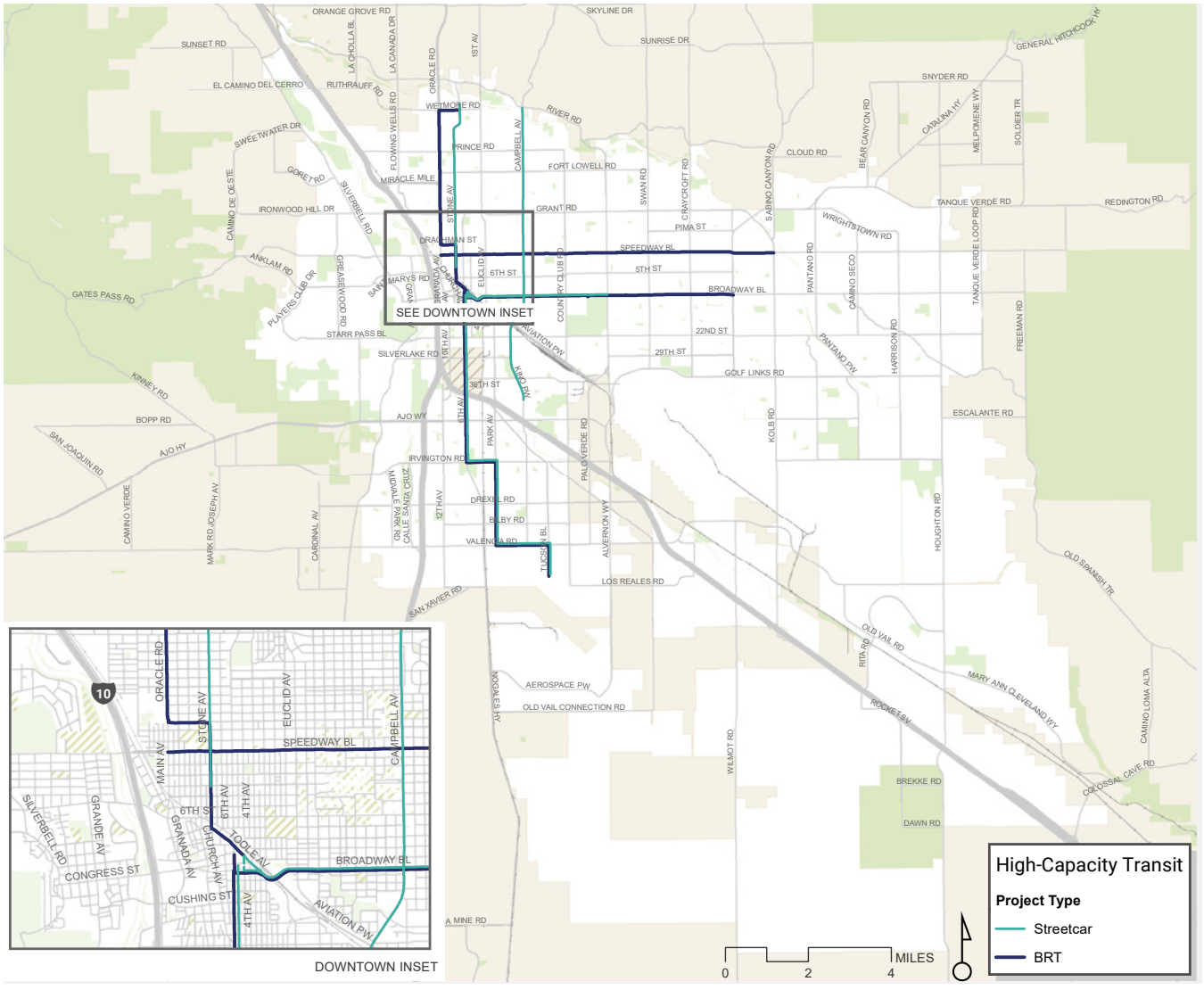
These projects include:

- **Bus Rapid Transit (BRT)**
- **Streetcar**

Combined Cost: $2,867,599,300

Total Project Miles: 53

Map 10. *High-Capacity Transit*



Packaged Improvements

Move Tucson also recommends other types of improvements that are not location-specific to one section of roadway but instead address system-wide needs. These improvements allocate city funds to improving and maintaining the transportation system that Tucson has and is applicable across much of the City.

PAVEMENT MAINTENANCE AND REPAIR:

Projects maintain and repair Tucson's pavement. A dedicated funding source would identify and implement projects over time to improve pavement in Tucson, supporting safer, more comfortable trips for all modes of travel.

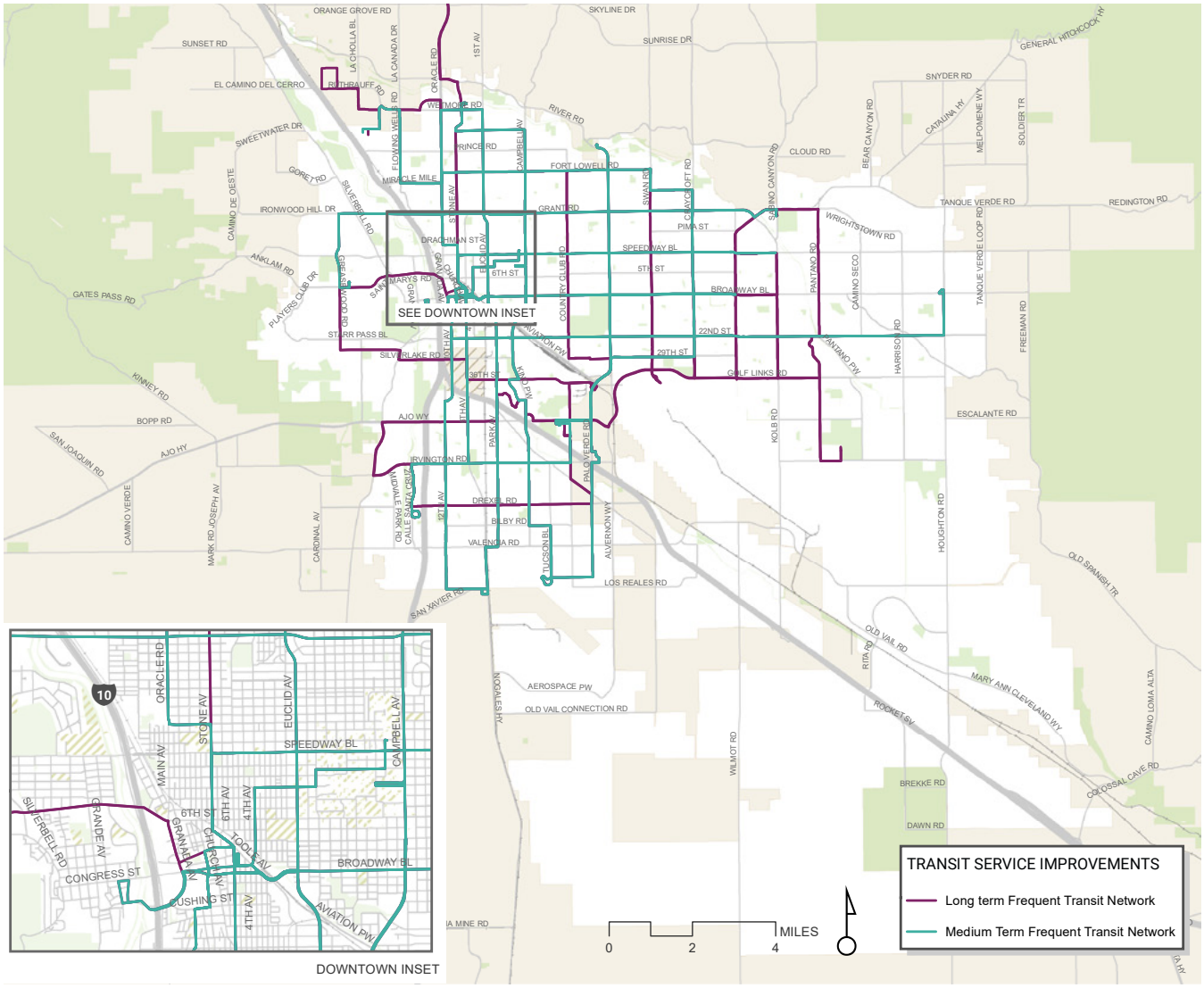
The Long-Range Regional Transit Plan (LRRTP) establishes a vision for Tucson's public transportation system. It outlines goals for both a medium-term and long-term network that improves Frequent Transit service (buses run at 15 minute or less intervals), increases access to employment, and expands weekend and night service. This includes:

- Consistent service seven days a week, including more evening service
- Frequent service to more areas
- Infrastructure that supports faster, more reliable, and more comfortable travel, such as dedicated bus lanes, transit priority at key intersections, and improved bus stops.

PUBLIC TRANSPORTATION SERVICE IMPROVEMENTS:

Investments in public transportation service will support both the frequency and reliability of Tucson's bus routes and support implementation of the Long-Range Regional Transit Plan.

Map 11. *Transit Service Improvements*



SIDEWALK AND PEDESTRIAN ACCESSIBILITY IMPROVEMENTS:

Improvements will complete sidewalk gaps and improve the accessibility of Tucson's pedestrian network. This package would fund sidewalk and accessibility improvements on neighborhood streets as well as on major streets not covered by Network Improvement projects. More information can be found about Sidewalk and Pedestrian Accessibility Improvements, including a prioritized list of improvements, in Appendix C.

TRAFFIC SIGNAL TECHNOLOGY UPGRADES:

In addition to the 9 corridors identified as part of Move Tucson, this package of improvements will identify opportunities to upgrade Tucson's traffic signal technology to support more efficient travel across the City.

NEIGHBORHOOD MOBILITY IMPROVEMENTS:

Local street improvements enhance travel within a neighborhood to support safety and support the quality of life of Tucson's neighborhoods. This package of improvements could include installing speed humps and traffic circles, green infrastructure/water harvesting features, lighting, or other improvements identified by the neighborhood.

Funding for Neighborhood Mobility Improvements could be used to expand a program in which neighborhood members identify and apply to the City for local-street improvements to enhance mobility and livability. These improvements could include sidewalks, green infrastructure, lighting, traffic calming, beautification and others. This would be separate from street paving, which is identified in a separate funding category.

SAFETY PROJECTS AND PROGRAMS:

Localized projects to improve safety, including crossing improvements. High Intensity Activated Crosswalk (HAWK) signals—also known as Pedestrian Hybrid Beacons (PHB), lighting on major streets, and others. This package also includes programs that support safety on Tucson's roads and expand education and awareness of safe travel behavior. For a complete list of identified HAWK locations, please see Appendix C.

Programs

Capital investments in transportation infrastructure and services expand the range of transportation choices available to people getting around Tucson. Transportation-related programs make people aware of those choices, provide resources for daily transportation decisions, and encourage the options that support local goals.

Tucson has many successful programs already in place, including:

- 6 led and funded by the City
- 16 programs led or co-led by the City
- 4 programs supported by the City and led by Partners
- 11 programs led by Partners and available to City of Tucson residents

As part of advancing Move Tucson, the City should explore a suite of new programs aligned with six types of initiatives:

- Transportation Safety
- Transportation Demand Management (TDM)
- Shared Streets + Spaces
- Safe Routes to School
- Community Building and Livability
- Data Collection and Reporting

The initiatives expand on existing programs and activities and seek to further emphasize and advance Move Tucson's Vision and Guiding Principles (indicated by icons in the tables below). In all instances, the recommendations are provided in addition to existing programs, and Move Tucson recommends that the City continues all existing efforts. See Appendix A for a complete list of existing programs. Recommended programs are outlined on the pages that follow.

TRANSPORTATION SAFETY

Transportation safety initiatives seek to improve safety and reduce risk for all roadway users through education, specific funding, and other tools.

Table 1. *Recommended Transportation Safety Initiatives*

INITIATIVE	DESCRIPTION
Vision Zero 	Vision Zero is a strategy that seeks to eliminate all traffic fatalities and severe injuries. The strategy also includes a focus on creating safe, healthy, and equitable mobility for all.* Adoption of a Vision Zero strategy includes data collection and analysis, community engagement and education, engineering approaches, and a clear timeline for action. Specifically, it should not include increased traffic enforcement due to risk of racial disparities. To date, the City has explored implementing a Vision Zero program; a dedicated funding source is needed to advance this initiative. This would include a Quick Response Infrastructure program. **What is Vision Zero?* Vision Zero Network. https://visionzeronetwork.org/about/what-is-vision-zero/
Safe Ride Home and Impaired driving campaigns 	To further advance safety on Tucson's roadways, the City should explore a Safe Ride Home program accompanied with an impaired driving informational campaign. Similar programs in other cities include partnerships among the City, business owners, and taxi and transportation network companies to provide discounted rides home on targeted holidays. In combination with an informational campaign, this initiative seeks to reduce impaired driving on Tucson's roads to improve safety.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM initiatives provide support and encouragement to drive alone less. Often focused on commute trips, TDM programs can include work place initiatives as well as resident-focused efforts.

Table 2. *Recommended TDM InitiativesInitiatives*

INITIATIVE	DESCRIPTION
Transit Education and Encouragement, including Safe Routes to Transit 	Transit Education and Encouragement help connect people with the resources needed to feel comfortable traveling by transit. Support may include information about how to find the best route, understand schedules and travel times, pay for transit fare, and more. Focused programs may also consider incentives to encourage participants to try transit, such as free or reduced fares. As part of the education and encouragement efforts recommended here the City should also explore opportunities to establish Safe Routes to Transit.
Expansion of Employee Programs 	An expanded employee benefit program would extend discounted pass incentives to shared mobility options within the city. The incentive should provide a model for other employers seeking to implement similar benefits and expand mobility options available for commutes.

SHARED STREETS + SPACES

Shared streets programs included efforts to reimagine the public right-of-way to better support residents, neighborhoods, and local business.

Table 3. *Recommended Shared Streets and Spaces Initiatives*

INITIATIVE	DESCRIPTION
Wayfinding	The City of Tucson currently implements wayfinding along the Bicycle Boulevard network. However, a comprehensive system that support wayfinding to destinations for all modes is not currently in place. Wayfinding systems include a series of elements, such as signs, kiosks, pavement medallions, and other indicators to direct people traveling to their destinations. Signs typically include information such as destination or district names, an arrow to indicate the direction of travel, and a distance marker (in miles and/or travel time). System maps and digital materials can further supplement the wayfinding system. While systems will generally be mode-specific, they should be considered together both for cohesion in design as well as to limit sign clutter. The City should develop and implement wayfinding systems for bicycle and pedestrian travel and specifically consider how the system can support travel to transit opportunities. Future programs may consider vehicular wayfinding systems.

SAFE ROUTES TO SCHOOL (SRTS)

SRTS initiatives provide education and encoragemnet to students, family, and school communities seeking to increase the use of active and shared modes of travel. This program can include a wide range of activities and events and may be accompanied through local street improvements.

Table 4. *Recommended SRTS Initiatives*

INITIATIVE	DESCRIPTION
Infrastructure Funding	As a complement to existing education and encouragement focused program, the City should establish a regular funding program that supports infrastructure improvements at and near schools that provide safer routes for travel. Improvements may include improved crossings, new or expanded sidewalks, and establishing low-stress bikeways around schools, among others.

COMMUNITY BUILDING AND LIVABILITY

Regular events or initiatives build community and celebrate transportation options. These initiatives help connect people in Tucson with more information about bicycling, walking, or more while seeking to improve convenience through initiatives, such as Free Bike Racks.

Table 5. *Recommended Community Building and Livability Initiatives*

INITIATIVE	DESCRIPTION
Our Tucson Promotional Campaign 	Move Tucson provided insight into the varied perspectives and experiences of Tucsonans as they travel each day. Tucsonans shared stories through interviews, public input opportunities, and more to describe the barriers and challenges they face each day but also celebrate what is working well. The City should explore an expanded promotional campaign that shares real life stories and perspectives to increase awareness of transportation needs. Through short video clips, images, and written stories that explore what residents need for daily mobility, the City can use Our Tucson to support a greater understanding among residents of how transportation can work for everyone.
Equitable Engagement + Street Ambassador Programs 	The City recognizes the importance of hearing from Tucson residents throughout the transportation planning, design, and implementation process. Creating a system that works for all Tucsonans requires input from a broad range of people, including those who travel in the area each day, those who live in the area, and more. Opportunities to shape the process should be available to all. Through Move Tucson, the City piloted a Street Ambassador initiative to support more inclusive engagement in the planning process. Beyond Move Tucson, the City should expand the Street Ambassador program and continue to work toward a more inclusive engagement process.
Resident Transportation Planning Education Programs 	Resident-focused education programs can help people better understand how to engage with and effectively provide input into the transportation planning and design process. While transportation affects everyone each day, understanding how planning, design, implementation, and operations function can be difficult to discern. The City currently has numerous platforms and mechanisms for residents to engage with the planning process, including Transit Talks, Advisory Groups, an internal Speakers Bureau, and an expanding engagement program. This recommendation builds on City strengths and seeks to grow opportunities for resident involvement. The City should partner with other organizations to create a program that provides a comprehensive understanding for residents to engage with the transportation system.
Adult Bicycle Education Program 	The City should establish or partner with other organizations to provide a regular education program that connects adults in the community with information about bicycling. Identified as a point for improvement in the 2016 Bicycle Friendly Community Report Card, an adult education program provides a complement to SRTS education programs to connect a broad range of Tucsonans with information they need to integrate bicycling into their transportation options.

DATA COLLECTION AND REPORTING

Data collection initiatives support both the City's understanding of the transportation system and its use while also providing tools to help communicate with the public. Data collection is essential in tracking transportation benchmarks and performance measures.

Table 6. *Recommended Data Collection and Reporting Initiatives*

INITIATIVE	DESCRIPTION
Annual Benchmarking Publication 	The City should establish a regular outlet for communicating the outcomes of Tucson's transportation investment. Today, the City employs StoryMaps and similar web platforms to share information about funding programs, such as Proposition 101 and Proposition 407. Similar approaches should be explored to track Move Tucson investments and progress towards measurable goals. Not only will the data collected as part of this effort establish internal benchmarks and help the department track progress over time, the resulting report can clearly describe to the public what has been accomplished in the last year and reinforce the value of continued investment.
Bicycle Friendly Community 	The City of Tucson and Eastern Pima County were designated as a Gold Bicycle Friendly Community (BFC) by the League of American Bicyclists in 2016. Evaluated every four years based on a voluntary application completed by the City, the Bicycle Friendly Community program seeks to recognize jurisdictions that are making bicycling a real transportation and recreation option for all people. The 2016 rating included recommendations to help Tucson achieve Platinum, including many steps completed since the last evaluation or otherwise recommended as part of Move Tucson. The City of Tucson should seek a Platinum Rating and continue to improve on the recommendations highlighted in the 2016 Report Card.

Policies

Policies are the tools available to DTM and other city departments to enact Move Tucson's Vision. New and updated policies complement Move Tucson's network and systemwide improvements as well as programs to create a mobility future that is safer, more equitable, and provides more transportation choices for all Tucsonans. The following are Move Tucson's recommendations that have direct policy implications:

- Alignment across City Policies and Codes
- Major Streets and Routes Update
- Vision Zero Policy

ALIGNMENT ACROSS CITY POLICIES AND CODES

Move Tucson is a result of the City of Tucson adopting a Complete Streets Policy and committing to designing safer streets that serve all transportation system users. City of Tucson Street Design Guide is a critical foundation for plan's recommended improvements and for future design decisions that will shape implementation. The Street Design Guide is a complement to and not a replacement of the City's Technical Standards Manual.

The Technical Standards Manual is a Supporting Document of the Unified Development Code, which establishes Tucson's Land Use Code, Development Standards, and development review procedures. As Move Tucson projects are scoped, designed, and engineered, they will need to reflect Complete Streets Design Guidance while also adhering to the City's technical standards and engineering codes.

This underscores the importance of coordinating across divisions and across disciplines to work toward common outcomes. As Move Tucson advances, identify and update codes, policies, and standards that become outdated or misaligned with City goals.

The overlap between existing policies, codes, and standards also underscores the substantial opportunities that exist to leverage investments across multiple City departments and programs.

GROWING GREEN INFRASTRUCTURE

Green infrastructure is a priority for Tucson. City codes, policies, and standards reinforce this priority, ensuring that public investments and department practices are working together to address the need. In 2013, Plan Tucson established multiple policy goals that work at the intersection of roadway design, stormwater management, climate resilience, and a safe and healthy built environment. That same year, DTM's Engineering Division instituted Green Street Active Practice Guidelines, requiring the incorporation of green infrastructure features into Tucson roadways wherever possible. In 2020, the City established a Green Stormwater Infrastructure (GSI) Program that seeks to increase trees and plants on Tucson's roads while maintaining existing GSI infrastructure. This program has the potential to reduce the impact of flooding on neighborhood streets, increase shade to cool sidewalks and bikeways, and beautify neighborhoods.

Plan Tucson Meets Move Tucson: Policy Goals Connecting Transportation and Green Infrastructure

Public Health (PH8): Support streetscape and roadway design that incorporates features that provide healthy, attractive environments to encourage more physical activity. Water Resources (WR8): Integrate the use of green infrastructure and low impact development for stormwater management in public and private development and redevelopment projects.

Energy and Climate Readiness (EC3): Reduce the urban heat island effect by minimizing heat generation and retention from the built environment using a range of strategies.

Green Infrastructure (GI1): Encourage green infrastructure and low impact development techniques for stormwater management in public and private new development and redevelopment, and in roadway projects.

Green Infrastructure (GI4): Expand and maintain a healthy, drought-tolerant, low-water use tree canopy and urban forest to provide ecosystem services, mitigate the urban heat island, and improve the attractiveness of neighborhoods and the city as a whole.

Land Use, Transportation, and Urban Design (LT12): Design and retrofit streets and other rights-of-way to include green infrastructure and water harvesting, complement the surrounding context, and offer multi-modal transportation choices that are convenient, attractive, safe, and healthy.

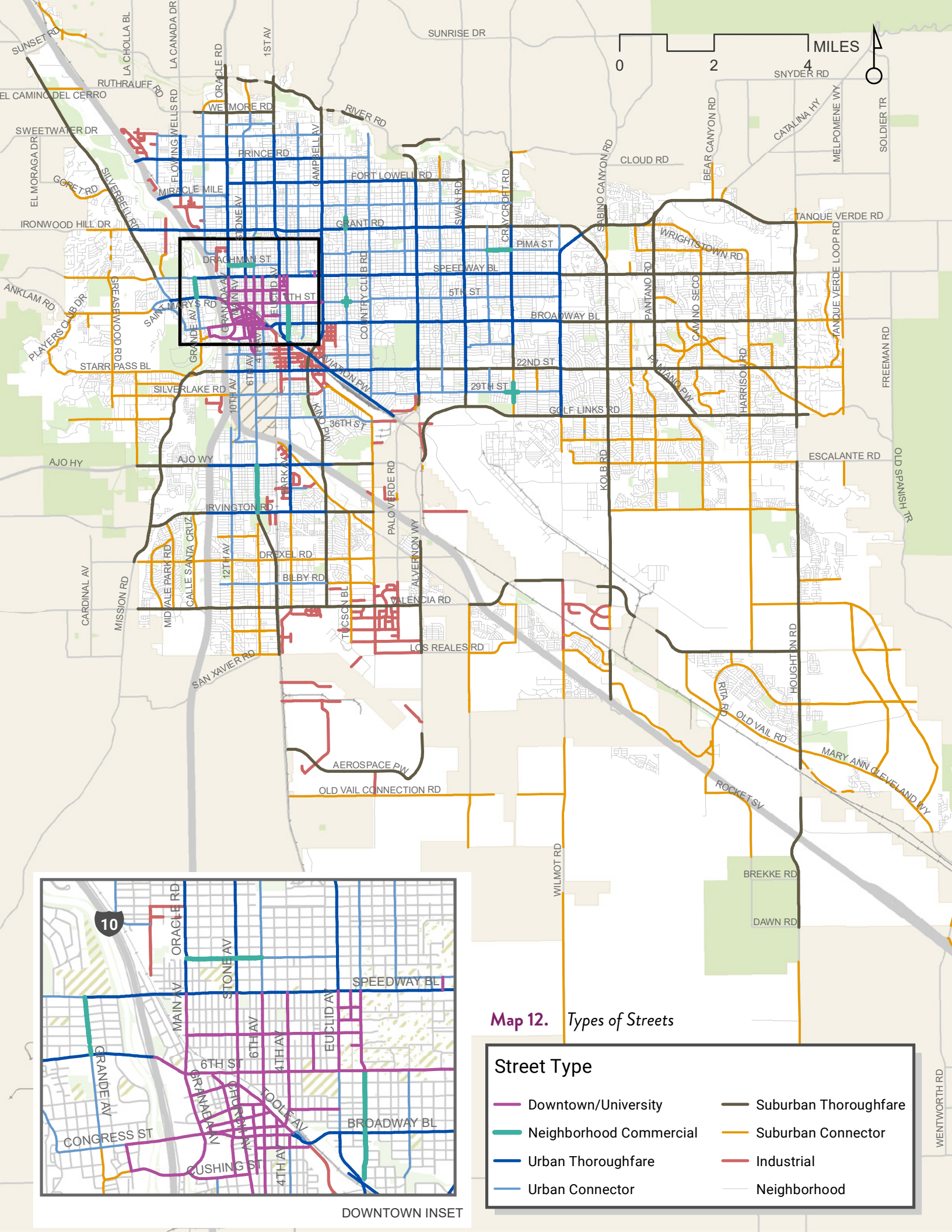
UPDATED STREET TYPOLOGY DESIGNATIONS

The Street Design Guide establishes a new system of street typologies, which describe the function and design elements associated with each type of street within the Complete Streets context. The typologies consist of a core set of street types, such as Industrial or Downtown/University, as well as a series of overlays that assign special functions to roadways, such as Frequent Transit Network or Regionally Significant Corridors.

By applying each of these typologies to Tucson's roadway, the City can more readily identify and apply guidance from the Street Design Guide to the transportation network. This helps advance the Complete Streets Policy and establish a more balanced transportation system. Map 12 depicts the location of each street type.

Street Type designations reflect the context of the roadway—by considering both the function of the roadway and what is located around it. The process includes the following steps:

- Evaluate the roadway based on the surrounding population and employment density; existing mix of land use; density of intersections; and distance from Downtown. Assign each segment into one of the following categories:
    - Downtown: Higher-densities of population and employment with a diverse mix of land uses and high density of intersections
    - Urban: Higher density of population and employment with a diverse mix of land uses. Intersection density is relatively high, but is generally lower than Downtown.
    - Suburban: Lower densities of population and employment. Land use is more uniform within a given area, and intersection density is relatively low.
    - Industrial: Primarily defined by industrial land use types, these areas have low population density and more uniform land uses. Distance from downtown is varied, and intersection densities are relatively low.
- Evaluate the roadway based on how the road functions today or is anticipated to function in the future. This step considers projected traffic volumes, speed, number of lanes, frequent transit network designations, regionally significant corridor designations, and freight designations.
- Assign corresponding Street Type, as defined by the Complete Street Design Guide, based on these characteristics.



Map 12. *Types of Streets*

Street Type

- Downtown/University
- Neighborhood Commercial
- Urban Thoroughfare
- Urban Connector
- Suburban Thoroughfare
- Suburban Connector
- Industrial
- Neighborhood

MAJOR STREETS + ROUTES (MS+R) UPDATE

The MS+R identifies street classifications, public right-of-way widths, and special corridors for major roadways. This framework is intended to facilitate coordination among land use and transportation needs. The MS+R Map is organized according to car-oriented designations, requiring setbacks and right-of-way that pose a challenge to safe and comfortable pedestrian networks; development that supports vibrant communities; and multimodal connectivity. The introduction of the Street Design Guide provides significant opportunity to revise the MS+R approach and directly support Move Tucson's Vision. DTM should collaborate with Development Services and Plan Tucson to sync the new Street Types with land use and development guidance.

While Move Tucson does not replace the existing MS+R, it does establish a foundation for further coordination across City departments to revise current policies in a manner that acknowledges the combined impact of land use and transportation. This foundation is based in the application of Complete Streets Street Types to the Tucson network.

Move Tucson recommends the following:

- Maintain the existing regulatory structure of the MS+R. This includes both the map, which identifies where regulating policies apply, as well as associated public right-of-way and private property standards.
- Update regulating policies to establish a minimum right-of-way width based on the Complete Streets design guidance and desired development contexts, rather than requiring a specific ROW width.
- Provide for modal priority streets, such as bicycle or public transportation, through overlay designations. This is consistent with the Street Design Guide.
- Utilize the updated MS+R to reflect the preferred organization for each roadway, with final street design determined through community input and project-specific analysis of the corridor.

Photo courtesy of Phantom Aerial Solutions, Inc.


CIRCLE K

VISION ZERO POLICY AND ACTION STRATEGY

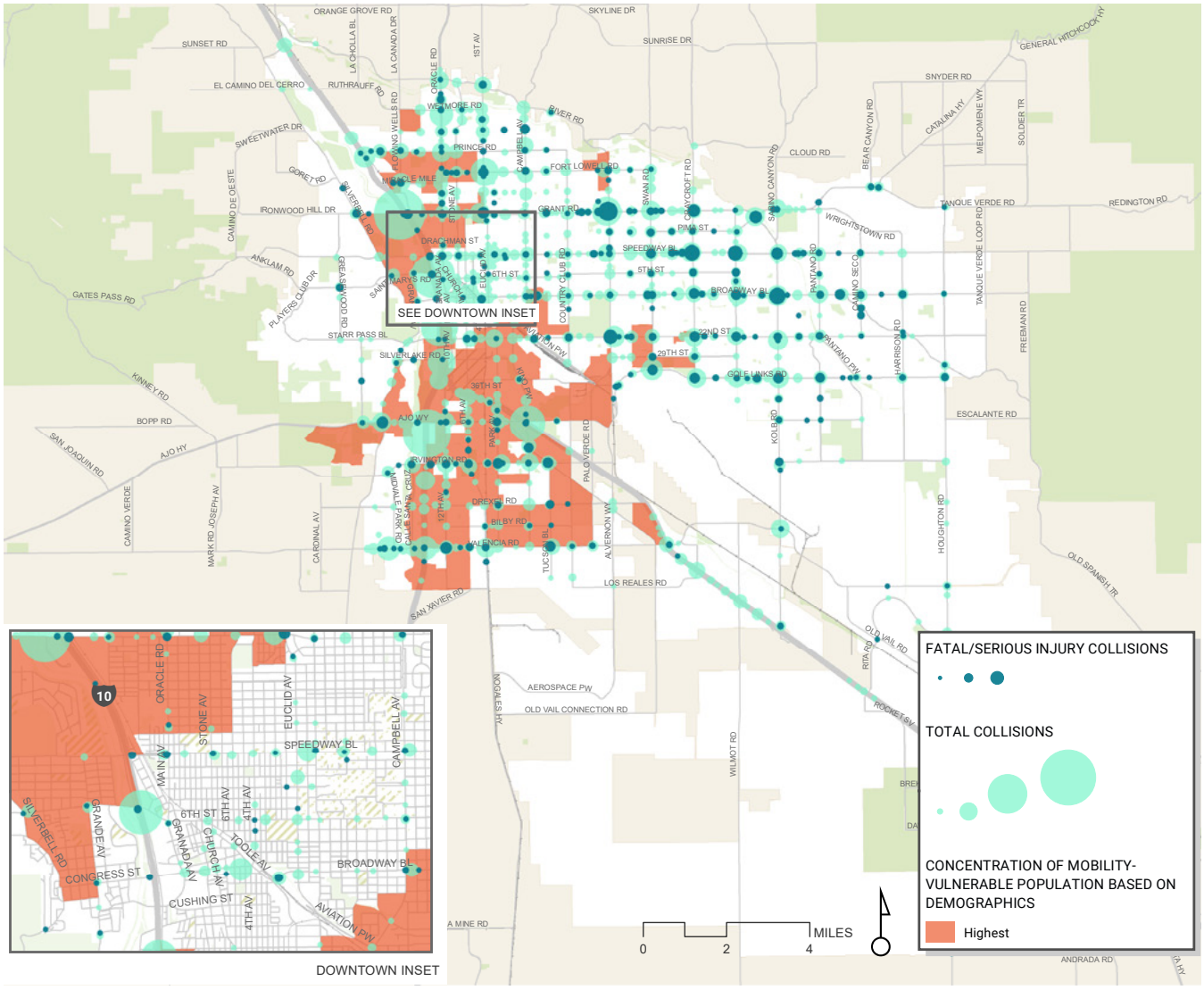
Adopting a Vision Zero policy would commit the City of Tucson to ending traffic fatalities. This includes an explicit commitment to build safer streets, prioritize maintenance of infrastructure supporting safe travel, educate the public on traffic safety, and adopt policy changes that save lives.

A Vision Zero Policy will build from:

- The Street Design Guide, which provides locally-adopted guidance for delivering safer roadway design for all road users
- The Pedestrian Safety Action Plan, which identified key areas of focus and strategies for improving safety of pedestrian in Tucson
- Move Tucson, which provides baseline analysis of crash data and identifies future investments that can be tied to Vision Zero priorities

Vision Zero strategies would work to extend the current trend of declining fatal and serious injury collisions for motorists while reversing the trends of rising bicycle and pedestrian collisions.

Map 13. *Safety and Equity*



Project Strategies

Advancing Move Tucson will require new approaches to project delivery, managing competing demands, and adapting to a changing landscape. The project strategies described below are opportunities for the City to support implementation of Move Tucson's recommended improvements, programs, and policies on an ongoing.

IDENTIFY QUICK BUILD PROJECTS

Quick build projects are not only faster and less costly to implement, they also create an opportunity to pilot a project design or treatment for community feedback and observation. Where feasible, DTM should identify specific network improvements or packaged improvements that can advance on an accelerated timeline through quick build implementation. The Move Tucson project list provides the blueprint for a more balanced transportation network but also includes a large price tag for system-wide implementation. Quick build tactics can advance basic design elements of a project to provide immediate relief from a safety, comfort, or access issue. The City can demonstrate visible "early wins" and build support for increased investments in Move Tucson projects.

Quick build projects also allow the City to be more responsive to communities that have faced historic disinvestment and often face the greatest risk when traveling. This approach helps address the urgency around needed improvements while also providing a mechanism to gather feedback from the community impacted by the improvement.

The City of Tucson has already applied quick build tactics in a variety of contexts, including the Shared Spaces program (which enabled creation of new Parklets and Streateries) and local safety improvements through the safe routes to school program.

REPLICATE FLEXIBLE PROJECT DELIVERY

In 2020, DTM quickly shifted staff resources and program structures to address urgent needs during the COVID-19 pandemic. These pivots resulted in a new Slow Streets program to accommodate increased biking and walking traffic and the Shared Spaces: Parklets and Streateries initiative to keep restaurants in business while meeting social distancing requirements. This was possible through the Mayor and Council enacting regulatory zoning relief and City staff finding flexibility within their existing processes to reduce hurdles and streamline decision-making.

Even before the COVID-19 pandemic, disruption was the dominant trend of the transportation sector. Mobility needs and solutions change with new breakthroughs in technology new service models, and broader culture shifts (such as smart phone adoption or telecommuting). Figure 10 on page 80 details six leading trends accelerating the pace of change. DTM will need to work internally and across departments to continue to develop flexible approaches to project delivery. This includes building from emergency response mechanisms that worked during the last year, as well as setting expectations for ongoing evaluation and pivoting within annual workplan and project development.

Figure 10. *Six trends accelerating change in the mobility landscape*

1. More Choices

In addition to biking, walking, driving, and taking transit, many people have **access to on-demand services such as private for-hire rides** (like taxis, Uber, and Lyft), scooter share, bike share, carsharing, and micro-transit shuttles.

2. New Players

New business models have increased the role of the **private sector in transportation and changed the nature of services operating in the public right-of-way**.

3. Trip Planning Apps

Trip-planning services are changing the way people make decisions about routes, mode, and cost to travel.

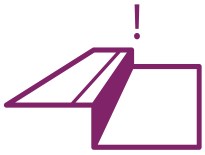
4. Electrification

Global trends toward electrification of vehicles, combined with locally-adopted goals for reduced greenhouse gas emissions, has **increased demand for electric charging options** as part of public infrastructure.

5. E-Commerce

E-commerce is reducing personal trips to retail stores and restaurants and exponentially **increasing the volume of urban delivery and courier trips** occurring. E-commerce also introduces more heavy vehicles onto residential streets.

6. Curb Space Demand



There is **increasing demand for curb space** for elements like transit services, rideshare, pick-up and drop-off, walkways, bikeways, and freight delivery.

LEVERAGE SHARED MOBILITY SERVICES

Move Tucson's network improvements and packaged improvements will be implemented over a twenty-year horizon and should be refined on an ongoing basis to maintain relevance as mobility trends change. Programs and policies will advance on a shorter timeline and can adapt to shifting priorities and changing traveler behavior. DTM should identify opportunities to leverage shared mobility services and private sector partners to pilot stop-gap solutions, expand the reach of programs, or adjust proposed improvements when a project's context has changed over time. This could include piloting an on-demand microtransit service in a limited geography where future transit service improvements are planned. A pilot has the potential address an immediate mobility gap while also providing data to inform the coming service improvements. Additionally, shared mobility providers can be integrated directly into Transportation Demand Management (TDM) programs (such as those included in Table 2 on page 68) where travel options beyond a personally-owned vehicle are encouraged. Services like ZipCar, Uber, Lyft, Tugo, and scooter-share reduce the need to own a car and can be promoted as a resource for Tucsonans that choose transit, biking, and walking as their primary modes.

ESTABLISH CURBSIDE MANAGEMENT PRINCIPLES

The curb is also a critical component of Tucson's mobility infrastructure and supporting a balanced transportation system. It's a threshold within the right-of-way, influencing how people connect to their destination, switch between modes of travel, or even do business. Functions of the curb include bus and paratransit stops, on-street parking, shared mobility access points, pick up and drop off locations, urban delivery zones, freight loading and unloading, trash collection, parklet or streatery locations, and more.

The City should work across divisions to identify problem areas, determine preferred outcomes (Who is given priority? What is the curb worth?), and develop solutions through a curbside management strategy. A combination of policy and program changes, regulatory controls, and design treatments in key areas and districts can be applied to better support transportation options in the city. Curbside management has implications for the efficiency and safety of the transportation system, including:

- Allocating space for transit to support reliability and speed of the system
- Enhancing safety for people biking, people walking, and people moving between modes and destinations
- Providing space for loading and unloading activities to support the delivery of goods to local businesses
- Supporting placemaking initiative through improved pedestrian environments
- Advancing climate resilience objectives through electric charging infrastructure, prioritizing low-impact modes, and creating space for street trees and other urban greening

Curbside management strategies are most important in high demand centers, such as Downtown or near the University, where there is competition for space among modes, significant demand for local destinations, and opportunities to reimagine public space. Further, the strategies may vary by location based on context. For example, the City of Seattle establishes different priorities based on the surrounding land use. In Tucson, the Street Design Guide may offer one approach to identifying areas of need and establishing strategies for each. Streets designated as Downtown/University or Neighborhood Commercial, for example, may be best suited for project strategy.

CO-LOCATE MOBILITY OPTIONS

Walking, bicycling, and park-and-ride facilities have traditionally provided first- and last-mile access to transit. The expanded suite of mobility options now available in Tucson warrants new ways of connecting modes and services to one another, and new considerations for how people transfer between modes. Mobility hubs are an opportunity to co-locate services in places that offer connected, multimodal networks. This improves trip planning for both system users and operators. With intentional site design, hubs can improve the link between new and traditional modes of travel, while also expanding who has access to shared mobility services and other emerging options. Additionally, in less dense and suburban contexts, mobility hubs can provide consistent and reliable access to a targeted set of services (e.g. a regional express bus or a shuttle to high capacity transit lines) as a way to offer more seamless regional access to economic centers and employers.

As the City advances Move Tucson projects, opportunities for co-locating services will likely range from:

- Using curbside management principles to reorganize features in the public right-of-way, such as moving Tugo and scooter share parking adjacent to a bus stop and permitted carpool parking zone
- Identifying areas of activity and access appropriate for mobility hub site development along catalyst corridor network improvements that are coupled with high-capacity transit improvements
- Integrating mobility hubs within transit-oriented development (TOD) along the planned bus rapid transit (BRT) regional corridor
- Establishing small-scale mobility hubs at major access points for the City's greenway system

With each scenario, mobility hub design is an opportunity to incorporate climate mitigation and adaptation strategies that fit the context and the intended hub users. This may include electric charging infrastructure, trees and shade structures, shelters for cooling or extreme weather events, or facilities designed to transform into emergency response centers or outlets for distributing community resources, when needed.

ENGAGE WITH MOVE TUCSON AS A LIVING DOCUMENT

Move Tucson documents the many ways that the City of Tucson and its mobility context are rapidly changing. Many factors influence both where people live and work as well as how they move around Tucson, and the projects outlined in this plan reflect what we know about these conditions today. As conditions change, the City should review projects periodically, considering new needs, the impact of implemented projects, and available funding. The City should evaluate the Move Tucson project list every five years and update as needed.

Further, it is recommended that the City develop a public input tool and process for residents to submit project ideas. This should be consistent with the resident transportation planning education program. In all cases, revisions to the project list should further the Move Tucson Vision and Guiding Principles.

WHERE DO WE START?

Where do we start?

Articulating what is needed to improve Tucson's transportation system is the first step. But it's not possible to fill all of those needs today – or even tomorrow, or the next ten years. So, where do we start?

We developed a prioritization process that allows us to evaluate each proposed network improvement based on how it relates to Move Tucson's Guiding Principles. The prioritization process is a tool to show us where to start with implementing Move Tucson projects now - while also giving us a tool to use again in the future, as the city grows, changes, and projects are completed.

MOVE TUCSON'S GUIDING PRINCIPLES

Authentic

Safe

Connected

Equitable

Optimized

Resilient

The prioritization process has five main steps.

First, projects are identified across the roadway network (see the "Network Improvements" in 4/ Tucson's Mobility Future). These projects propose solutions to transportation system challenges, needs, and opportunities based on available data and public and stakeholder input.

Second, a score from 0-100 is calculated for every segment of the full roadway network – whether an improvement is proposed or not - based on characteristics that relate to Move Tucson's Guiding Principles. To calculate the score, we use a formula that plugs in data for each measure shown in Table 7 on page 88 These measures quantify the potential for new transportation investments on any given road segment to advance the guiding principles relative to the rest of the network. Each roadway segment receives a score from 0-10 for the first five measures (Connected, Optimized, Safe – based on severity, Safe – based on frequency, and Resilient). To account for the sixth measure (Equitable), the combined total of the first five scores is doubled for each roadway segment that is located in an equity focus area. Multiplying those scores by 2 is a way to indicate potential value gained from transportation improvements in areas of historic disinvestment and increased barriers to access.

Third, everywhere a Move Tucson project is proposed on a roadway segment, that segment's "network score" is applied to the project. When a project overlaps with multiple roadway segments, the average "network score" of those combined segments is used, and is weighted by the length of each segment (i.e., the length of the roadway from intersection to intersection).

Fourth, now that every project has a "network score" based on the existing roadway, we use information about the specific improvements that the project will offer, how it will interact with the context around it, and indicators of feasibility to add points to projects that demonstrate additional value beyond what is measured in the "network score". This calibrated score serves as the project's final prioritization rating. Table 9 on page 90 shows criteria used for project calibration.

Fifth, prioritization results are compiled and projects are sorted into tiers. Prioritization tiers indicate a project's level of importance to improving the overall transportation system. While every project is important, a Tier 1 project is better positioned to achieve the multiple goals of Move Tucson.

MOVE TUCSON PRIORITIZATION PROCESS

1 Identify Projects

Proposing improvements at specific roadway segments and locations based on existing conditions analysis, previous plans, and public input.

2 Measure the Network

Scoring every segment of the roadway network (citywide) based on opportunities for new investment to advance **guiding principles**.

Authentic | Connected | Optimized | Safe | Equitable | Resilient

3 Apply Network Scores to Projects

Assigning a score to each project based on where it falls on the network.

4 Calibrate Project Scores

Adjusting project scores where opportunities to further advance **guiding principles** exist based on unique characteristics of the proposed improvement or how it may be implemented.

Authentic | Connected | Optimized | Safe | Equitable | Resilient

5 Compile Scores, Create Phasing Plan

Using project prioritization scores to develop funding and phasing plan.

Roadway
Project
Tier 1
Tier 2
Tier 3
Network Score
\+ Increase in score

In addition to evaluating projects along existing roadways, the prioritization tool is also designed to consistently address three unique scenarios in the roadway network:

New Bridges: Where a new bridge is proposed, the project's score reflects the two street segments that the proposed bridge will connect.

New Roads: While some new-construction roads are included in Move Tucson's network improvements, prioritization scores are not calculated for those projects.

Off-street Connections: Some Move Tucson recommendations fall outside of the full roadway network. These off-street connections, such as greenways, do not have data to reflect all of the measures. We created an adjusted version of the prioritization tool to calculate a "network score" for those segments, providing a fair comparison for systemwide evaluation (Table 8 on page 89).

The tables that follow outline the scoring process for both network screening (Step 2) and Project Calibration (Step 4).

PRIORITIZATION FRAMEWORK TABLES

Table 7. *Network Scoring*

GUIDING PRINCIPLES	MEASURE	SCORING NOTES	TOTAL POINTS AVAILABLE
Connected 	How many modal networks can be improved or further supported?	Segments will score points if there are opportunities to improve identified deficiencies in the bicycle, pedestrian, transit, or motor vehicle networks.	10
Optimized 	What opportunities are available to optimize the network so it can serve more people?	Segments will score high for motor vehicle projects if there is heavy congestion, and will score high for bicycle, pedestrian, and transit projects, if there is major excess capacity.	10
Safe 	Severity: Does the roadway have a history of serious crashes?	Segments will score on this measure if they have a history of fatal or serious injuries. Injury crashes are considered if they involved vulnerable users.	10
	Frequency: Does the roadway have a history of crashes?	Segments will score on this measure if they have a high frequency of crashes, regardless of severity, or mode.	10
Resilient 	Can the network better support short, local trips?	Segments will score high on this measure if they are located in areas of high demand.	10
Equitable 	Is the network located within an equity area?	Segments within high equity areas will have their scores increased.	Multiple sum of Connected, Safe, Optimized, and Resilient by 2.

Table 8. *Adjust Network Scoring for Off-Street Connections*

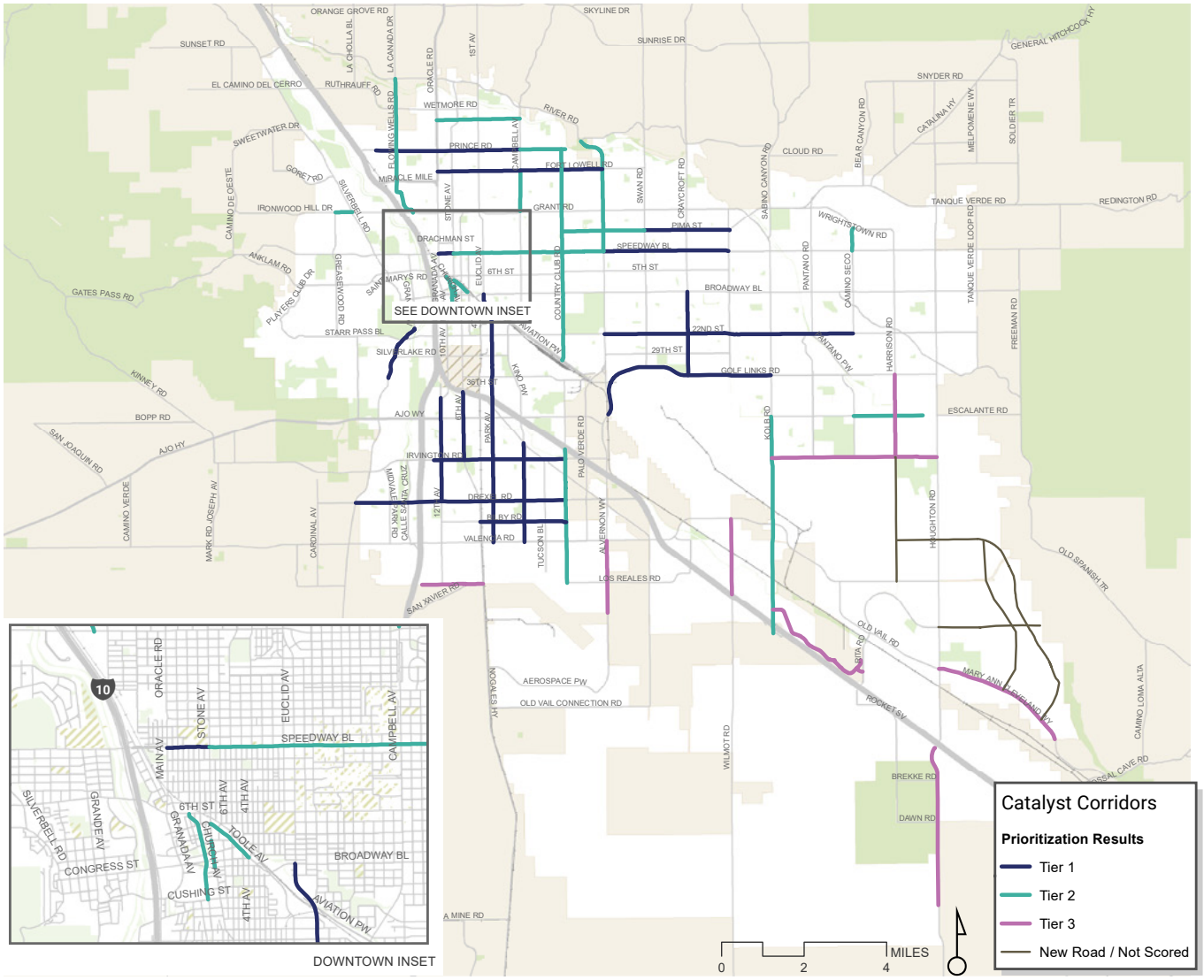
GUIDING PRINCIPLE	MEASURE	TOTAL POINTS AVAILABLE
Connected	Points awarded for Bicycle and Pedestrian networks	6
Safe	Frequency: Assumes mid-value of frequency score	2
	Severity: Assumes mid-value of severity score	2
Optimized	N/A	N/A
Resilient	Segments will score high on this measure if they are located in areas of high demand.	10 points if located in area of highest demand tier; 5 points if located in area of second highest demand tier
Equitable	Segments within high equity areas will have their scores increased	Multiply sum of Connected, Safe, and Resilient by 2.

Table 9. *Project Calibration*

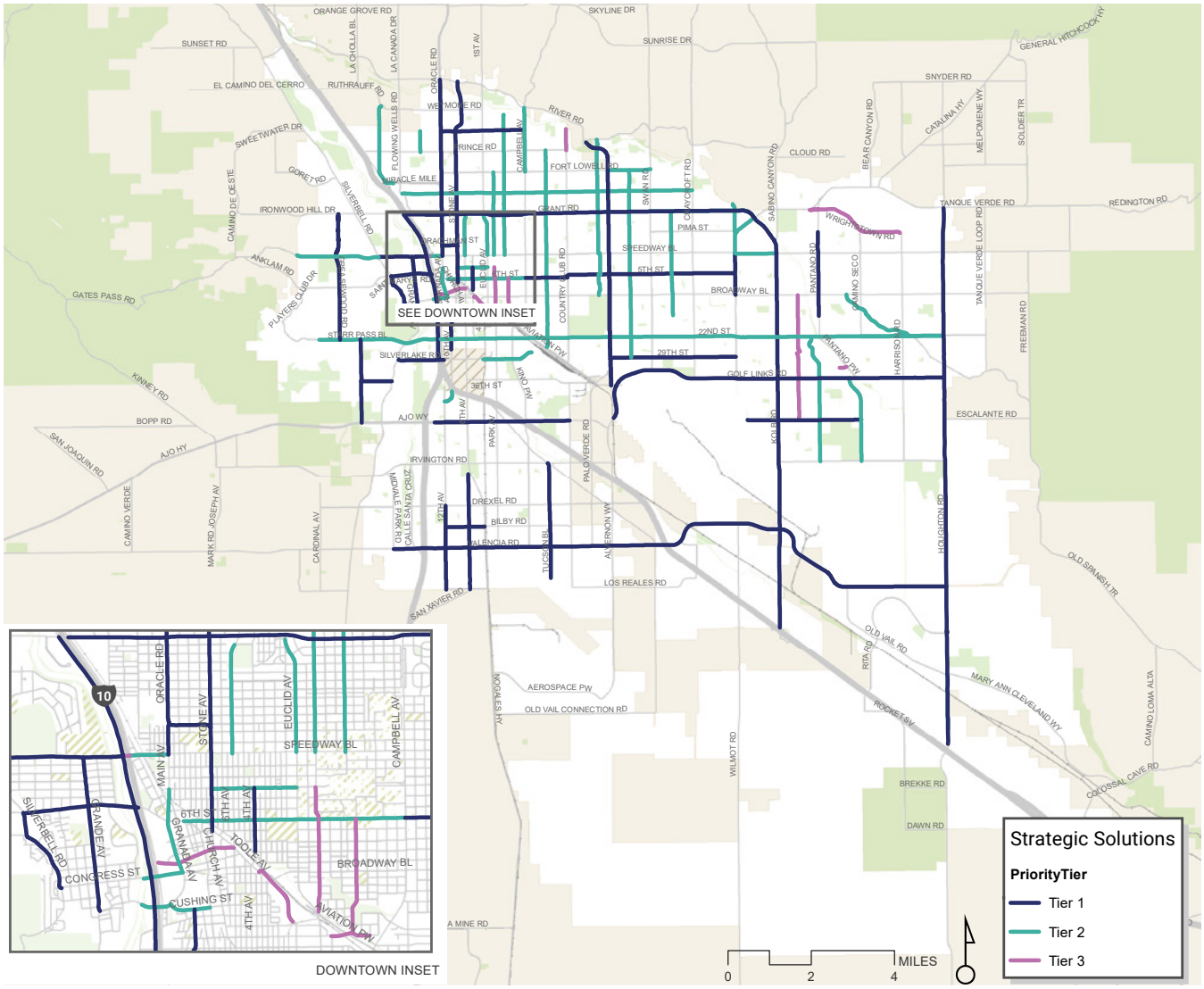
GUIDING PRINCIPLE	CRITERIA	MEASURE	TOTAL POINTS AVAILABLE
Authentic	Public Support and/or Ward Support	Has the project been identified as a priority through public input? Have representatives of Tucson's Ward offices identified the project as important for furthering Ward goals? Data Source: Public Input Map; One-on-one meetings with Councilmembers (if identified in either, project receives calibration point)	3
Authentic	Human-centered Design	Does that project provide opportunities for placemaking? Data Source: Low-volume roadways with Commercial Zoning	2
Connected	Gap Closure	Does the project close an identified network gap for low-stress walking and bicycling networks? Data Source: Existing and Programmed Projects	2
Optimized	Pavement Quality	Is the project located on roadways with poor or failing pavement quality? Data Source: Pavement Quality	2
Optimized	Cost-Effectiveness	How does the estimated cost of the project compare to the expected benefits? Data Source: Planning level cost estimate, compares to street network scoring and need	9
Resilient	Heat Mitigation	Does the project provide an opportunity to address areas of high heat through increase vegetation or other heat mitigation measures? Data Source: Heat Severity	2
Maximum adjustment of 20 points (20% of total available points)			

The maps that follow present the results of the prioritizaiton process. For each category of projects, results are displayed in three tiers. These tiers indicate each project's relative importance for improving the transportation system. While every project is important, a Tier 1 project is better positioned to achieve the multiple goals of Move Tucson.

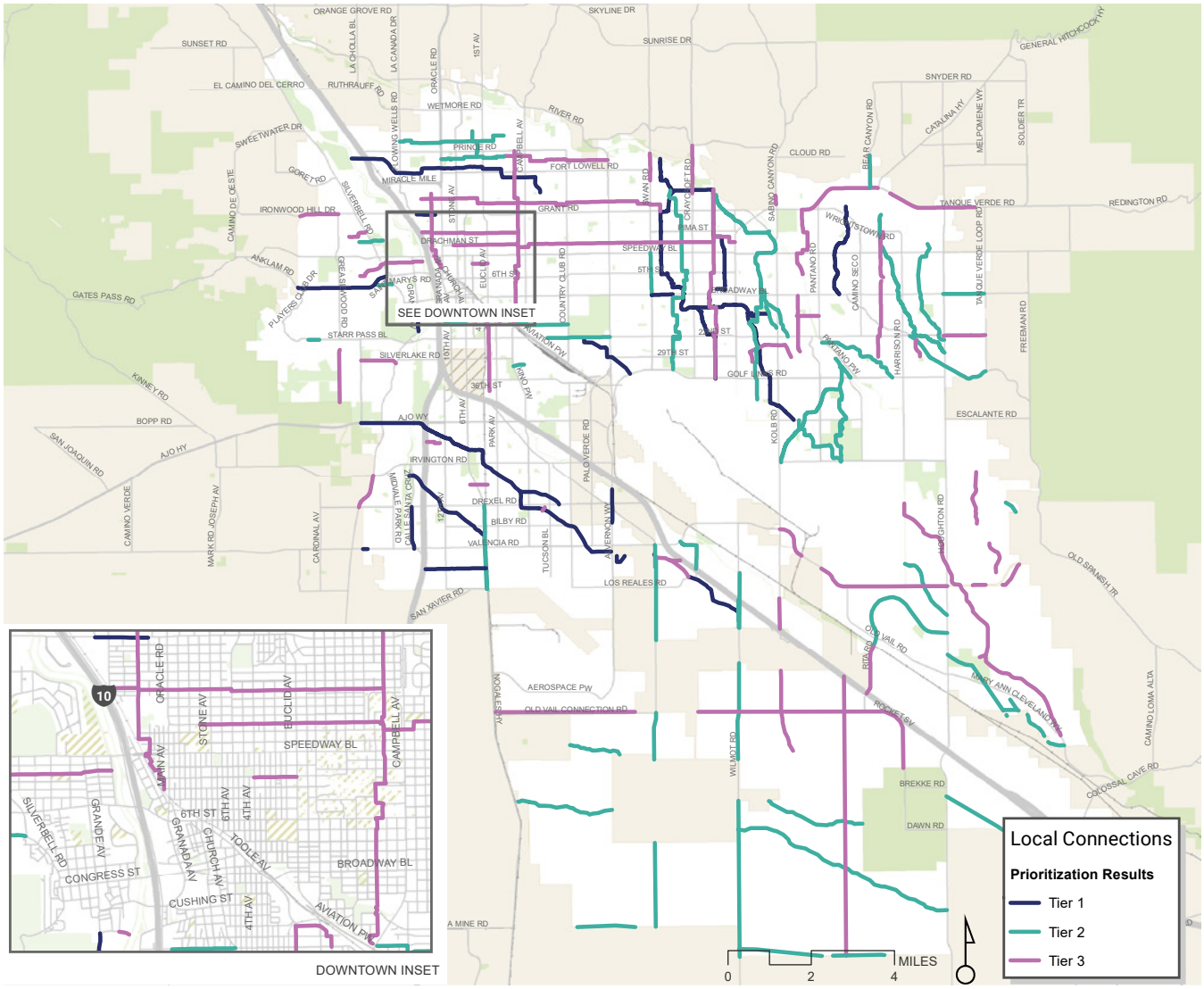
Map 14. *Catalyst Corridors Priority Projects*



Map 15. *Strategic Solutions Priority Projects*



Map 16. *Local Connections Priority Projects*



Map 17. *High Capacity Transit Priority Projects*

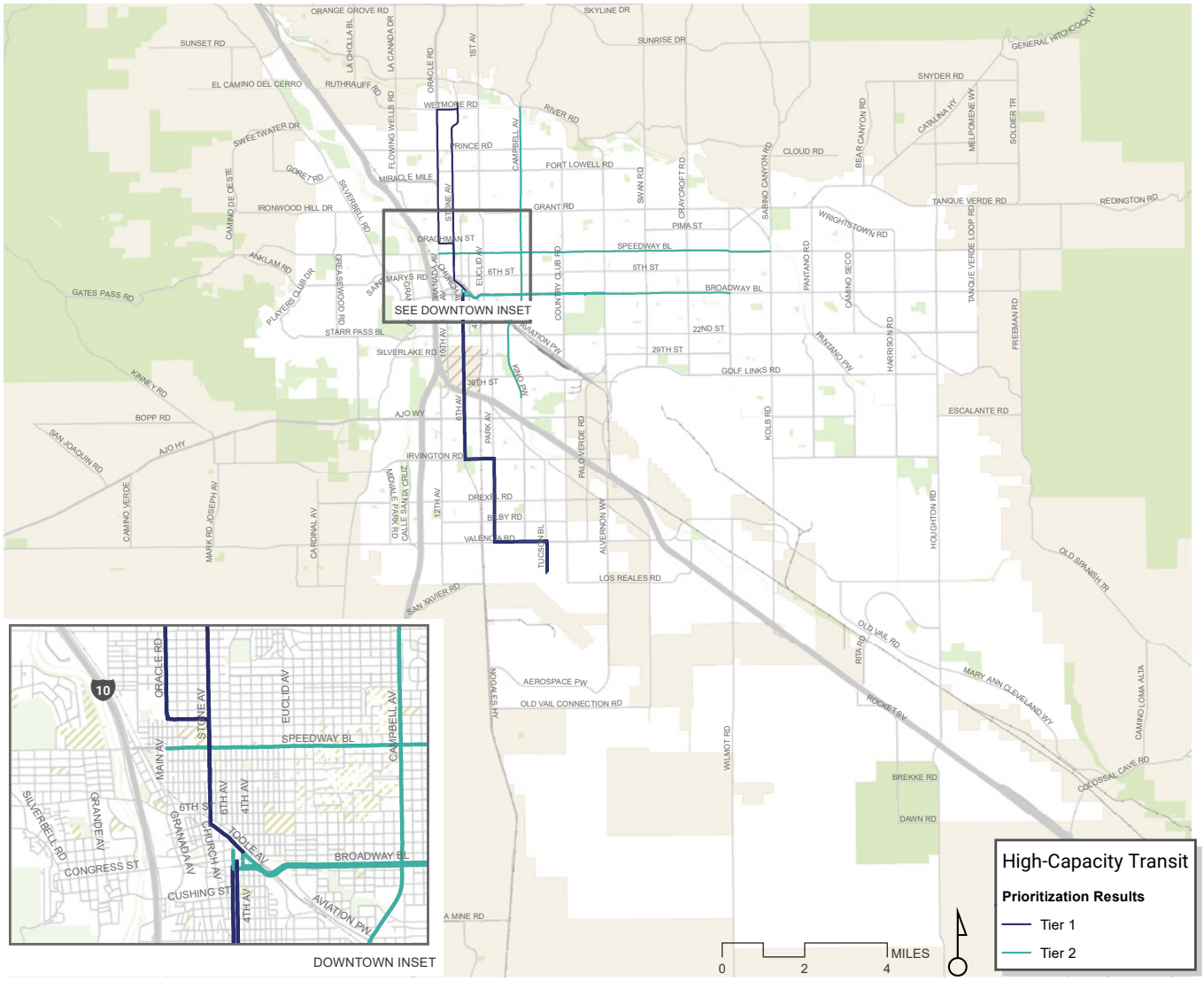


Table 10. *Final Project List*

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Sidewalk Infill	Calle Santa Cruz	Drexel Rd	Valencia Rd	Complete pedestrian network	1.01	$865,000	Tier 1
Catalyst Corridor	Modernization	12Th Av	Irvington Rd	Drexel Rd	Update and modernize corridor; complete streets Irvington to Drexel	1.00	$10,578,700	Tier 1
Catalyst Corridor	Lane Reduction	12Th Av	W 44th St	Irvington Rd	Remove travel lane and modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	1.50	$14,957,580	Tier 1
Catalyst Corridor	Modernization	Drexel Rd	Calle Santa Cruz	S 12th Ave	Improve bike and pedestrian access across I-19	0.82	$17,484,000	Tier 1
Catalyst Corridor	Modernization	Irvington Rd	S 15th Ave	Tucson Blvd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	3.19	$38,254,800	Tier 1
Strategic Solutions	Modernization	St. Mary's Rd	Silverbell Rd	I-10	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	1.00	$7,500,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Airport Wash			Off-street shared use path, with occasional low-volume on-street connection	0.29	$865,000	Tier 1
Strategic Solutions	Lane Reduction	Grande Ave	Speedway Blvd	St. Mary's	Remove a travel lane and install an enhanced bike lane. Upgrade sidewalks and provide safe pedestrian crossings. Repave roadway.	0.41	$2,681,500	Tier 1
Local Connections	Sidewalk Infill	Valencia Rd	City Limits	Sand Piper Ave	Complete pedestrian network	0.11	$173,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Grande Ave	St. Mary's Rd	Cushing St	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway. May require removal of travel or parking lane.	0.90	$7,992,600	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	12Th Av	Drexel Rd	Los Reales Rd	Install enhanced bike lane. Repave roadway.	2.02	$8,996,000	Tier 1
Catalyst Corridor	Modernization	Campbell Ave	Benson Hwy	Valencia Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	2.40	$29,779,200	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Modernization	6Th Av	I-10	Irvington Rd	Modernize corridor to include continuous and accessible sidewalks, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	1.65	$21,134,960	Tier 1
Catalyst Corridor	Modernization	Drexel Rd	S 12th Ave	Country Club Rd	Modernize corridor to include continuous and accessible sidewalks, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	4.00	$46,695,440	Tier 1
Strategic Solutions	Signal Upgrades	Golf Links Rd	Alvernon Wy	Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic	8.85	$911,170	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	I-10 Frontage Road	Grant Rd	29th St	Shared Use Path along frontage road, west side.	3.68	$10,207,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Pantano Rd	Pima St	Kenyon Dr	Upgrade bike lane to provide on street connection opportunities with bike boulevard network	2.01	$2,076,000	Tier 1
Catalyst Corridor	Modernization	Craycroft Rd	Broadway Blvd	Golf Links Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, enhanced bike lanes, upgraded traffic signals, and safe crossings. Repave roadway.	2.02	$25,601,840	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Lane Reduction	29Th St	Alvernon Wy	Wilmot Rd	Remove travel lane and install enhanced bike lanes and improve landscaping. Repave roadway.	3.02	$16,435,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Stone Ave	Prince Rd	Drachman St	Fill sidewalk gaps, improve landscaping and provide safe pedestrian crossings.	2.24	$6,089,600	Tier 1
Catalyst Corridor	Expansion	Drexel Rd	Midvale Park Rd	Calle Santa Cruz	Construct new two-lane bridge over the Santa Cruz River with safe and accessible bicycle and pedestrian facilities	0.43	$18,459,100	Tier 1
Strategic Solutions	Signal Upgrades	Oracle Rd	River Rd	Speedway Blvd	Upgrade traffic signals to improve safety and the movement of traffic.	4.24	$559,000	Tier 1
Strategic Solutions	Lane Reduction	29Th St	Mission Rd	SW Greenway	Remove travel lane and install enhanced bike lane. Upgrade pedestrian facilities and landscaping. Improve bike and pedestrian access across I-10	1.10	$3,114,000	Tier 1
Strategic Solutions	Signal Upgrades	Alvernon Wy	Speedway Blvd	Palo Verde Blvd	Upgrade traffic signals to improve safety and the movement of traffic.	3.18	$818,290	Tier 1
Catalyst Corridor	Modernization	Prince Rd	Romero Rd	Campbell	Modernize corridor to include continuous and accessible sidewalks, landscaping, upgraded traffic signals lighting, enhanced bike lanes, and safe crossings. Repave roadway.	3.49	$43,055,760	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Sidewalk Infill	Grant Rd	Flowing Wells Rd	14th Ave	Complete pedestrian network	0.95	$865,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	La Cholla Blvd	Starr Pass Blvd	Ajo Wy	Modernize corridor by installing continuous pedestrian facilities and lighting.	1.99	$2,941,000	Tier 1
Local Connections	Greenway	Citation			Off-street shared use path, with occasional low-volume on-street connection	1.91	$5,363,000	Tier 1
Local Connections	Greenway	Airport Wash			Off-street shared use path, with occasional low-volume on-street connection	1.03	$2,768,000	Tier 1
Local Connections	Greenway	Rodeo Wash			Off-street shared use path, with occasional low-volume on-street connection	11.12	$30,794,000	Tier 1
Catalyst Corridor	Lane Reduction	Drexel Rd	Mission Rd	Midvale Park Rd	Remove travel lane and install enhanced bike lanes and improve landscaping. Upgrade lighting and traffic signals. Repave roadway.	0.84	$8,753,800	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Bilby Rd	S 12th Ave	S Nogales Hwy	Install enhanced bike lanes, fill in landscaping and sidewalk gaps. Repave roadway.	0.94	$4,671,000	Tier 1
Local Connections	Greenway	Alamo Wash			Off-street shared use path, with occasional low-volume on-street connection	10.89	$30,102,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Robb Wash			Off-street shared use path, with occasional low-volume on-street connection	2.84	$7,785,000	Tier 1
Local Connections	Greenway	Ajo Way			Off-street shared use path, with occasional low-volume on-street connection	1.49	$4,152,000	Tier 1
Local Connections	Greenway	Airport Wash			Off-street shared use path, with occasional low-volume on-street connection	1.55	$4,325,000	Tier 1
Catalyst Corridor	HCT	Stone Ave	Tohono Tadai Transit Center	University Blvd	HCT: Construct streetcar along Stone Ave, connecting Tohono Tadai to University Blvd	4.00	$460,000,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Stone Ave	River Rd	Prince Rd	Modernize corridor to support high-capacity transit improvements. Enhance bike lanes, upgrade pedestrian facilities, landscaping, traffics signals, and lighting. Repave roadway.	1.77	$18,234,200	Tier 1
Strategic Solutions	Signal Upgrades	Grant Rd	I-10	Tanque Verde Rd	Upgrade traffic signals to improve safety and the movement of traffic.	8.41	$1,612,070	Tier 1
Catalyst Corridor	Modernization	Park Ave	Broadway Blvd	Valencia Rd	Modernize corridor to include continuous and accessible sidewalks, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	6.07	$75,564,720	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Drachman St	Oracle Rd	9th St	Narrow travel lanes to 10 feet; widen bike lanes. Streetscape enhancements, pedestrian refuge islands.	0.26	$752,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Silverbell Rd	St. Mary's Rd	Congress St	Fill sidewalk gaps, enhance bike lanes, improve lighting and landscaping. Repave roadway.	0.76	$4,498,000	Tier 1
Local Connections	Sidewalk Infill	Alvernon Wy	Concord Stravenue	White River Dr	Complete pedestrian network	0.80	$692,000	Tier 1
Catalyst Corridor	Modernization	Bilby Rd	S Nogales Hwy	Country Club Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	2.08	$17,507,600	Tier 1
Local Connections	Greenway	Navajo Wash			Off-street shared use path, with occasional low-volume on-street connection	6.27	$17,300,000	Tier 1
Strategic Solutions	Signal Upgrades	Kolb Rd	Tanque Verde Rd	I-10	Upgrade traffic signals to improve safety and the movement of traffic	10.05	$1,261,620	Tier 1
Local Connections	Greenway	Arcadia Wash			Off-street shared use path, with occasional low-volume on-street connection	8.17	$22,663,000	Tier 1
Catalyst Corridor	HCT	6th Ave	Ronstadt Transit Center	Tucson Internatonal Airport	HCT: Construct a new high-capacity transit route from Downtown to the Airport	8.73	$44,000,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	HCT	Oracle Rd	Tohono Tadai Transit Center	Ronstadt Transit Center	HCT: Construct Bus Rapid Transit from Downtown to Tohono Tadai along Oracle Rd.	5.34	$30,400,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Ajo Wy	S 16th Ave	S 6th Ave	Fill sidewalk gaps	0.79	$752,000	Tier 1
Catalyst Corridor	HCT	6th Ave	Ronstadt Transit Center	Tucson Internatonal Airport	HCT: Construct a new high-capacity transit route from Downtown to the Airport	8.73	$977,000,000	Tier 1
Strategic Solutions	Signal Upgrades	Houghton Rd	Tanque Verde Rd	I-10	Upgrade traffic signals to improve safety and the movement of traffic.	12.93	$1,010,600	Tier 1
Catalyst Corridor	Modernization	Pima St	Swan Rd	Tanque Verde Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	2.07	$26,222,240	Tier 1
Catalyst Corridor	Modernization	Fort Lowell Rd	Oracle Rd	Alvernon Wy	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	3.99	$48,515,280	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Wilmot Rd	Speedway Blvd	Broadway Blvd	Improve safety, including safe crossings. Install continuous sidewalks and landscaping	1.00	$2,975,600	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Modernization	Speedway Blvd	Alvernon Wy	Wilmot Rd	Modernize corridor to include continuous and accessible sidewalks, landscaping, upgraded traffic signals, lighting, enhanced bike lanes, and safe crossings. Repave roadway.	3.03	$78,573,880	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Tucson Blvd	Irvington Rd	Corona Rd	Improve connections to bus stops. Repave roadway.	2.76	$11,937,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Main Ave	Cushing St	City Limits	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals and enhanced bike lanes. Repave roadway.	0.95	$6,228,000	Tier 1
Catalyst Corridor	Lane Reduction	Mission Rd	Santa Cruz River Park	36th St	Remove travel lane and install enhanced bike lane to improve connection to the Loop. Upgrade pedestrian facilities and enhance landscaping. Repave roadway.	1.44	$9,895,600	Tier 1
Local Connections	Sidewalk Infill	Anklam Rd/ St. Mary's Rd	City Limits	San Jose Ave	Complete pedestrian network	2.20	$1,903,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Modernization	22Nd St	Alvernon Wy	S Camino Seco	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals enhanced bike lanes, and safe crossings. Repave roadway.	6.02	$74,323,920	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Greasewood Rd	Ironwood Hills Dr	Starr Pass Blvd	Install continuous pedestrian facilities, upgrade bike lanes, improve lighting and provide safe crossings. Repave roadway.	3.48	$18,424,500	Tier 1
Catalyst Corridor	Modernization	Speedway Blvd	Main St	Stone Ave	Improve bicycle and pedestrian facilities. Upgrade lighting and landscaping where needed. Increase safe crossing opportunities.	0.36	$3,846,480	Tier 1
Local Connections	Bicycle Boulevard	Elvira Rd.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.72	$707,050	Tier 1
Local Connections	Sidewalk Infill	Grande Ave	Mission Ln	Santa Cruz River Park	Complete pedestrian network	0.31	$173,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Stone Ave	Drachman St	Franklin St	Install enhanced bike lane. Repave roadway.	1.00	$5,363,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Signal Upgrades	Alvernon Wy	River Rd	Palo Verde Blvd	Upgrade traffic signals to improve safety and the movement of traffic.	6.17	$770,990	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	36Th St	La Cholla Blvd	Mission Rd	Improve pedestrian connections to transit and install enhanced bike lane. Repave roadway.	0.74	$2,595,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Speedway Blvd	Silverbell Rd	I-10	Narrow travel lanes to add enhanced bike lanes. Add landscaping. Repave roadway.	1.15	$6,228,000	Tier 1
Strategic Solutions	Signal Upgrades	Ajo Wy	S 12th Ave	Country Club Rd	Upgrade traffic signals to improve safety and the movement of traffic	3.00	$490,630	Tier 1
Strategic Solutions	Signal Upgrades	Valencia Rd	Midvale Park Rd	Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic	14.22	$1,682,160	Tier 1
Catalyst Corridor	Expansion	Golf Links Rd	Alvernon Wy	Kolb Rd	Construct grade-separate intersections from Kolb to Alvernon	3.00	$289,620,100	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	6Th Av	E Thoroughbred St	Los Reales Rd	Fill sidewalk gaps on both sides and improve bike infrastructure to provide connections to Bike Boulevard network	2.77	$5,190,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	4th Ave	University Blvd	9th St	Enhance pedestrian infrastructure and streetscape along 4th Ave between University Bld and 9th St	0.54	$1,630,000	Tier 1

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Modernization	Roger Rd	Oracle Rd	Campbell Ave	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	2.01	$20,492,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Escalante Rd	S Calle Polar	Camino Seco	Fill sidewalk gaps, upgrade bike lane, improve landscaping and lighting. Repave roadway.	2.73	$12,629,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	6th St/5th St	Campbell Ave	Wilmot Rd	Remove travel lane and install enhanced bike lane. Upgrade pedestrian facilities and landscaping. Upgrade lighting and traffic signals. Repave roadway.	5.14	$15,570,000	Tier 1
Local Connections	Sidewalk Infill	Anklam Rd	St. Mary's Rd	Silverbell Rd	Install pedestrian facilities to connect to Tumamoc Hill walking path	0.42	$346,000	Tier 1
Strategic Solutions	Bicycle and Pedestrian Improvement	Dodge Blvd	City Limits	E 5th St	Fill sidewalk gaps and install landscaping improvements. Install enhanced bike lanes where feasible. Improve lighting. Repave roadway.	3.78	$13,667,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Lane Reduction	Country Club Rd	Prince Rd	Aviation Pkwy	Remove travel lane. Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, upgraded traffic signals lighting, enhanced bike lanes, and safe crossings. Repave roadway.	5.13	$52,858,080	Tier 2
Catalyst Corridor	Modernization	Alvernon Wy	River Rd	Speedway Blvd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway and improve drainage.	2.99	$37,298,800	Tier 2
Catalyst Corridor	Expansion	Ironwood Hill Dr	Greasewood Rd	Silverbell Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, landscaping, and safe crossings. Repave roadway.	0.41	$41,517,960	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	10th Ave/44th St	40th St	12th Ave	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals and enhanced bike lanes. Repave roadway.	0.35	$2,595,000	Tier 2
Local Connections	Sidewalk Infill	Nogales Hwy	Drexel Rd	Los Reales Rd	Complete pedestrian network	2.00	$1,730,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Columbus Blvd	Fort Lowell Rd	E 22nd St	Fill sidewalk gaps, upgrade bike lane, improve landscaping and lighting. Repave roadway. Explore opportunities to connect to Aviation Pathway	4.50	$5,937,360	Tier 2
Local Connections	Bicycle Boulevard	18th St./ Eastland St.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.57	$1,022,197	Tier 2
Strategic Solutions	Signal Upgrades	22nd St	I-10	Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic.	12.09	$1,752,250	Tier 2
Catalyst Corridor	Modernization	Pima St	Country Club Rd	Swan Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	2.00	$26,475,900	Tier 2
Catalyst Corridor	Modernization	Speedway Blvd	Euclid Ave	Alvernon Wy	Improve bicycle and pedestrian facilities. Upgrade lighting and landscaping where needed. Increase safe crossing opportunities.	2.92	$23,906,080	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Glenn St	Oracle Rd	Country Club Rd	Install enhanced bike lanes. Repave roadway.	3.00	$13,494,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Rita Ranch			Off-street shared use path, with occasional low-volume on-street connection	3.75	$10,380,000	Tier 2
Catalyst Corridor	HCT	Speedway Blvd	Main St	Kolb Rd	HCT: Construct bus rapid transit on Speedway Blvd from Main to Kolb	8.03	$71,899,300	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Starr Pass Blvd	Shannon Rd	I-10	Add pedestrian facilities and enhance landscaping.	2.85	$5,017,000	Tier 2
Local Connections	Greenway	Swan Rd			Off-street shared use path, with occasional low-volume on-street connection	6.08	$16,781,000	Tier 2
Local Connections	Greenway	Rolling Hills Wash			Off-street shared use path, with occasional low-volume on-street connection	2.57	$7,093,000	Tier 2
Strategic Solutions	Lane Reduction	6Th St	Court Ave	Campbell Ave	Remove travel lane and install enhanced bike lane. Upgrade pedestrian facilities and enhance landscaping. Upgrade lighting and traffic signals. Repave roadway.	1.87	$18,511,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Silverlake Rd	City Limits	Fairland Stravenue	Install enhanced bike lanes, fill sidewalk gaps and improve lighting and landscaping. Repave roadway.	1.21	$8,304,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Pantano Rd	22nd St	Irvington Rd	Upgrade bike lane to provide on-street connection with bike boulevard network. Improve pedestrian facilities.	3.10	$6,055,000	Tier 2
Catalyst Corridor	Lane Reduction	Limberlost Dr	Oracle Rd	Campbell Ave	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, enhanced bike lanes, and safe crossings. Repave roadway. Remove a travel lane between Oracle and Stone.	2.01	$17,542,200	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Grant Rd	Swan Rd	Tanque Verde Rd	Install raised bike lane or shared use path to provide a safe bike connection.	2.57	$6,747,000	Tier 2
Local Connections	Greenway	Hidden Hills			Off-street shared use path, with occasional low-volume on-street connection	4.92	$13,667,000	Tier 2
Local Connections	Greenway	Wilmot Rd			Off-street shared use path, with occasional low-volume on-street connection	8.74	$24,220,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Romero Rd	Wetmore Rd	Miracle Mile	Install enhanced bike lane	2.09	$2,249,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Mountain Ave	E Prospect Ln	Speedway Blvd	Upgrade bike lanes to provide buffered or protected bike lanes where feasible. Improve crossings at major roadways.	3.37	$3,806,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Bicycle Boulevard	Roger Rd. Connection			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	0.90	$687,271	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Wilmot Rd	City Limits	Pima St	Extend bike and pedestrian facilities to provide access to the Loop	0.68	$1,491,000	Tier 2
Local Connections	Greenway	Kinnison Wash			Off-street shared use path, with occasional low-volume on-street connection	2.96	$8,131,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Congress St	Santa Cruz	Granada Ave	Eliminate travel lane and install enhanced bike connection. Redesign intersection at I-10 frontage and underpass to improve bike and pedestrian access. Repave roadway.	0.33	$865,000	Tier 2
Local Connections	Sidewalk Infill	Swan Rd	Speedway Blvd	Broadway Blvd	Complete pedestrian network	1.01	$865,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	University Blvd	Stone Ave	Euclid Ave	Install enhanced bike lanes, fill in landscaping and sidewalk gaps. Repave roadway.	0.72	$3,806,000	Tier 2
Strategic Solutions	Lane Reduction	Fairview Ave	Roger Rd	Prince Rd	Install enhanced bike lane, add continuous sidewalks, lighting and landscaping. Repave roadway.	0.51	$2,249,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	6th Av	Grant Rd	Speedway Blvd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	0.92	$7,542,800	Tier 2
Catalyst Corridor	Modernization	Speedway Blvd	Stone Ave	Euclid Ave	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway. Requires moving curb back to fit bike lanes.	0.72	$15,493,500	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Glenn St	Country Club Rd	Craycroft Rd	Install continuous sidewalks, improve lighting and landscaping.	3.02	$7,266,000	Tier 2
Local Connections	Sidewalk Infill	Old Spanish Trail	22nd St	Melpomeme Wy	Complete pedestrian network	2.23	$951,500	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Speedway Blvd	Frontage Rd	Main St	Narrow travel lanes and reconstruct sidewalk to add widened Shared-Use Path for bicycle and pedestrian access under railroad tracks. Repave roadway.	0.33	$3,460,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Speedway Blvd	Painted Hills Rd	Silverbell Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	1.97	$3,356,200	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Cushing St	Santa Cruz	Church Ave	Install protected bike lane to connect Cushing Street Bridge to new protected bike lane on Church Ave and Convent Bike Boulevard	0.61	$692,000	Tier 2
Local Connections	Sidewalk Infill	22nd St	Tucson Blvd	Alvernon Wy	Complete pedestrian network	1.50	$1,211,000	Tier 2
Local Connections	Greenway	Franco Wash			Off-street shared use path, with occasional low-volume on-street connection	4.41	$12,283,000	Tier 2
Local Connections	Greenway	Atturbury Wash			Off-street shared use path, with occasional low-volume on-street connection	6.68	$18,511,000	Tier 2
Local Connections	Greenway	Flato Wash			Off-street shared use path, with occasional low-volume on-street connection	9.41	$26,123,000	Tier 2
Local Connections	Greenway	Esmond Station			Off-street shared use path, with occasional low-volume on-street connection	2.76	$7,612,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Expansion	Country Club Rd	I-10	Los Reales Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, and landscaping, Repave roadway.	3.22	$35,784,000	Tier 2
Strategic Solutions	Lane Reduction	Main Ave/ Granada Ave	University Blvd	St. Marys Rd	New at-grade pedestrian crossing at UPRR; new PBL.	0.27	$1,038,000	Tier 2
Local Connections	Bicycle Boulevard	Calle Campana de Plata			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	0.70	$342,072	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Speedway Blvd	Wilmot Rd	Kolb Rd	Include enhanced bike lanes, ADA improvements; repave roadway	0.99	$7,093,000	Tier 2
Local Connections	Greenway	Estes Wash			Off-street shared use path, with occasional low-volume on-street connection	3.27	$8,996,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Wilmot Rd/Tanque Verde Rd	Grant Rd	Speedway Blvd	Install enhanced bike lane. Repave roadway.	1.07	$6,574,000	Tier 2
Catalyst Corridor	HCT	Broadway Blvd	Ronstadt Transit Center	Alvernon Wy	HCT: Construct streetcar from Downtown to Alvernon	3.69	$440,000,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Fort Lowell Rd	Alvernon Wy	Swan Rd	Add enhanced bike lanes and safe pedestrian crossings.	1.03	$3,195,000	Tier 2
Catalyst Corridor	HCT	Broadway Blvd	Ronstadt Transit Center	Wimot Rd	HCT: Construct Bus Rapid Transit from Downtown to Wilmot along Broadway.	6.83	$34,300,000	Tier 2
Local Connections	Sidewalk Infill	18Th St	West of S 11th Ave	S 6th Ave	Construct a shared use path	0.54	$1,557,000	Tier 2
Local Connections	Sidewalk Infill	Off-Street Connection	Kino Parkway	Martin Ave	Provide pedestrian connection between S Kino Pkwy and Martin Ave	0.26	$173,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Tucson Blvd	Prince Rd	Aviation Pathway	Add continuous sidewalks, upgrade lighting, and add enhanced bike lanes. Repave roadway.	4.73	$20,068,000	Tier 2
Local Connections	Sidewalk Infill	Broadway Blvd	Houghton Rd	Tanque Verde Loop	Complete pedestrian network	0.98	$865,000	Tier 2
Local Connections	Greenway	Rose Hill Wash			Off-street shared use path, with occasional low-volume on-street connection	6.79	$18,857,000	Tier 2
Local Connections	Greenway	Southlands			Off-street shared use path, with occasional low-volume on-street connection	5.47	$15,051,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Modernization	Toole Ave	Stone Ave	Congress St	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, enhanced bike lanes, upgraded traffic signals and safe crossings. Repave roadway.	0.44	$5,922,000	Tier 2
Catalyst Corridor	Modernization	Flowing Wells Rd	River Rd	Grant Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	3.46	$50,702,520	Tier 2
Strategic Solutions	Lane Reduction	Rosemont Blvd	Grant Rd	E 16th St	Add complete sidewalks, lighting, and enhanced bike lanes. Reduce to lanes from Speedway to 5th. Repave roadway.	2.50	$12,802,000	Tier 2
Catalyst Corridor	HCT	Campbell Ave/Kino Pkwy	River Rd	Tucson Marketplace Blvd	HCT: Construct streetcar from River Rd to Tucson Marketplace Blvd	7.23	$810,000,000	Tier 2
Local Connections	Greenway	UPRR			Off-street shared use path, with occasional low-volume on-street connection	1.55	$4,325,000	Tier 2
Catalyst Corridor	Modernization	Stone Ave	Alameda St	Broadway Blvd	Extend two-way protected bike lane to Broadway Blvd. Provide appropriate crossing treatments at the Broadway/ Stone intersection	0.23	$1,793,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Modernization	Campbell Ave	Fort Lowell Rd	Grant Rd	Modernize corridor to include continuous and accessible sidewalks, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	0.98	$12,656,160	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Granada Ave	St. Mary's Rd	Congress St	Install enhanced bike lane and fill sidewalk gaps. Repave roadway.	0.45	$2,076,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Park Ave	Fort Lowell Rd	Speedway Blvd	Upgrade pedestrian and bike facilities. Enhance lighting, landscaping, and improve drainage .	1.98	$12,780,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Euclid Ave	Grant Rd	Speedway Blvd	Install enhanced bike lanes, fill in landscaping and sidewalk gaps. Repave roadway.	0.97	$6,920,000	Tier 2
Local Connections	Sidewalk Infill	Starr Pass Blvd	Lost Starr Dr	Shannon Rd	Complete pedestrian network	0.27	$173,000	Tier 2
Local Connections	Sidewalk Infill	Littletown Rd/Cracroft Rd	Valencia Rd	I-10	Complete sidewalk network	0.99	$865,000	Tier 2
Catalyst Corridor	Modernization	Prince Rd	Campbell Ave	Rillito River	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, upgraded traffic signals, enhanced bike lanes, and safe crossings. Repave roadway.	1.09	$12,445,620	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Houghton Rd	Greenway	Mary Ann Cleveland Wy	Shared Use Path along Houghton Rd to provide connection between Mary Ann Cleveland Way and the proposed greenway.	1.32	$7,785,000	Tier 2
Local Connections	Bicycle Boulevard	Beverly Ave./ Wyatt Dr.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	6.70	$4,060,559	Tier 2
Catalyst Corridor	Expansion	Kolb Rd	Escalante Rd	I-10	Widen to 6-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, landscaping, and safe crossings. Repave roadway.	5.25	$88,049,940	Tier 2
Local Connections	Greenway	Atturbury Wash South Fork			Off-street shared use path, with occasional low-volume on-street connection	1.62	$4,498,000	Tier 2
Local Connections	Bicycle Boulevard	Pastime Rd.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	3.22	$1,922,331	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Old Spanish Tr	Broadway Blvd	E 22nd St	Fill sidewalk gaps, install enhanced bike lanes. Repave roadway.	1.93	$4,498,000	Tier 2
Local Connections	Bicycle Boulevard	Yavapai Rd.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.91	$832,015	Tier 2
Catalyst Corridor	Modernization	Camino Seco	Wrightstown Rd	Speedway Blvd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, enhanced bike lanes, and safe crossings. Repave roadway.	0.55	$23,265,000	Tier 2
Catalyst Corridor	Modernization	Church Ave	6th St	W Cushing St	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, protected bike lanes, and safe crossings. Repave roadway.	0.77	$9,646,340	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Campbell Ave	River Rd	Fort Lowell Rd	New pedestrian crossings; replace bridge to provide pedestrian and bicycle connections.	1.54	$29,410,000	Tier 2

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Bicycle Boulevard	Calle Betelgeux			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.74	$784,111	Tier 2
Local Connections	Sidewalk Infill	Bear Canyon Rd	Tanque Verde Rd	North of Bear Paw Pl	Complete pedestrian network	0.78	$692,000	Tier 2
Strategic Solutions	Bicycle and Pedestrian Improvement	Camino Seco	Golf Links Rd	Irvington Rd	Improve safety and modernize corridor.	2.08	$15,916,000	Tier 2
Catalyst Corridor	Expansion	Escalante Rd	Camino Seco	Cedarwood Way	Build new bridge over the Pantano to improve network connections and extend the roadway to the east.	1.68	$30,459,000	Tier 2
Local Connections	Sidewalk Infill	Swan Rd	Valencia Rd	Fairy Duster Dr	Complete pedestrian network	0.53	$519,000	Tier 2
Local Connections	Sidewalk Infill	Wilmot Rd	I-10	Hermans Rd	Complete sidewalk network	0.68	$519,000	Tier 2
Local Connections	Greenway	Kolb South			Off-street shared use path, with occasional low-volume on-street connection	3.22	$8,823,000	Tier 3
Local Connections	Bicycle Boulevard	Jessica Ave./ Mann Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	3.93	$1,839,364	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Civano Wash North			Off-street shared use path, with occasional low-volume on-street connection	1.54	$4,325,000	Tier 3
Local Connections	Bicycle Boulevard	Copper St./ Flower St.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	7.45	$4,131,920	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Glenn St	Flowing Wells Rd	Oracle Rd	Fill sidewalk gaps, improve lighting and landscaping. Extend bike lanes	0.94	$2,941,000	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Wrightstown Rd	Tanque Verde Rd	Harrison Rd	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, enhanced bike lanes, and safe crossings. Repave roadway.	2.54	$19,462,500	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Alameda St	Manning House Way	N 6th Ave	Add protected bike lanes, including 2-way cycle track or contraflow lane from Church to 6th. Consider conversation 1 way segment to 2 way.	0.67	$692,000	Tier 3
Local Connections	Greenway	Old Vail Rd/ Harrison Rd			Off-street shared use path, with occasional low-volume on-street connection	11.00	$30,448,000	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Sidewalk Infill	Tanque Verde Rd	Tanque Verde Acres Dr	Willow Ranch Rd	Complete pedestrian network	2.11	$1,384,000	Tier 3
Local Connections	Bicycle Boulevard	Gollob Rd.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	2.23	$1,495,278	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Prudence Rd	Broadway Blvd	Escalante Rd	Repave roadway and add bicycle lanes, landscaping, and lighting where needed.	3.07	$10,340,644	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Park Ave.	University Blvd	Aviation Bikeway	Modernize corridor to include continuous and accessible pedestrian facilities, landscaping, lighting, bike infrastructure, and safe crossings. Repave roadway.	1.25	$10,000,000	Tier 3
Local Connections	Sidewalk Infill	Ironwood Hill Dr	Painted Hills Rd	Greasewood Rd	Complete pedestrian network	0.93	$692,000	Tier 3
Local Connections	Bicycle Boulevard	Kleindale Rd.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	3.15	$2,045,910	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Highland Ave	E 6th St	Aviation Pkwy	Fill sidewalk gaps, enhance bike lanes where feasible, improve lighting and landscaping. Repave roadway.	0.97	$3,806,000	Tier 3
Local Connections	Bicycle Boulevard	15th Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	2.43	$1,411,285	Tier 3
Local Connections	Sidewalk Infill	22nd St	Houghton Rd	Melpomeme Wy	Complete pedestrian network	0.98	$865,000	Tier 3
Local Connections	Bicycle Boulevard	Sahuara Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	5.81	$3,235,837	Tier 3
Local Connections	Greenway	Greasewood Rd			Off-street shared use path, with occasional low-volume on-street connection	1.49	$4,152,000	Tier 3
Local Connections	Bicycle Boulevard	Lester St.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	2.77	$2,079,534	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Bicycle Boulevard	Drachman St./Fairmont St.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	8.42	$5,984,007	Tier 3
Local Connections	Sidewalk Infill	Rita Rd	Railroad	I-10	Complete pedestrian network	1.17	$519,000	Tier 3
Catalyst Corridor	Expansion	Alvernon Wy	Valencia Rd	South of Los Reales Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, and landscaping, Repave roadway.	1.74	$21,555,600	Tier 3
Local Connections	Greenway	Rancho Valencia North			Off-street shared use path, with occasional low-volume on-street connection	1.40	$3,806,000	Tier 3
Local Connections	Greenway	Sarnoff Dr			Off-street shared use path, with occasional low-volume on-street connection	7.94	$21,971,000	Tier 3
Local Connections	Greenway	Valencia			Off-street shared use path, with occasional low-volume on-street connection	6.04	$16,781,000	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Expansion	Houghton Rd	I-10	Pima Mine Ranch	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Repave roadway.	3.86	$47,729,440	Tier 3
Local Connections	Bicycle Boulevard	Poinciana Dr.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	2.26	$1,647,324	Tier 3
Local Connections	Bicycle Boulevard	Second St.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	0.43	$550,754	Tier 3
Local Connections	Greenway	Power Line			Off-street shared use path, with occasional low-volume on-street connection	1.86	$5,190,000	Tier 3
Local Connections	Greenway	Atturbury Wash North Fork			Off-street shared use path, with occasional low-volume on-street connection	8.99	$24,912,000	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Civano Wash South			Off-street shared use path, with occasional low-volume on-street connection	0.98	$2,768,000	Tier 3
Catalyst Corridor	Expansion	Mary Ann Cleveland Wy	Houghton Rd	City Limit	Widen to 4-lane divided roadway with turn lanes, continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, landscaping, and safe crossings. Repave roadway.	3.41	$38,478,660	Tier 3
Local Connections	Bicycle Boulevard	Euclid Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	2.17	$1,478,597	Tier 3
Local Connections	Greenway	Rincon Creek			Off-street shared use path, with occasional low-volume on-street connection	0.41	$1,038,000	Tier 3
Local Connections	Bicycle Boulevard	Igo Way			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.39	$1,113,271	Tier 3
Local Connections	Sidewalk Infill	Swan Rd	City Limits	Ft. Lowell Rd	Complete pedestrian network	0.65	$519,000	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Bicycle Boulevard	Prudence Rd./Grady Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	3.91	$1,547,268	Tier 3
Local Connections	Sidewalk Infill	Tanque Verde Rd	Dos Hombres Rd	Catalina Highway	Complete pedestrian network	2.04	$1,730,000	Tier 3
Local Connections	Sidewalk Infill	Kenyon Dr	S Prudence Rd	S Pantano Rd	New bike and pedestrian bridge to connect over the Pantano	0.53	$1,730,000	Tier 3
Catalyst Corridor	Expansion	Irvington Rd	Kolb Rd	Houghton Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, landscaping, and safe crossings. Repave roadway.	4.00	$55,903,980	Tier 3
Catalyst Corridor	Expansion	Wilmot Rd	Valencia Rd	I-10	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Upgrade pavement.	1.82	$26,803,920	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Expansion	Los Reales Rd	I-19	S Nogales Hwy	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, enhanced bike lanes, upgraded traffic signals, landscaping, and safe crossings. Repave roadway.	1.46	$19,587,480	Tier 3
Local Connections	Bicycle Boulevard	Warren Ave.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	5.41	$3,548,812	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Speedway Blvd	Frontage Rd	Frontage Rd	Improve intersection geometry and improve bicycle facilities. Consider protected bicycle lanes as feasible. Repave Roadway	0.06	$1,038,000	Tier 3
Local Connections	Sidewalk Infill	Craycroft Rd	River Rd	Alla Vista St	Complete pedestrian network. Reconfigure intersection at Ft. Lowell	1.15	$1,384,000	Tier 3
Local Connections	Bicycle Boulevard	Mill St. Overpass			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	0.53	$293,992	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Bicycle Boulevard	Ontario/ Mecadora			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	1.94	$3,272,597	Tier 3
Local Connections	Sidewalk Infill	Mission Rd	Irvington Rd	Drexel Rd	Complete pedestrian network	0.87	$692,000	Tier 3
Catalyst Corridor	Expansion	Harrison Rd	Golf Links Rd	Irvington Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Upgrade pavement.	1.99	$24,981,440	Tier 3
Local Connections	Sidewalk Infill	New Connection	Nebraska St	Bantam Rd	New bike pedestrian bridge to connect Bantam and Nebraska Bike Blvds.	0.43	$1,730,000	Tier 3
Local Connections	Sidewalk Infill	Golden Hills Rd	Old Ranch Rd	Silverbell Rd	Improve pedestrian facilities add continuous sidewalks and landscaping	0.47	$865,000	Tier 3
Local Connections	Sidewalk Infill	West Of Tucson Blvd	Camino Malcote	Calley Arroyo Lindo	Make a connection over the wash	0.10	$865,000	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	Country Club Rd	Prince Rd	The Loop	Improve bicycle and pedestrian connections; provide a connection to the Loop.	0.51	$564,000	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Local Connections	Greenway	Mission Lane	Mission Lane	The Loop	Off-street shared use path, with occasional low-volume on-street connection	0.13	$89,960	Tier 3
Local Connections	Bicycle Boulevard	Desert Vista Dr.			Local Street improvements to prioritize biking and walking to include: enhanced major street crossings, traffic calming, wayfinding, landscaping, and new pavement.	0.51	$288,885	Tier 3
Local Connections	Sidewalk Infill	Sabino Canyon Rd	Camino Bacelar	Portal Airosa	Complete pedestrian network	0.21	$173,000	Tier 3
Local Connections	Sidewalk Infill	San Juan Trl	La Cholla Blvd	Mission Rd	Complete pedestrian network	0.87	$692,000	Tier 3
Local Connections	Sidewalk Infill	Michigan St	Elizabeth Dr	S 14th Ave	Improve/complete sidewalks, lighting, crossings	0.36	$605,500	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	17th St	Fremont Ave	Vine Ave	Provide bicycle and pedestrian connection across Aviation Pkwy and rail; connect proposed bicycle boulevards.	0.34	$13,840,000	Tier 3
Catalyst Corridor	Expansion	Science Park Dr	Kolb Rd	Rita Rd	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Upgrade pavement.	3.21	$33,159,775	Tier 3

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Strategic Solutions	Bicycle and Pedestrian Improvement	Toole Ave	Broadway Blvd	E 16th St	Install 2-way protected bike lane on east side of roadway. Continuous lighting and sidewalks	0.56	$1,384,000	Tier 3
Catalyst Corridor	Expansion	Colossal Cave Rd	City Limit	Dawn Dr	Widen to 4-lane divided roadway with turn lanes, continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Repave roadway.	0.53	$6,964,980	Tier 3
Strategic Solutions	Bicycle and Pedestrian Improvement	29th St	Sundew St	29th St	New bike and pedestrian bridge to connect over Pantano”	0.17	$4,325,000	Tier 3
Catalyst Corridor	Expansion	New Road	Poorman Rd	Mary Ann Cleveland Wy	New divided 4-lane roadway with turn lanes, raised median, continuous pedestrian facilities, enhanced bike lanes, upgraded traffic signals, landscaping, lighting and safe crossings.	5.35	$59,373,600	New Road / Not Scored*
Catalyst Corridor	Expansion	New Road	Poorman Rd	Mary Ann Cleveland Wy	New divided 4-lane roadway with turn lanes, continuous pedestrian facilities, enhanced bike lanes, upgraded traffic signals, landscaping, lighting and safe crossings	3.90	$43,692,880	New Road / Not Scored*

PROJECT CATEGORY	PROJECT SUBCATEGORY	LOCATION	FROM	TO	PROJECT DESCRIPTION	LENGTH (MILES)	COST ESTIMATE	PRIORITY TIER
Catalyst Corridor	Expansion	Rita Rd	Houghton Rd	Old Spanish Trail	New divided 4-lane roadway with turn lanes, continuous pedestrian facilities, enhanced bike lanes, raised median, upgraded traffic signals, landscaping, lighting and safe crossings	2.49	$27,783,800	New Road / Not Scored*
Catalyst Corridor	Expansion	Poorman Rd	Houghton Rd	New Road/ HAMP	Widen to 4-lane divided roadway with continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, and safe crossings. Upgrade pavement.	1.97	$22,797,940	New Road / Not Scored*
Catalyst Corridor	Expansion	Harrison Rd	Irvington Rd	Valencia Rd	New divided 4-lane roadway with turn lanes, continuous pedestrian facilities, raised medians, upgraded traffic signals, enhanced bike lanes, landscaping, lighting and safe crossings.	3.04	$15,338,180	New Road / Not Scored*

WHAT DOES THAT LOOK LIKE?

What does that look like?

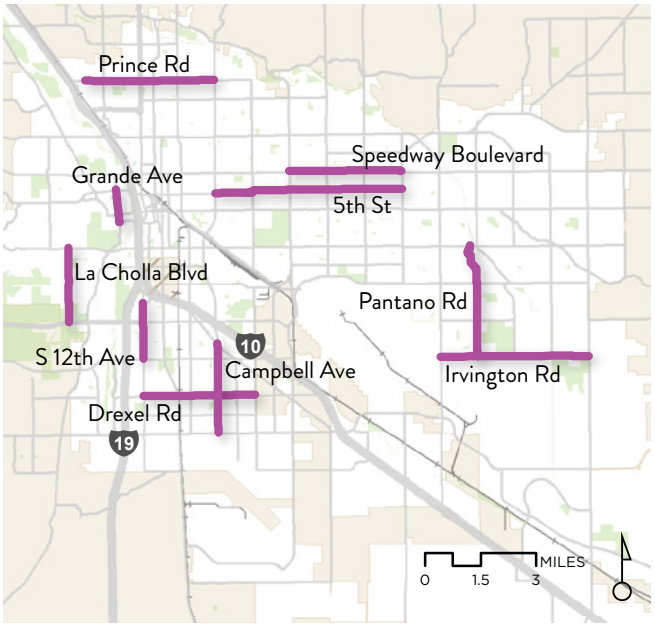
Move Tucson's proposed network improvements are not simply lines on a map. These projects will progress beyond this study, through phases that involve project scoping, preliminary engineering and design, and eventually construction. They will reflect the priorities articulated through Move Tucson and adhere to Tucson's new Complete Streets Design Guide and recently updated Technical Standards Manual

To better understand what that will look like, we chose ten projects to conceptualize. Out of the more than 200 location-specific improvements recommended in Move Tucson, the ten we selected offer a mix of:

- High scoring priority projects
- Connections to adjacent projects
- Geographic locations around the city
- Project types

The project concepts do not represent final design. Conceptual graphics are illustrations to communicate the ways in which design and operational improvements directly effect a person's experience on that roadway.

Figure 11. *Ten projects chosen to conceptualize*



A brief overview is provided for each of the following projects:

- 12th Avenue: 44th St to Irvington Rd
- Drexel Road: S 12th Ave to Country Club Rd
- Grand Ave: St. Mary's to Cushing St
- Prince Rd: Romero Rd to Campbell Rd
- Speedway Blvd: Alvernon Way to Wilmot Rd
- 5th St: Campbell Rd to Wilmot Rd
- S Pantano Rd: 22nd St to Irvington Rd
- Irvington Rd: Kolb Rd to Houghton Rd
- Campbell Ave: Benson Hwy to Valencia Rd
- La Cholla Blvd: Starr Pass Blvd to Ajo Way

12TH AVE

between 44th St and Irvington Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Catalyst Corridor**

IMPLEMENTATION TYPE **Lane Reduction**

COMPLETE STREETS TYPE Urban Connector

COST ESTIMATE $15,000,000

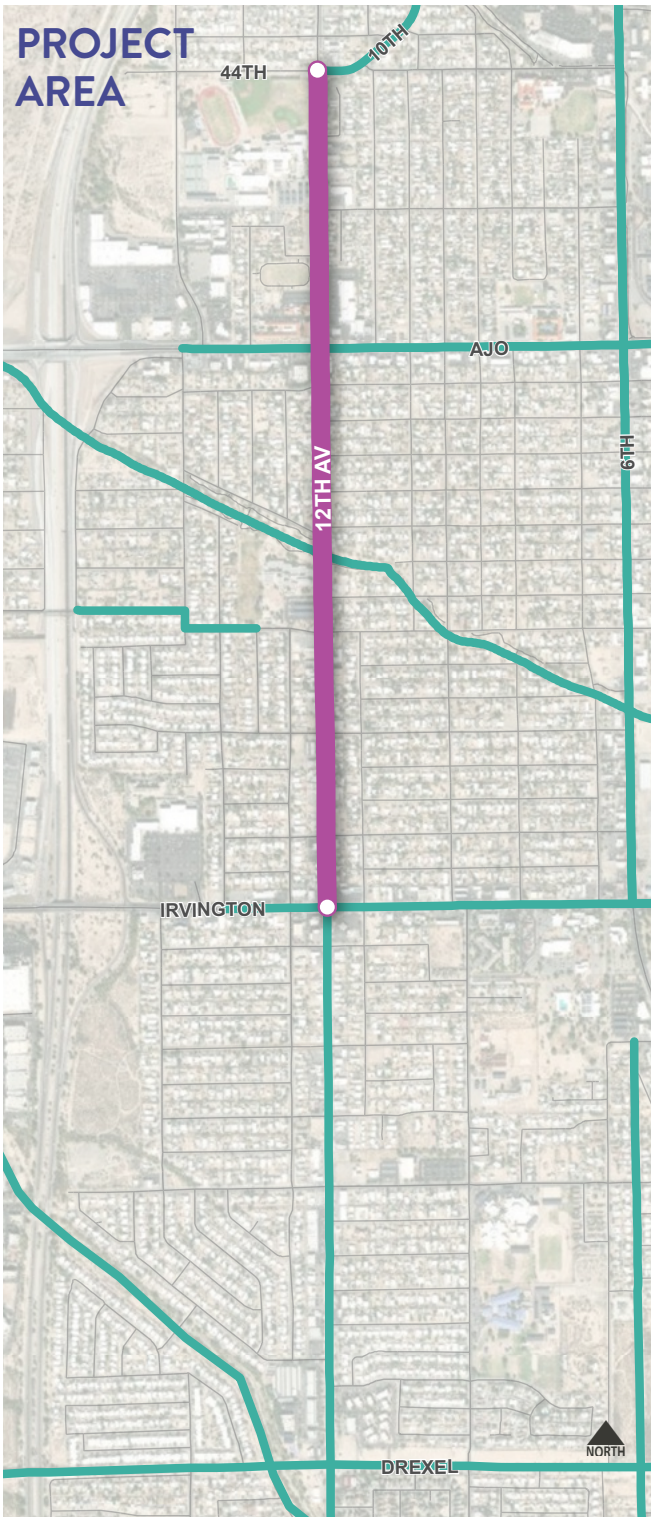
PRIORITIZATION Tier 1

Remove travel lane and modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping/Green infrastructure
- Lighting
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP

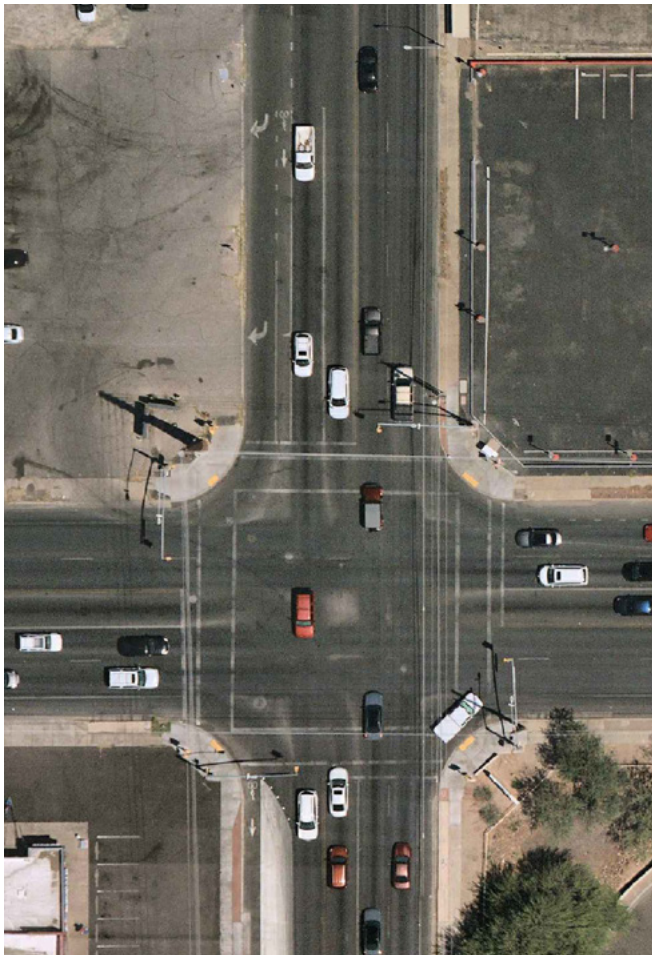
PROJECT AREA



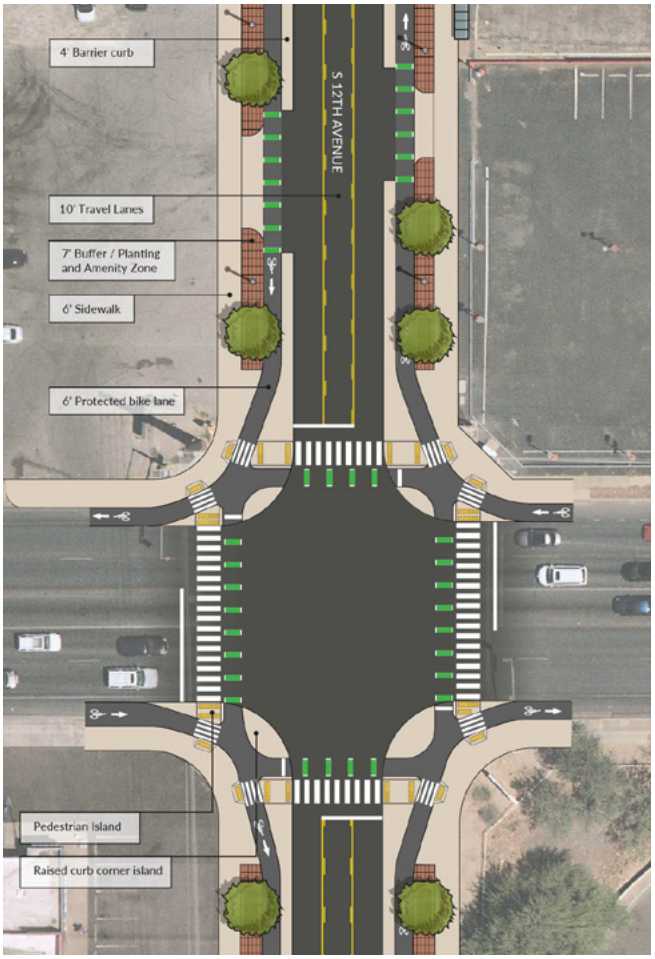
Featured Move Tucson Project

Other Move Tucson Projects

EXISTING CONDITIONS



ILLUSTRATIVE SITE PLAN



DREXEL RD

between S 12th Ave and Country Club Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Catalyst Corridor**

IMPLEMENTATION TYPE **Modernization**

COMPLETE STREETS TYPE Suburban Connector

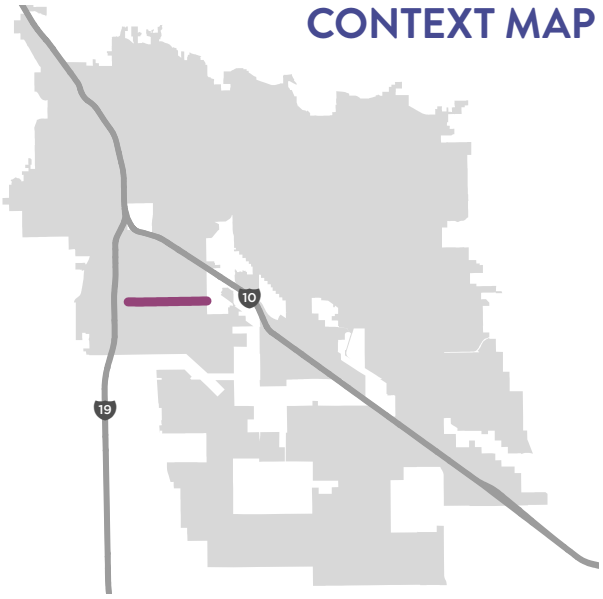
COST ESTIMATE $47,000,000

PRIORITIZATION Tier 1

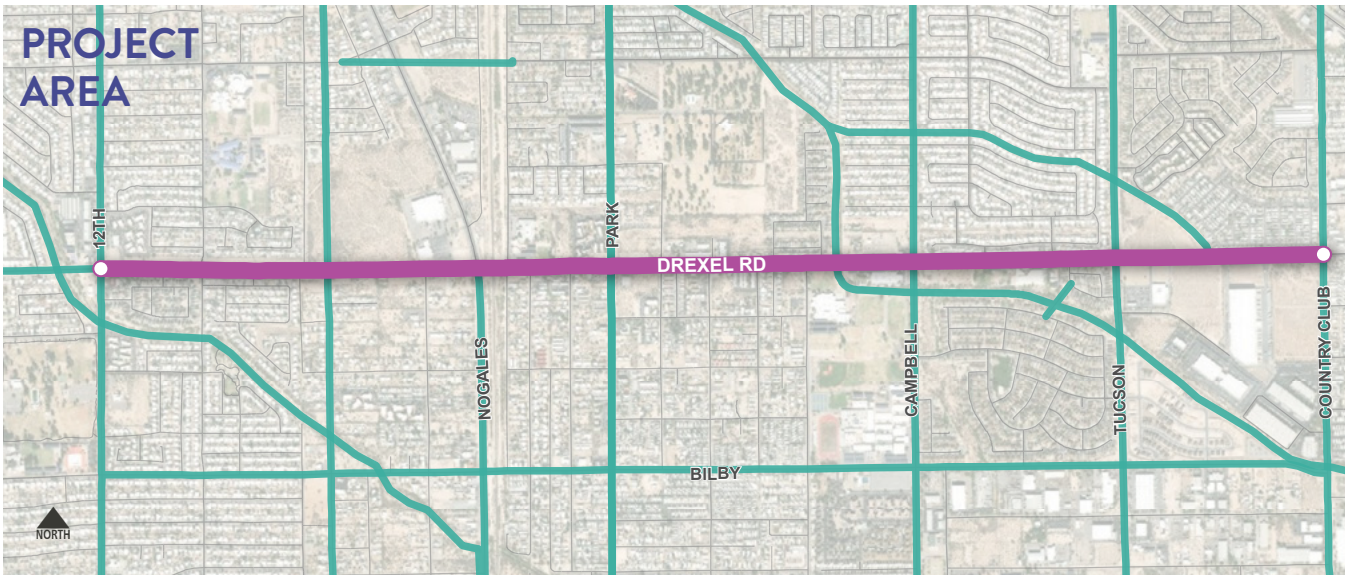
Modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping
- Lighting
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP



PROJECT AREA



Featured Move Tucson Project

Other Move Tucson Projects


EXISTING
CONDITIONS


ILLUSTRATIVE
PERSPECTIVE

GRANDE AVE

between St Mary's and Cushing St

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Strategic Solutions**

IMPLEMENTATION TYPE **Bicycle + Pedestrian Improvement**

COMPLETE STREETS TYPE Urban Connector

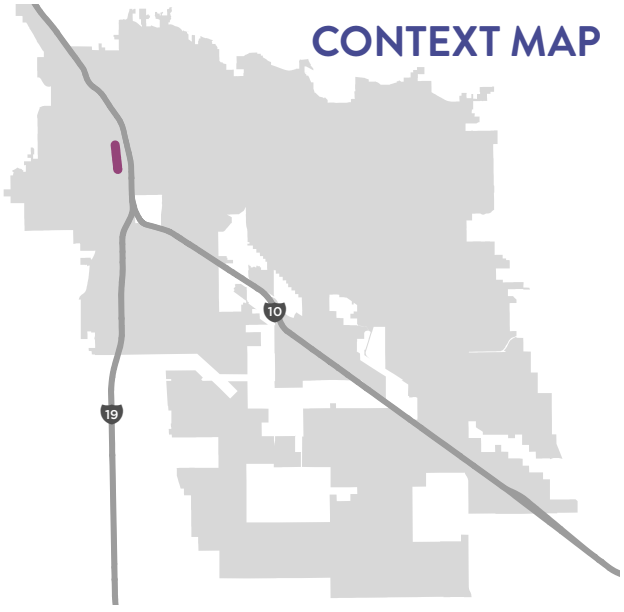
COST ESTIMATE $8,000,000

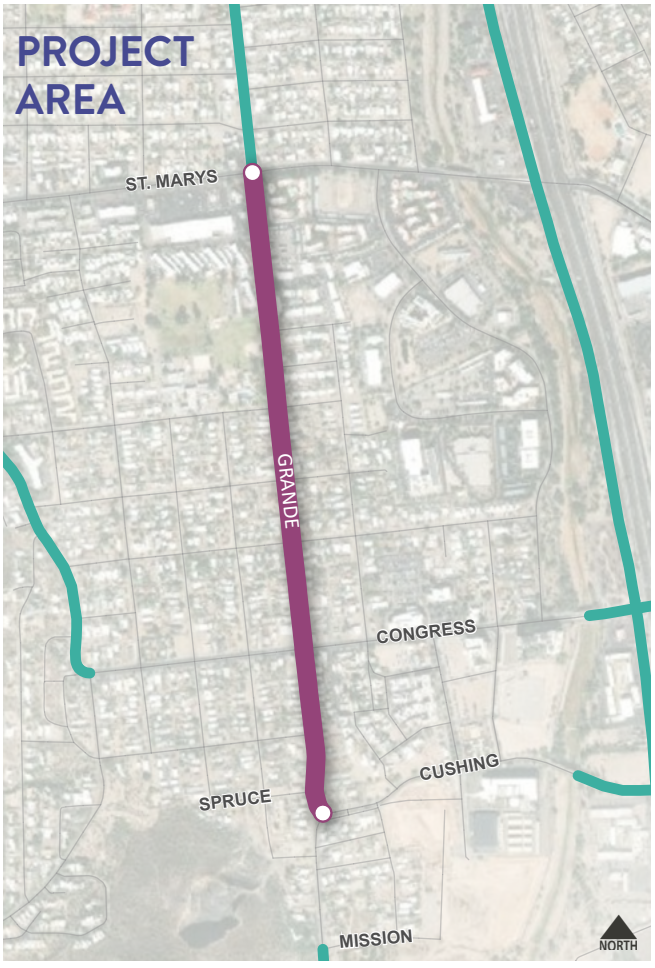
PRIORITIZATION Tier 1

Modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping
- Lighting
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP





Featured Move Tucson Project

Other Move Tucson Projects

EXISTING CONDITIONS

ILLUSTRATIVE PERSPECTIVE

PRINCE RD

between Romero Rd and Campbell Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Catalyst Corridor**

IMPLEMENTATION TYPE **Modernization**

COMPLETE STREETS TYPE Urban Thoroughfare

COST ESTIMATE $43,000,000

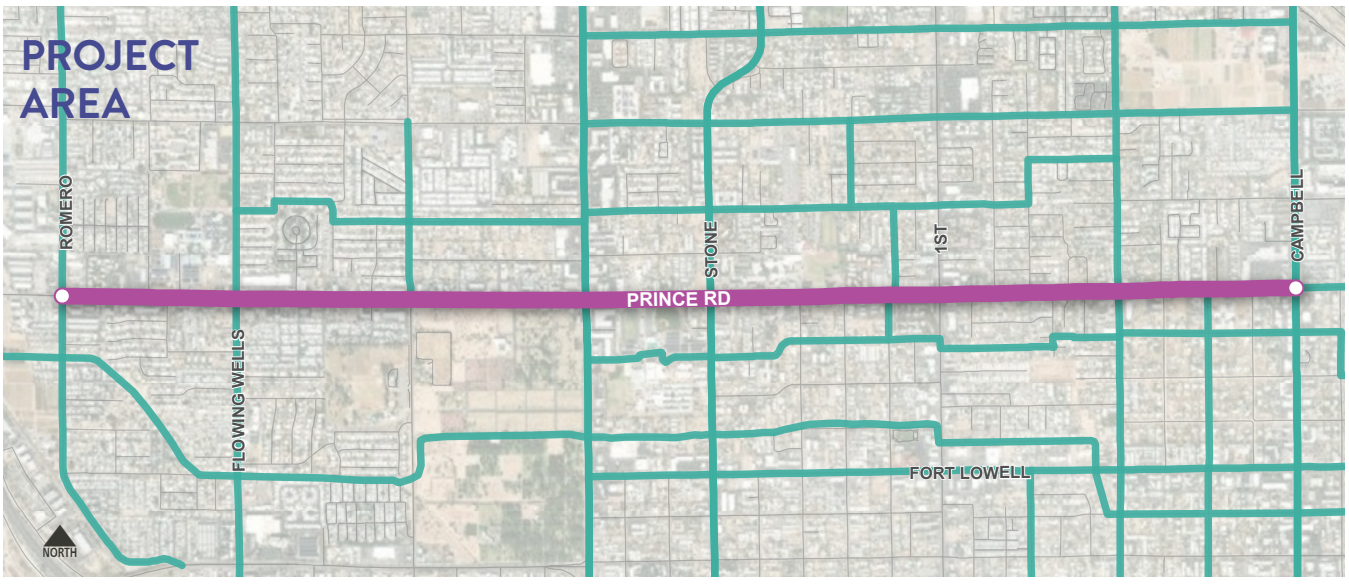
PRIORITIZATION Tier 1

Modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP

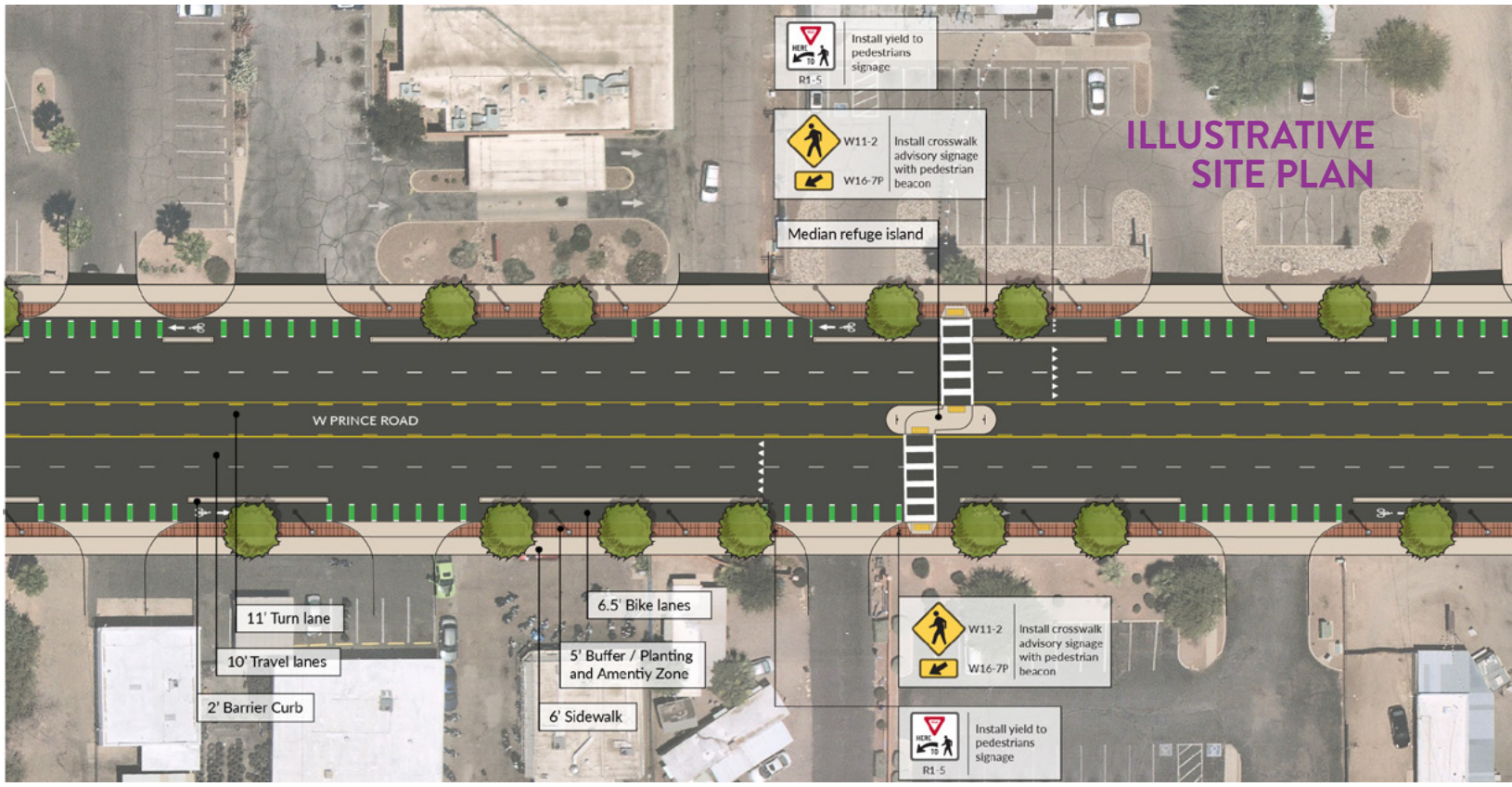
PROJECT AREA



Featured Move Tucson Project

Other Move Tucson Projects


EXISTING
CONDITIONS


ILLUSTRATIVE
SITE PLAN
Install yield to pedestrians signage
R1-5
W11-2
W16-7P
Install crosswalk advisory signage with pedestrian beacon
Median refuge island
W PRINCE ROAD
11' Turn lane
10' Travel lanes
2' Barrier Curb
6.5' Bike lanes
5' Buffer / Planting and Amentiy Zone
6' Sidewalk
W11-2
W16-7P
Install crosswalk advisory signage with pedestrian beacon
Install yield to pedestrians signage
R1-5

SPEEDWAY BLVD

between Alvernon Way and Wilmot Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Catalyst Corridor**

IMPLEMENTATION TYPE **Modernization**

COMPLETE STREETS TYPE Urban Thoroughfare

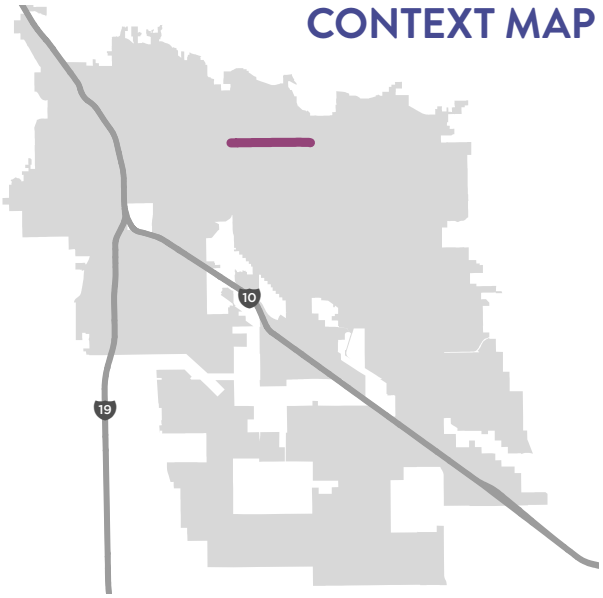
COST ESTIMATE $79,000,000

PRIORITIZATION Tier 1

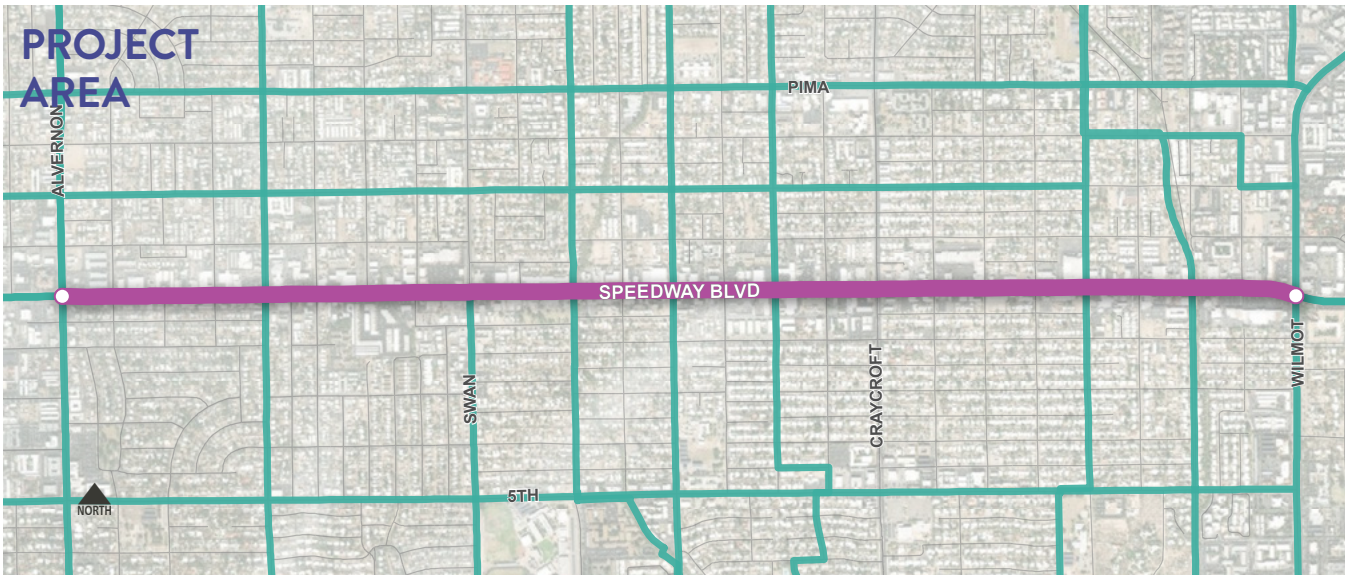
Modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP



PROJECT AREA



Featured Move Tucson Project

Other Move Tucson Projects


EXISTING CONDITIONS


ILLUSTRATIVE PERSPECTIVE

5TH ST

between Campbell Ave to Wilmot Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Strategic Solutions**

IMPLEMENTATION TYPE **Bicycle + Pedestrian Improvement**

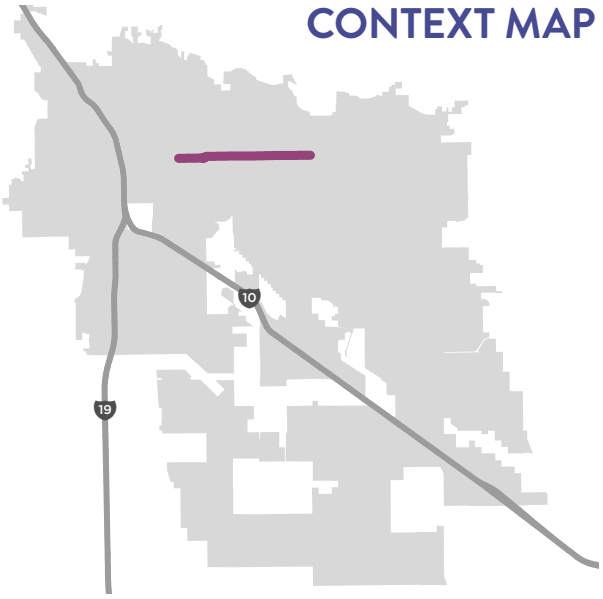
COMPLETE STREETS TYPE Urban Connector

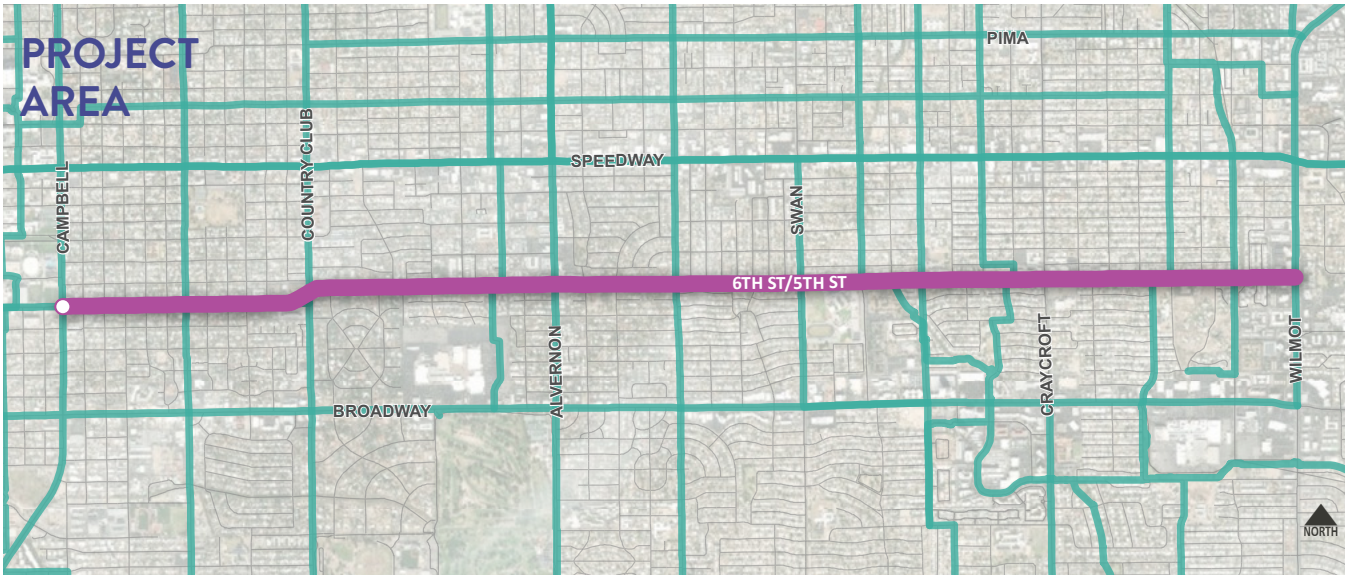
COST ESTIMATE $16,000,000

PRIORITIZATION Tier 1

- Remove travel lane
- Install enhanced bike lane
- Continuous and accessible sidewalks
- Landscaping
- Upgrade lighting
- Upgrade traffic signals
- Improved crossings
- Repaved roadway

CONTEXT MAP

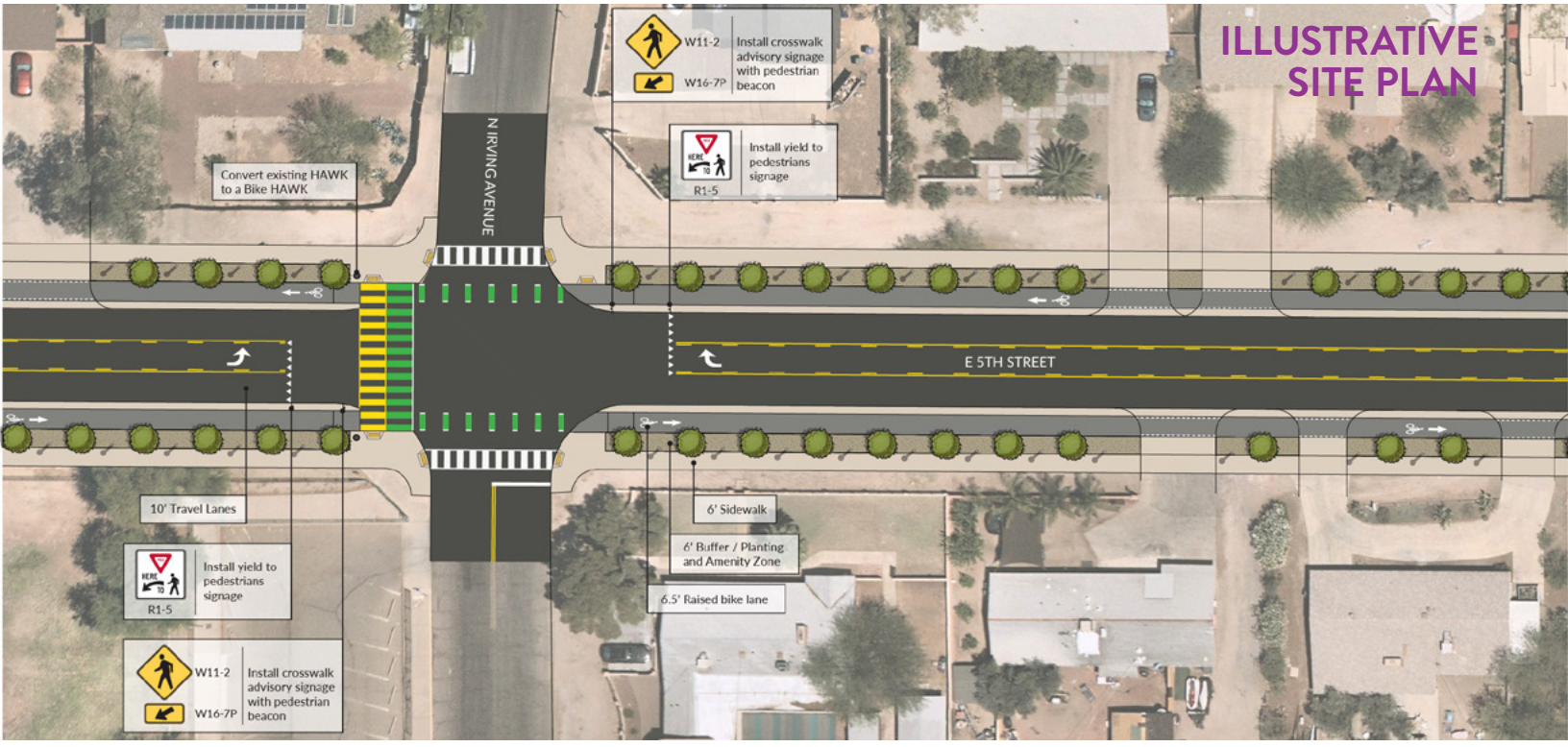




Featured Move Tucson Project

Other Move Tucson Projects


EXISTING CONDITIONS


ILLUSTRATIVE SITE PLAN
W11-2
W16-7P
Install crosswalk advisory signage with pedestrian beacon
Install yield to pedestrians signage
R1-5
Convert existing HAWK to a Bike HAWK
N IRVING AVENUE
E 5TH STREET
10' Travel Lanes
6' Sidewalk
6' Buffer / Planting and Amenity Zone
6.5' Raised bike lane

S PANTANO RD

between 22nd St and Irvington Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE
Strategic Solutions

IMPLEMENTATION TYPE
Bicycle + Pedestrian Improvement

COMPLETE STREETS TYPE
Suburban Connector

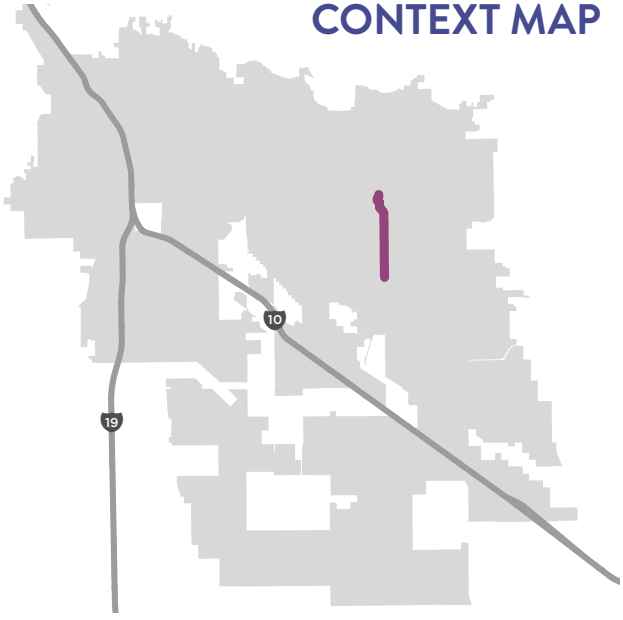
COST ESTIMATE $6,000,000

PRIORITIZATION Tier 2

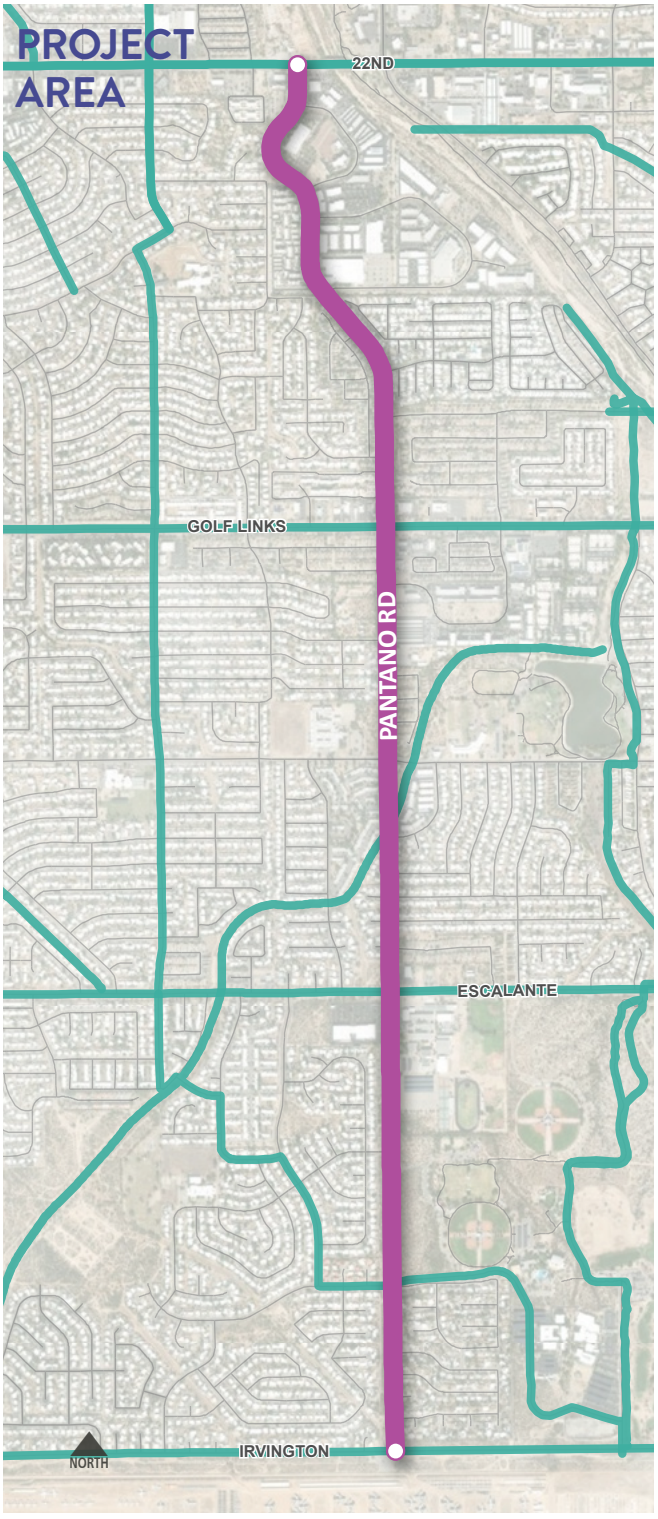
Modernize corridor to include:

- Enhanced bike lane
- Continuous and accessible sidewalks
- Improved crossings

CONTEXT MAP



PROJECT AREA



Featured Move Tucson Project
Other Move Tucson Projects

EXISTING CONDITIONS

ILLUSTRATIVE PERSPECTIVE

IRVINGTON RD

between Kolb Rd and Houghton Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE **Catalyst Corridor**

IMPLEMENTATION TYPE **Expansion**

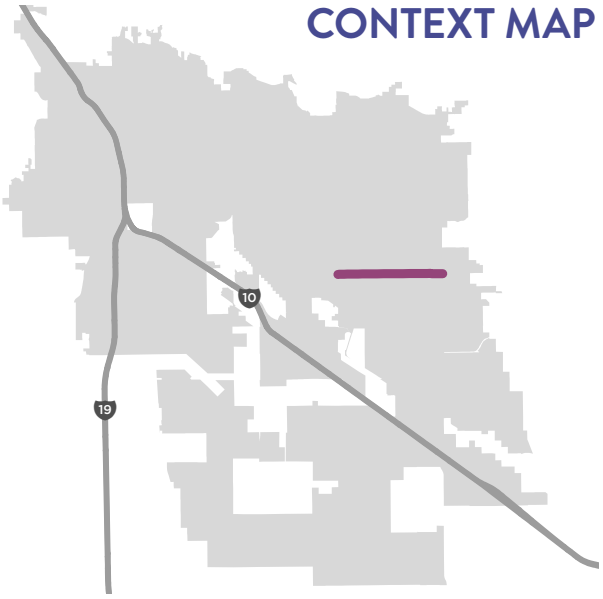
COMPLETE STREETS TYPE Suburban Connector

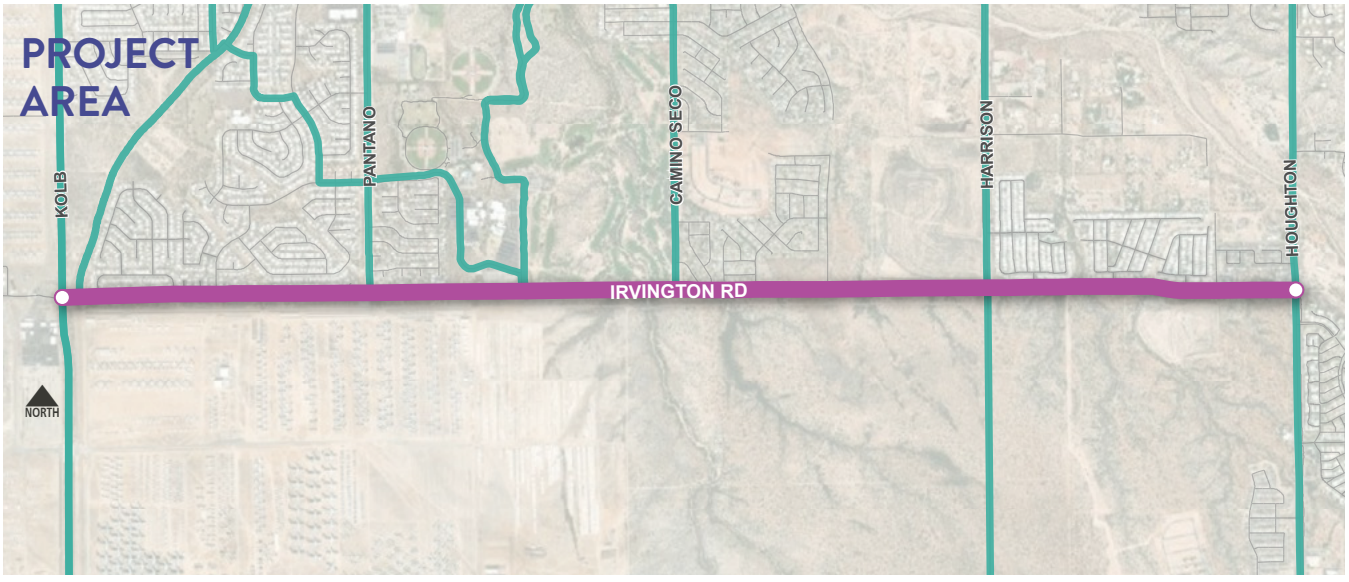
COST ESTIMATE $56,000,000

PRIORITIZATION Tier 3

- Widen to four-lane divided roadway
- Continuous and accessible sidewalks
- Raised medians
- Landscaping
- Upgraded traffic signals
- Enhanced bike lanes
- Improved crossings
- Repaved roadway

CONTEXT MAP





Featured Move Tucson Project

Other Move Tucson Projects


EXISTING CONDITIONS


ILLUSTRATIVE PERSPECTIVE

CAMPBELL AVE

between Benson Hwy and Valencia Rd

PROJECT DESCRIPTION

IMPROVEMENT TYPE
Catalyst Corridor

IMPLEMENTATION TYPE
Modernization

COMPLETE STREETS TYPE
Suburban Thoroughfare, Suburban Connector

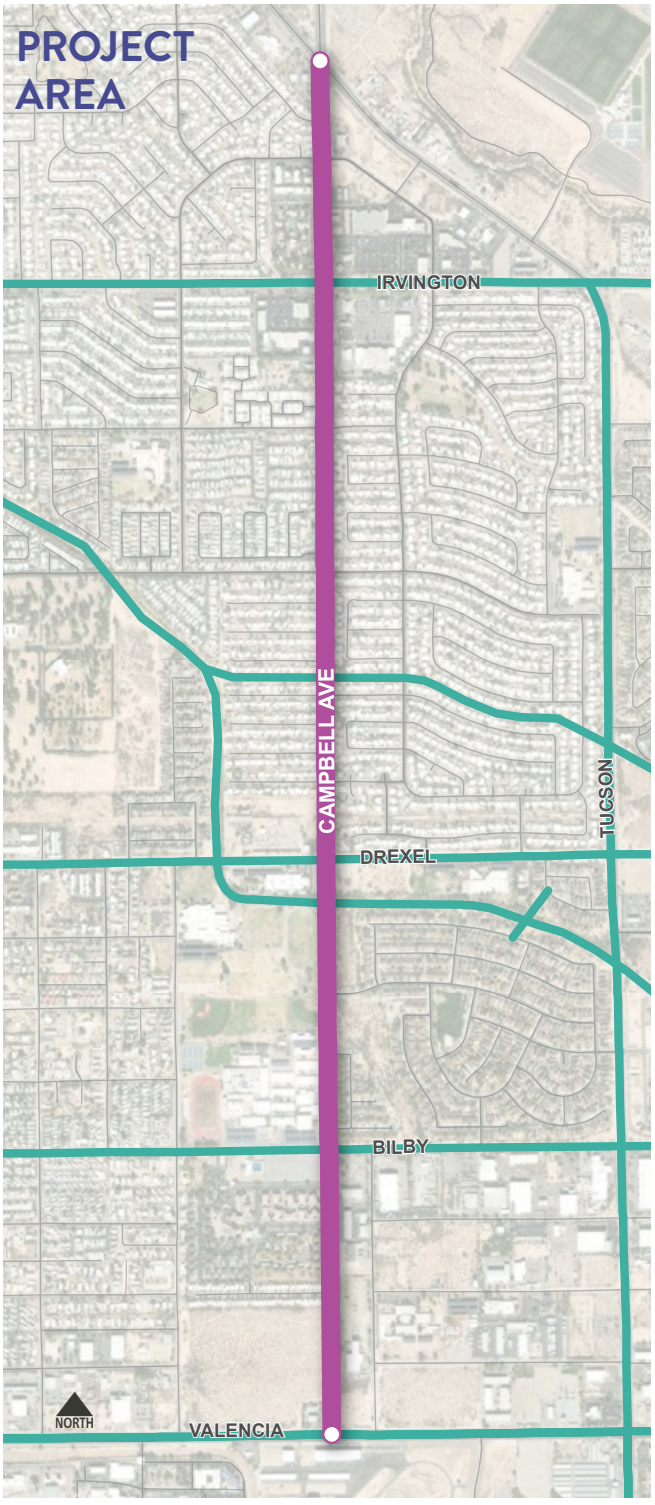
COST ESTIMATE $30,000,000

PRIORITIZATION Tier 1

Modernize corridor to include:

- Continuous and accessible sidewalks
- Landscaping and lighting
- Upgraded traffic signals
- Enhanced bike lanes
- Enhanced bus stops
- Improved crossings
- Repaved roadway

CONTEXT MAP



Featured Move Tucson Project

Other Move Tucson Projects


EXISTING CONDITIONS
CROSSWALK
STOP ON RED
CROSSWALK


ILLUSTRATIVE PERSPECTIVE
CROSSWALK
STOP ON RED
CROSSWALK

LA CHOLLA BLV

between Starr Pass Blvd and Ajo Way

PROJECT DESCRIPTION

IMPROVEMENT TYPE
Strategic Solutions

IMPLEMENTATION TYPE
Bicycle + Pedestrian Improvements

COMPLETE STREETS TYPE
Suburban Connector

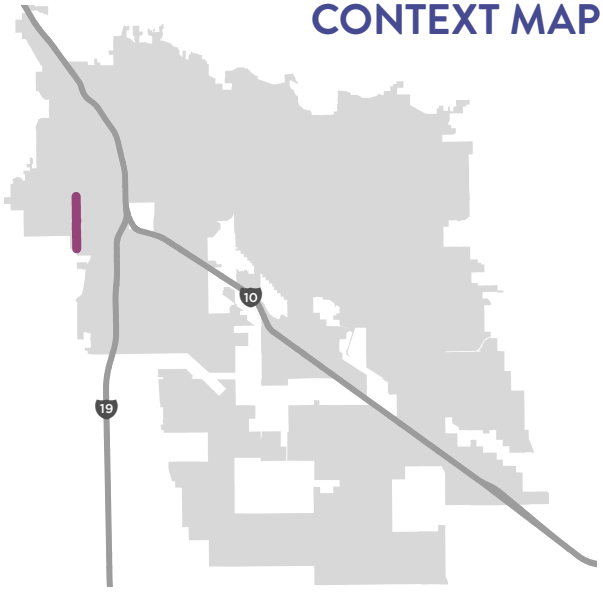
COST ESTIMATE $3,000,000

PRIORITIZATION Tier 1

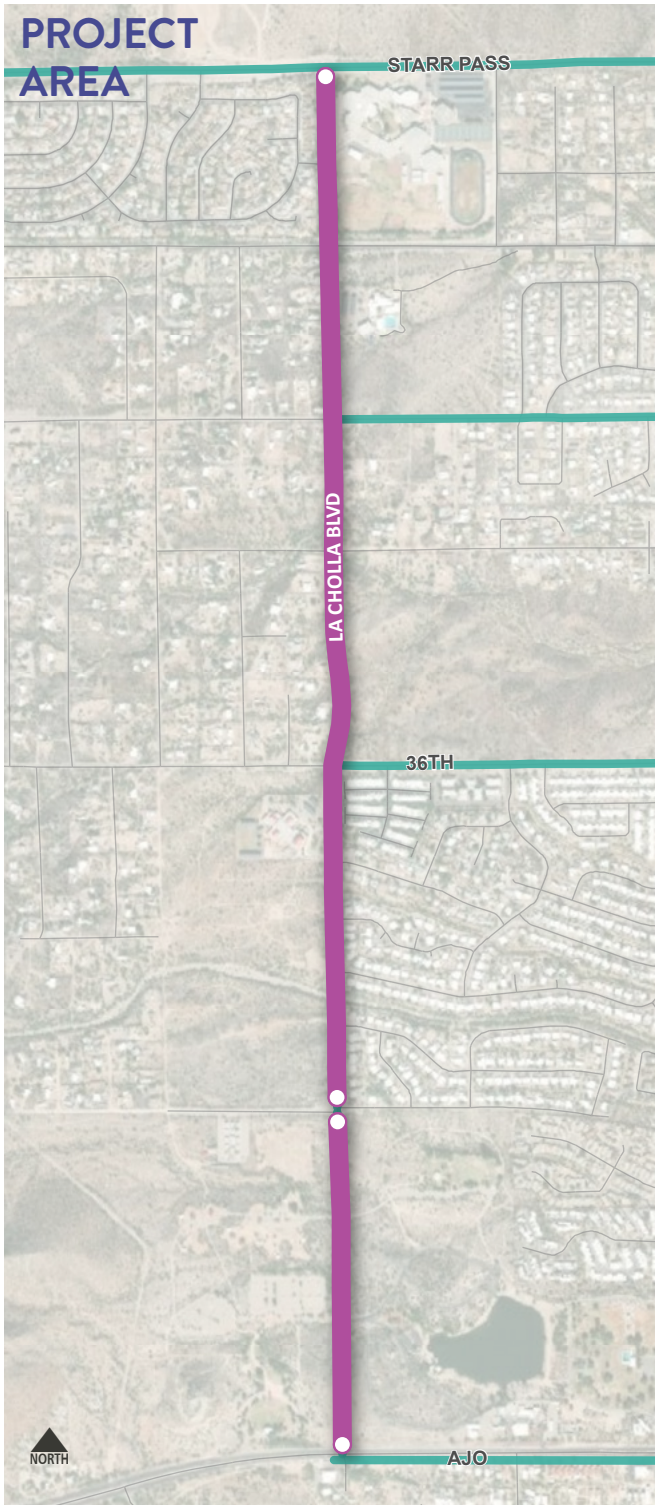
Modernize corridor to include:

- Continuous and accessible sidewalks
- Improved crossings
- Lighting

CONTEXT MAP



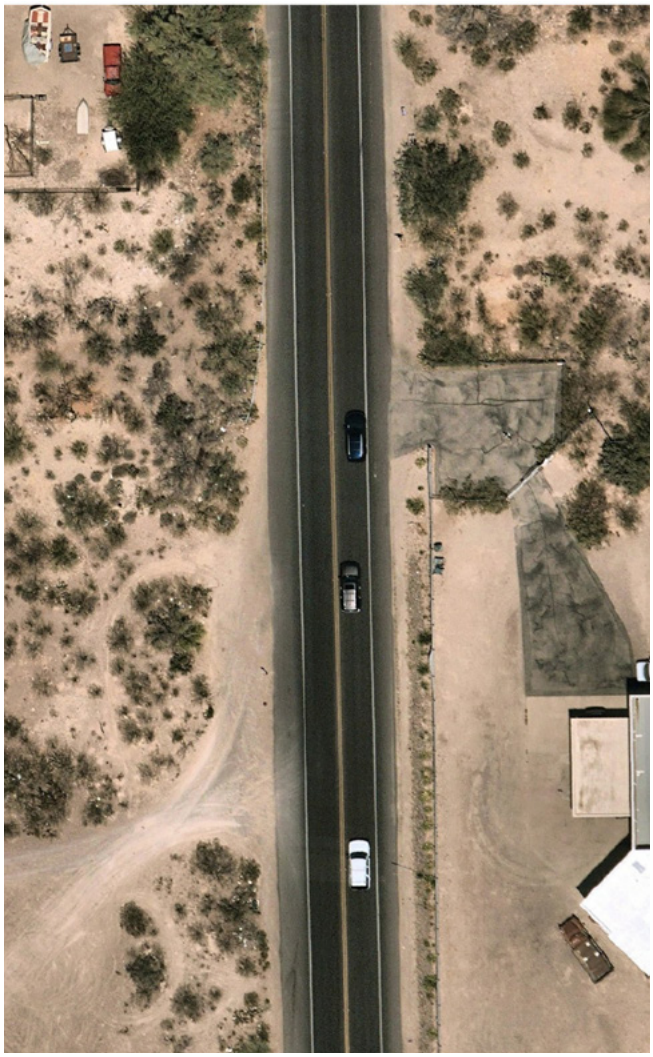
PROJECT AREA



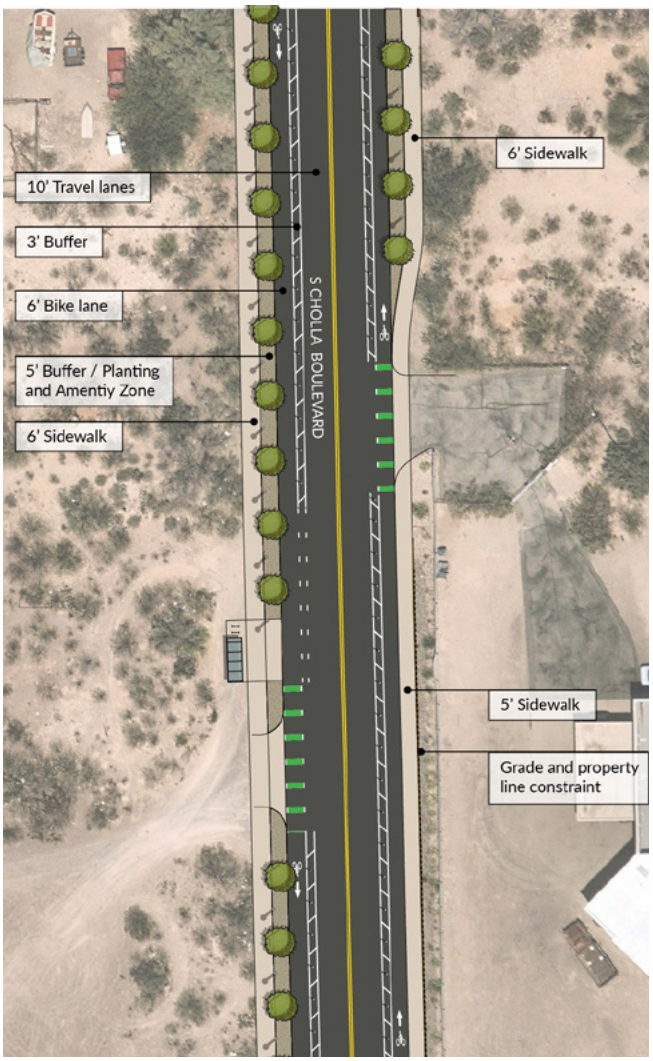
Featured Move Tucson Project

Other Move Tucson Projects

EXISTING CONDITIONS



ILLUSTRATIVE SITE PLAN



MOVING TUCSON FORWARD

Moving Tucson Forward

Purpose of the Move Tucson Implementation Plan

Move Tucson is a city-wide transportation master plan that shows the community how to take care of the city that Tucson is today, while investing in the city that Tucsonans want to see in the future. Through the community engagement during this planning process, we have learned that Tucsonans value a city that is oriented around being authentic, connected, optimized, safe, equitable, and resilient.

The Move Tucson plan aims to be ambitious, pragmatic and informative, demonstrating the full extent of need across the many areas of transportation in a non-cost constrained model. While the Implementation Plan is meant to be realistic about the potential funding available and actionable, it proposes and prioritizes both named projects (location-specific network improvements) and packaged improvements (systemwide needs that are not location-specific) that best embody the values identified in the planning process. In simple terms, it prioritizes what Tucson really needs versus fitting within the current cost constrained circumstance.

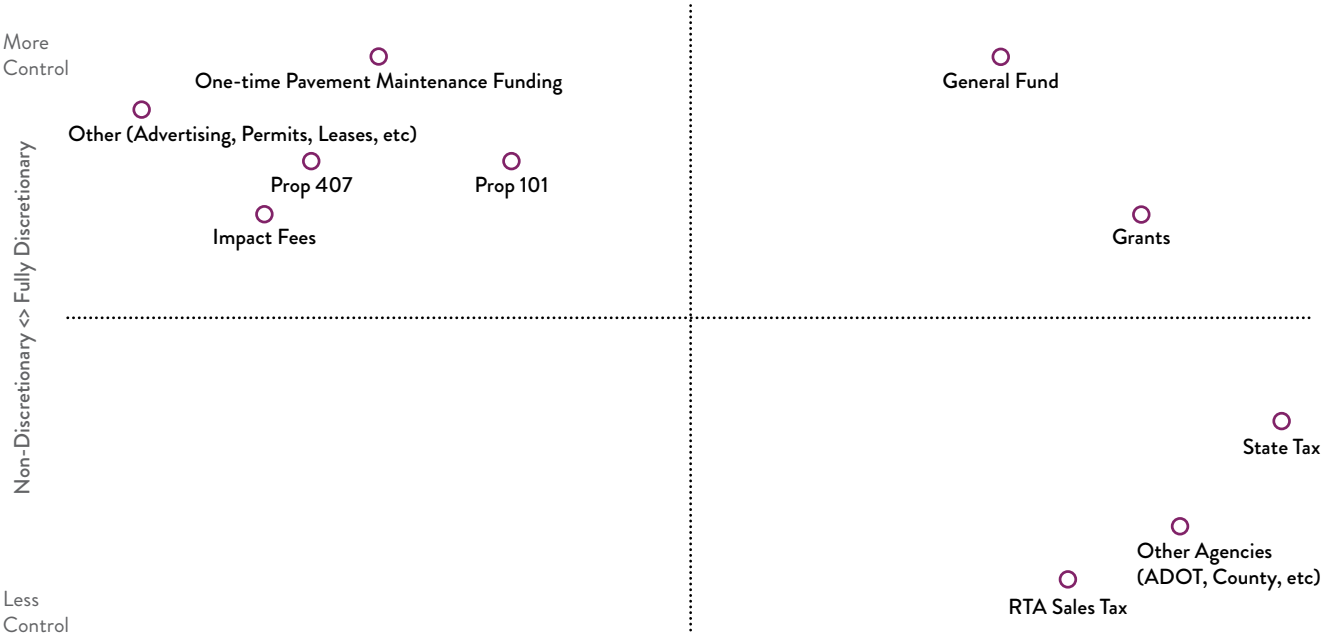
Transportation Funding in Tucson Today

Currently, the City of Tucson has a multitude of revenue sources for transportation improvements. These funds include the state gas tax, funding from state, regional, and federal grants, the Regional Transportation Authority (RTA), the Tucson general fund, and a number of smaller sources.

Each of these revenue sources have unique authorizing legislation which provide rules about how and when revenue is collected and what it can be spent on. With regards to transportation improvement revenue some sources are being collected in perpetuity while others have a time horizon in which the revenue collection authorization expires. Additionally, the City has complete discretion over how the funds are spent for some revenue sources while other sources are earmarked for specific uses or even specific projects (Figure 12 on page 158). Notably, four critical revenue sources for transportation improvements will expire in the coming years: Prop 101, a one-time allocation of $28M for pavement maintenance over 2 years, Prop 407, and the RTA Sales Tax.

Figure 12. *Revenue Sources by Size and Level of City Control*

Revenue Sources by Size and Level of City Control

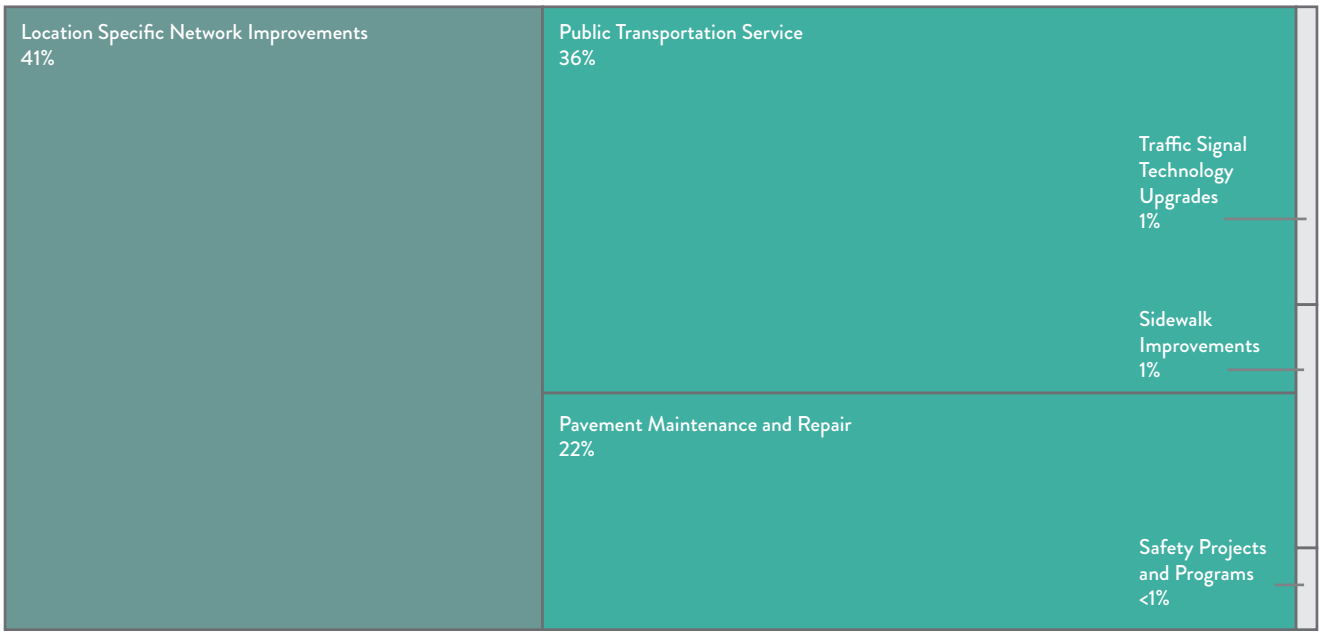


More significant sources of revenue for TDOT tend to come with less discretion over how the money should be allocated. This is an important implementation consideration for the Move Tucson Plan.

Once revenues are projected and collected, they are allocated to various transportation service and improvement programs across the city. Utilizing the same project categories as the Move Tucson plan, these existing programs have been analyzed for the Fiscal Year 2021/2022 budget. Figure 13 identifies the proportion of the Fiscal Year 2021/2022 budget as well as annualized funding for long term programs which are allocated to each Move Tucson category. In order to provide the appropriate context for Move Tucson improvement projects, this analysis only includes improvement programs; hence, items that are administrative in nature are not included.

Figure 13. *Current Transportation Funding (Fiscal Year 2021-2022) by Category*

Current Transportation Funding (FY 21/22 Adopted) by Category



The budget categories listed are not inclusive of all departmental expenses. Expenses vary on a year-to-year basis.
Source: tucsonaz.opengov.com

The largest portion of the current budget, Location-Specific Network Improvements (45%), refers to named capital improvement projects such as creating a "complete street," where space is allocated for multiple modes along an entire corridor. These types of projects often require large and long-term dedicated funding. Other potential Location-Specific Network Improvements include capital investments in high-capacity transit like bus rapid transit (BRT) and streetcar. The second category which utilizes a significant amount of the current budget (29%) is Public Transportation Service, which includes operational funding for additional service hours of transit to increase speed and reliability of the system. The values shown above include both a base level service plus additional service funded by the RTA Sales Tax.

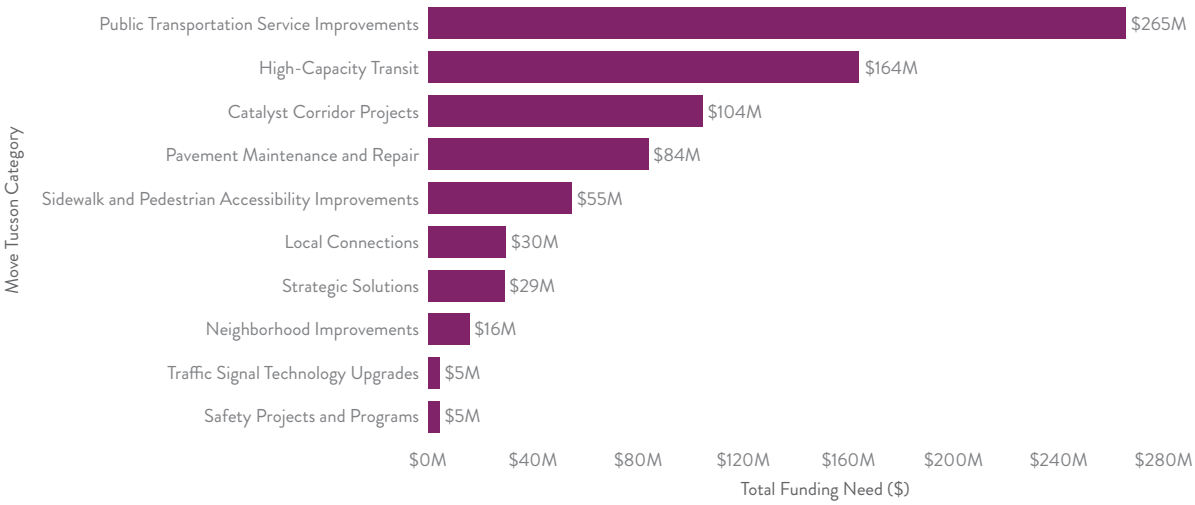
The remaining categories include primarily non-named programmatic elements within the department made up of smaller percentages, namely: Pavement Maintenance and Repair (24%) Traffic Signal Technology Upgrades (1%), Sidewalk and Pedestrian Accessibility Improvements (1%), and Safety Projects and Programs (<1%). These programs typically require smaller, more nimble investments at each location with a goal of maintaining asset condition to the most up to date standards and operational efficiency throughout the system. They also tend to overlap with investments in other funding categories, such as bike lanes and greenways, which impact safety but are counted as Location-Specific Network Improvements for the purposes of this analysis.

Funding Necessary to Achieve the Move Tucson Vision

Based on the analysis of Move Tucson, it is clear that in order to achieve the vision of both taking care of the city that Tucson is while investing in the city that Tucsonans want to see, there is a need to investigate both the total top-line budget as well as how the city allocates revenue on a proportional basis. The Move Tucson need is estimated at over $13 billion over 20 years.

Figure 14. *Expression of Need for the Full Move Tucson Vision based on Estimated Costs*

Total Estimated Need for Move Tucson Vision



Move Tucson has a 20+ year planning horizon. The category funding levels presented reflect the overall estimated total need within each category, not what is expected to be expended over the horizon. These categories are still preliminary and are expected to evolve as Move Tucson progresses.

Proportionally speaking, to achieve the vision of the Move Tucson plan, the city will need more investment in Location-Specific Network Improvements, which includes four categories of projects: High-Capacity Transit, Catalyst Corridor Projects, Local Connections, and Strategic Solutions (Figure 14). The Move Tucson plan also identifies major increases in need for Pavement Maintenance and Repair and Sidewalk and Pedestrian Accessibility Improvements. Furthermore, the plan envisions additional transit service increases above the base level transit funding in the FY21/22 budget. As in the current funding analysis, while the table above may give the perception that Safety Projects and Programs are not being funded to the level of their articulated priority to the City, **Move Tucson has taken a complete streets and vision zero approach to all of the Location-Specific Network Improvements with safety ingrained as a primary component to the conceptual design of each project.**

Community Feedback

Throughout the Move Tucson planning process, the Tucson Department of Transportation has engaged both the general public through public meetings and a virtual open house. During the virtual open house, the project team posed the question of how to distribute $100 across nine project categories. The question was conceptual and did not differentiate the cost requirements or scale of impact for each category. The responses to this question are listed below in Table 11.

In addition to this feedback from the general public, the project team also solicited feedback through regular public meetings with the Complete Streets Coordinating Council (CSCC). The general feedback regarding funding priorities from the CSCC has been that the Department needs to articulate a commitment to complete streets and provide transparency around the specific scope of work on major corridors related to safety and transit improvements.

Table 11. *Public Input Related to Allocation of Funds Across Transportation Categories*

PUBLIC INPUT SUMMARY	PROJECT CATEGORY	PUBLIC INPUT: AVG. ALLOCATION OF FUNDS
The public allocated the largest percentages of funds to the four types of capital projects with the highest amount going to expanding and improving public transit.	Catalyst Corridors and Strategic Solutions Projects	18%
	High-Capacity Transit Projects	23%
	Local Connections Projects	16%
	Pavement Maintenance and Repair	13%
The public allocated lower percentages of funds for the programmatic and service improvements that would be applied beyond the location-specific capital projects.	Public Transportation Service Improvements	7%
	Sidewalk and Pedestrian Accessibility Improvements	9%
	Traffic Signal Technology Upgrades	3%
	Neighborhood Mobility Improvements	7%
	Safety Projects and Programs	4%

Future Funding Options

The overall cost of implementing the Move Tucson vision across a 20-year time horizon would be a significant increase from the current annual budget, both capital and operating. While it is important for the city to gain an understanding of its comprehensive, long-term needs, it is also prudent to investigate other options that can make an impactful improvement in the short- to medium- term with more tactical investments. This needs to be weighed against a realistic outlook on revenue generation potential as well as feasibility for program implementation without overburdening the existing department staffing and infrastructure and disruption to the transportation system as a whole.

Four funding scenarios have been developed for comparison purposes. These options include:

1. **Maintaining the current level of funding**;
2. **Increasing funding** for existing high-priority needs articulated through regional transit, accessibility, and asset management planning efforts, in addition to the Move Tucson Tier 1 projects;
3. **Increase funding** with an emphasis on public transportation service improvements for existing high-priority needs articulated through regional transit, accessibility, and asset management planning efforts, in addition to the Move Tucson Tier 1 projects, and
4. **Fully funding the Move Tucson vision** which is discussed above as the full expression of need.

Table 12 outlines the portfolio of improvements expected to be included with each of these three options as they relate to Location-Specific Network Improvements, Public Transportation Service, Pavement Maintenance and Repair, and Sidewalk and Pedestrian Accessibility Improvements. With regards to Safety Projects and Programs and Traffic Signal Technology Upgrades, the proposed scenarios make modest proportional increases as the total funding levels increase.

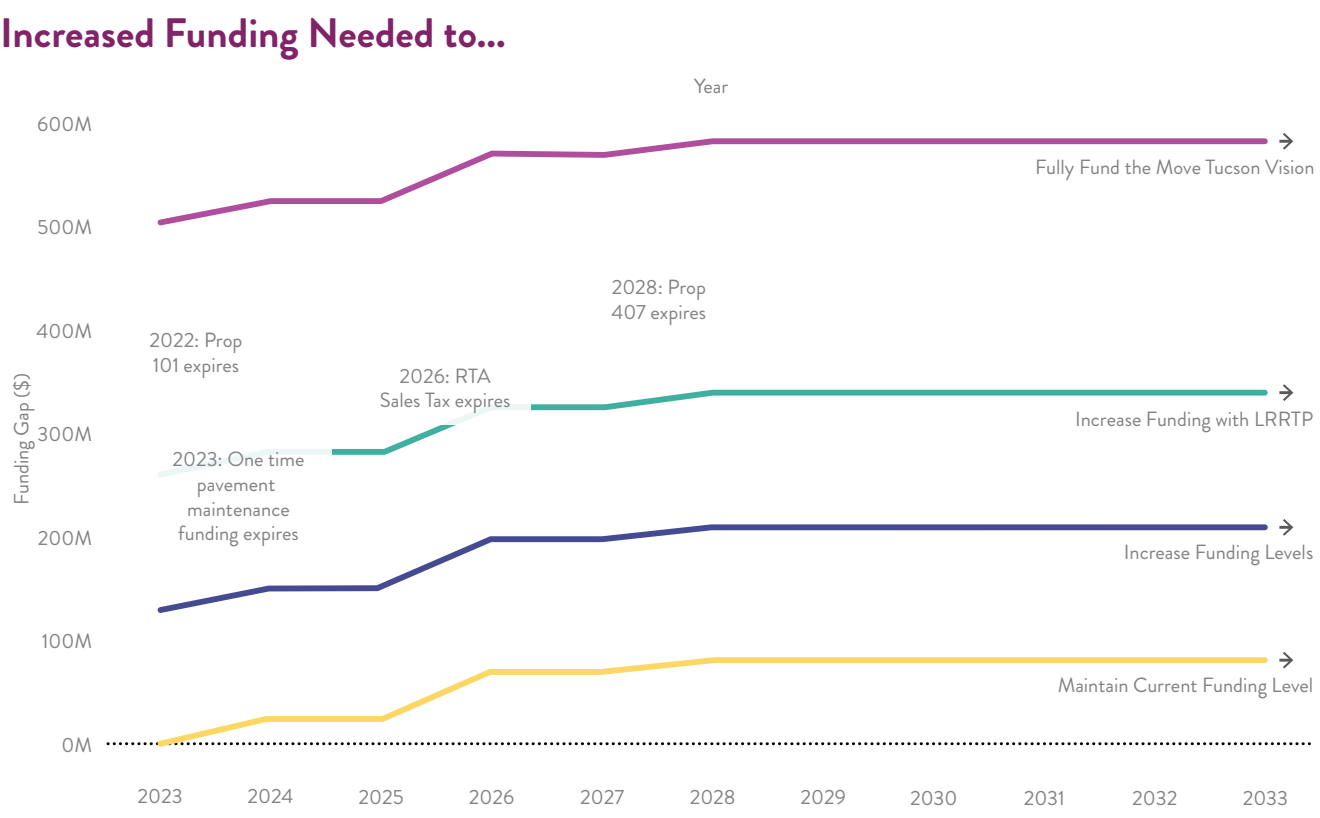
Table 12. *Potential Project Types Implemented with Each Scenario of Move Tucson Funding*

PROJECT TYPE	MAINTAIN CURRENT FUNDING LEVEL	INCREASE FUNDING LEVEL	INCREASE FUNDING WITH TRANSIT EMPHASIS	FULLY FUND THE MOVE TUCSON VISION
Location-Specific Network Improvements	Strategic selection of Tier 1 Move Tucson projects including sidewalk infills, corridor modernization, and bicycle and pedestrian improvements	All of Tier 1 Move Tucson projects	All Tier 1 Move Tucson projects	All tiers of Move Tucson projects
Public Transportation Service	Base level transportation service	Medium term recommendations of Long-Range Regional Transit Plan: • Evening and weekend service frequency increases • Frequent transit network and SunTran Shuttle suburban service improvements • Maintenance reliability improvements • Overall, 39% revenue hours increase	Long term recommendations of the Long-Range Regional Transit Plan: • Evening and weekend service frequency increases • Additional SunTran and Sun Shuttle suburban frequent transit network improvements • Improvements to over 800 bus stops • New vehicles and vehicle technology to improve user experience	Long term recommendations of the Long-Range Regional Transit Plan: • Evening and weekend service frequency increases • Additional SunTran and Sun Shuttle suburban frequent transit network improvements • Improvements to over 800 bus stops • New vehicles and vehicle technology to improve user experience
Pavement Maintenance and Repair and Sidewalk	Pavement Overall Condition Index (OCI) reduces	Pavement Overall Condition Index (OCI) is maintained	Pavement Overall Condition Index (OCI) is maintained	Pavement Overall Condition Index (OCI) increases
Pedestrian Accessibility Improvements	Continue current rate of addressing pedestrian accessibility deficiencies	Five-fold increase in number of pedestrian accessibility deficiencies addressed annually	Five-fold increase in number of pedestrian accessibility deficiencies addressed annually	Address all known pedestrian accessibility deficiencies on City of Tucson roadways

Figure 15 below depicts the funding gap associated with the three implementation scenarios. In reality, project funding needs will ebb and flow over the 20+ year time horizon rather than be divided equally on a per-year-basis. However, this depiction demonstrates the general funding gap including revenue source expirations and modest inflation.

Further, even if current investment levels are maintained, the transportation system will require replacing or extending funding sources that will expire, as shown in the chart below.

Figure 15. *Anticipated Funding Gap for Each Scenario of Move Tucson Implementation*



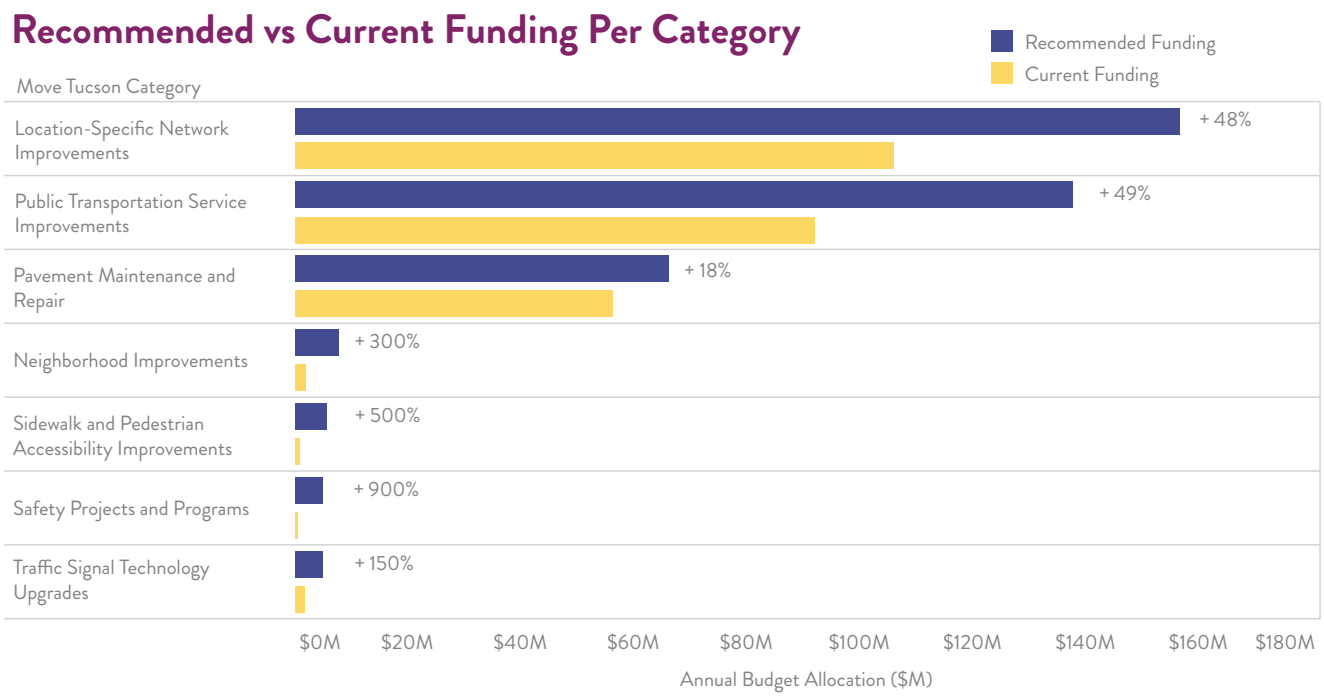
Recommendation

The Move Tucson recommendation is to advance and fund Scenario 2: Increase Funding. This scenario is an ambitious yet achievable investment in our transportation system that makes significant progress in addressing our community's needs and advancing our transportation vision.

The selection of Scenario 2 is

- Shaped by community input,
- Focused on addressing highest priority transportation needs in a balanced fashion, and
- Is ambitious yet within our reach.

Figure 16. *Comparison of Current and Recommended Funding Per Year*



Numbers shown indicate the percentage change in spending in the current finding level versus recommended funding level.

Scenario 3 was included for consideration in Move Tucson on the recommendation of the Complete Streets Coordinating Council. This Scenario would significantly increase funding for public transportation as a strategy for responding to the climate emergency and encouraging mode shift. While Scenario 3 is not the recommended funding scenario of Move Tucson, the City will continue to look for opportunities to increase investments in public transportation beyond that included in the recommended funding scenario.

Table 13. *Comparison of Move Tucson Categories as a Percentage of Total Funding*

PROJECT CATEGORY	CURRENT FUNDING (% OF TOTAL)	RECOMMENDED FUNDING (% OF TOTAL)
Location-Specific Network Improvements	41%	46%
Pavement Maintenance and Repair	22%	17%
Safety Projects and Programs	<1%	1%
Public Transportation Service Improvements	35%	36%
Sidewalk and Pedestrian Accessibility Improvements	<1%	2%
Traffic Signal Technology Upgrades	1%	1%
Neighborhood Mobility Improvements	1%	2%
Total	100%	100%

Based on these elements, Move Tucson recommends that the City seeks to increase funding levels, as depicted in Table 12 on page 163. This approach provides an opportunity to balance high-impact projects and long-term investments, while acknowledging that incremental improvements with a demonstrated return will foster more support in the future. Figure 16 below shows the recommended increase for each of the Move Tucson categories.

The Move Tucson Implementation Plan has recommended increasing transportation investment by approximately $120 million annually over current levels. Achieving that level of investment will require that the City extends and/or replaces transportation funding that is expiring in the next 5-7 years and find additional money for transportation improvements. Potential funding sources include:

- Increased federal funding
- Discretionary grant opportunities
- Reallocating existing transportation dollars
- Partnerships with the private sector
- Local funding initiatives
- Regional funding initiatives

FEDERAL FUNDING

As of the writing of Move Tucson, the United States Congress was negotiating a new Surface Transportation Reauthorization Act. While it is still unclear what the in Act will include funding for at this time, it is widely anticipated that Congress will increase transportation funding for both construction projects and operations of public transportation systems. Funding coming to the region could increase by millions of dollars per year. The City of Tucson will continue to work closely with our regional partners through Pima Association of Governments to ensure the city's residents benefit from this funding increase.

DISCRETIONARY GRANT OPPORTUNITIES

In addition to increasing formula funding for the transportation system, the federal government also makes funding available through nationally competitive Grant programs. The City of Tucson regularly receives federal grants for planning, operating, and building the transportation system. Recent grants include nearly $1 million for equitable transit-oriented development planning and more than $5 million dollars to support electrification of the Sun Tran bus fleet. A more well-known example of Tucson successfully securing a competitive federal transportation grant was the $63 million secured to assist in constructing the Sunlink Streetcar.

Having a well-defined, community-supported transportation plan will make us more competitive and prepared to quickly respond to future transportation grant opportunities.

REALLOCATING EXISTING TRANSPORTATION DOLLARS

While this doesn't increase transportation funding, Move Tucson shows that we can think about using our existing transportation funding in different ways to implement what residents want to see. Many of Tucson's currently funded or under-construction transportation projects are adding roadway capacity. As these projects are completed, that budget capacity can be available to implement projects and system needs identified through Move Tucson, which were developed under the Complete Streets policy framework and more focused on modernizing corridors to improve safety, efficiency, and choices without necessarily adding much in the way of lane miles to the system.

PARTNERSHIPS WITH THE PRIVATE SECTOR

As development occurs in the City, depending on the scale of the project, it is common for the property developer to make improvements to the public roadways serving the development. This can include everything from building whole new roadways, sidewalks, bike lanes, and pathways in new developments, to making sidewalk improvements and adding landscaping features directly in front of a new or improved building in more developed areas of the city.

Moreover, the City of Tucson collects development impact fees dedicated to street improvements. These are one-time fees collected at the time that building permits are issued to help fund expansion of transportation capacity. The city currently collects more than $5 - $6 million million a year in impact fees. This may increase or decrease depending on the amount of development occurring.

LOCAL FUNDING INITIATIVES

The City of Tucson currently administers two significant local funding programs: Proposition 101 - Better Streets, Safer City and Proposition 407 - Parks + Connections. Revenue for Proposition 101 was estimated to collect a total of $250 million over 5-years generated from a ½ citywide sales tax (collections have actually exceeded estimates in recent years) and split between public safety and transportation. Proposition 407 will collect $225 million over 9 years funded through a General Obligation Bond and split between parks and transportation. Proposition 101 will expire in 2022 and Proposition 407 will expire in 2028, meaning these revenue sources will need to be replaced or extended by the voters of Tucson.

SALES TAX

In 2020, the ½-cent sales tax for Proposition 101 generated roughly $65 million, about 1/3 of which was used to rehabilitate pavement on major and local streets. Transportation funding could be increased by extending Proposition 101 beyond it's current sunset date and devoting a greater share of the sales tax to Move Tucson identified needs or by increasing the tax rate.

A future local transportation sales tax could fund some elements of the Move Tucson plan to complement other funding sources (such as focusing on sidewalk gap fills, pavement repair, and transit), or could be built completely around the Move Tucson implementation plan framework.

CITY BOND

Depending on debt capacity, a future local bond initiative could be an effective means of building some of the location-specific or other capital projects identified in the Move Tucson plan. To increase transportation funding, the bond would have to be large enough to both replace Proposition 407 in 2028 when it expires and generate additional revenues above those committed to transportation projects.

REGIONAL FUNDING INITIATIVES

While it can vary considerably year-to-year, the City of Tucson generally receives more than $50-$60 million annually, or more, for major roadway projects, transit operations, bike and pedestrian projects and other improvements from the RTA. The RTA is set to expire in 2026 and will need to be extended or replaced to continue funding these projects at the current level.

NEXT STEPS

No single funding source is assumed to be able to address all of the recommended investments of the Move Tucson plan. With the adoption of Move Tucson the City will develop more detailed funding plans for increasing investments in transportation. Move Tucson will provide the framework for developing and directing future funding initiatives which will include a combination of location-specific projects identified in this plan and packaged system-wide improvements. More details about the type and location of specific packaged improvements (such as where transit service will be improved or which streets will be prioritized for new pavement) will be developed as funding becomes available.

Over the coming months, Tucson will continue to develop its financial strategies and pursues all possible opportunities for achieving the Move Tucson vision and transforming our transportation future.

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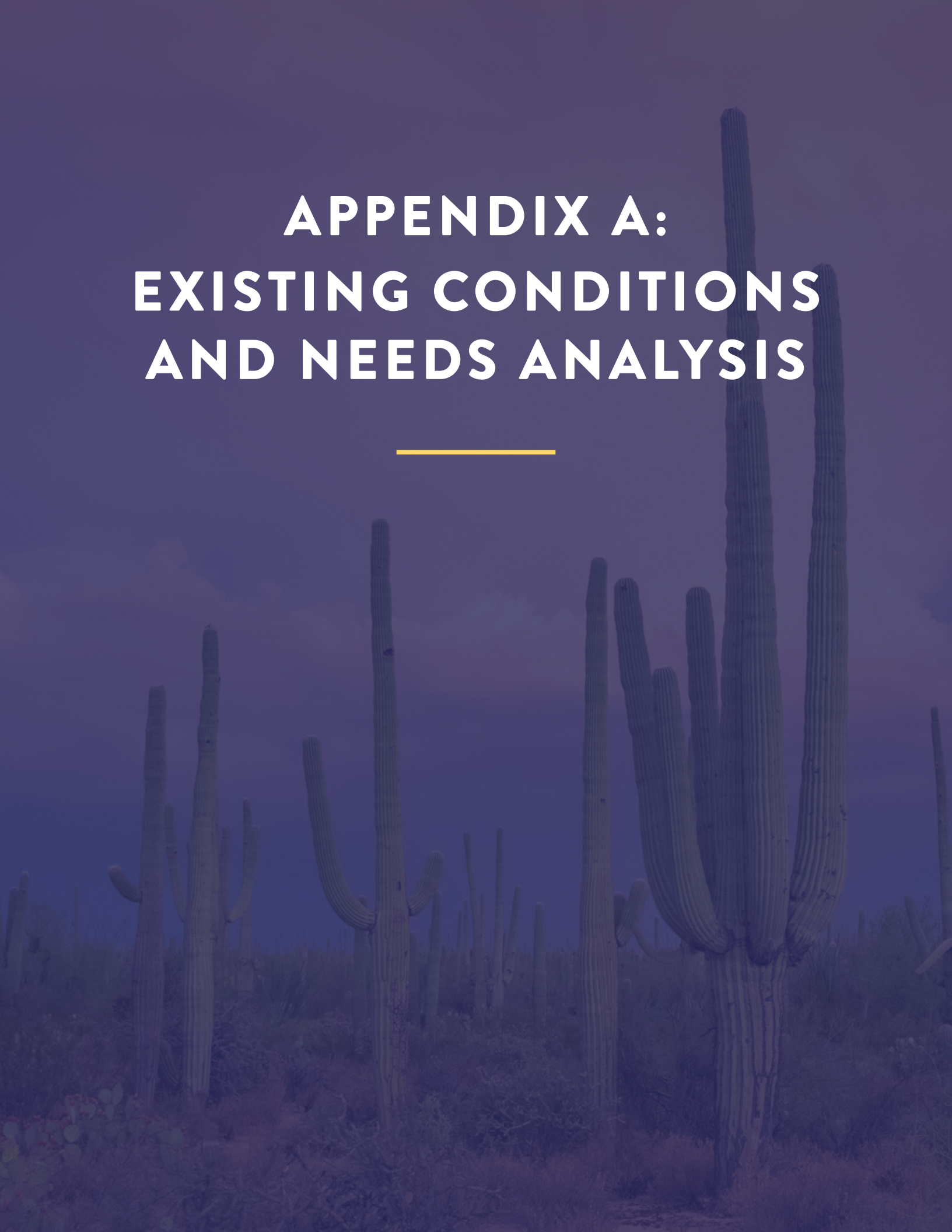
movetucson.org



APPENDIX A: EXISTING CONDITIONS AND NEEDS ANALYSIS

PLAN AND POLICY REVIEW

Plan and Policy Review

Overview

A range of documents already adopted by the City of Tucson and its partners set an important foundation for the *Tucson Mobility Master Plan*. This memorandum summarizes 24 internal and external plans, policies, and standards that impact multi-modal planning and design in the City of Tucson and wider Pima County. Each document reviewed for this effort is listed below, grouped by responsible agency.

Through the review process, key themes emerged that are integral to the *Mobility Master Plan* effort:

- Multimodal systems planning
- Safety
- Social and racial equity
- Sustainability

Plans reviewed for this effort are summarized according to these themes. This approach allows for easy comparison of commonalities and lessons learned across planning documents, compared to organizing findings according to individual plan.

TUCSON MOBILITY MASTER PLAN

The *Tucson Mobility Master Plan* will establish a unified vision, values, and goals for the transportation system. It will establish mode share targets and strategies to: reduce vehicle miles traveled, preserve Tucson's existing streets and sidewalks, improve traffic safety, improve multi-modal connectivity, integrate land use and transportation planning, identify opportunities for transit-oriented development, manage multiple uses in the right-of-way, improve stormwater management, and expand the city's network of green infrastructure. The Mobility Master Plan will build on the City of Tucson's *2019 Complete Streets Policy and 2020 Street Design Guide (still being developed)*.

The City of Tucson outlines a related vision in the *2019 Complete Streets Policy*:

"The City of Tucson views all transportation improvements as opportunities to foster a vibrant, healthy, equitable, interconnected, accessible, environmentally sustainable, and more livable city where everyone can move about safely, comfortably, and with dignity. The City of Tucson's Complete Streets Policy shall guide the development of a safe, connected, and equitable transportation network that promotes greater mobility for people of all ages and abilities including, but not limited to, people walking, biking, using transit, driving, or using wheelchairs or other mobility devices."

Plan Review Elements

The consultant team reviewed 27 documents produced by city and regional agencies:

CITY OF TUCSON:

- *Draft Street Design Guide—2020*
- *Complete Streets Tucson—2019*
- *Plan Tucson: General & Sustainability Plan Progress Report—2019*
- *Green Stormwater Infrastructure Fund Proposal—2019*
- *Proposition 407: Parks + Connections Bond 2018*
- *Bicycle Boulevard Master Plan—2017*
- *Active Practice Guideline (APG)—Native Plant Preservation—2017*
- *5-Year Strategic Transit Plan 2020-2024—2012*
- *Urban Landscape Framework—2008*
- City Code:
  - *Major Streets and Routes Map—Updated 2016*
  - *Chapter 25—Streets and Sidewalks-Date not stated*
- *Engineering Guidance:*
  - *Green Streets—2013*
  - *Technical Standards Manual—2013*
  - *Update to Ordinance 9823: Access Management Guidelines—2011*
  - *Landscape Design Guidelines—2009*
  - *Sidewalk Widths for Arterial and Collector Roadways—2001*

CITY OF TUCSON AND PIMA COUNTY:

- *Pima Regional Trail System Master Plan—2012*
- *Pavement Marking Design Manual—2008*

PIMA ASSOCIATION OF GOVERNMENTS (PAG)

- *Long-Range Regional Transit Plan—2019*
- *2045 Regional Mobility and Accessibility Plan—2019*
- *Our Freight Mobility: Regional Freight Plan—2018*
- *Strategic Transportation Safety Plan—2016*
- *Regionally Significant Corridor Study—2014*
- *Regional Pedestrian Plan—2014*
- *Tucson Regional Plan for Bicycling—2009*

REGIONAL TRANSPORTATION AUTHORITY (RTA)

- *Our Mobility Plan—2019*
- *Shaping our Transportation Future Annual Report—2018*

In the following sections, the strengths and challenges of these plans are explored, as they relate to the thematic areas of multimodal systems planning, safety, equity, and sustainability. The consultant team reviewed plans specifically to identify content related to the Mobility Master Plan. Where appropriate, the summaries include key gaps in policy or guidance related to each theme.

Multimodal Systems Planning

STRENGTHS OF REVIEWED PLANS

The *Tucson Complete Streets Policy (2019)* is the city's most comprehensive effort to prioritize multimodal planning, design, and engineering and elevate the needs of people in the planning process—not any one mode of travel. The *Tucson Complete Streets Policy* prioritizes "multimodal street improvements such as bicycle boulevards, protected bicycle lanes, high capacity transit corridors (such as bus rapid transit or streetcar/light rail lines), connected and accessible networks of sidewalks/ walking paths, safe and convenient street crossings, and comfortable and inviting streetscapes." While the *Complete Streets Policy* prepares the city for successful implementation of the Complete Streets initiative, the *Tucson Draft Street Design Guide (2020)* establishes the new Tucson street typologies, modal overlays, and corresponding design elements for each. The Street Design Guide "takes the concepts described in the *Complete Streets Policy* and applies them to specific contexts and elements of city street design." The policy and guide lay the groundwork for the *Tucson Mobility Master Plan* to set design priorities for constrained environments and assign the typologies and overlays to build a complete network for all modes.

PAG's Regional Pedestrian Plan (2014) highlights the patterns of historic car-oriented design that shaped much of Tucson's development, but explains how that trend of suburbanization has slowed and growth has returned to the downtown core. At the regional level, RTA takes a multimodal approach to delivering the region's transportation future, outlined in the Shaping our *Transportation Future (2018)* and *Our Mobility (2019)* progress updates. RTA is 13-years through a funded 20-year transportation plan that includes roadway, safety, environmental & economic vitality, and transit projects. They have invested over $1 billion in the region to date. A half-cent excise tax funds these efforts (average household cost $16 monthly).

TRANSIT

Approximately 3.5 percent of Tucson residents use transit to commute to work (2017 American Community Survey). Progress is being made to connect land use with transportation planning, particularly transit, to increase transit ridership. The *Plan Tucson: General & Sustainability Plan* highlights the success of the Infill Incentive District (IID), which covers an area around the central core from 22nd St to Grant Rd (north/south) and from Granada to Euclid (east/west) and includes the streetcar route to promote transit-oriented development. The IID relieves property owners from some parking, loading, and landscaping standards if the development supports pedestrian or transit-oriented development. This incentive has facilitated creation of 1,476 units of housing and 456,204 square feet of new commercial space in the greater downtown area as of May 2019. Approved by voters in 2006 then completed in 2014, the SunLink streetcar serves downtown, the westside and University of Arizona campus, driving an estimated $1.4 billion of new private development and over $2.4 billion overall economic impact in the area. The new street car is the key transit and pedestrian investment to improve travel options in the downtown core. The city has also increased bus frequency to every 15 minutes or less on the most popular bus routes as part of the 2016 launch of the Frequent Transit Network. This change sought to increase predictability and reliability for riders. The *PAG Long-Range Regional Transit Plan (2019)* offers

the most up-to-date transit investment priorities and illustrates the future of Frequent Transit Network. The *PAG Long-Range Regional Transit Plan* recommends the following medium-term (10-year) transit improvements:

- "Frequent Service to Many More Areas", particularly the south side and Flowing Wells.
- "Frequent Service Seven Days a Week and More Evening Service." This plan proposes to provide the same service during the week, on the weekends
- "Faster and More Reliable Travel." This plan proposes to develop transit priority measures at over 100 intersections, and up to 25 miles of bus lanes.
- "Better Conditions for Passengers." Recommended improvements include improvements to over 2,000 bus stops and new vehicles and real-time tracking.

This plan proposes even more robust recommendations for the long-term (20-year) horizon.

The City of *Tucson's 5-Year Strategic Transit Plan 2020-2024* uses the term mobility in the vision statement "Sun Tran, (Sun Link, and Sun Van) enhance lives through mobility" and seeks to make connections to other transportation modes. The transit plan identifies the multimodal goal to "achieve a seamless transportation network" with the objectives:

- Improve connections to other transportation modes
- Improve accommodations for bicycles
- Improved integration of mobile application technology.

WALKING AND BIKING

Walking and biking are significant priorities for the City of Tucson. For example, as a result of the *Plan Tucson: General & Sustainability Plan* the Tucson Department of Transportation invested over $2 million in pedestrian and bicycle infrastructure including new ADA-compliant sidewalks in La Doce neighborhood around South 12th Avenue and the Liberty Bicycle Boulevard, to make both areas safer and more accessible for community members. With a network of over 1,000 miles of bikeways and above-average bicycle commuting rates, the City of Tucson has a long history of supporting bicycling. The *Bicycle Boulevard Master Plan (2017)* outlines one aspect of Tucson's commitment to bicycle infrastructure establishing a network of 193 miles of future bicycle boulevards along 64 residential corridors. When the entire network is complete, 78% of Tucsonans will have access to a bicycle boulevard within one-half mile of their homes. In 2018, City of Tucson voters approved *Proposition 407: Parks + Connections*, a $225 million bond package to fund capital improvements. The bond funds will be dedicated to improving parks amenities and connections, which include pathways and safety improvements for people walking and biking. The funding will be generated over 9 years from 2020-2029, with three phases for program implementation. Planned projects are outlined in the city's bond story map.[1]

Regionally, PAG's *Tucson Regional Plan for Bicycling (2009)* and the *Regional Pedestrian Plan (2014)* set the foundation for walking and bicycling policy in the region. The Regional Bicycling Plan establishes the vision to "Provide for and facilitate more and safer bicycle travel on a region-wide basis" and emphasizes connections to transit stops and other key destinations such as: "activity areas, schools, parks,

[1] Tucson Delivers: Parks + Connections Story Map
https://cotgis.maps.arcgis.com/apps/MapJournal/index.html?appid=1ecc433d37e141e198ab9301bdc1a736

natural resource areas, and employment areas". In 2006 and again in 2008, the League of American Bicyclists (LAB) recognized the Tucson - Pima Eastern Region as a Gold Level "Bicycle Friendly Community," the first and only such regional designation in the United States.

The *Regional Pedestrian Plan* identifies the vision: "A region where people of all ages and of all abilities have the opportunity to walk in an environment that is safe, accessible, comfortable and well-connected." The *Regional Pedestrian Plan* provides useful information about existing walking conditions, pedestrian demand data, and design solutions to create a more walkable environment.

CHALLENGES IDENTIFIED IN REVIEWED PLANS

Most city and regional planning, designing, and engineering plans and guidelines largely focus on maintaining the existing car-centered transportation system found across the Tucson region. Where there are mode-specific plans, outlined above, they are not yet integrated into a comprehensive approach and remain siloed in their respective departments or interest groups and have not been used to update other design and engineering guidance. For example, *Complete Streets Policy* has been adopted but has not yet been used to update City of Tucson engineering guidance or city code, including:

- *Major Streets and Routes Map—Updated 2016*
- *Technical Standards Manual—2013*
- *Update to Ordinance 9823: Access Management Guidelines—2011*
- *Sidewalk Widths for Arterial and Collector Roadways—2001*
- *Chapter 25—Streets and Sidewalks—Date not stated*

It should be noted that the City is currently working toward a *Complete Streets Design Guide*, which provides additional guidance on the integration of these areas.

The *Major Streets and Routes Map* is organized according to car-oriented designations and routes. The required set-backs on some route designations pose a challenge to comfortable, safe pedestrian design and will likely need to be updated to incorporate a Complete Streets approach. The auto-oriented focus shapes development reduces the possibilities for transit-oriented development and opportunities to invest in walking or bicycle routes. These engineering documents and city code do include basic design considerations for walking and biking facilities, but they prioritize car-oriented design as more important. For example, *the Sidewalk Widths for Arterial and Collector Roadways* calls for 6-foot sidewalks along all arterial and collector roadways or an easy reduction to 5-foot sidewalks, if the 6-foot width is "difficult to obtain." Sidewalk widths can be reduced even further, if a wide sidewalk is not "reasonable possible" due to: insufficient right-of-way, utility conflicts, landscape conflicts, existing sidewalks of lesser width, misc. physical barriers. The general minimum sidewalk width is 4-feet.

Additionally, the *Update to Ordinance 9823: Access Management Guidelines (2011)* provides regulation of the design, spacing, and operation of intersections, driveways and median openings to a roadway. Its objectives are to enable access to land uses while maintaining roadway safety and mobility through controlling access location, design, spacing and operation. This Access Management Guidelines prioritize the flow and access for vehicles and could be updated to encompass a more multimodal approach.

An additional challenge for the Tucson region will be adapting to new mobility, such as electric bikes and scooters, transportation as a service models, autonomous vehicles and more. The *Tucson Complete Streets Policy* includes a reference to "smart technology" trainings in the implementation chart. However, most planning documents do not address how the region will incorporate and be resilient to emerging technology.

Safety

STRENGTHS OF REVIEWED PLANS

Safety for people using all travel modes is an essential goal for the *Tucson Mobility Master Plan*. Similarly, safety is a common goal across almost all of the planning, design, and engineering guidance of the city and region. For example, the *Tucson Complete Streets Policy* establishes safety as the number one goal: "Complete Streets provide a safe travel experience to all and designing Complete Streets is a safety strategy to eliminate preventable traffic fatalities." Other city plans or policy that establish a safety goal or outline technical safety specifications for safe infrastructure include: *Technical Standards Manual*, *Access Management Guidelines*, *5-Year Strategic Transit Plan 2020-2024*. At the regional level, RTA and PAG plans agree on a shared vision of safe infrastructure for all modes but particularly for walking and biking. For example, in the *Regional Pedestrian Plan*, the primary identified goal is "a safe region for walking." In the *Tucson Regional Plan for Bicycling*, two safety-related goals are established:

- Enforcement- Establish and implement targeted enforcement of specific traffic laws on bicyclists and motorists, based on the documented, most frequent bicyclist–motorist crashes.
- Engineering- Plan, design, construct, and maintain bicycle facilities that meet or exceed accepted standards and guidelines.

To implement these policies, design guidelines highlight how their requirements comply with safety standards. For example, the *Landscape Design Guidelines* outlines how City design standards comply with roadway safety standards. National roadway safety standards referenced by the City of Tucson include: *Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Transportation Research Board (TRB), and the Institute of Transportation Engineers (ITE), and Manual on Uniform Traffic Control Devices (MUTCD), the National Association of City Transportation Officials (NACTO), United States Access Board, and the ADA Accessibility Guidelines (ADAAG).*

CHALLENGES IDENTIFIED IN REVIEWED PLANS

In general, plan guidance on strategies to improve multimodal safety was often less developed than plan language discussing the need for improved walking or biking safety or motorist safety. For example, the *PAG Strategic Transportation Safety Plan (2016)* shows that region-wide crash rates are higher than the statewide crash rates for five contributing factors: Intersections, Young Drivers, Older Drivers, Pedestrians and Bicycles. This plan does identify performance measures to evaluate safety performance moving forward:

- Number of fatal crashes
- Number of incapacitating injury crashes
- Crash rate for fatal crashes (number of crashes per 100 MVMT)

- Crash rate for incapacitating injury crashes (number of serious injury crashes per 100 MVMT)
- Non-motorized fatal and serious injury crashes

The *Tucson Complete Streets Policy* contains implementation steps to integrate the safety measures and improvements into existing City operations. This effort is still underway. The *Mobility Master Planning Process* is identified as a key implementation process.

Equity and ADA Accessibility

STRENGTHS OF REVIEWED PLANS

While all communities offer a variety of ways to get around, not everyone has equal access to a wide range of convenient, safe, and affordable means of transportation. Some communities have connected networks of trails and sidewalks, and few major barriers, while others have incomplete networks and major barriers, such as wide roadways, that make walking uncomfortable and difficult. In the Tucson region, most planning documents in do not explicitly reference equity. However, *the Complete Streets Tucson Policy* identifies equity, diversity, and inclusivity as a key goal. The plan lists the following underserved, disenfranchised communities who may have been historically left out of the planning process: low-income individuals, people of color, older adults, children, youth, people with disabilities, and people living in households without access to a private automobile. The policy explains that:

"Each of these groups are either at higher risk of injury or death while walking or biking and/or more likely to walk, bike or use public transit than the population as a whole and, therefore, needs to be considered specifically when improving the transportation environment."

The city is:

"Committed to advancing transportation equity through the Complete Streets approach by investing in the most underserved communities, involving the people who have historically been excluded from the transportation planning process, and prioritizing projects and roadway designs that serve the most vulnerable users of the transportation network."

City of *Tucson's 5-Year Strategic Transit Plan 2020-2024* does not explicitly identify equity as a goal or priority for the transit system, though the plan does describe reduced-fare programs, Universal Access improvements, opportunities to coordinate with schools and local businesses, and a community ambassador program, which engages residents to promote the pass provider and reduced-fare programs.

CHALLENGES IDENTIFIED IN REVIEWED PLANS

Although several planning documents included a discussion of the need to plan for all ages and abilities, this way of thinking has not yet permeated all aspects of the plans' components and focuses mainly on physical ability, not on transportation equity. Most plans do not mention equity, communities of concern, historically-marginalized groups, or any references to groups who may have experienced disinvestment overtime or face additional challenges getting around. Recommendations typically use general language when describing how to accomplish this goal.

Sustainability

STRENGTHS OF REVIEWED PLANS

As a result of Tucson's desert climate, many planning, design, and engineering documents highlight the need for sustainable design and development, as well as make the connection between transportation choices and sustainability. For example, the city's *5-Year Strategic Transit Plan 2020-2024* identifies promotion of transit as a key way to reduce air pollution, a goal shared by PAG and identified in the *2045 Regional Mobility and Accessibility Master Plan*. Many of the reviewed documents outline landscape design guidance for the desert climate, green streets, native plant use. Reviewed documents include:

- *Active Practice Guideline—Native Plant Preservation—2017*
- *Green Streets—2013*
- *Landscape Design Guidelines—2009*
- *Urban Landscape Framework—2008*

The *Urban Landscape Framework (ULI)* and *Green Streets* engineering guidance both address the importance of green infrastructure. The *ULI* addresses the importance of green infrastructure across all city departments. The plan includes a recommendation promoting multi-modal transportation corridors that enhance the pedestrian, bicycle and transit experience and expand green infrastructure. *Green Streets* engineering guidance explains how to include green infrastructure to "retain, detain, infiltrate, and or filter runoff from the street and sidewalk in landscaped areas behind existing or proposed curbs (parkways or medians.)" Green infrastructure requirements apply to new construction and reconstruction of publicly-funded roadway projects within the City of Tucson that include a landscaping component.

The Native Plant Preservation Guideline seeks to mitigate the impact of transportation projects on native plants. Transportation projects can have a negative impact because "the linear character of roadway design, limited right-of-way, location of underground and overhead utilities, planting offset from utilities, sight-visibility restrictions, easements, and clear-zone requirements. Thus, the opportunities to preserve in place and the mitigation of native plant communities within the right-of-way (ROW) are limited." These guidelines include a useful list of native plants.

CHALLENGES IDENTIFIED IN REVIEWED PLANS

While sustainability, heat-mitigation, and water conservation are identified in almost all planning documents as priorities, the link to climate change and climate resilience is not stated. The *Tucson Mobility Master Plan* could be an opportunity to enhance sustainability and conservation efforts as a goal of the transportation system as a whole (reduction in car trips)

Summary

Overall, the *Tucson Mobility Master Plan* effort is well-timed to develop a multi-disciplinary roadmap for how the City of Tucson, Pima County, Sun Tran, businesses, advocacy groups, and others can work together to create a more healthy, livable community where everyone can get around safely and comfortably. Existing planning documents, city and county policy, and design guidance have established the foundation for this effort, through their emphasis on shifting away from primarily car-oriented design, investing in transit, promoting transit and active transportation-oriented development, incorporating green infrastructure in new development across agencies, and re-investing in central neighborhoods and downtown.

KEY AREAS OF FOCUS FOR THE MOBILITY MASTER PLAN

The following key areas of focus emerged from the plan review effort. These topics will be explored further through stakeholder interviews.

- **Elevate transportation equity as a key process and outcome goal.** Existing planning documents do not go far enough in establishing transportation equity as a key goal for the region. The Mobility Master Plan should identify a strategy for multi-jurisdictional collaboration and community involvement to create a more equitable transportation system and community. The planning effort should consider how to enhance the connection between affordable housing and mobility.
- **Develop a complete streets policy implementation framework.** The Mobility Master Plan should establish clear actions for city departments and regional agencies to implement the policies outlined in *Complete Streets Tucson.*
- **Establish mobility performance measures to track progress.** How will the city and region know if the plan is having the desired impact? The Mobility Master Plan should pull from existing performance measures in the Regional Mobility and Accessibility Plan, Complete Streets Tucson and establish new measures as needed.
- **Identify next steps for citywide green infrastructure and climate reliance.** The Mobility Master Plan effort should engage community groups already working on these issues and includes their ideas as the plan develops. This is a rapidly evolving field and of great importance to the Tucson area.
- **Adapt to and incorporate new mobility and emerging technology.** Technology is quickly changing the way people travel, particularly in urban areas. The Mobility Master Plan should anticipate some of these changes and consider how to create a nimble transportation system in Tucson, which preserving and celebrating the city's culture and history.
- **Plan for safer, multi-modal streets.** The Mobility Master Plan should pair a data-driven and qualitative approach for addressing safety for residents and visitors getting around Tucson.
- **Refine policy recommendations to codify complete streets policy and design standards.** The Mobility Master Plan provides an opportunity to integrate multi-modal standards such as City of Tucson engineering standards and codes.

EXISTING CONDITIONS PROCESS

Existing Conditions Process

Introduction

The following memo presents the results of the Move Tucson existing conditions analysis. This assessment documents how people travel in Tucson today and what the existing conditions are for people traveling by foot, bike, bus, and car. The document is divided into two primary sections. Section A outlines the general process for completing the existing conditions analysis, including data sources, selected methodology, and key considerations. Section B presents the key findings of the analysis, including supporting statistics, maps, and charts. The Findings section is intended to inform the final Existing Conditions Report and recommendations developed as part of the Move Tucson plan process.

Analysis Process

The existing conditions analysis considers the variety of ways Tucsonans travel today. Not only does this include current patterns of travel, but it also addresses the condition and quality of the existing networks. A variety of analyses consider challenges and opportunities for walking, bicycling, driving, and taking transit in Tucson utilizing spatial data, demographic data, employment statistics, current use patterns, and site observations. Each mode is considered based on its unique characteristics and is also evaluated in conjunction with demographic, safety, and demand patterns.

The assessment uses data provided by the City of Tucson and Pima Association of Government; or sourced from the United States Census Bureau Longitudinal Employer-Household Dynamics (LEHD) and American Community Survey (ACS) programs. The specific process for each mode is explored below, including an overview of data limitations.

DEMOGRAPHICS

Demographic data includes trends in population, employment, student, and visitor growth as well as characteristics of these groups to understand where certain populations are most highly concentrated, where employment opportunities are located, and seasonal variations in trends.

The Demographic Analysis first considers current population trends. As the City grows, a greater number of people will rely on the transportation network to get to where they need to go. Increasing economic opportunities, a growing university population, and a flourishing tourism market further increase the demand on Tucson's existing network. A future vision for mobility in Tucson will need to consider this growth and how to increase options for traveling that can help reduce congestion on the city's streets.

However, not all Tucson residents have the same quality of access, resulting in disparities affecting travel to work, school, and other destinations. Studies from across the country routinely find that certain demographic groups typically face greater barriers than others in getting to the places they need to go, especially in communities designed primarily for motor vehicles.

These demographic groups include: people who identify as black, indigenous and people of color;

youth; older adults; people with low incomes; people without a high school diploma; people with limited English proficiency; people without access to a motor vehicle; and people with disabilities.[2,3,4] Some barriers faced by these groups relate to historic patterns of injustice that have shaped the physical environment and negatively affected people's ability to reach jobs, services, and education, among other destinations. For example, highways and high-stress roadways have often been built through communities of color and through low-income communities, displacing residents and cutting people off from jobs and services. People in these demographic groups may also face barriers directly related to their age, disability, income, education level, and more.

Improving transportation options is critical to overcoming these barriers and responding to the needs of all Tucson residents. Transportation options, including traveling by car, public transportation, walking, or biking, provide connections to opportunity, allowing people to access jobs, services, education, and recreation.

The data informing the demographic analysis include the items outlined in Table 14 below.

Table 14. *Data Sources for Demographic Data*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Equity Indicators	Equity indicators, including race, age, income, educational attainment, access to a motor vehicle, limited English proficiency, and disability.	2017 ACS 5-year estimates	N/A
Population and Employment	Population and employment counts and projections	Pima Association of Governments	Note: Demand analysis and related measures utilize ACS data for spatial analysis purposes
University of Arizona Enrollment	10-year enrollment numbers for the University of Arizona	University of Arizona	N/A
Airport Passengers	The number of passengers by month at the Tucson Airport	Tucson Airport Authority	N/A
Hotel Occupancy	Percent of Occupied Hotel Rooms	Visit Tucson	N/A

[2] Dannenberg A, Frumkin H, Jackson R. Making Healthy Places. 1st ed. Washington D.C.: Island Press; 2011.

[3] International City/County Management Association. Active Living for Older Adults: Management Strategies for Healthy & Livable Communities.; 2003. http://www.ca-ilg.org/sites/main/files/file-attachments/resources__Active_Living.pdf. Accessed February 22, 2020.

[4] Mckenzie B. Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012. Am Community Surv Reports. 2014.

Transportation: Travel Patterns

This section provides an overview of current commute mode share, commute travel patterns, and comparisons to other peer cities. Commute travel pattern data includes average trip length, direction of travel, and in-flow and out-flow for employment opportunities.

To better understand this data and opportunities for improvement, commute patterns are compared to four peer cities. These cities, listed in Table 16 below, represent cities of similar population and/or geographic area[5], offer similar levels of public transportation service, and are located in the Sunbelt. These cities were also considered in the public transportation analysis below.

Table 15. *Data Sources for Travel Patterns*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
In-Flow/Out-Flow	This data describes the relationship Tucson residents and employees based on home and job location, including those who travel to Tucson for work, those who live and work in Tucson, and those who leave Tucson for work	U.S Census Longitudinal Employer-Household Dynamics, 2017	Data is provided by LEHD at the summary level and does not allow for further breakdown.
Direction of Travel	This data describes generally the distance and direction that Tucsonans are traveling for work.	U.S Census Longitudinal Employer-Household Dynamics, 2017	Data is provided by LEHD at the summary level and does not allow for further breakdown.
Commute Mode	This data describes the mode people use to travel to work most often.	2017 ACS 5-year estimates	This data does not capture non-work trips nor does it capture multi-modal trips.

Table 16. *Peer Cities*

CITY	POPULATION (2018 EST.)	AREA (SQUARE MILES)
Tucson, Arizona	545,987	239
Austin, Texas	964,243	320
El Paso, Texas	686,686	257
Fresno, California	530,073	114
Albuquerque, New Mexico	560,234	187

[5] Data for the cities listed in Table 2 were sourced from the US Census Bureau.

Transportation: Safety

The safety analysis for the City of Tucson considers data from 2014 through 2018. This data documents locations and severity of crashes involving drivers (of motor vehicles and motorcycles), bicyclists, and pedestrians. The results of the safety analysis identify locations with high frequencies of crashes, where serious injury and/or fatal collisions occur most often, and reveal other patterns in the crashes occurring in the city, such as time of day. Table 17 below outlines the data used in this analysis:

In this process, crashes were considered separately by mode as well as in combination to understand overall patterns, frequency, and location characteristics. It is important to note that this assessment includes only reported collisions. Bicycle and pedestrian crashes are often underreported, especially when they are of lesser severity; further the City of Tucson does not complete full reporting for property damage only collisions. For this reason, the data analysis may not fully portray the experience of these groups on the roadway.

Crashes located in close proximity (100 feet or less) were aggregated for display and analysis purposes, depicting areas with higher frequencies of crashes. Locations where serious injury or fatal collisions occurred are highlighted separately from all crash types to understand where improvements may be most needed to improve safety.

Table 17. *Data Sources for Safety Analysis*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Crash Locations	Crash locations of all reported crashes in Tucson from 2014 to 2018, including mode and severity	Pima Association of Governments	Pedestrian- and bicycle-involved collisions were determined through use of field Dsc_FirstHarm = PEDESTRIAN or PEDALCYCLE. Intersection-related collisions were determined based on field Dsc_JunctRel.
Roadway Centerline	Location of roadways, including number of travel lanes and posted speed limit. This data support understanding of roadway characteristics where collisions occurred	City of Tucson; Pima Association of Governments	Speed, number of lanes and volume are maintained for major roadways only. Assumptions for local roadways were provided by the City of Tucson. Where lane miles are referenced, length of roadway is multiplied by provided or assumed lanes.

Transportation: Bicycling

The bicycle network in Tucson includes striped bike lanes, trails, greenways, signed routes, bicycle boulevards, and cycle tracks. Over 1,100 miles of designated bikeways of all types and comfort levels are currently present in the city; funding through Proposition 407 will fund implementation of an additional 100 miles of low-stress bikeways across the City.

To understand the relative comfort of the existing network, a Bicycle Level of Traffic Stress (BLTS) analysis was completed. Not only does this analysis demonstrate how stressful it is to travel along a roadway, it also reveals the impact that major roadway crossings have on connectivity. Building on methodology defined by the Mineta Institute[6] and further developed by Peter Furth[7], the BLTS examines the relative comfort of traveling along and across roadways.

This analysis considers the following elements:

- Motor Vehicle Speed
- Number of Travel Lanes
- Motor Vehicle Volumes
- Bicycle Facility Presence and Width
- Signal Location

When considered together, these factors score roadways on a four-point scale. An LTS 1 represents the lowest stress pathway and is typically considered appropriate for all ages and abilities. An LTS 4 designates roadways that are highest stress and typically not comfortable for a bicyclist of any level. Bicycle boulevards and trails are most often considered BLTS 1 (lowest stress), while arterials and other high speed, high volume roadways are considered BLTS 4 (highest stress).

BLTS results are one tool to identify where and what types of improvements can increase connectivity and comfort of a bicycle network. For example, lowering roadway speeds, increasing separation of the bicyclist from motor vehicles, and designating crossings can all improve overall comfort of the bicycle network. Table 5 below outlines the data used in this analysis, along with limitations and assumptions.

[6] Low-Stress Bicycling and Network Connectivity. Mineta Transportation Institute. 2012. https://transweb.sjsu.edu/sites/default/files/1005-low-stress-bicycling-network-connectivity.pdf

[7] Furth, Peter. Level of Traffic Stress Criteria for Road Segments, Version 2.0. 2017. http://www.northeastern.edu/peter.furth/wp-content/uploads/2014/05/LTS-Tables-v2-June-1.pdf

ADDITIONAL DATA LIMITATIONS

The methodology utilized in this analysis includes options for a more robust understanding of roadway configuration and its impacts on bicycle travel. Specifically, data delineating right turn lane locations, turn lane length, and interaction with bicycle lanes can illuminate additional challenges for a complete, connected bicycle network. Right turn lane data is not available for the City of Tucson, and this assessment was not included. Future data collection efforts should consider documenting these locations for a more robust analysis of the bicycle network.

Table 18. *Data Sources for Bicycle Analysis*

DATA ELEMENT	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Roadway Centerline	Location of roadways, including number of travel lanes, volume, and posted speed limit	City of Tucson; Pima Association of Governments	Speed, number of lanes and volume are maintained for major roadways only. Assumptions for local roadways were provided by the City of Tucson
Existing Bike Facilities	Location of bike routes, bike lanes, trails, bicycle boulevards, and cycle tracks.	Pima Association of Governments	Data does not include facility width; assumption of 5 feet is used for bicycle lanes. Benefit is provided only when bike lanes measure 6 feet wide or greater and have posted speed of 30mph or less.
Signal Locations	Location of standard traffic signals and bicycle/pedestrian signals	City of Tucson	N/A
Bicycle User Counts	Manual user counts at various locations conducted annually between 2015 and 2019. Counts are collected for bicycle and pedestrian activity.	Pima Association of Governments	Data displayed in report is for most recent year, weekday counts. Historical data may be taken into account in the network development process. This data is not integrated into the BLTS analysis.

Transportation: Walking

Tucson's current pedestrian network is comprised of sidewalks, gravel and dirt pathways, and trails. Some areas around the city have relatively complete sidewalks, and some areas feature wide sidewalks and well-shaded pathways. In many locations, however, sidewalks may not be continuous or connected; when present, they may be narrow, in need of repair, or located immediately adjacent to high speed roadways.

To better understand the relative quality of the existing sidewalk network, an assessment of the relative safety and comfort of the pedestrian network was completed. This analysis, similar to the BLTS noted above, provides insight into where improved facilities may better support pedestrian travel. It evaluates relative comfort along roadways based on motor vehicle speed, volume, and provision of dedicated pedestrian space. Roadways that include bike lanes are also considered, as they provide additional separation between motor vehicles and pedestrians.

In general, higher speed roadways with higher volumes of motor vehicles and limited sidewalks are least comfortable. Low-speed, low-volume roadways with complete sidewalks will be most comfortable and typically suitable for people walking of all ages. It should be noted that this assessment is not intended to evaluate ADA compliance. Understanding access for people of all abilities requires additional data and analysis. The following table outlines the data used in this analysis, including any required assumptions.

Table 19. *Data Sources for Pedestrian Analysis*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/LIMITATIONS
Roadway Centerline	Location of roadways, including number of travel lanes and posted speed limit	City of Tucson; Pima Association of Governments	Speed and number of lanes are maintained for major roadways only. Assumptions for local roadways were provided by the City of Tucson
Sidewalks	Location of sidewalks along roadways based on sidewalk centerline. Data includes width and surface type	Pima Association of Governments	Sidewalk data at this level of detail is only available for major roadways. Only sidewalks 4 feet wide or greater and with surface types of asphalt or concrete were included.
Pedestrian User Counts	Manual user counts at various locations conducted annually between 2015 and 2019. Counts are collected for bicycle and pedestrian activity.	Pima Association of Governments	Data displayed in report is for most recent year, weekday counts. Historical data may be taken into account in the network development process. This data is not integrated in the PLTS analysis.

ADDITIONAL DATA LIMITATIONS

Details regarding sidewalk width and surface type are available for limited number of roadways—specifically major roadways, some local roadways, and frontage roads. The PLTS analysis considers only those areas where sidewalk data with this level of specificity was available. Data was manually coded to the roadway centerline where sidewalk lines meeting the standards noted in Table 6 above were present along the entire length of the roadway segment. Percentages of roadway with sidewalk present are based on roadway centerline mileage.

Transportation: Public Transportation

Sun Tran provides nearly 80 million miles of service annually, reaching residents across the greater Tucson region with local bus, express bus, streetcar, shuttle, paratransit and on-demand service. The range of public transportation options include support for weekday late-night service while reaching a significant number of households and jobs in the region. The *Regional Long-Range Transit Plan*, completed in early 2020, identifies opportunities to improve trip times, increase the number of residents with easy access to frequent routes, and improve weekend service.

Building on this information, the existing conditions analysis also considers current bus stop quality, ridership demographics, and areas of highest demand to provide greater understanding of how the public transportation network can best integrate with other modes of travel. The data used in this analysis include the items outlined in Table 20.

Table 20. *Data Sources for Public Transportation Analysis*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Public Transportation Routes	Route information, including frequency, for bus, shuttle, paratransit, and street car service, as applicable	City of Tucson	N/A
Public Transportation Stops	Stop locations for bus and street car service; includes details on amenities of each stop	City of Tucson	N/A
Ridership Data	Boarding information for stops and routes within the SunTran network	City of Tucson	N/A
Transit Agency Profiles and Data	Data regarding status and performance of peer city agencies and City of Tucson	Federal Transit Authority National Transit Database	N/A
Population and Employment	2017 estimates for population and employment in Tucson	U.S. Census Bureau LEHD and ACS	N/A

Transportation: Driving

A complete transportation network will support a variety of ways to get around and provide choices to all residents. Driving can support longer trip distances, access to further reaching destinations not served well by transit, or trips taken in non-traditional hours. When considered in conjunction with walking, biking, and public transportation, a system that provides options can be more efficient, safer, and more useful for all.

The assessment of the driving-focused network considers vehicle volumes, roadway capacity, and surface conditions. Utilizing data from PAG on existing volumes and capacity as well as 2045 projected volumes (no build scenario), the analysis focuses on identifying pinch points in the network and opportunities to better utilize the existing investment in roadways. Table 21 outlines these data sources.

Table 21. *Data Sources for Driving Analysis*

DATA TYPE	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Roadway Centerline	Location of roadways, including number of travel lanes, posted speed limit, and surface quality measures.	City of Tucson; Pima Association of Governments	Speed and number of lanes are maintained for major roadways only. Assumptions for local roadways were provided by the City of Tucson
Traffic Volume	Existing and projected volumes as determined by the Regional Travel Demand Model	Pima Association of Governments	N/A

Transportation: Shared Mobility

TUGO Bikeshare and the e-scooter pilot program have introduced shared mobility options for Tucsonans, particularly within the central city. While these modes travel along the same networks as bikes and motor vehicles, they provide additional options for residents and visitors. Shared mobility options can help alleviate the need for a motor vehicle for shorter trips, encourage more active trips, and help connect people to a broader range of destinations.

As part of the Move Tucson planning process, shared mobility options should be considered as part of Tucson's mobility future. For the purposes of the Existing Conditions Analysis, locations, trip patterns, and overall ridership were considered to better understand current demand.

Table 22 outlines the data sources support this analysis.

Table 22. *Data Sources for Shared Mobility*

DATA ELEMENT	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
TUGO Station Locations	Locations of TUGO stations, including number of docking locations	City of Tucson	N/A
e-Scooter Pilot Trip Data	Data regarding e-Scooter Pilot ridership, trip locations, and fleet for both Razor and BIRD	City of Tucson; Populus Data Manager	Ridership and fleet numbers were calculated as of February 20, 2020

Transportation: Demand

The above focus areas for analysis provide insight into demographic and modal patterns as well as safety concerns across the transportation network. These analyses describe the current systems but do not specifically consider to where people travel today or would like to travel. Where people live, work, play, access transit, go to school, and shop can help inform common origins and destinations across the city. Areas where these destinations are located in close proximity are considered areas of high demand and may have greater potential for active, shared, or public transportation-based trips. Clusters of destinations can indicate opportunities for developing more walkable communities through pedestrian improvements.

The data sources informing this analysis are outlined inTable 23 below.

Table 23. *Data Sources for Demand Analysis*

DATA	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Population and Employment	Population and Employment densities by block group	2017 ACS and LEHD	N/A
Schools	School locations, including universities and K-12 schools	City of Tucson	Schools are weighted based on level and potential for shorter, active trips; elementary schools and colleges are weighted higher
Trails	Trail locations as a recreational destination	City of Tucson	N/A
Parks	Park locations, including neighborhood and regional parks	City of Tucson	N/A
Public Transportation and Bike Share	Bus stops, street car stops, and bike share stations	City of Tucson	Bike share station were included in this measure. High frequency buses were weighted higher than standard service.
Shop	Density of commercial locations, as determined by retail employment codes	LEHD	N/A

Special Topics: Stormwater and Green Infrastructure

With minimal stormwater infrastructure, many of Tucson's roadways provide stormwater conveyance in major storm events. The presence of rain water along the roadway impacts not only travel along that route by bicycles, pedestrians, and motor vehicles; it also affects roadway quality and maintenance needs. Storm events often result in debris in shoulders and bike lanes, and flowing water can further deteriorate the roadway surface.

Research and investment into Green Stormwater Infrastructure (GSI) have helped divert stormwater in some locations, while supporting an increase in tree canopies. The City of Tucson and its partners have recently identified funding sources for increasing GSI throughout the City, particularly in coordination with other capital projects. The data listed in Table 24 below was considered as part of this preliminary assessment.

Table 24. *Data Sources for Special Topic Analysis*

DATA TYPE	DESCRIPTION	SOURCE	ASSUMPTIONS/ LIMITATIONS
Roadway Centerline	Location of roadways	City of Tucson	N/A
Flood Plain	Areas within the 100-year flood plain, as identified by FEMA	FEMA	N/A
Tree Canopy	Approximate canopy coverage by census blocks	PAG	N/A
Washes	Wash locations with flow rate	City of Tucson	N/A

Section B: Results

The attached results report outlines key findings from the analyses listed Section A. This information is intended to highlight current conditions in Tucson, and when combined with results from public engagement and scenario development, will help inform project and program recommendations.

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EXISTING CONDITIONS SUMMARY

Existing Conditions Summary

Executive Summary

The following document evaluates Tucson's existing transportation network, considering who uses it, the quality of the networks, and opportunities for improvement. This analysis is informed by spatial data, site observations, previous planning efforts, and economic and demographic data. The results of this analysis will inform project recommendations, in coordination with public and stakeholder engagement.

The results of the existing condition report suggest significant opportunity for improving transportation options across Tucson. The findings indicate a need to increase mobility options in areas that are underserved by the current system, reduce rates of serious injuries and fatalities across all modes, leverage existing investments through maintenance, repair, and closing network gaps; and mitigate future congestion through providing additional transportation choices, making operational improvements to the system, and investing in key mobility corridors. Tucson benefits from a roadway network with limited congestion and excess capacity, a vast network of minor roads that can support multimodal connections, lower drive-alone commute rates than some peer communities, a high percentage of residents living and/or working within a 10 minute walk of frequent public transportation, and relatively short commute distances for a large portion of the daytime population.

Move Tucson project recommendations will carefully consider both the data presented here as well as the needs of the public expressed through public engagement activities to create a transportation system that reflects Tucson's values and vision for the future.

Growth in Jobs, Population, Students, and Visitors

While the Tucson region is not growing as quickly as once projected, Tucson continues to see a steady increase in both population and jobs. Current projections anticipate an 11% increase in population and 32% increase in jobs over the next 25 years. Combined with a growing student population and tourism industry, the City of Tucson and nearby communities will witness increased demand on the transportation network. Move Tucson will seek to meet growing demand by increasing the efficiency of Tucson's transportation system through modernizing the street network and improving opportunities to walk, bike, and take public transportation.

Travel Patterns and Travel Options

Today, most of Tucson's workforce drives alone to work, over 60% of whom travel less than 10 miles. The average commute time for Tucson workers across all modes is 22.4 minutes, comparable to similar sized peer cities. A significant number of workers also travel into Tucson each day from nearby communities, resulting in a 25% increase in Tucson's daytime population. This means that each work day, Tucson experiences a significant uptick in traffic, with more cars traveling through the city to reach economic opportunities; however, shorter-distance trips may be an opportunity to increase the use of more efficient and sustainable modes and reduce strain on Tucson's streets. Today, only 2% report bicycling to work, while 3% walk and 3% take transit, which likely reflects a legacy of auto-centric development patterns and a low level of investment in pedestrian, bicycle, and public transportation networks compared to motor vehicle investments.

Safety

Transportation safety is a significant concern in Tucson. Between 2014 and 2018, there were more than 29,000 reported crashes on Tucson's streets, resulting in more than 270 deaths. While the rate of serious injuries and fatalities for drivers and passengers has declined, the rate of severe injury and fatal collisions have increased for bicyclists and pedestrians. In 2019 alone, 39 pedestrians were killed on Tucson's roadways, representing over 50% of all traffic fatalities. This is despite only being involved in less than 4% of all crashes.

Community Characteristics: Destination Density Analysis

Not all transportation options will be equally effective throughout the city. Tucson includes a range of land use contexts, from more dense urban development to lower-density rural development. This land use context, including consideration for where people are traveling from and to, will impact the potential success of different transportation solutions. For example, high quality bicycle and pedestrian networks can provide more travel options for shorter trips. This report analyzes the potential demand for biking and walking trips by evaluating the density and proximity of where people live, work, learn, shop, play, and access transit. The highest areas of demand, when coupled with high-quality infrastructure, have the potential to support the greatest diversity of mobility options to get to daily destinations.

Community Characteristics: Equity

Using demographic data, this report assessed Census block groups with higher concentrations of historically disadvantaged and vulnerable populations. More than 20% of Tucson's population is located in areas identified as higher need. Households in these communities tend to have lower access to private automobiles, therefore relying more on public transportation, walking, and biking for daily trips; experiencing longer commute times; and facing longer distances to reach safe crossing opportunities.

As the City of Tucson seeks to support increased transportation options and improve safety of its streets, it is also important to consider how Tucson's mobility future can best meet the needs of all residents. Historic and systemic inequities have limited access to economic opportunity, influenced where investment occurs, and have been reinforced through development patterns over time, making it more difficult for people living in high need areas to get around.

Transportation System Assessment

Tucson's transportation system is comprised of roadways, including multimodal travel lanes and freight routes; bicycle infrastructure, including shared use paths, protected bike lanes, bike lanes, bicycle boulevards, and signed routes; sidewalks and unpaved paths for pedestrians; and public transportation options including local bus routes, express bus routes, and the streetcar. The quality and reach of each of these systems varies by mode and location:

Bicycle and Pedestrian

Over half of major roadways in Tucson lack complete sidewalks, and 41% of major streets are considered to be high stress for pedestrians due to limited sidewalks, high travel speeds, and large volumes of motor vehicles. Similarly, nearly 70% of major streets are also considered high stress for people who bicycle. Neighborhood streets provide opportunities for low-stress travel for people walking and biking when safe crossings are provided at major roadways. Opportunities for improvement include closing gaps in network infrastructure while also prioritizing a complete, connected network of high-quality bicycle and pedestrian facilities.

Public Transportation

Public transportation options are available across most of the city. The transit system serves more than 56,000 daily riders, outperforming many peer cities. Highest ridership routes include Routes 8, 11, 16, 4, and 18. Currently, 11 routes in the City of Tucson operate on frequencies of 15 minutes or less between 6:00 a.m. and 6:00 p.m., comprising the frequent transit network. However, many areas of the city are not currently served by frequent routes, and weekend and evening service is limited. Further it's important to consider the ease and comfort of accessing local bus stops. Limited benches, shelter, and lighting in addition to limited crossings opportunities and poor quality or incomplete sidewalks can discourage those who may choose to use public transportation and increases the stress and difficulty for those who rely on this mode.

Motor Vehicles
This analysis looked at current and future projected traffic volumes and congestion on major corridors, which revealed that there is and will continue to be excess road capacity in many areas. In 2019, only 9% of the road network was congested during the busiest hour. Without any capacity investments this is projected to increase to 21% by 2045. Congestion is not distributed uniformly across the network. Areas of high current and future congestion will be evaluated for opportunities to minimize travel delay. Where there is excess capacity, there is an opportunity to re-envision how some major streets are used to support improved opportunities for all modes.

Freight
In addition to commutes or trips to reach services and other destinations, it's important to also consider the other roles that Tucson's roadways have. For example, Tucson's roads support local and regional freight, as do the railway running through the city. While most regional freight travels along Interstate 10, local deliveries and goods from the region's mining and related industries also rely on major roadway in the city. Proposed transportation networks will consider opportunities to both improve safety for other road users as well as reduce opportunities for conflict and delay of freight traffic.

Special Topics

Tucson's roadways are in significant need of repair, with 68% of local roadways and 15% of major roadways in very poor or worse condition. Tucson's roadways also play an important role for stormwater management. Particularly in the summer monsoons, major and local roadways carry and store stormwater. During large storm events, flooding of roadways impacts route options, and the presence of stormwater also negatively affects roadway quality. Ongoing regional efforts to improve green stormwater infrastructure should be considered as part of this plan to identify opportunities for all weather networks.

Growth in Jobs, Population, Students, and Visitors

The City of Tucson and the larger region are continuing to grow. Increasing job opportunities, a growing University of Arizona enrollment, and a flourishing tourism market are resulting in increased demand on the City's transportation network. Although the rate of growth has slowed from past projections, the region's population is anticipated to grow by 17% and jobs by nearly 30%. While the growing population is more dispersed across the region, nearly 75% of all new jobs are expected to be in Tucson.

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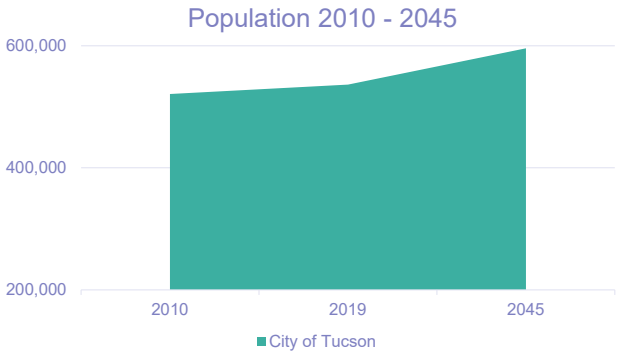
GROWTH IN POPULATION

3%
increase in population over past 10 years



11%*
increase in Tucson's population over next 25 years; the region will grow by 17%.

1,528
new residents every year over past 10 years

2,380
new Tucson residents every year over next 25 years

**This data represents economic growth projects prior to the COVID-19 pandemic.*

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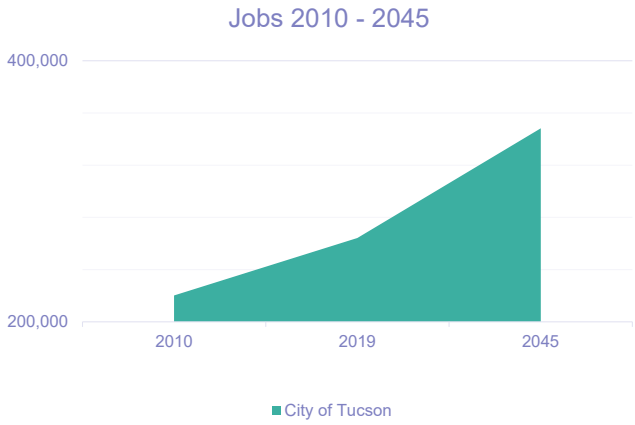
GROWTH IN JOBS

20%
increase in jobs over past 10 years

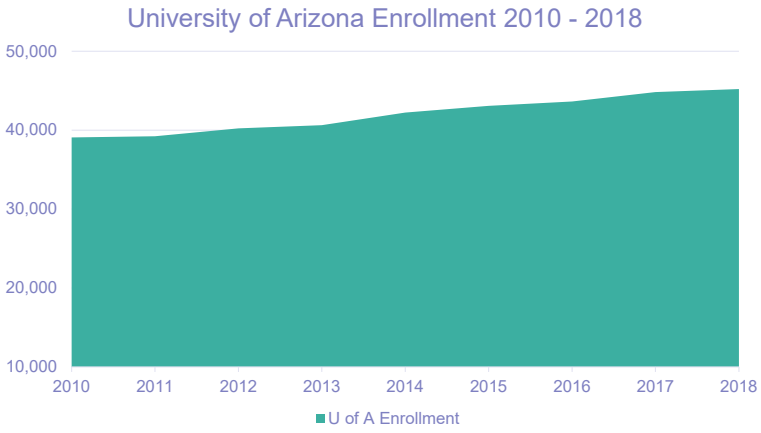


32%
increase in jobs over next 25 years. This represents nearly 75% of all new jobs in the region.

4,401
new jobs every year over past 10 years

3,360
new jobs every year over next 25 years

GROWTH IN STUDENTS



17%
increase in enrollment over past 10 years

4%
increase in City population over past 10 years

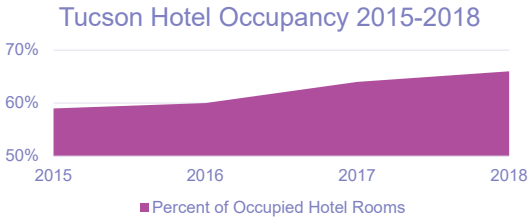
GROWTH IN VISITORS

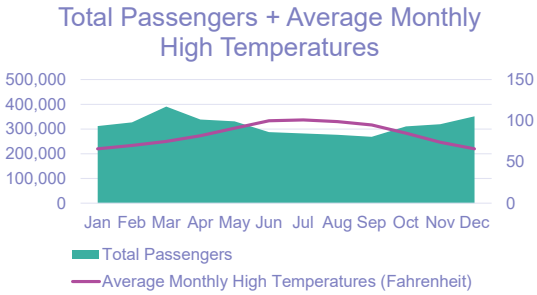
Visitors to the region are increasing. Hotel occupancy rates and Tucson Airport Passengers continue to grow, with cooler months of the year seeing the largest number of visitors.

While reasons to visit Tucson vary, the City also hosts several large events that bring people from across the world to the Southwest, including the Gem Show, El Tour de Tucson, and the Tucson Festival of Books.

7%
increase in hotel occupancies in past 4 years

24%
increase in peak season passengers at Tucson Airport over past 5 years





Travel Patterns and Travel Options

Economic opportunities are dispersed across the region, resulting in varied trip lengths and modes. Each day, Tucson's population increases nearly 25% as residents from outside Tucson travel into the city for work. Although the majority of commute trip distances are relatively short (under 10 miles), nearly a quarter of those working in Tucson travel at least 50 miles to reach their place of employment.

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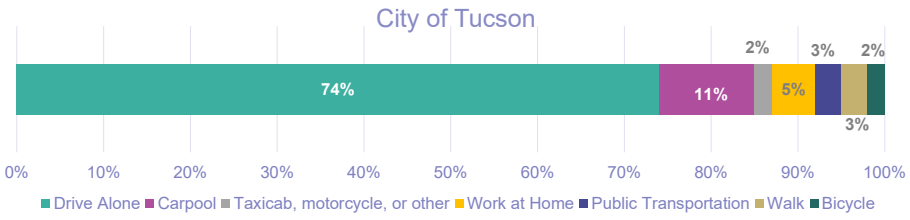
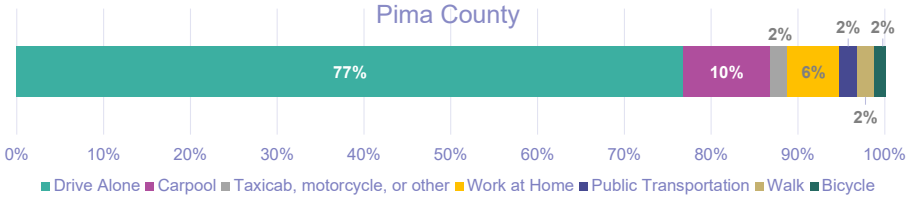
REGIONAL COMMUTE MODE SHARE

The majority of Tucson workers drive alone to work.



This is similar to commute rates across Pima County as a whole.



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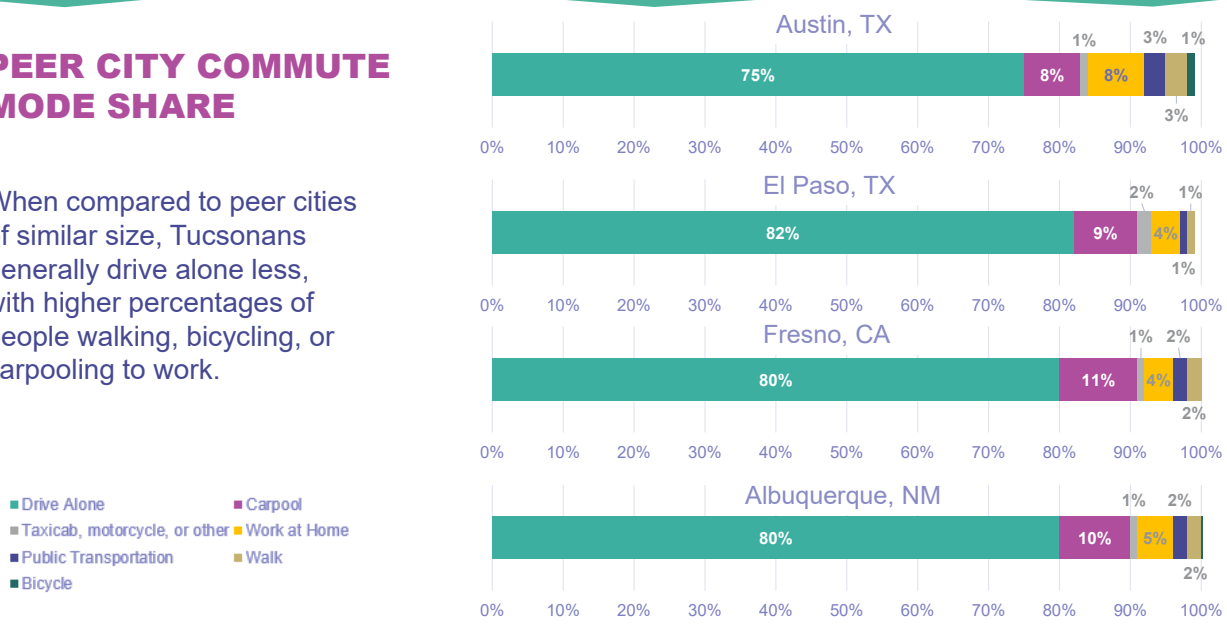
PEER CITY COMMUTE MODE SHARE

When compared to peer cities of similar size, Tucsonans generally drive alone less, with higher percentages of people walking, bicycling, or carpooling to work.



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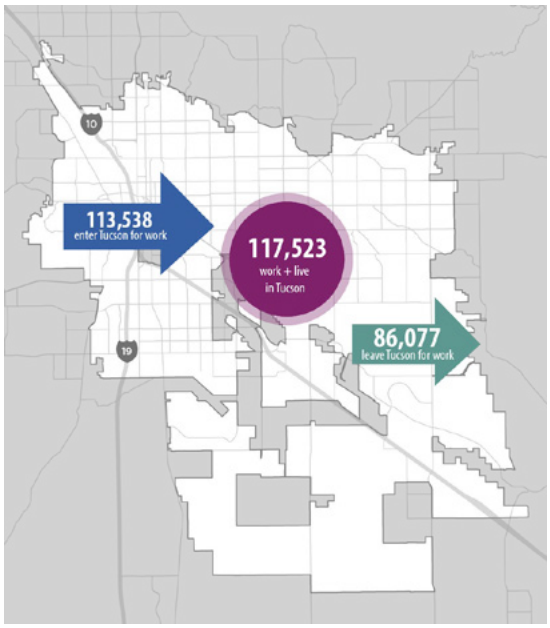
DAYTIME POPULATION INCREASE

While many people live and work within Tucson, over 85,000 workers travel outside of Tucson to reach their place of employment.

However, nearly 114,000 people travel into the city each work day, resulting in an overall increase in the city's daytime population and a significant number of people relying on Tucson's streets to access economic opportunities.

25%
increase in City's daytime population



B-16

COMMUTE TIMES

Workers living in Tucson have shorter average commute times, while those living further away have longer commute times.

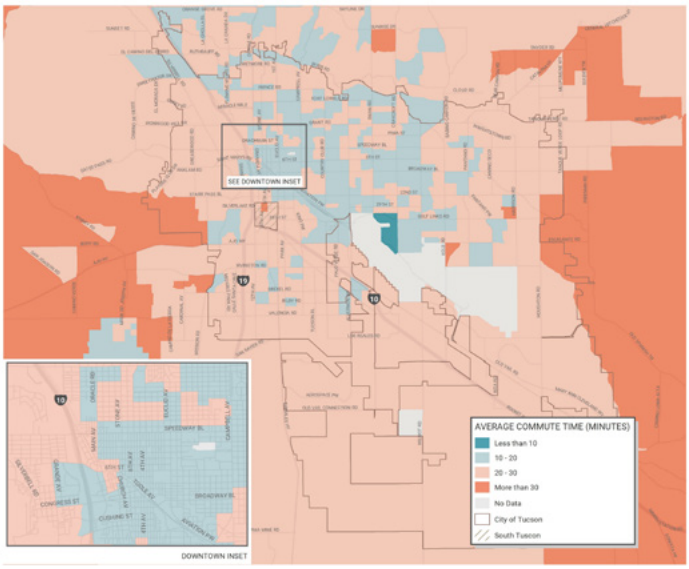
The average commute time for Tucsonans is

22.4

minutes

48%

of people working in Tucson have a commute time of less than 20 minutes

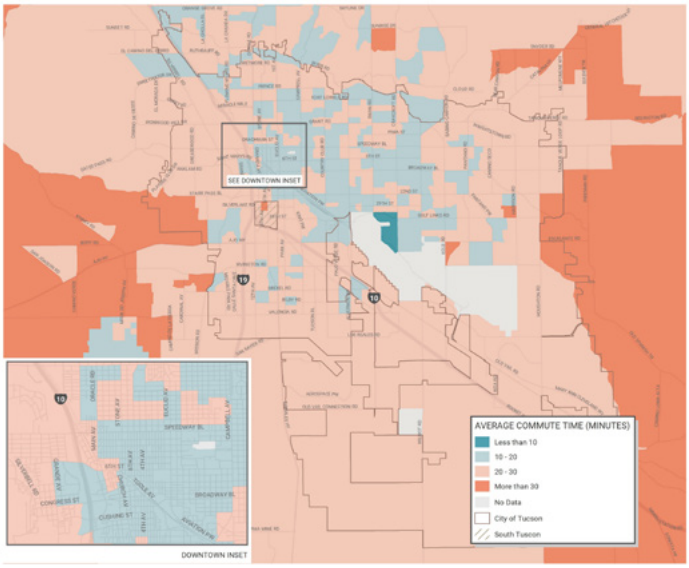


B-17

COMMUTE TIMES

Tucson's average commute time is comparable to peer cities of similar size:

- **Austin, TX:** 24.3 minutes
- **El Paso, TX**: 22.8 minutes
- **Fresno, CA:** 21.8 minutes
- **Albuquerque, NM:** 21.6 minutes
- **Phoenix, AZ:** 25.7 minutes



Community Development Patterns and Characteristics

Understanding where people live, work, play, access transit, go to school, and shop can help shape a transportation system that gets people where they need to and want to go efficiently. Further, understanding areas where disadvantaged or vulnerable populations live and work can guide investments to where they may provide the greatest benefit. The maps that follow assess these centers of relative demand and identify areas most supportive of expanding mobility choices.

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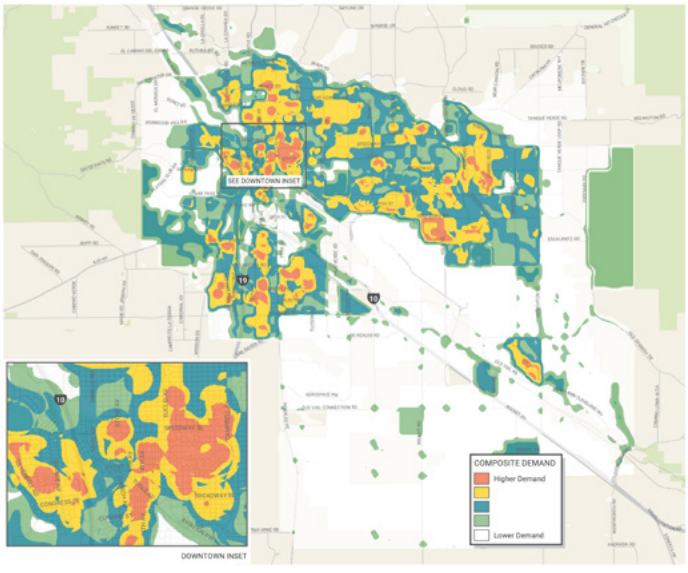
DESTINATION DENSITY ANALYSIS

Areas of high demand are located where there are greater densities of origins (where people live) and destinations (where people are going).

Demand considers:

- Employment Density
- Population Density
- Retail Density
- Parks + Trails
- Public Transportation + Bikeshare
- Schools

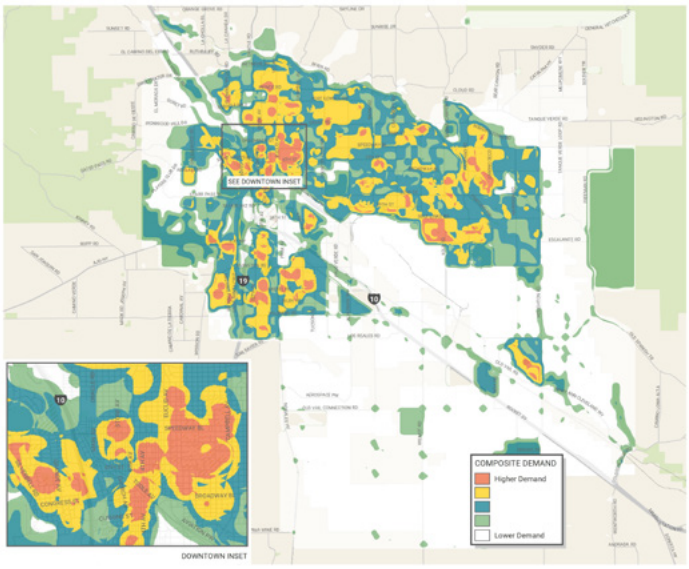


DESTINATION DENSITY ANALYSIS

Areas of highest demand are shown in orange and yellow. These areas, when combined with high quality infrastructure, have the potential to shift shorter trips away from personal vehicles and to walking and biking, including connections to public transportation.

68%
of people working in Tucson work within areas with high potential for walking and biking.

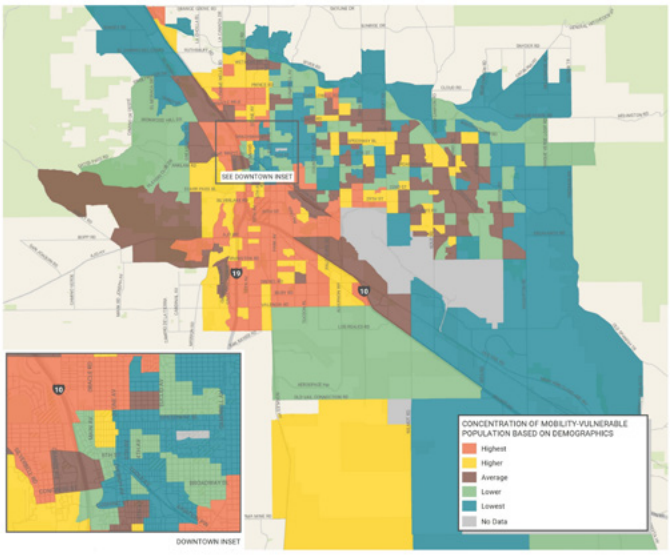
77%
of Tucson residents live within areas with high potential for walking and biking



EQUITY – WHERE PEOPLE LIVE AND WORK

Historic and systemic inequities have limited access to economic opportunity, influenced where investment occurs, and have been reinforced through development patterns over time, resulting in fewer ways to get around and a greater reliance on motor vehicles.

In addition, our youngest and oldest populations are more vulnerable to conflicts with motor vehicles and are more likely to rely on other ways to get around than driving.

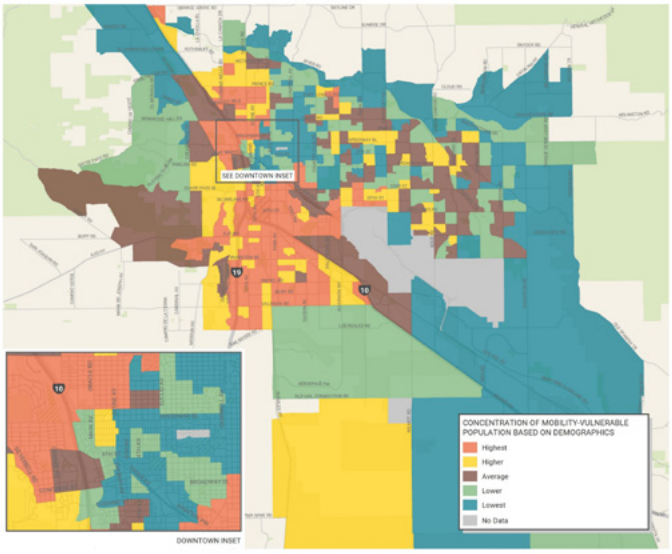


EQUITY – WHERE PEOPLE LIVE AND WORK

21%
of residents live within the highest equity areas

18%
of people working in Tucson work in the highest equity areas

The equity analysis maps concentrations of factors known to indicate social and economic inequity. The results show areas of Tucson where underinvestment in infrastructure and services is likely, where residents experience unique barriers to transportation, and where improved access to economic and educational opportunities is most needed. The results also indicate that these areas make up a significant portion of Tucson.



Safety Assessment

More than 1,700 people were seriously injured or killed on Tucson's roadways between the years of 2014 and 2018. Pedestrian deaths in particular increased significantly in 2018 and again in 2019, with over 60 pedestrians killed in these two years alone. Improving safety on Tucson's roadways is critical for supporting a transportation system that works for all, no matter how you choose to get around. By understanding where crashes are occurring most often, we can better address common challenges to needed safety improvements.

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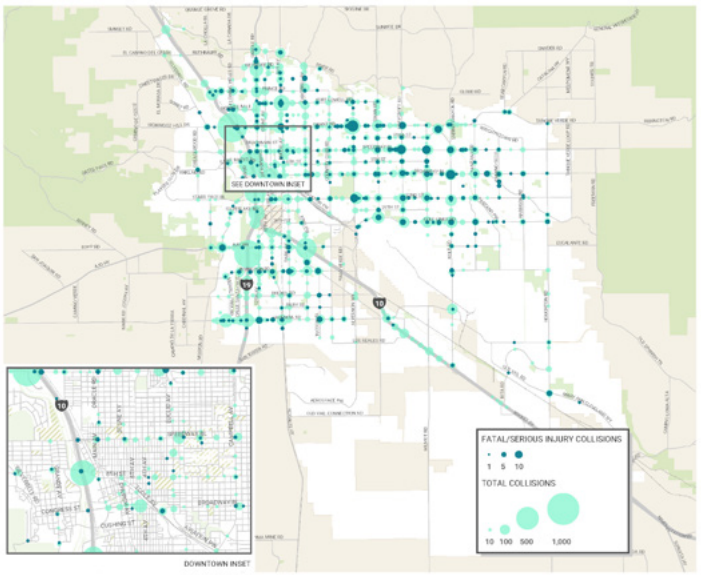
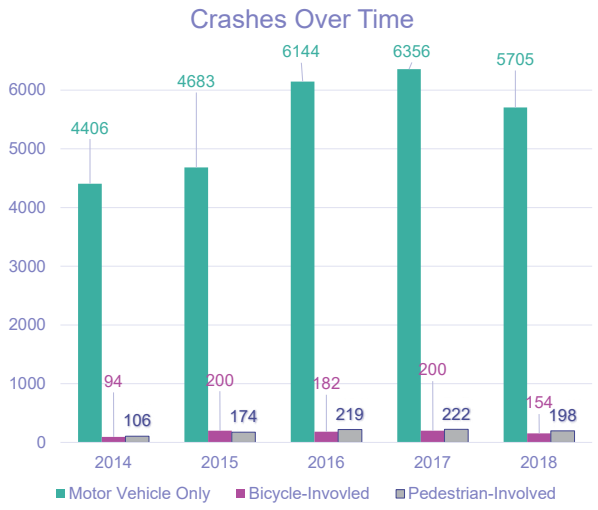
CITY OF TUCSON SAFETY

- From 2014 to 2018, more than **29,000 crashes** were reported on Tucson-area streets. This is an average of **16 crashes every day.**
- Crashes of all severities are most common along major roadways.
- Fatal and serious injury crashes most frequently occurred along major roadways. A greater density of these crashes occurred in the eastern areas of the city.



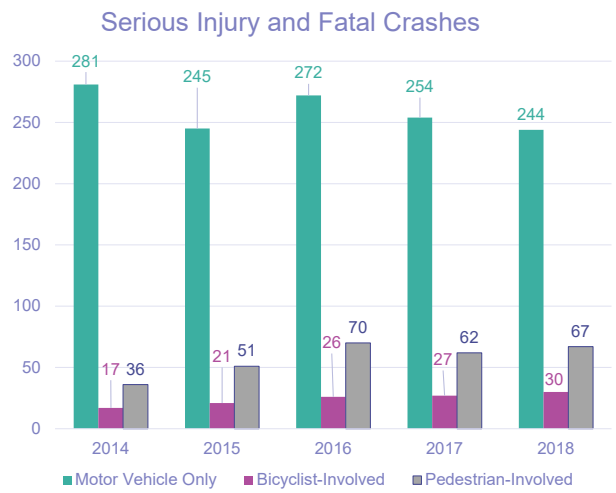
CRASH TRENDS BY MODE

- Total reported crashes have risen over the past 5 years.
- City reporting practices may not fully capture property-damage only crashes, resulting in fewer crashes reported in these statistics.
- Further, bicyclist- and pedestrian-involved crashes are often under-reported.



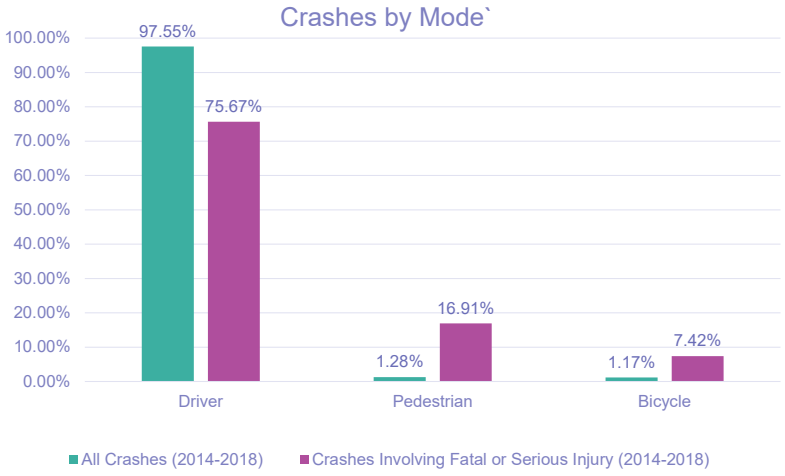
CRASH TRENDS BY MODE

- Serious injury and fatal crashes have decreased for drivers; however, they have increased significantly for active modes.
- Pedestrian-involved serious injury and fatal crashes **increased by nearly 90%** between 2014 and 2018.
- It is becoming more dangerous to walk and bike in Tucson.



CRASHES BY MODE

- Pedestrian- and bicycle-involved crashes make up a relatively small percentage of total collisions
- However, serious injury or fatal crashes are disproportionately represented by these modes



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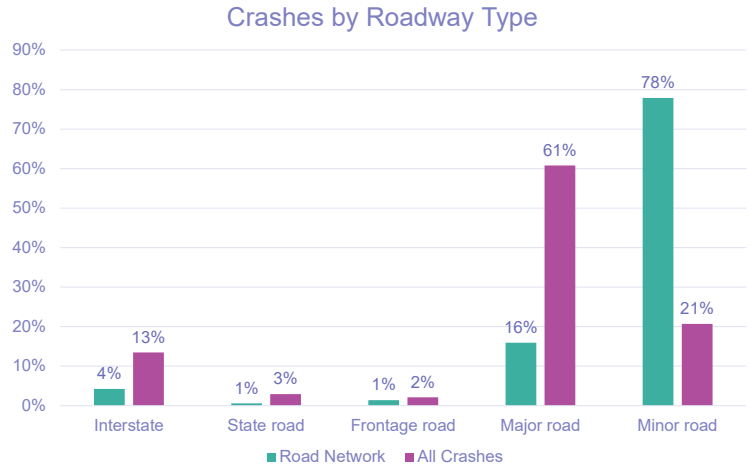
CRASHES BY STREET TYPE

16%
of Tucson's roadways are arterials or collectors. These roadways are typically high-speed with many travel lanes.

61%
of all crashes occur on these roadways.

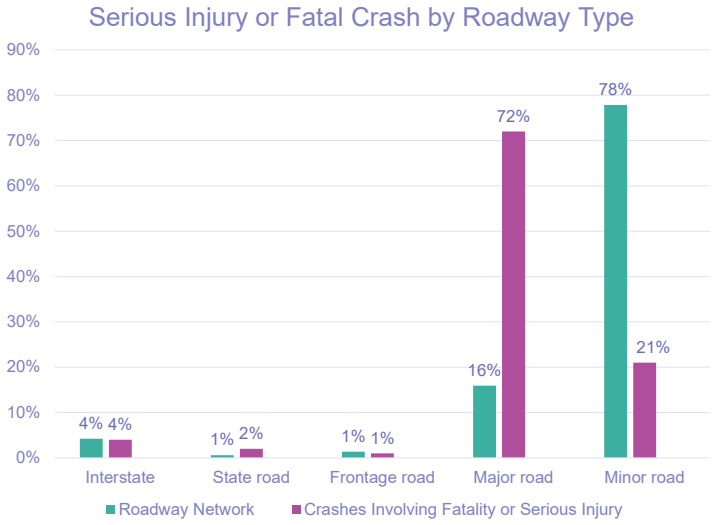


B-29

CRASHES BY STREET TYPE

- Serious injury or fatal crashes are disproportionately occurring on major roadways.
- Major roadways have higher posted speeds and greater volumes of vehicles, increasing safety concerns for all roadway users, particularly those traveling by foot or by bike.

72%
of serious injury or fatal crashes occur on major roadways.



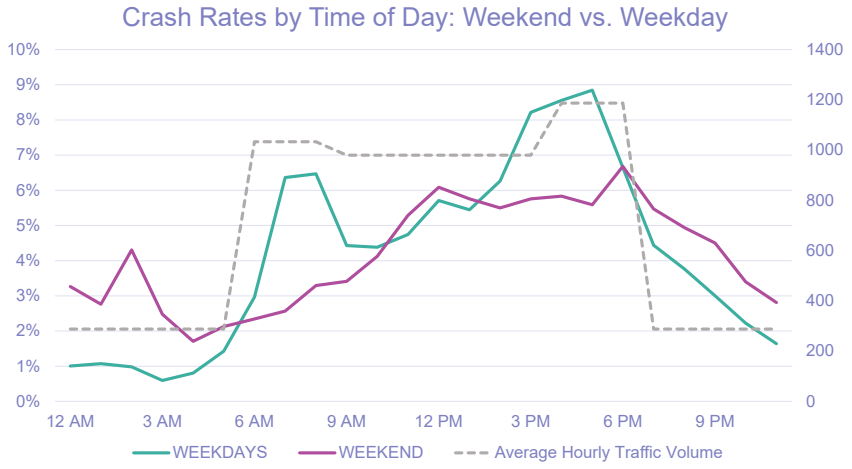
CRASHES BY TIME OF DAY

Crash rates correspond with peak travel time when traffic volumes are highest.

Reducing crashes during commute hours can reduce travel times and increase system reliability for all modes of travel.

54%

of all weekday crashes occur during peak morning and afternoon travel times.



CRASH LOCATION TYPE

49%

of all crashes occurred at an intersection

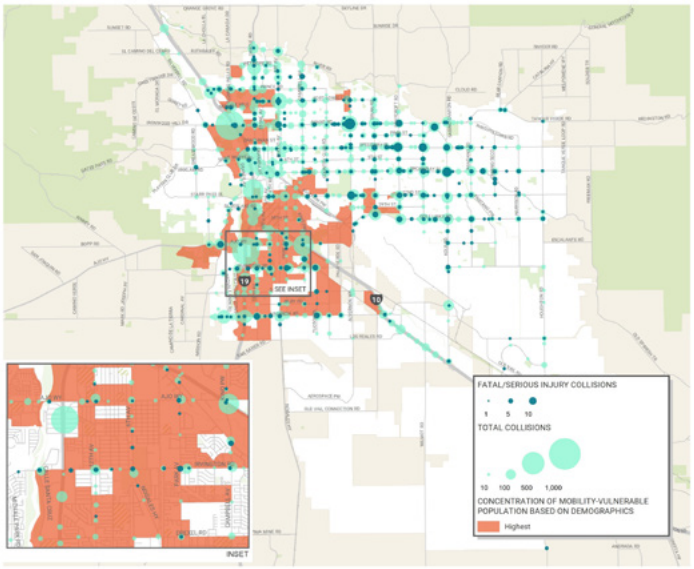
- Nearly 40% of fatal or serious injury crashes occurred at an intersection
- 7% of intersection-related crashes involved a person walking or biking

EQUITY + TRAVEL SAFETY

More than
1 in 4
crashes in the city occur in the highest scoring equity areas.

23%
of bicycle- or pedestrian-involved serious injury or fatal collisions occur in these areas

Because residents in the highest scoring equity areas rely more on public transportation than residents elsewhere in the city, improved crossings, more frequent bus routes, and high quality bike and pedestrian networks can improve the experience in terms of both real and perceived safety.



Transportation System Assessment

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DELIVERING MOBILITY CHOICES

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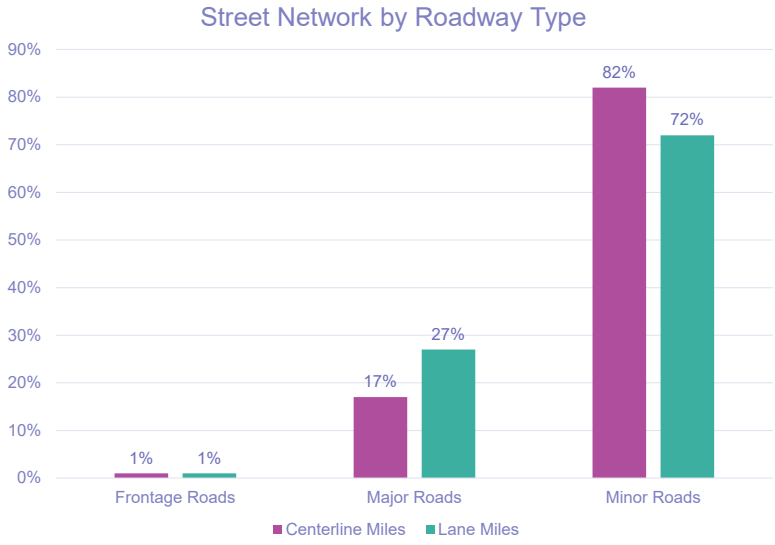
STREET NETWORK

The City of Tucson has an extensive grid of streets, providing many route options and opportunities to distribute traffic volumes across major and local roadways.

The majority of streets in Tucson are local roadways and neighborhood streets, comprising over 1,700 miles of roadway centerline miles



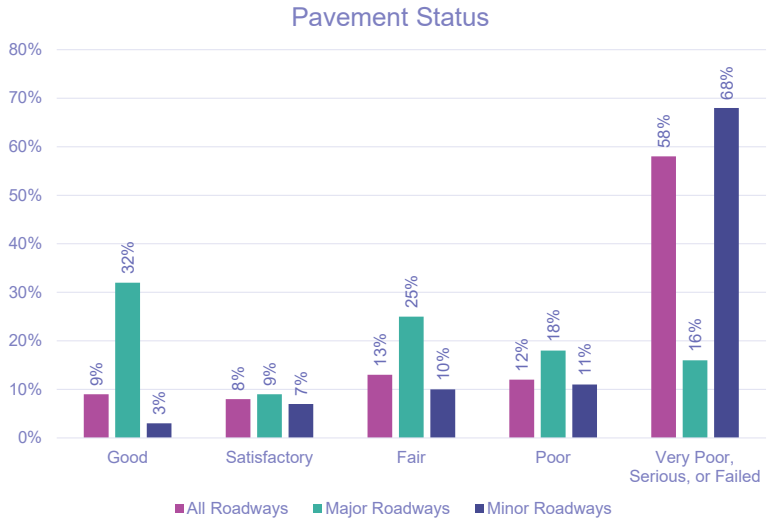
B-35

STATE OF GOOD REPAIR

The majority of roadways are in need of repair. Poor road quality increases the need for maintenance investments, impacts wear and tear on personal vehicles, and can create unsafe conditions that can lead to crashes and property damage.

68%

of Tucson's local roadways are in Very Poor condition or worse, compared to only 15% of major roadways.



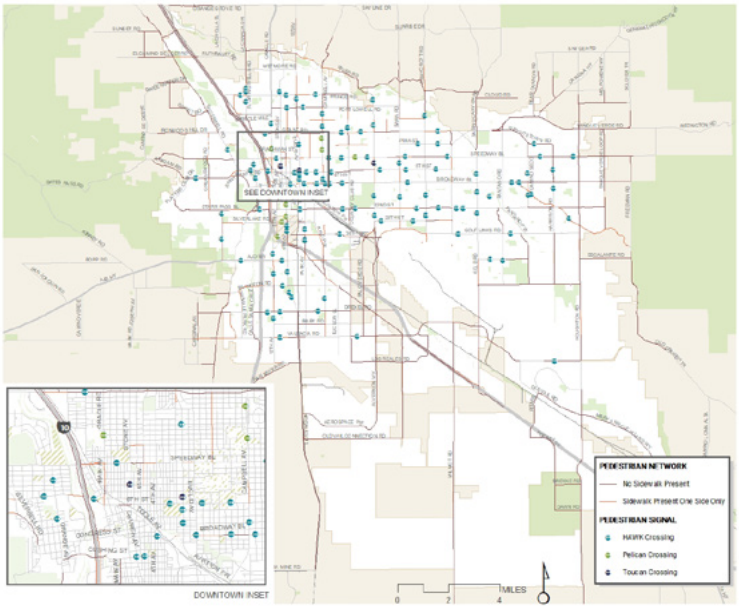
WALKING

Walk Commute Rates

- 3% City of Tucson
- 3% Pima County

45%

of major roadways are missing sidewalks on one or both sides of the street.



WALKING ANALYSIS

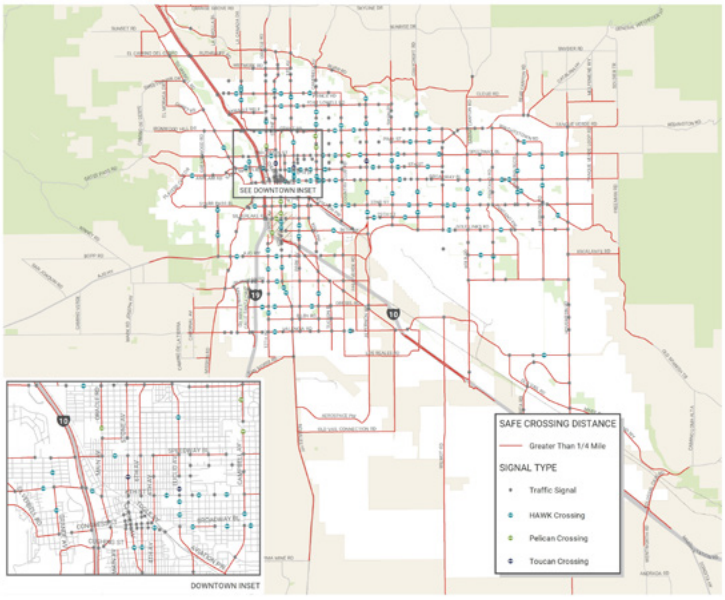
Traffic signals and crossing signals support safe pedestrian crossings throughout Tucson. Despite over 120 HAWK, Pelican, and Toucan crossing signals in place today, distances between protected crossings are insufficient to meet pedestrian travel needs on Tucson's major streets.

92%

of Tucson's major roadways have greater than ¼ mile between safer crossing opportunities

71%

of Tucson's major roadways have greater than ½ mile between safer crossing opportunities.



Pedestrian Volumes

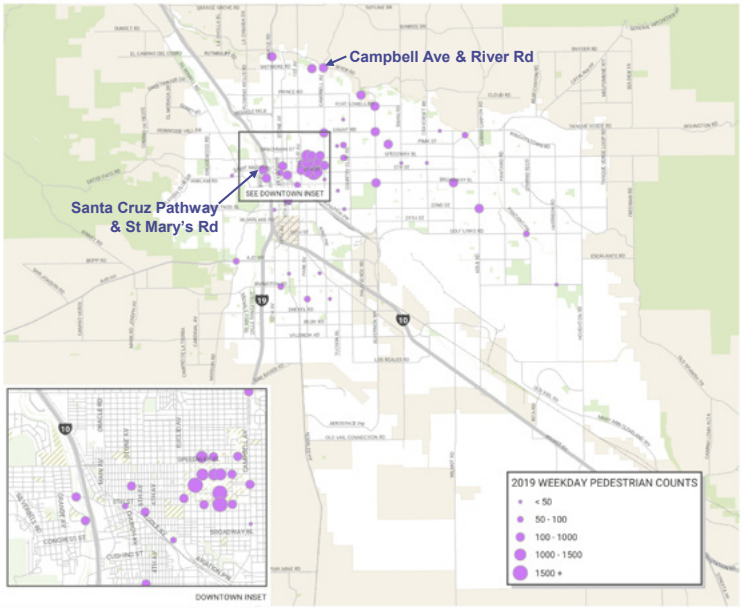
Annual volunteer-conducted manual counts provide insight into areas with increasing pedestrian activity. 2019 weekday counts are shown here, with the majority of count locations in the vicinity of downtown.

Count locations with the highest number of pedestrians in 2019:

- 2nd St and Highland Ave
- 6th St and Highland Ave
- Park Ave and University Blvd

Count locations with the greatest increase in pedestrians (2015-2019):

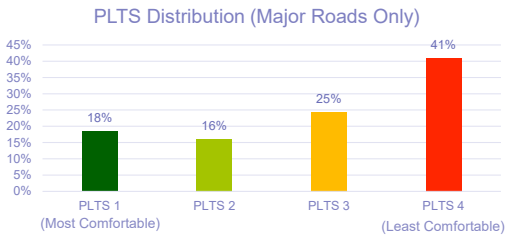
- Campbell Ave and River Rd
- Santa Cruz Pathway and St Mary's Rd

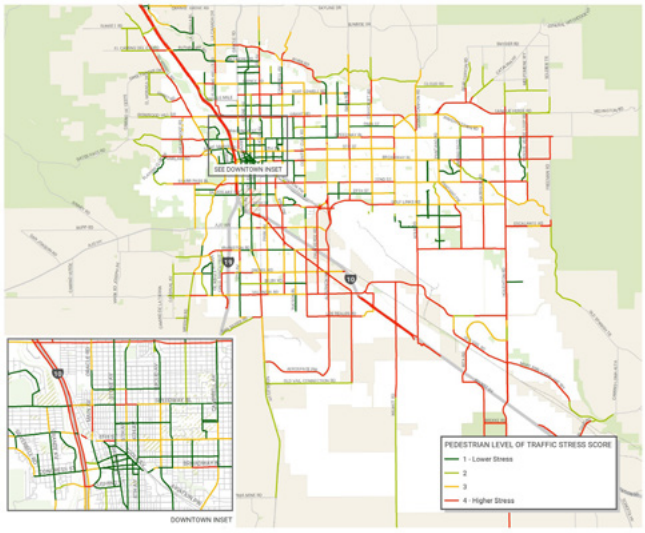


WALKING ANALYSIS

Low-stress roadways are roadways with lower traffic speeds, complete sidewalks, and buffer space providing separation from motor vehicles

Approximately half of major streets have complete sidewalks. However, many of these sidewalks are not wide enough or do not have sufficient buffer space to make them comfortable to use. In many cases, existing sidewalks are not fully ADA compliant.





WALKING

Needs and Opportunities

- Many neighborhoods have limited or narrow sidewalks, reducing connectivity across the network.
- Distances between protected crossing opportunities are often significant, particularly in areas with poor sidewalk quality and limited shade.
- Many sidewalks are immediately adjacent to the curb, have an uneven surface, and experience frequent driveway crossings, reducing real and perceived safety for those walking, as well as limited access for persons with disabilities.
- Increasing vegetation, shade, and distance from the roadway could significantly improve overall pedestrian comfort.

BIKING

Bike Commute Rates

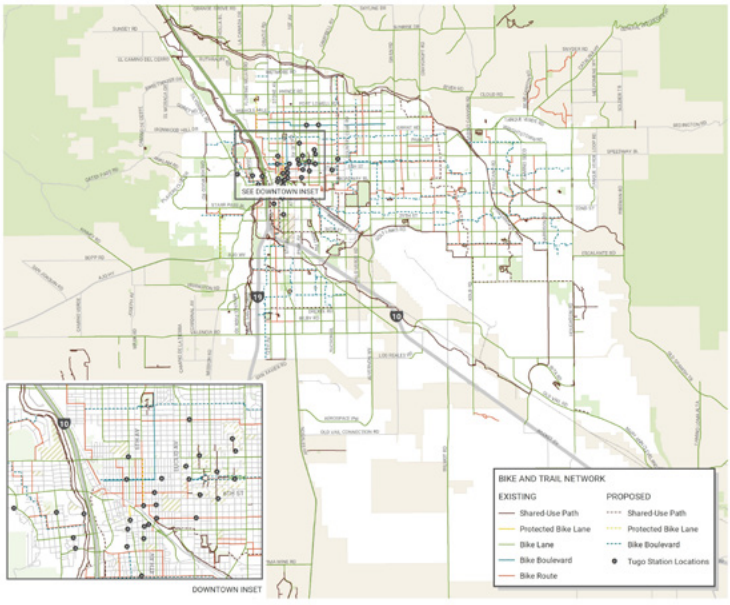
- 3% City of Tucson
- 2% Pima County

39%

of the on-street network has a designated bikeway

1,155

miles of bikeways in Tucson, including off-street shared-use paths



BIKE COUNTS

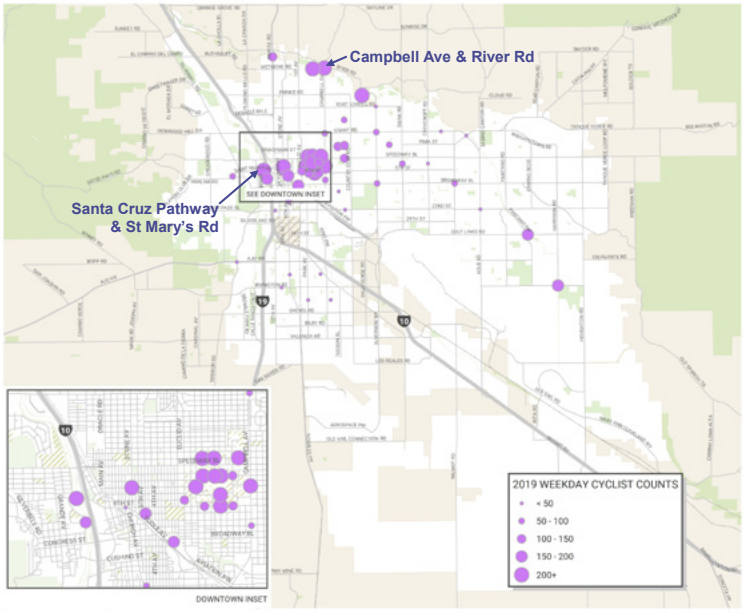
Annual volunteer-conducted manual counts provide insight into areas with increasing bicycle activity. 2019 weekday counts are shown here, with the majority of count locations in the vicinity of downtown.

Count locations with the highest rates of cyclists in 2019:

- 2nd St and Highland Ave
- 3rd St and Campbell Ave
- Park Ave and University Blvd

Count locations with the greatest increase in cyclists (2015-2019):

- Campbell Ave and River Rd
- Santa Cruz Pathway and St Mary's Rd

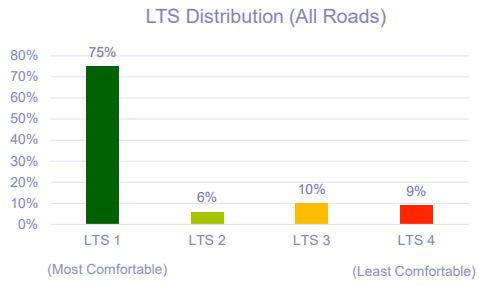


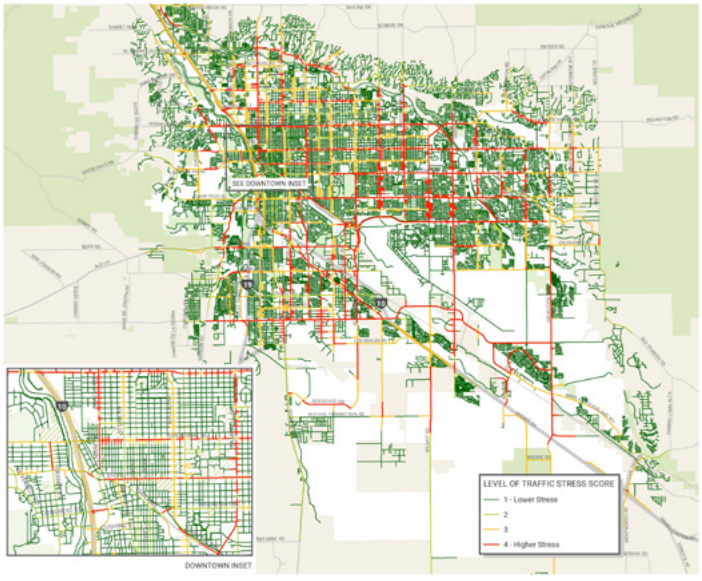
BIKING ANALYSIS

Key Observations

- 75% of Tucson's roadways are considered All Ages and Abilities (LTS 1); most (92%) LTS 1 routes are neighborhood roadways

- Only 12% of All Ages and Abilities routes have designated bicycle facilities





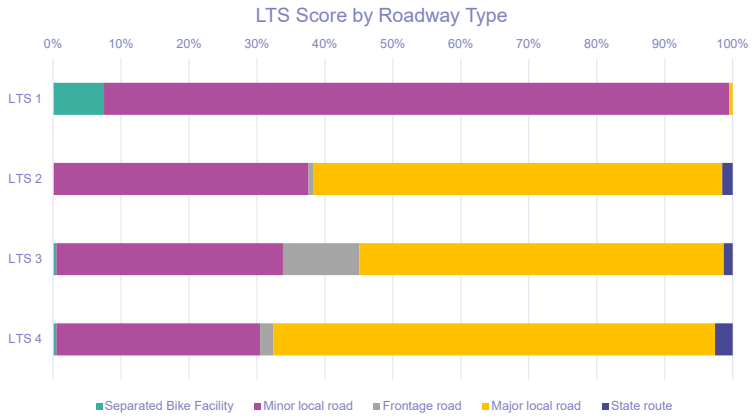
B-44

BIKING ANALYSIS

Low-stress roadways providing all ages and abilities route options are primarily separated facilities or neighborhood roadways

Key Observations

- Although some major roadways offer low-stress routes suitable for an average adult, most major roadways are considered high stress and create barriers for continuous travel along routes.

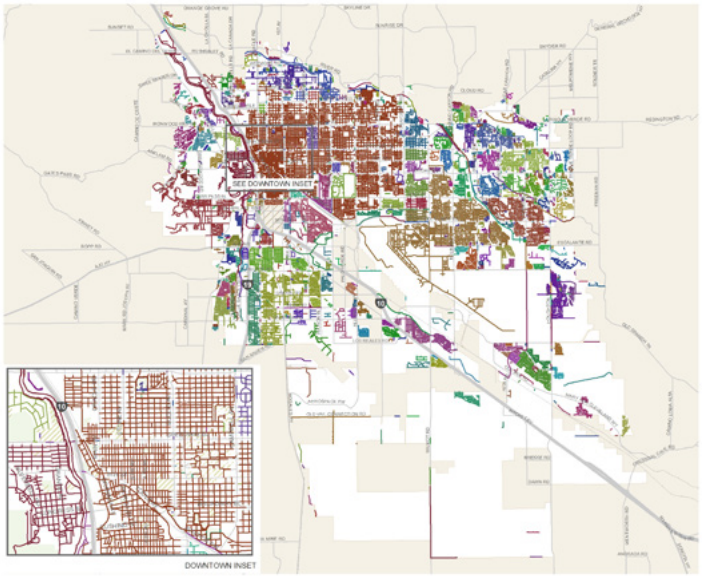


B-45

BIKING ANALYSIS

Low-stress travel (LTS 1 or LTS 2) along a roadway requires that all elements are low-stress, including intersections. Unsignalized major roadway crossings affect the ability to travel safely and comfortable along a route. Areas shown in the same color in the map to the right are locations connected by a continuous low-stress network.

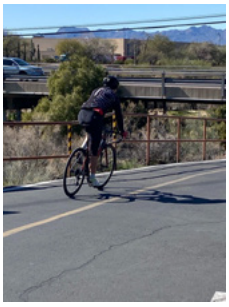
However, it is important to note that while some areas appear highly connected, there may be significant out-of-direction travel required to cross a major roadway. Further, as many destinations are located along major roadways, it may not be possible to complete a trip along only low-stress routes.



BIKING

Needs and Opportunities

- Low-stress bikeway networks often end at the edge of neighborhoods, where major roads have high stress conditions and often lack dedicated space to bike.
- Many destinations are located along major roadways and at major intersections; a complete, connected bikeway system should connect bicyclists to these locations.
- Improvements should aim to create more low-stress pathways that connect major destinations and existing low-stress routes, including the Loop and the growing bicycle boulevard network.

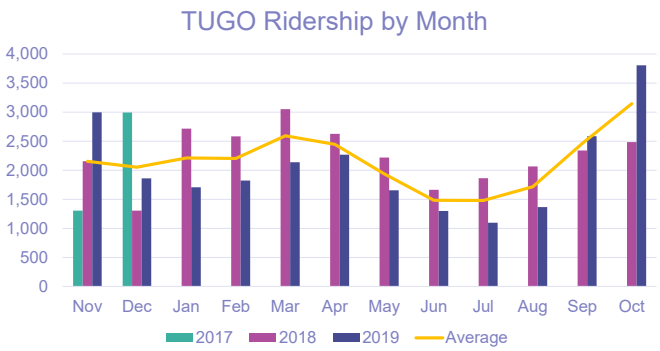


TUGO + SCOOTER SHARE

Since launching in 2017, TUGO bike share has grown to 40 stations. The system hosted over 24,600 trips in 2019 alone. Since system launch, the TUGO program has averaged 70 trips per day.

The E-Scooter launched in September 2019 added more options for how people get around Downtown Tucson and the surrounding neighborhoods. The initial pilot period last 6 months and logged nearly 200,000 trips during this time. There were an average of 1,130 trips per day, generally lasting less than 10 minutes and traveling about 1 mile. The scooter pilot was extended in Spring 2020, although the COVID-19 pandemic has significantly reduced the size of the e-scooter fleet and service area.

TUGO + SCOOTER SHARE



TUGO bike share ridership is generally higher during peak travel times in fall and spring. The e-scooter pilot reflected similar trends.

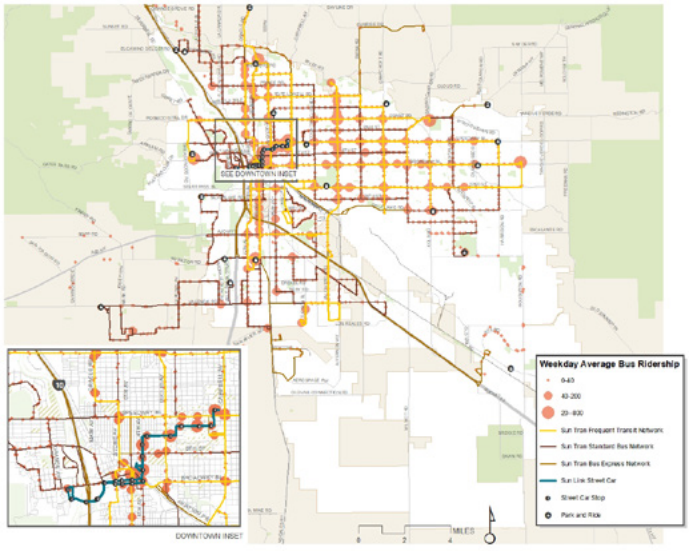
PUBLIC TRANSPORTATION

Public Transportation Commute Rates
- 3.6% City of Tucson
- 2% Pima County

Key Observations
- SunTran Bus Service and SunLink Street car service provide 56,000 weekday trips.
- The system includes 29 regular service routes, 11 of which are frequent transit network routes, and 12 express routes serving over 2,200 stops.

46%
of Tucsonans live within a 10-minute walk of a frequent transit stop.

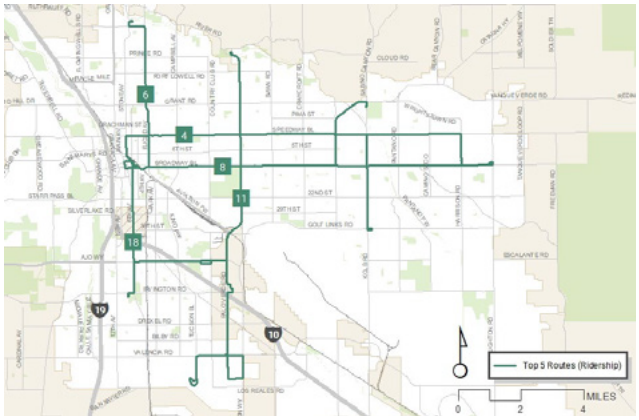
72%
of Tucsonans work within a 10-minute walk of a frequent transit stop.

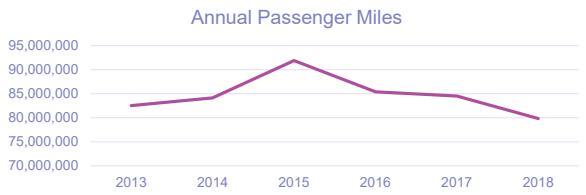


PUBLIC TRANSPORTATION

Key Observations

- Ridership has declined in recent years, similar to national ridership trends.
- SunTran outperforms peer cities of similar size and service on a number of ridership, service, and cost metrics. These cities include El Paso, Albuquerque, Austin, and Fresno.
- Boardings are highest at transit centers and the University of Arizona, with routes along along South 6th Avenue, Alvernon Way, and Oracle having high levels of ridership.
- Sun Shuttle, Sun Van, and Dial-a-Ride provide **557,000 annual passenger trips** for passengers connection to core Sun Tran Service or for passengers with disabilities.





PUBLIC TRANSPORTATION

Needs and Opportunities

- Opportunities to improve route travel time may have the largest impact on improving ridership numbers, specifically through implementation of a frequent transit network.
- The 2018 *Long-Range Regional Transit Plan* recommends improving service through implementation of a frequent transit network to support more reliable trip times, longer service periods, and expanded route coverage.
- Nearly half of all transit stops have a shelter, but fewer than **20% have lighting**, and only **33% have a bench**. 33% of all stops lack both a shelter and a bench.
- Improving connectivity to stops by foot and by bike can help support multi-modal trips and increase the reach of existing public transportation service.

DRIVING

Commute Rates

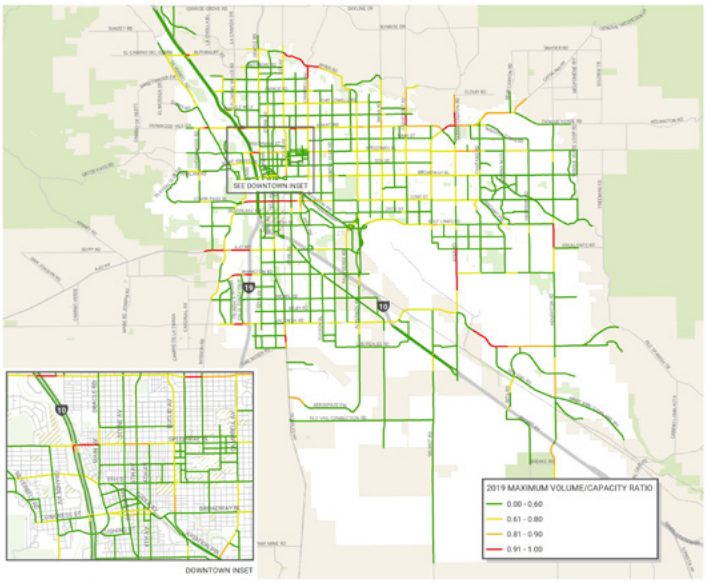
- 74% City of Tucson
- 77% Pima County

Key Observations

- There is excess capacity on many of Tucson's roadways, with only 9% of major roadways reaching the area threshold for heavy congestion at the busiest time of day.[1]
- Intersection operations may further affect roadway congestion

9% of roadway network congested in 2019

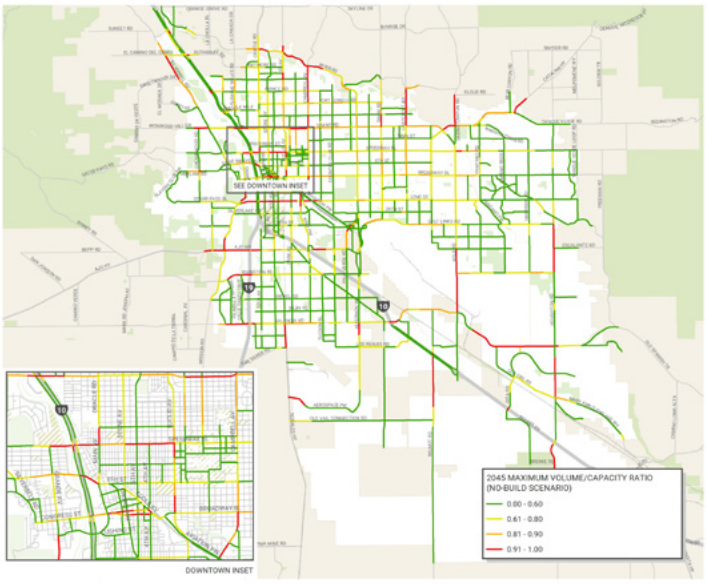
[1] Pima Association of Governments defines heavy congestion levels as greater than 0.8 volume-to-capacity ratio.



DRIVING ANALYSIS

Key Observations

- Future congestion of Tucson's roadways is expected to increase, with 21% of major roadways meeting the threshold for heavy congestion in 2045 without any operational or roadway capacity improvements.
- Strategies for addressing congestion may vary by location based on land use context and density of population and employment, but may include: upgrading traffic signal operations, improving intersections, and, in some cases, adding travel lanes.
- Expanding and improving mobility options through active and shared modes offer opportunities for improving roadway performance.



B-54

DRIVING

Traffic operations are significantly affected when more than 80% of roadway capacity is used. Additionally, there are certain corridors and directions of travel that may see higher or lower travel volumes across the network.

Less than

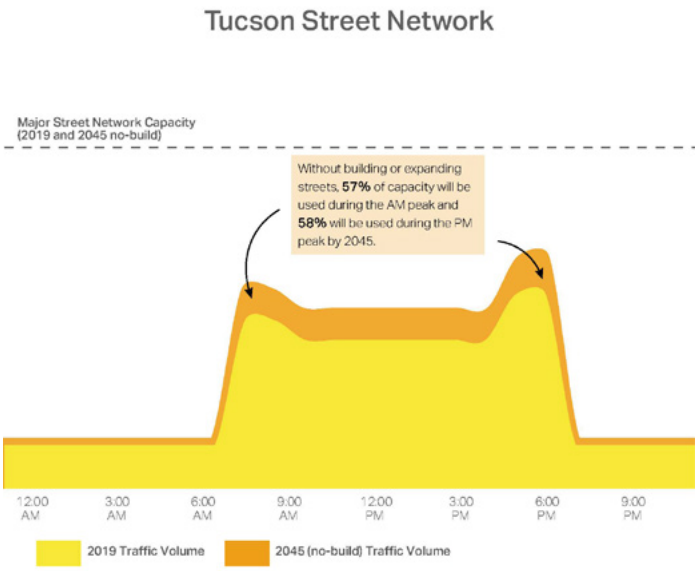
50%

of the major street network's capacity is used during peak travel times today

Without building new roadways, this only increases to

58%

by 2045



B-55

DRIVING

Needs and Opportunities

- Development patterns reflect an expectation that people will travel to and from destinations by car.
- Driving-inducing development patterns result in an expansive roadway network that is often in need of maintenance, does not efficiently distribute traffic at peak times, and results in traffic patterns that pose safety concerns for all users.
- Signals along major corridors are outdated and investments in new signal technology could help with traffic operations and improve travel times.
- High travel speeds, wide roadways, and limited lighting increase safety concerns along these roadways.

FREIGHT

Tucson's transportation system also supports a significant amount of freight traffic, with over $195 billion in good traveling on regional roadways in 2013, the majority of which passes through the region along I-10 and the Union Pacific Sunset Route.

Increased volume of freight and passenger vehicles have impacts on both the efficiency of freight activity and the safety of Tucson's roadways.

13%
of all traffic on I-10 are freight vehicles

50
trains travel through Tucson each day

Figure 3.11 16-week truck volumes in eastern Pima County, without interstates (2016)

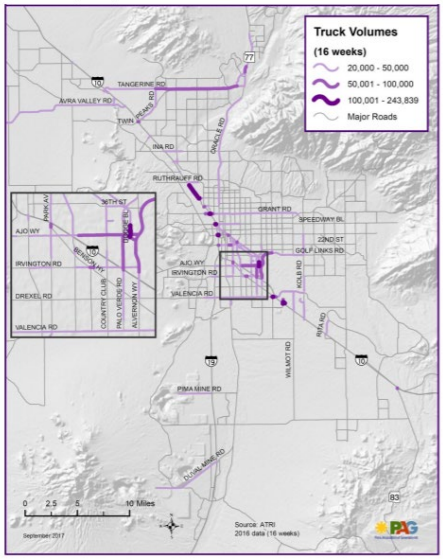


Image Source: 2018 PAG Freight Plan

FREIGHT

Key Observations

- Freight vehicles rely on I-10, Oracle Road, Grant Road, 22nd Street, Ajo Way, and Kino Parkway to travel in and around Tucson
- These roadways also support commercial activity, with personal vehicles traveling along the same corridors
- Mining and other industrial activities contribute to freight activity in the region
- At-grade rail crossings result in traffic delays on affected roadways and can impact safety along roadways and at crossings for all roadway users

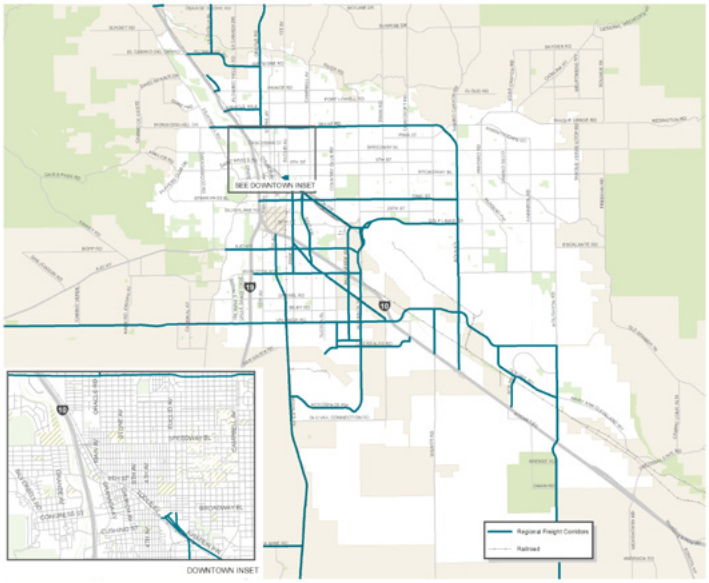
Figure 4 shows which locations within the PAG region generate the highest value of freight.

Image Source 2018 PAG Freight Plan

FREIGHT

Needs and Opportunities

- Supporting freight movement on identified corridors provides benefit to the area's economic activity; however, the mix of competing uses on major corridors can cause conflicts among the different user groups and lead to safety and mobility challenges for all travelers
- Particular attention should be given to how these routes interact with more vulnerable road users to increase safety for all. At grade railroad crossings and intersections along roads with a high volume of freight activity are key locations of concern.



Special Topics

move tucson
DELIVERING MOBILITY CHOICES

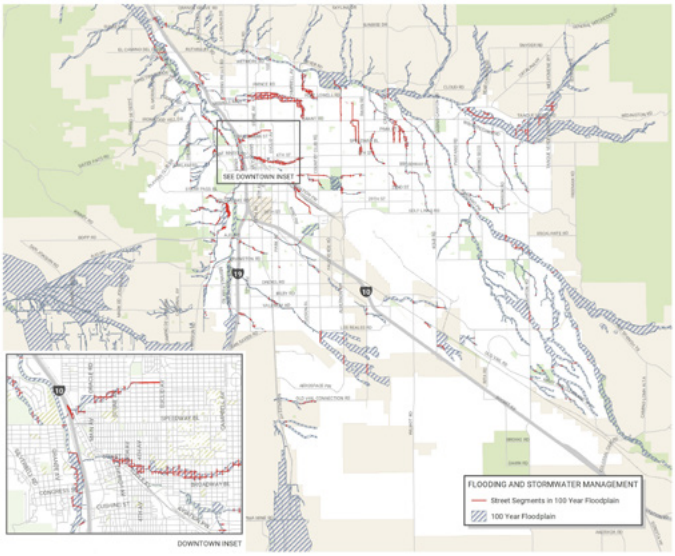
B-60

FLOODING AND STORMWATER MANAGEMENT

Although a small segment of Tucson's roadways are within a floodplain, major storm events can quickly impede travel along many roadways.

3.2%

of roadway network is within the 100-year flood plain



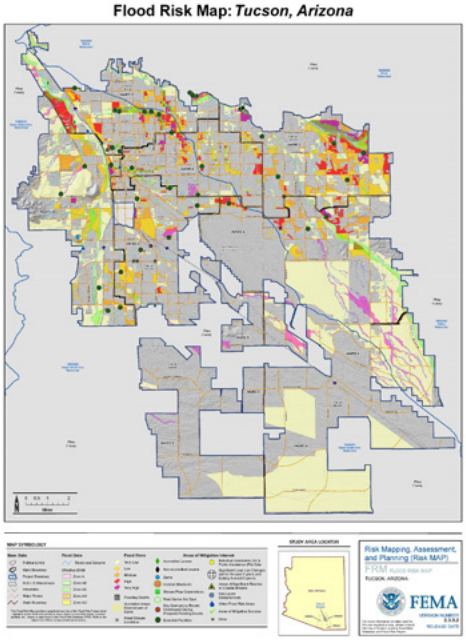
B-61

FLOODING AND STORMWATER MANAGEMENT

The limited stormwater system relies primarily on roadways for water conveyance, resulting in additional wear and creating barriers for all modes when flooding occurs.

High percentages of impervious surfaces and limited tree canopy further limit opportunities for infiltration and stormwater management.

Flood Risk Map: *Tucson, Arizona*



GREEN STORMWATER INFRASTRUCTURE (GSI)

To help divert stormwater and improve tree canopy the City and partners have implemented GSI in locations across the City and identified high priority areas for new GSI investment.

High priority areas, as identified by PAG, include locations with lower than average tree canopy and higher than average heat events.

The recently-approved Green Stormwater Infrastructure Fund will support implementation of over 86 new projects in the next 15 years and offer opportunities to coordinate with projects funded through other initiatives, such as Proposition 407.

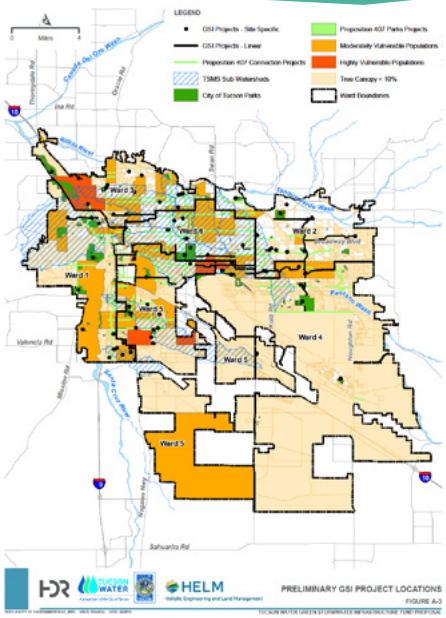


Image Source: City of Tucson GSI Report

LAND USE AND TRANSPORTATION

Walkable Neighborhoods Index

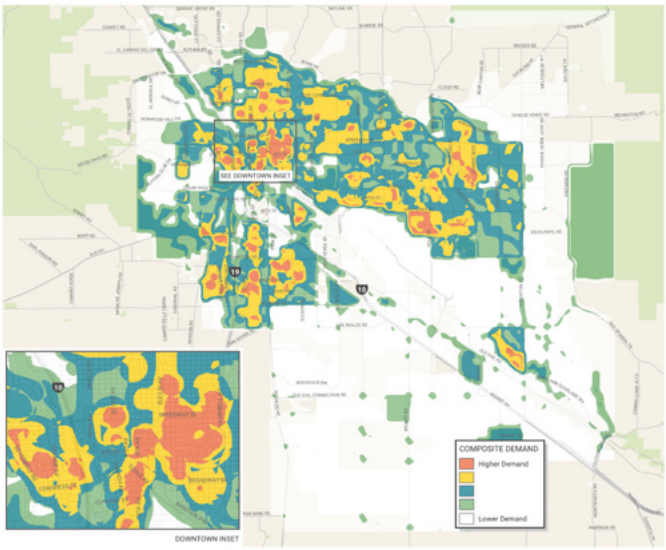
How far people have to travel influences travel choices. The Walkable Neighborhoods Index identifies areas in the City where destinations are close and where there is the greatest opportunity to expand travel options beyond driving. These areas are distributed throughout the City and present opportunities to align growth in jobs and homes with transportation investments that create more opportunities to walk, bike, and take transit.

77%
of people living in Tucson work within areas with high potential for walking and biking.

98%
of schools are within areas with high potential for walking and biking

68%
of people working in Tucson work within areas with high potential for walking and biking.

90%
of parks are connected to areas with high potential for walking and biking



EQUITY ANALYSIS SUMMARY

Equity Analysis Summary

Introduction – Why Consider Equity?

Studies from across the country routinely find that some demographic groups typically face greater barriers than others in getting to the places they need to go, especially in communities designed primarily for motor vehicles. These demographic groups include (but are not limited to): people who identify as black, indigenous and people of color; youth; older adults; people with low incomes; people without a high school diploma; people with limited English proficiency; people without access to a motor vehicle; and people with disabilities.[i, ii, iii] Some barriers faced by these groups relate to historic patterns of injustice that have shaped the physical environment and negatively affected people's ability to reach jobs, services, and education, among other destinations. For example, highways and high-stress roadways have often been built through communities of color and through low-income communities, displacing residents and cutting people off from jobs and services. People in these demographic groups may also face barriers directly related to their age, disability, income, education level, and more. For example, someone with limited English proficiency may feel stressed by navigating an unpredictable network while relying on signs in English; someone without a high school diploma who works multiple part-time jobs to make ends meet may not have access to a direct, reliable bus route after a late shift; and someone living below the poverty line may be further burdened by the high cost of owning and maintaining a car.

Improving transportation options is critical to overcoming these barriers and responding to the needs of all Tucson residents. Transportation options, including traveling by car, public transit, walking, or biking, provide connections to opportunity, allowing people to access jobs, services, education, and recreation.

This analysis seeks to discover where people with the highest need for transportation options live within Tucson to inform the Mobility Master Plan. Understanding where these individuals are most densely located will help to prioritize transportation improvements to address historic inequities and meet basic needs. These equity priority areas may also be areas with poor health outcomes. Investing in active and public transportation in these areas also helps meet community goals for improvements in mental and physical health.[iv] Working towards equity may mean prioritizing active and public transportation funding in areas with a greater concentration of disadvantaged populations instead of distributing funding equally based on geography.

Methods

DATA SOURCES AND DEFINITIONS:

The project team conducted an equity analysis to determine areas of high need for transportation options using existing demographic information from the US Census Bureau at the block group level. All data was obtained from the 2017 American Community Survey (ACS) 5-year estimates. The data considered include:

- **Race**: the percentage of the population that identifies as non-white and/or Hispanic/Latino.
- **Youth**: the percentage of the population under the age of 18.
- **Older Adults**: the percentage of the population that is 65 years of age and older.
- **Income**: the percentage of the population of working age living at or below 200% of the Federal Poverty Level, which is a threshold set by the U.S. Census Bureau and updated annually.
- **Educational Attainment**: the percentage of the population over 25 years of age that does not have a high school diploma or equivalent.
- **Limited English Proficiency (LEP)**: the percentage of the population that identifies as not speaking English well or at all.
- **Access to a Vehicle**: the percentage of households without regular access to a vehicle.
- **Disability**: the percentage of the population identifying as having a disability.

SCORING

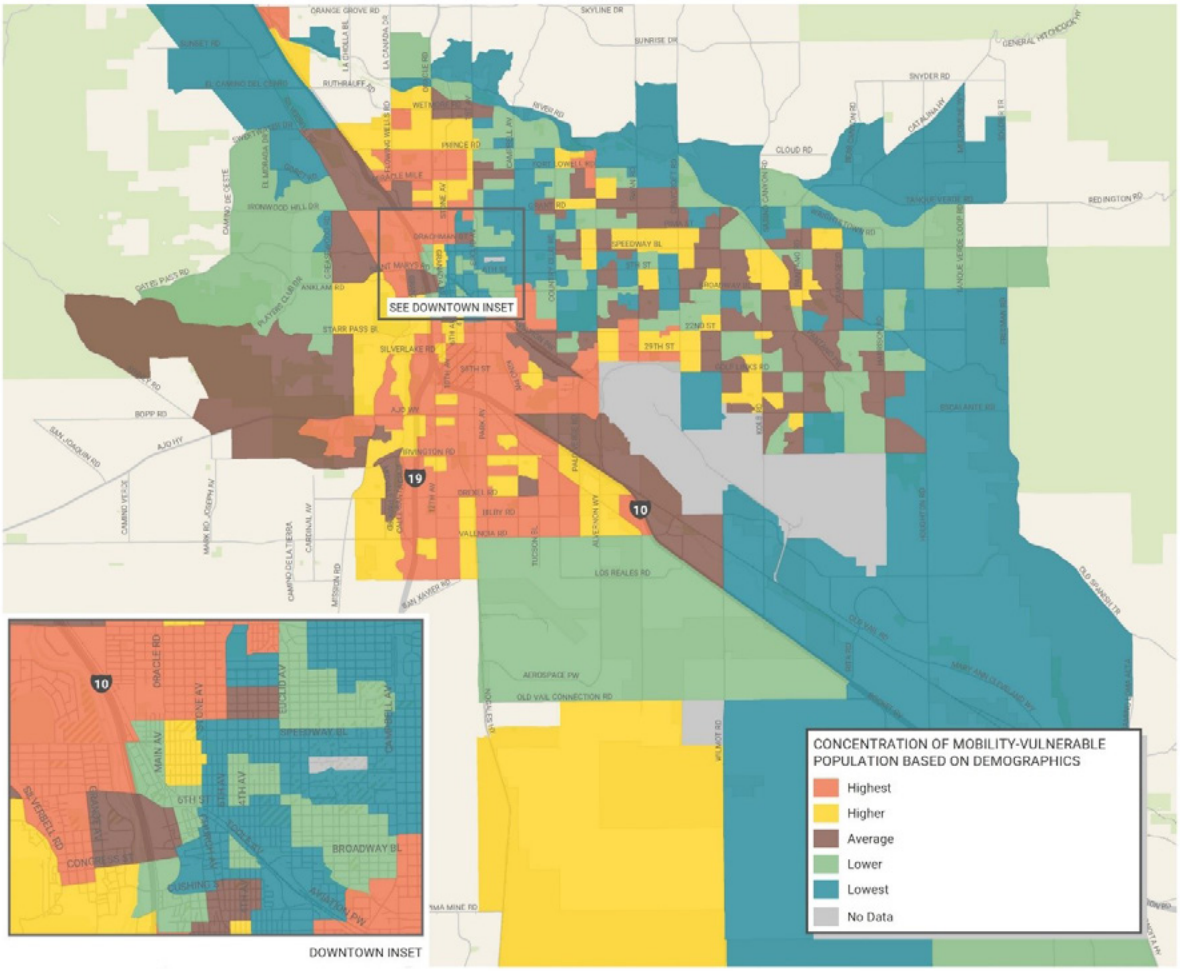
Each indicator is assessed at the block group level based on the percentage of the population representing the indicator definition (e.g., percentage of population under the age of 18). To allow for comparison among indicators as well as provide for an understanding of the magnitude of difference between areas, block groups are scored[v] relative to all block groups in the city.

This means that areas with a higher proportion of the population meeting the indicator's criteria compared to other block groups would receive a higher score, while areas with a lower percentage would receive a lower score. A composite score is then determined by overlaying each of the eight indicators to determine areas with high concentrations of multiple demographic indicators.

IDENTIFICATION OF EQUITY AREAS

Identification of equity areas are determined based on the composite equity score. For the purposes of this plan, block groups with a composite score in the top quintile (top 20%) is considered an area of highest need. The composite scores are shown in Figure 1 on the next page.

Map 18. *Concentration of Mobility-Vulnerable Populations Based on Demographics*



[i] Dannenberg A, Frumkin H, Jackson R. Making Healthy Places. 1st ed. Washington D.C.: Island Press; 2011.

[ii] International City/County Management Association. Active Living for Older Adults: Management Strategies for Healthy & Livable Communities.; 2003. http://www.ca-ilg.org/sites/main/files/file-attachments/resources__Active_Living.pdf. Accessed February 22, 2020.

[iii] Mckenzie B. Modes Less Traveled—Bicycling and Walking to Work in the United States: 2008–2012. Am Community Surv Reports. 2014.

[iv] Center for Infrastructure Equity. Transportation Equity. PolicyLink. 2016. http://www.policylink.org/focus-areas/infrastructure-equity/transportation-equity.

[v] Scores are assigned based on the standard deviation for a specific indicator.

STREET ANALYSIS + FUTURE SCENARIOS SUMMARY

Future Scenarios Summary

Today

Traffic volumes in Tucson have been decreasing, even with a growing population (up 6.6% since 2005) and a growing number of jobs (up 4.2% since 2005).

- The PAG maintains a database of more than 1,800 historic traffic counts around the region (spanning from 2005-2018), though not every location has a recorded count for every year.
- 65% of these locations have seen volumes decrease, with an average 5% drop in traffic volumes

Even during the busiest times of day, Tucson's major streets carry much less traffic than they were designed to accommodate.

- 47% of total major street network capacity is used during the AM peak.
- 48% of total major street network capacity is used during the PM peak.
- 7% of major streets (36 miles) experience > 0.8 max V/C (approximately LOS D) at daily peak.
- 74% of major streets experience < 0.6 max V/C (approximately LOS A) at daily peak.

On many streets, the daily maximum traffic volume is so low, that entire lanes could be removed with minimal impact on users.

- At a max V/C ratio of 1.0: nearly a quarter (23%) of all lane miles are excess (401 miles total).
- At a max V/C ratio of 0.8: 16% of all lane miles are excess (267 miles total).

Tucson's Major Streets and Routes Plan designates a total right-of-way width that must be reserved along corridors for potential future expansion, meaning that many major streets not only have excess lanes, but they also have additional space on the edges that is typically unused.

- In the Downtown place type, the average reserved right-of-way is 100 feet. In the Urban place type, it's 111 feet, and in the Suburban place type, it's 123 feet.
- The average right-of-way set aside in the Rural place type is 168 feet—enough space for a six-lane road with a center turn lane, a pair of 12-feet shared used paths with a 10-foot landscape buffer... and 40 feet to spare.

Photo courtesy of Phantom Aerial Solutions, Inc.

2045—No Additional Roadway Expansion (No-Build Scenario)

Over the next 25 years, Tucson's population is projected to grow by 13%, and jobs are projected to grow by 31%. But even considering this growth, in 2045, if no roadway expansion occurs, the current street network is still projected to operate smoothly and largely below maximum capacity.

- Traffic volumes are projected to increase 19% from 2019-2045.
- VMT is projected to increase 21% from 2019-2045 (to 11 million VMT/day).
- 57% of total major street network capacity is projected to be used during AM peak.
- 58% of total major street network capacity is expected to be used during PM peak.
- 62% of streets are projected to have a max V/C < 0.6 (approximately LOS A).
- 83% of streets are projected to have a max V/C < 0.8 (approximately LOS C).
- It's projected there will still be enough excess capacity to remove scores of lane miles:
    - At max V/C ratio of 1.0: 17% of all lane miles are excess (300 miles total).
    - At max V/C ratio of 0.8: 10% of all lane miles are excess (170 miles total).

2045—Full Build-Out Of Planned Roadway Expansion (Build Scenario)

A series of roadway expansions and new roadways are planned for construction in Tucson by 2045. This plan is costly and would result in only modest reductions in congestion (compared to the no-build scenario). Further, the expansions would increase VMT and potentially encourage further residential sprawl.

- The full plan would add 180 new lane miles (expansion + new roadways) between 2019-2045 (10.5% increase).
  - ~$700 million in construction costs
  - ~$4 million in additional annual maintenance
- Compared to the no-build scenario, the 2045 build scenario is projected to induce an additional 500,000 VMT each day (4% increase over 2045 no-build and 26% increase over 2019).
- 53% of total major street network capacity is projected to be used during AM peak.
- 54% of total major street network capacity is projected to be used during PM peak.
- 68% of streets are projected to have a max V/C < 0.6 (approximately LOS A).
- 89% of streets are projected to have a max V/C < 0.8 (approximately LOS C).
- 27 fewer miles of streets (5.5% reduction) are projected have a max V/C > 0.8 (approximately LOS D) vs. the 2045 no-build scenario.
- The 2045 build scenario is projected to have even more excess lane miles compared to 2019.
  - At max V/C ratio of 1.0: 22% of all lane miles are excess (434 miles total)
  - At max V/C ratio of 0.8: 15% of all lane miles are excess (287 miles total)
- The location of roadway expansion may encourage residential sprawl.
  - 57% of new lane miles are planned within the existing Rural place type
  - 64% of new lane miles are planned in residential areas that currently have less than 1,000 residents-per-square-mile

EXISTING PROGRAMS

Existing Programs

Capital investments in transportation infrastructure and services expand the range of transportation choices available to people getting around Tucson. Transportation-related programs generate awareness of those choices, provide resources for daily transportation decisions, and promote options that support local goals.

The following tables outline existing transportation-related programs led or supported by the City of Tucson, or available to Tucsonans through a partner agency. Many of the programs led by the City would not be possible without community organization support. Programs led by a partner agency in the region are specifically identified in Table 2, while Table 3 highlights key programs led by local organizations. Finally, Table 4 outlines recommendations for future program investments that will complement the network and systemwide recommendations of the Move Tucson planning process.

Table 25. *City of Tucson Transportation Programs and Initiatives*

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
Transportation Safety The associated initiatives seek to improve safety for all roadway users through education, specific funding, and other tools.	Traffic Safety Campaign: Slow Down. Save Lives.	Slow Down. Save Lives is the City of Tucson's traffic safety campaign to encourage residents and visitors to do their part to prevent crashes. Program materials include bus shelter and bus ads, bumper stickers, and yard signs. Residents are encouraged to take the traffic safety pledge and can request yard signs to support slower vehicle speeds on residential roadways. Signs are available in both English and Spanish.	City-led and funded
	Neighborhood Traffic Management Program	The Neighborhood Traffic Management Program seeks to protect neighborhoods and the quality of life within a neighborhood by providing traffic management and control strategies. Goals include support safe and comfortable travel for all modes; providing for safe and efficient travel within neighborhoods; preserving the function and role of local streets; and support neighborhood and area plans. The program and associated policy provide residents with a mechanism to request speed humps and neighborhood signage.	City-led and funded

Photo courtesy of Phantom Aerial Solutions, Inc.

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
	Traffic Calming Lending Library	The Traffic Calming Lending Library will be a resource to DTM staff and residents to make the possible visible. The Library will consist of a kit of moveable objects for small-scale demonstration projects, typically lasting one to seven days. The projects can be initiated by the City of Tucson, non-profit organizations, grassroots groups, or residents. Common applications include parklets, bike lanes, median islands, curb extensions, roundabouts, and crosswalks. The program is currently in development and undergoing a testing phase; it is anticipated the Library will be active in early 2022. Technical assistance will be provided by the Livability Planner and the Living Streets Alliance as partners on the grant.	City-led and funded by a Tohono O'odham Gaming Grant
	Operation Splash	Operation Splash seeks to improve safety on Tucson's roadways during major storm events. Particularly during Monsoon Season, many of Tucson's roadways experience flooding or related issues that are safety hazards for people traveling in the City. The program installs barricades at flooded washes and dip crossings during storm events; evaluates safety of crossings after water recedes; and distributes sand bags for residents concerned with flooding.	City-led
Transportation Demand Mangagement (TDM) TDM initiatives provide support and encouragement to drive alone less. Often focused on commute trips, TDM programs can include work place initiatives as well as resident-focused efforts.	Trave Reduction Program	The Travel Reduction Program seeks to improve air quality and reduce traffic congestion in Tucson. Specifically focused on commute trips, it requires major employers to participate in the Travel Reduction Program and increase alternate travel mode usage.	PAG-led, City participates
	City of Tucson Bus Pass Program	City of Tucson provides employees with a 50% discount on monthly transit passes to encourage greater use of public transportation for daily commutes.	City-led

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
Safe Routes to School (SRTS) SRTS initiatives provide education and encoragemnet to students, family, and school communities seeking to increase the use of active and shared modes of travel. This program can include a wide range of activities and events and may be accompanied through local street improvements.	Safe Routes to School Program	Led by Living Streets Alliance since 2014, the SRTS program seeks to encourage more students to travel by foot or by bike. In addition to reducing traffic congestion around schools, the program seeks to reduce pollutions near schools, improve safety in school zones, and support community and family connections. The initiative primarily focuses on education and encouragement activities, including: mobile bike repair, after-school bike clubs, in-classroom education, walking school buses, and more.	City-funded; includes partnership with City of South Tucson
Shared Streets + Spaces Shared streets programs include efforts to reimagine the public right-of-way to better support residents, neighborhoods, and local businesses.	Slow Streets	The Slow Streets program temporarily closes certain streets to all but local traffic, giving Tucsonans more space to safely walk, bike, and run. This program was developed in response to the COVID-19 pandemic and included an initial pilot phase and an ongoing second phase, which expanded the model to include block leaders and low-cost traffic calming improvements.	City-led and funded
	Parklets and Streateries	Beginning as a pilot program during the COVID-19 pandemic, the City has established a program to provide for expanded outdoor dining and public space opportunities in the public right-of-way. Often implemented in on-street parking spaces, these mini-parks and expanded dining opportunities may provide longer term or short-term, pop-up opportunities to enhance public space and livability in a district. As of June 2021, the City is gathering feedback from the public on the future of this program.	City-led and funded

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
Communtiy Building and Livability Regular events or initiatives build community and celebrate transportation options. These initiatives help connect people in Tucson with more infomration about bicycling, walking, or more while seeking to improve convenience through initiatives, such as Free Bike Racks.	Cyclovia	Tucson's regular celebration of community that brings people together to walk, bike, socialize, and play in car-free streets. Since 2010, Living Streets Alliance in partnership with the City of Tucson and numerous Tucson-area businesses and organizations have grown the Cyclovia program. In 2019, an average of 40,000 people attended each event.	Planned and managed by Living Streets Alliance. City is a major sponsor and partner.
	Bike Fest Tucson	Bike Fest Tucson is the city's "annual celebration of life on two wheels." Hosted in April each year, the month-long celebration includes incentives, games, and activities that encourage people to venture by bike.	City-led, with support from Pima County Environmental Quality and Living Streets Alliance
	Tucson Transportation Talks	Hosted by the City of Tucson, the Transportation Talks conference brings together practitioners and leaders in the transportation industry to share about lessons learned and provide inspiration for Tucson's transportation system. Started in 2021, the first year included panel sessions across three days highlighting topics that can support a more accessible, affordable, and convenient transportation system.	City-led
	Free Bike Rack Program	Since 2013, the City of Tucson provides bike racks to area businesses when requested. City staff help evaluate not only the best location for the rack but also the type of rack that best supports the business. This program is part of the City's larger bicycle parking program, which includes expanded bicycle parking opportunities, on-street bike corrals, SunTran lockers, and more	City-led

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
Streetscapes The initiatives listed here seek to enhance Tucson's public rights-of-way. From public art to increased shade and improved stormwater management, these initiatives complement infrastructure investments while advancing Move Tucson's guiding principles of Resilient and Authentic.	Public Art	The City of Tucson funds and supports public art in order to create a cityscape that contributes to the image and identity of the City. The City of Tucson contracts with the Arts Foundation of Southern Arizona to administer the City's Public Art Program. The City will also manage or contract with an arts organization to manage the City's public art collection. Each City Department includes public art projects in all eligible Capital Improvement Projects. The City of Tucson's Public Art Program aspires to meet the following goals: (1) Promote civic pride through the high quality of Tucson's public art collection; (2) Celebrate Southern Arizona's history, culture, and traditions; (3) Provide information and support for artists interested in creating public art; (4) Involve neighborhoods, users, and the general public in the public art process; (5) Complement and support the City of Tucson's economic development, neighborhood development, and downtown revitalization efforts.	City-led

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
	Transportation Art by Youth Program	PAG provides a unique youth art program designed to incorporate new public art elements into transportation projects. PAG's youth summer projects are awarded to HURF-eligible jurisdictions by state law in coordination with local art groups and artists. Project locations must be in proximity to a transportation facility, have a federal functional classification of minor arterial or above, and have an aesthetic function and impact on the traveling public. Projects are funded from the set-aside portion (12.6%) of PAG's Highway User Revenue Funds.	City of Tucson Department of Transportation in partnership with the Arts Foundation of Southern Arizona, funded by PAG.
	Tucson Million Trees Campaign	Mayor Regina Romero has committed to planting 1 million trees in the City of Tucson by 2030. The initiative will focus on planting native and drought resilient tree species as part of Tucson's response to climate change. Low-income neighborhoods and areas of the city most vulnerable to extreme heat will be prioritized for tree plantings. Transportation projects provide a great opportunity to increase tree canopy in the city and the Department of Transportation and Mobility will coordinate with the initiative to evaluate opportunities for tree planting in the public right of way.	City of Tucson in partnership with Tucson Clean and Beautiful
	Green Stormwater Infrastructure Fund	The goals of this fund are to maintain existing Green Stormwater Infrastructure (GSI), support increased vegetation in public common areas, and to help reduce flooding on neighborhood streets. Additional benefits include providing shade and cooling along bikeways and sidewalks; improving stormwater management; and beautifying neighborhoods. DTM coordinates with the fund to incorporate GSI into some transportation projects, including bicycle boulevards.	City-led

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
Data Collection and Reporting Data collection initiatives support both the City's understanding of the transportation system and its use while also providing tools to help communicate with the public. Data collection is essential in tracking transportation benchmarks and performance measures.	Public GIS Portal	The City's public GIS portal links residents with information about Tucson's transportation system. This includes display of existing facilities and system maps, as well as information about active projects, funding initiatives, and more. The City employs StoryMaps to clearly guide viewers through information about various projects, and Map Tucson provides a one-stop map for a wide range of data about Tucson's transportation network and more.	City-led
	Annual Bicycle and Pedestrian Counts	Each fall, volunteers conduct on-site counts of bicycle and pedestrian activity at more than 80 locations across the region. The results of these counts support an improved understanding of active transportation use and provide a more localized understanding of mode share that Census data and other data sources are unable to capture. The annual user count program is hosted by the Pima Association of Governments, with support from the City of Tucson.	PAG-led, City-supported
	TPD Data Collection	The Tucson Police Department provides data regarding traffic collisions and enforcement activities. This data provides limited insight into the challenges and safety concerns on Tucson's roadways. Specifically, collision data can help reveal trends that may require engineering, education, or encouragement intervention.	City-led
Advisory Groups Advisory groups are a formal mechanism for area residents and stakeholders to provide feedback and recommendations for City action. Transportation-related advisory groups include efforts supported by the City or held in partnership with Pima County	Tucson-Pima County Bicycle Advisory Committee	This group meets monthly to advise the City and County on community concerns, technical questions, and provide recommendations related to bicycling.	City-led

PROGRAM	INITIATIVE	DESCRIPTION	CITY ROLE
	Pedestrian Advisory Committe	This group helps identify and set priorities for policies, programs, and projects for the pedestrian environment in Tucson. Monthly meetings provide members an opportunity to provide feedback and recommendations related to policy and implementation; funding; and education, promotion, and enforcement.	City-led
	Complete Streets Coordinating Council	The CSCC is a 20-member committee that provides oversight and guidance on the implementation of the City's Complete Streets program, including Move Tucson and the Complete Streets Design Guide.	City-led
	Transit Task Force	This group provides recommendations and feedback related to public transportation in the City of Tucson, including topics related to funding, ridership, and transit service.	City-led
	Commission on Disability Issues (CODI)	CODI is an official advisory body to Mayor and Council on the priority of concerns faced by individuals with disabilities in Tucson. Their work includes recommending policies and activities; serving as the liaison between the City and other community groups serving individuals with disabilities; supporting community programs and projects that promote public awareness; and coordination with the City and outside agencies to ensure equitable delivery of services.	City-led

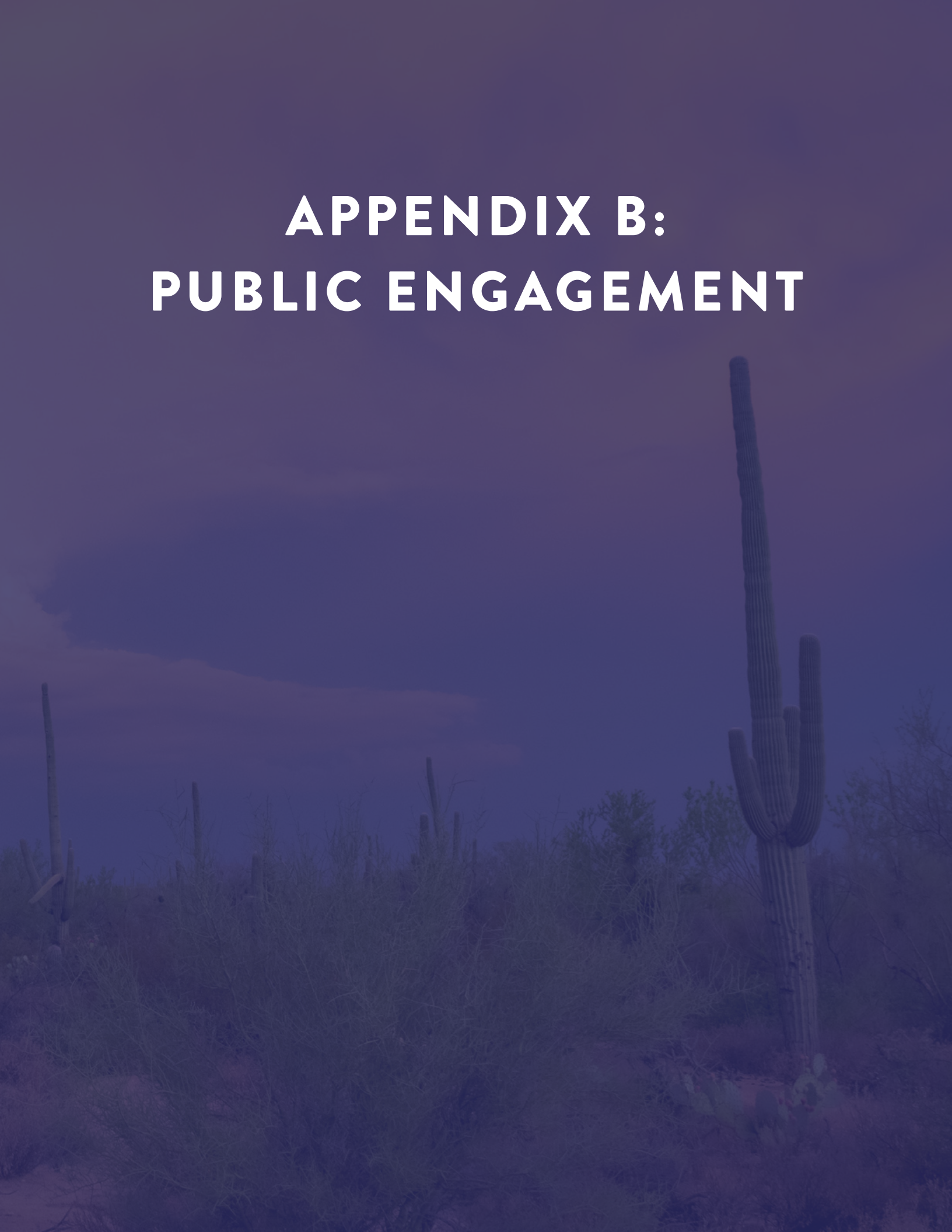
Table 26. *Pima County and Sun Tran Programs available to City of Tucson Residents*

PROGRAM	AGENCY
Sun Rideshare	Pima County
Drive-Less Pledge	Pima County
Maps & Resources	Pima County
Get on Board	SunTran
Park & Ride	SunTran
DEQ Clean Air Days	Pima County
Safe Routes to School Program	Pima County
TransView Traveler	Pima Association of Governments

Table 27. *Community Organization Led Programs available to City of Tucson Residents*

PROGRAM	ORGANIZATION
Summer Bike Camp	El Grupo
FUGA Tucson Community Rides	Families United Gaining Accessibility/Familias Unidas Ganando Accesibilidad
Pedaling the Pueblo Podcast	Living Streets Alliance

APPENDIX B: PUBLIC ENGAGEMENT



PUBLIC ENGAGEMENT SUMMARY PART 1

Public Engagement Summary Part 1

The City of Tucson is preparing a **city-wide transportation master plan** that will create a mobility blueprint for the City's future in a rapidly-changing world. The plan will be **innovative, creative, and inclusive**. By working together, we can commit ourselves to create a mobility future that **works for all of us.**

Mobility describes the movement of people and goods - -including walking to a bus stop, carpooling to work, package delivery, and much more. Planning for mobility has to consider how roads, transit services, neighborhoods, and destinations relate to one another.

To better understand the needs of the community and develop a plan that is inclusive, the project team is listening to voices across the city—at events, in meetings, and in conversations on the sidewalk and at bus stops. We are also seeking feedback through tools such as surveys and interactive web maps.

The following document shares some of the initial findings from these conversations. This feedback is informing the plan vision and priorities, project recommendations, and prioritization.

Engagement Activities

Engagement opportunities to date for Move Tucson have included a range of activities with a variety of groups, including:

- Stakeholder Meetings: The project team met with stakeholder groups in November 2019 and February 2020 to hear more about Tucson's transportation needs and vision. Meetings included members from the business and development community, nonprofit and advocacy groups, and coordinating agencies.
- Complete Streets Coordinating Council: The project team met with the City's standing public committee that oversees transportation investments in November 2019 and February 2020 to learn more about Tucson's transportation needs and vision.
- Move Tucson Launch: In February 2020, Move Tucson was publicly launched. This first public meeting provided an opportunity for the public to learn about the planning process and vision while offering opportunities to provide feedback on transportation priorities.
- Handlebar and Sidewalk Surveys: The project team spoke with people walking, biking, waiting for the bus, or at the end of a car trip to learn about what is and isn't working for people today. By meeting with people as they went about their day, the team was able to engage with a wider range of the public.
- Survey: Beginning in early February 2020, an online survey asked Tucson residents and visitors to share about how they get around today, how'd they like to get around in the future, and what their priorities are. The results analyzed here represent 4,570 responses from people all across Tucson. We want to hear from

more Tucsonans to help create a plan that reflects the needs and vision of the city. We are exploring ways to better connect with residents and visitors in this time of social distancing.

- Interactive Web Map: Although not included in this summary, an ongoing interactive web map asks participants to share about specific challenges or opportunities they see in Tucson's transportation network today. At the time of writing, over 400 people have shared their ideas for improving Tucson's walking, biking, transit, and driving networks.

COVID-19 Impact

Beginning in March 2020, the COVID-19 pandemic dramatically disrupted Tucsonans daily lives, including the ways we travel and interact with our city. The pandemic precluded the in-person outreach events that were planned for Move Tucson as an inclusive and broadly accessible complement to digital, online engagement. From mobile workshops at popular destinations to Street Ambassadors connecting with neighbors at local parks and events, reaching out to the Tucson community face-to-face would help us hear from more Tucsonans about their vision for the city's mobility future.

In response, the project team has made several adjustments to make sure we are still hearing from a broad range of Tucson residents. Through this process, resources were specifically focused in increasing input from areas that often face the highest barriers to participation, including high equity areas. These adjustments include:

- Extending both the survey and web map comment period. The online survey and interactive web map comment periods were extended until August 2020. Originally set to close in June, this extended period provides additional opportunities to gather input and share feedback opportunities with the community.
- Street Ambassadors leveraged their networks virtually. The Street Ambassador program was built on community connections, seeking to leverage existing relationships from in-person neighborhood and community groups. With the pandemic, Street Ambassadors shifted their outreach to virtual outlets, including tactics such as social media interviews.
- Promotion Through Alternate Outlets. The City also promoted the survey and web map through various channels, including boosted Facebook posts, online Town Halls, utility bill inserts, and local print, radio, and television media outlets.
- Focused Survey Outreach. Initial review of the survey and web map results indicated several areas across the city with low participation, particularly in areas with higher concentrations of low-income populations, people of color, low motor vehicle access, and other equity indicators. Most often, these areas experience the greatest barriers to participation. To be sure that residents from all areas of the city were heard, the City also contracted a research firm to conduct an additional 800 surveys through phone and direct outreach. By completing this effort, the survey results analyzed here include greater balance of representation across all zip codes, age groups, and ethnicities in Tucson.

As Move Tucson continues, the project team will continue to assess how we engage with the public and remain committed to an inclusive engagement process.

Engagement Findings

Across all groups, people have shared that there are many things that work well for them today. However, many responses express desire for a balanced, well-maintained, and more sustainable transportation system in the future. The findings from each engagement activity are explored briefly in the sections that follow.

Stakeholder and CSCC

The stakeholder meetings conducted in November 2019 demonstrated a consistent hope for a transportation system that provides choices for how people get around. Across all the groups who participated, common themes emerged, including a desire for safety for all modes; increased affordability; freedom of choice; improved connectivity; a transportation system that realistic, actionable, and fiscally-constrained; improved maintenance of existing infrastructure; and a transportation system that is equitable.

The results of these meetings informed the Vision and Guiding Principles (see accompanying document) for Move Tucson.

Handlebar and Sidewalk Surveys

Handlebar and Sidewalk Surveys were conducted in February and March 2020 and asked people to share what they like about how they were traveling today and what would make it more enjoyable. The results of these surveys will be included in the forthcoming Community Priorities Report. The project team heard from people who walk, bike, drive, e-scooter, and take public transportation. In general, participants shared generally positive experiences about their trips today, although common themes regarding improved reliability, affordability, and safety of the transportation system emerged. Below are examples of responses received through these conversations.

Today is my day off, so I'm just goofing off. It's easy to get from Point A to Point B on a bike. I use the bus racks all the time, but I just learned I could take my bike on the streetcar. The biggest problem is the weekends and getting up the hill. The buses don't run as often on weekends. People still work weekends. Our lives don't stop on weekends. Why do they?

I drove to the park to meet a friend and walk our dogs. The park is nice so it is worth the drive to get here. The Loop Trail is awesome. It's well taken care of and clean. I have no complaints. There is a lot of traffic. People need to behave better. That includes getting people off their phones while driving.

I took the bus to go shopping for groceries. I always take the bus to shop. I've been all over the country. The bus system is one of the best in the country. You can count on your bus to arrive on time.

I work here at the food truck most days. I drove here for work. I've been working here for 17 years. Lots of people that work near the intersection walk here during lunch time. Every day it's busy. You could make it safer and easier to cross the street to get to where you are going.

Online Survey

The online survey was open for feedback from February through August 2020. During these nearly 6 months, more than 4,500 Tucsonans shared their priorities for mobility in Tucson. Responses were received from across the City, with the highest numbers of responses from those located in the northern, western, and central areas of the city, as shown in Figure 1. However, not all zip codes have the same number of residents. The results shown here represent approximately equal participation rates relative to the population in each zip code.

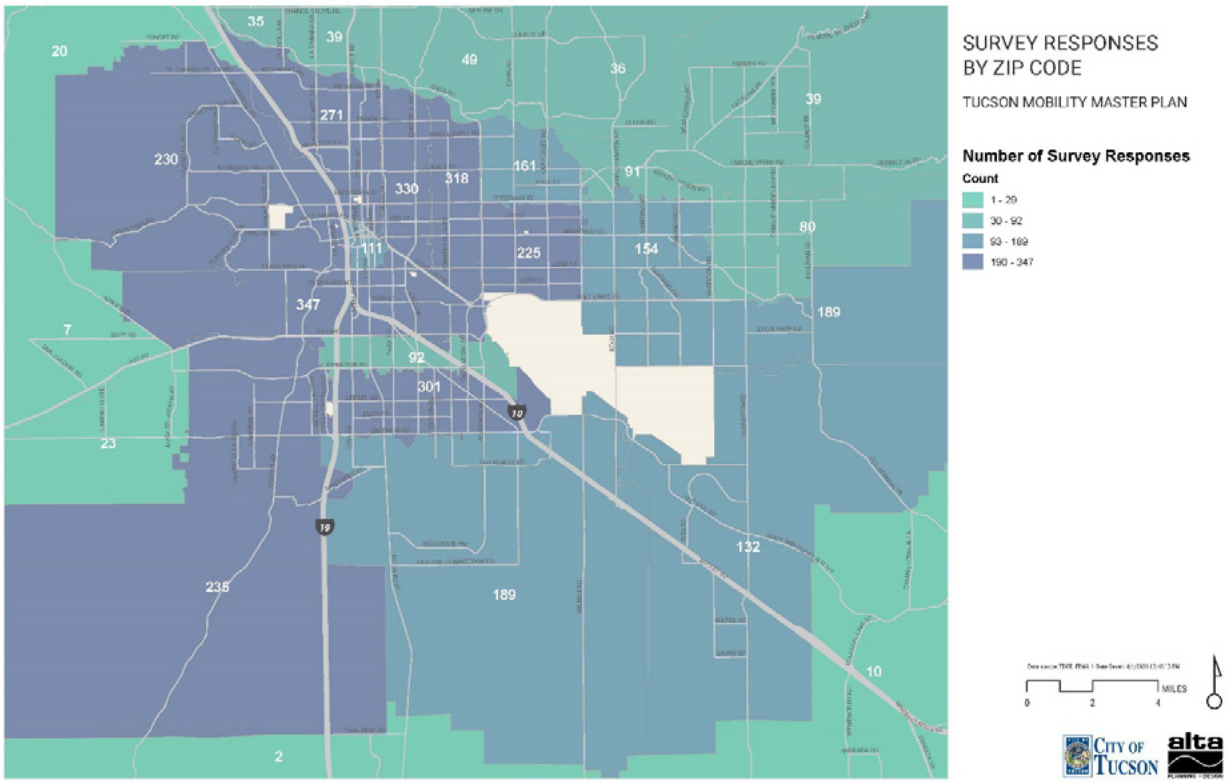


Figure 1: Move Tucson Survey Responses by Zip Code

Over 80% of participants live in Tucson, with the majority also working or going to school in Tucson. For those who identified as living outside the city limits, many also indicated that they not only work within the city but also shop or frequently visit other locations within the city. Further, respondents who live within the city may identify with several of the groups noted here, including living, working, and attending school within the city.

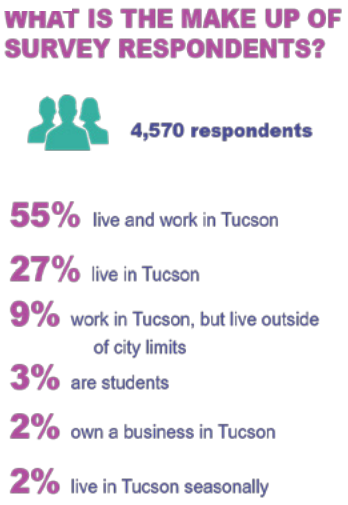


Figure 2: Survey Respondents' Relationship to Tucson

Participants were also asked to optionally share demographic data, including age and race/ethnicity. For those who provided this information, over 50% identify as white; the next largest group was Hispanic or Latino, with nearly 30% of participants.

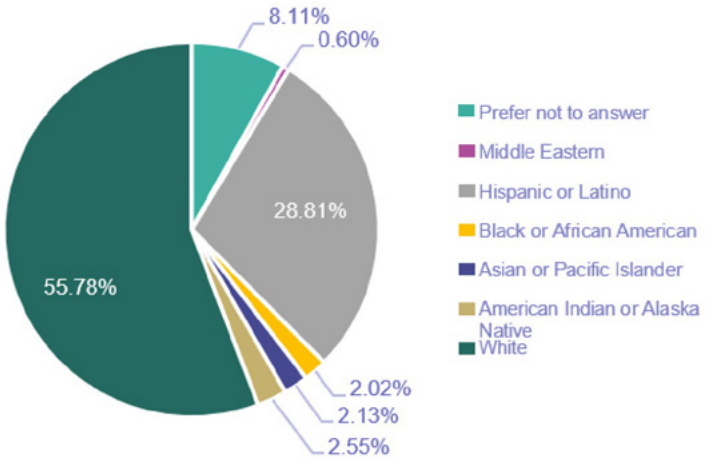


Figure 3: Race and Ethnicity

Participants were varied in terms of age; however, most respondents were between the ages of 30 and 70, representing nearly 70% of all participants. Those between the ages of 30 and 39 and between the ages of 60 and 69 were most represented.

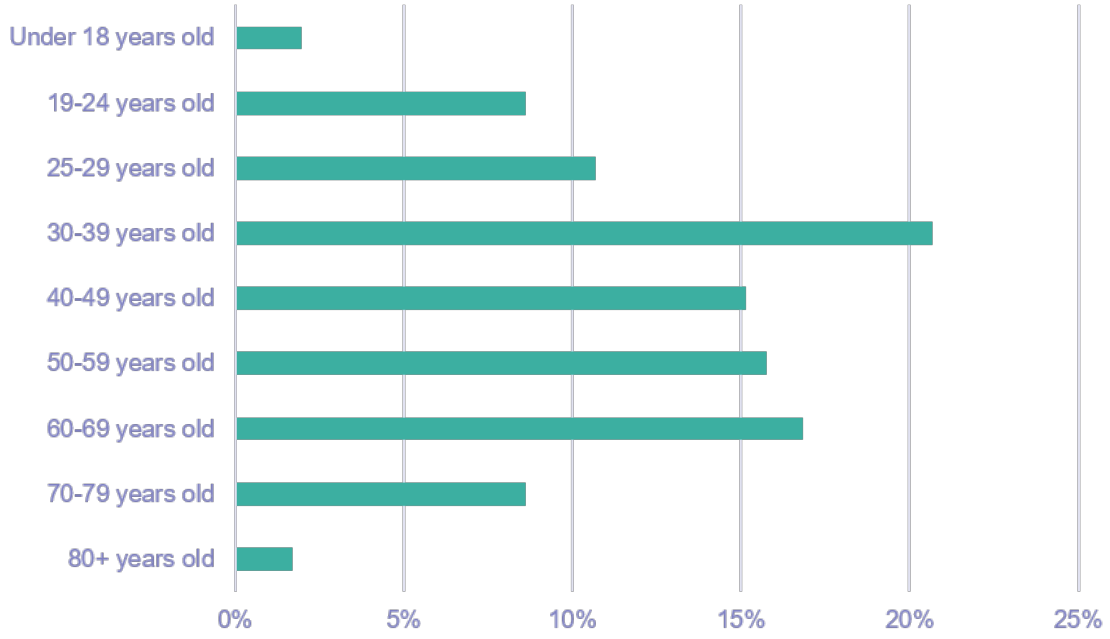


Figure 4: Survey Responses by Age

Transportation System Priorities

Over half of all participants identified that Tucson's streets should move people by providing for all modes, including walking, biking, public transportation, and driving.

58% support a balanced transportation system.

BALANCE NEEDS FOR ALL MODES

Of the remaining responses, only 16% indicated preference for continuing to invest in roadways for motor vehicles, while the remaining responses were split among prioritizing walking, biking, or public transportation.

Participants were also asked to identify what Tucson should prioritize as it plans for the future. Responses were varied; however, top priorities include:

- 42% support better cross-town mobility
- 37% want transportation options that support a sustainable city
- 37% support improved safety for all modes
- 35% support improved walking, biking, and public transportation options
- 32% support improved maintenance for existing infrastructure

When asked about specific investments, priorities focused more specifically on safety and maintenance. In particular, the greatest support was for

- improving safety of roadway crossings for people walking and biking (68%);
- improving safety for all roadway users (61%);
- repaving streets (63%);
- building safe, more connected bikeways (52%);
- building more sidewalks that are fully accessible to those using wheelchairs (61%);
- and improving traffic signal timing and coordination (54%).

Conversely, slowing driving speeds (22.9%) and widening roads (29.4%) received the least support, followed closedly by increased landscaping along roadways (33.8%). It should be noted that while increasing safety for all users was identified as 'Very Important' or 'Somewhat Important' by over 90% of participants, slowing driving speeds received the least support among all categories, although slower traffic speeds are associated with improved safety. Figure 5 on the next page depicts the results based on responses of 'Very Important' or 'Somewhat Important.'

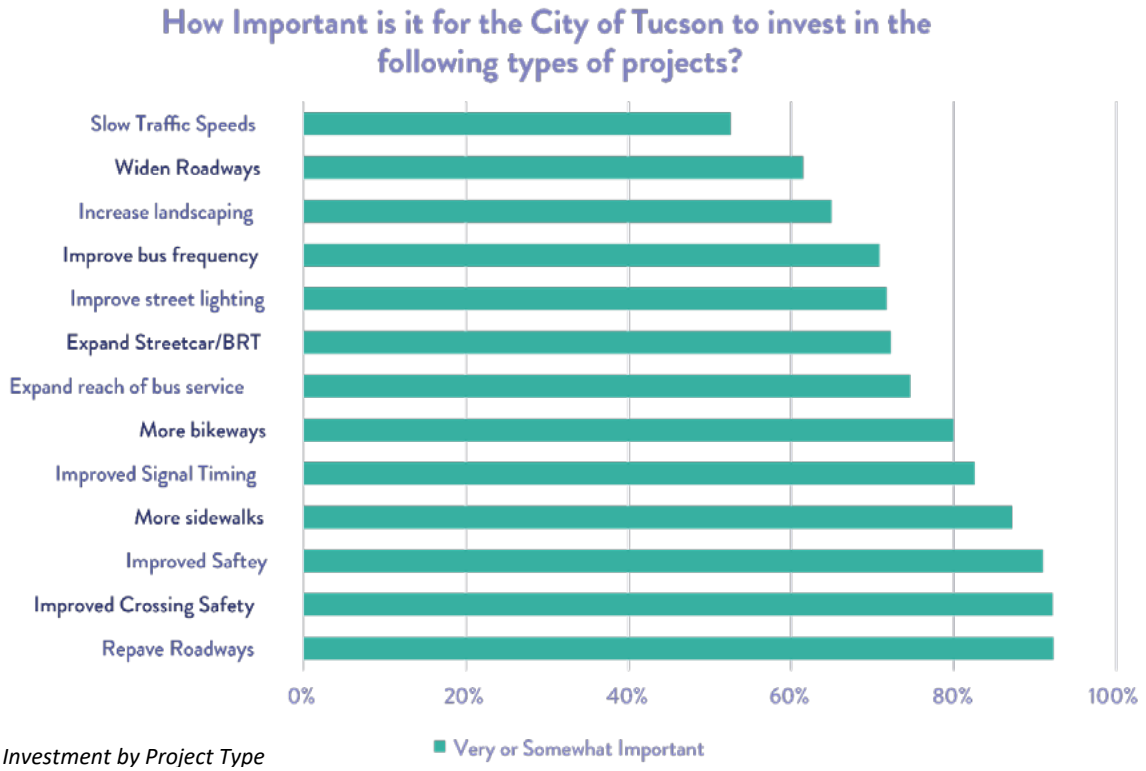


Figure 5: Investment by Project Type

Similarly, participants were asked to distribute $25 across projects supporting the following categories:

- Walking and rolling in a wheelchair
- Biking
- Public Transportation
- Share modes, such as Uber, Lyft, and taxis
- Shared microbility, including bike and scooter share
- Driving
- Roadway Maintenance

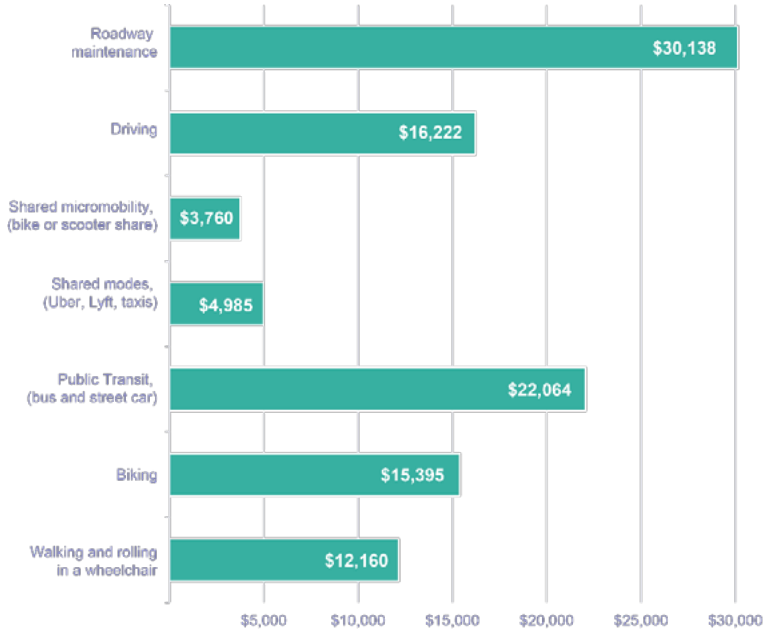


Figure 7: Investment by Mode

Representing a total of over $100,000 across all participants, the largest investments were in roadway maintenance and public transportation, with shared mobility options receiving the least investment.

On average, participants dedicated nearly $9 (or approximately one-third) of their available funds toward roadway maintenance and over 40% of available funds toward active modes.

Similar to the mode split data explored in the next section, driving investments received the most support from those who own a business in Tucson and those who work but do not live in Tucson. Overall these responses support investing in maintaining and improving Tucson's current infrastructure while also expanding mode options beyond personal motor vehicles.

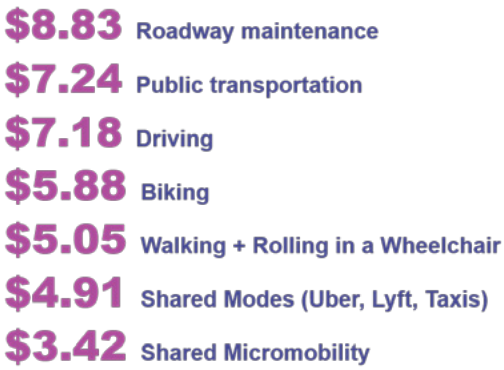


Figure 8: Average Investment Distribution per Participant

Mode Split

Particpants indicated that in general, driving is how they typically get around today. 64% of participants said that they drive daily, while 25% walk and 11% bike. Driving rates were comparable for respondents regardless of their relationship to Tucson:

- 67% of visitors or seasonal residents drive daily
- 66% of students drive daily
- 65% of those who live and work in Tucson drive daily
- 65% of those work in Tucson but live outside of the city limits drive daily
- 64% of those who own a business in Tucson drive daily
- 62% of those who live in Tucson drive daily[1]

However, when indicating how they would like to get around, it is clear that participants would prefer to have more walking, biking, and public transportation options for daily travel. In fact, only 36% of all respondents indicated that they would like to drive daily. However, **42% would like to walk daily**, and **29% would like to bike daily.** These represent nearly double the percentage of daily use of these modes today. These percentages are even higher for those who live and work in Tucson, with 46% wanting to walk daily, and 34% wanting to bike daily.

Those who own a business still indiciated desire to walk and bike daily, but also expressed a need to drive daily (56%). This was similar for those who work but do not live in Tucson, although this group also indicated preference for more public transportation opportunities.

[1] It is important to note that these responses reflect responses across a broad time period; further, responses may also be influenced by COVID-19 impacts. For example, early results indicated a significantly lower drive-alone rate for students; however, responses received later in the survey period have brought the daily drive alone average in line with other groups. This may reflect patterns influenced by the school year, as well as impacts from COVID-19.

- 56% of those who own a business in Tucson want to drive daily
- 50% of those who work in Tucson, but live outside of the city limits want to drive daily
- 35% of those who live in Tucson want to drive daily
- 34% of those who live and work in Tucson want to drive daily
- 33% of students want to drive daily
- 22% of visitors or seasonal residents want to drive daily

These results indicate greater support for a more balanced transportation system that provide choice for how people get around the city, even while driving may remain a necessary means of travel for some.

Responses by Location

Responses to survey questions varied by location in the City, as indicated by participant-provided zip codes. Although not all participants provided this information, nearly 80% of responses included a zip code. Analysis of results by zip code can provide insight into diffrences in perception and priority across the city. It should be noted that in addition to the data being incomplete, zip codes also represent a relatively large area that may include a diverse range of conditions and populations. The following sections summarize several key findings related to location, specifically with consideration for zip codes coinciding with high equity areas.[2]

How participants want to travel:

- A higher percentage of participanted located in central areas of the city, including Downtown, midtown, and the west side, expressed interest in wanting to walk or bike on a regular basis.[3] These areas typically coincide with high equity areas, with greatest interest for walking or biking regularly occuring in areas north of 22nd Street. Interest in walking on a regular basis is shown in Figure 9.
- A significant percentage of respondents located in the northern areas of Tucson as well as in the eastern and southeastern areas of the city indicated preference for driving regularly. In fact, the areas in the furthest northeastern and southeastern areas had over 90% of participants indicate that they want to drive regularly.

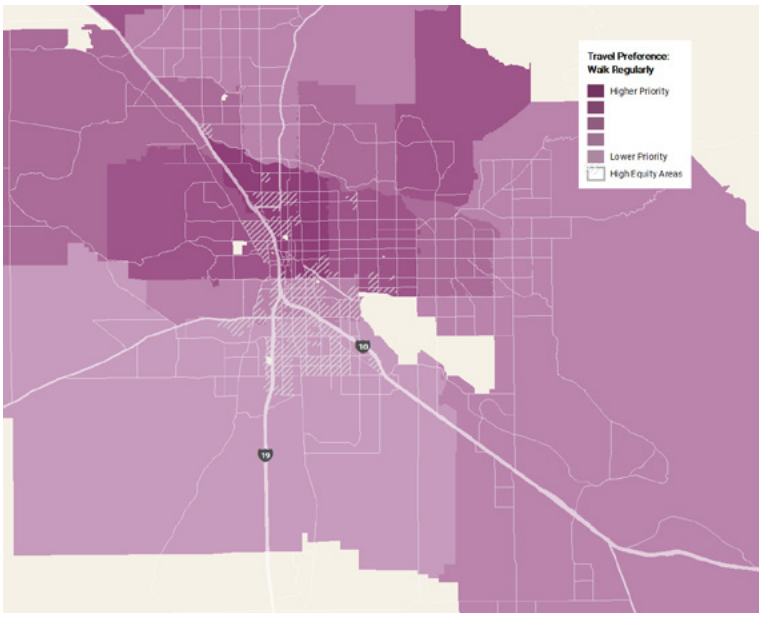


Figure 9: Travel Preference: Walk Regularly

[2] High equity areas are defined in the Existing Conditions summary; these areas are block groups with high concentrations of vulnerable and/or disadvantaged populations.

[3] Responses indicating daily or weekly interest in the use of each mode were considered in this analysis.

- Interest in using public transportation regularly was greatest outside of city limits to the north of Tucson. However, within the city, areas to the west and along Swan and Craycroft south of River Road indicated the greatest interest in public transportation use. These areas did not overlap with high equity areas. This is shown in Figure 10.

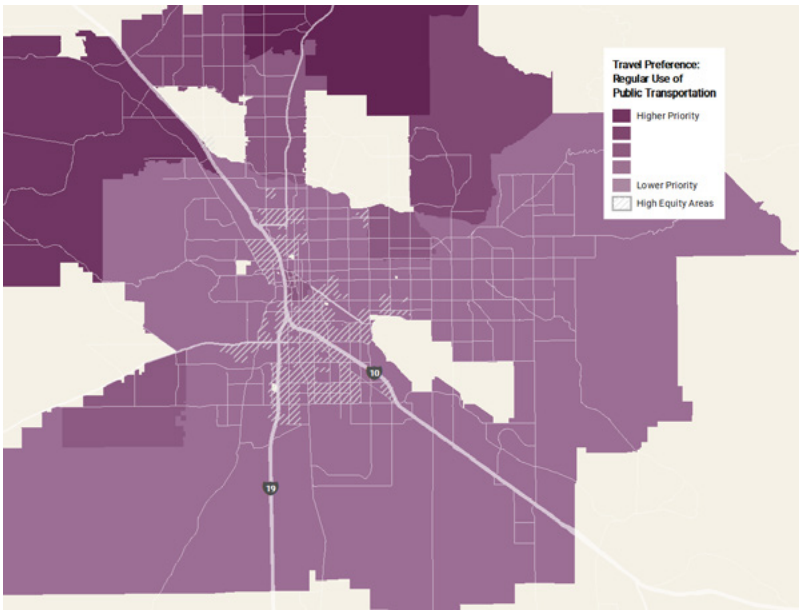


Figure 10: Travel Preference: Regular Use of Public Transportation

Challenges to mode of travel:

- Respondents in the southern areas of the city and those in high equity areas indicated that they would both bike and use public transportaiton more if it was more affordable and if they had more information.
- Respondents in these same areas also indicated that they would walk, bike, and use public transportation more if it was more comfortable.
- Respondents across the city indicated preference for improved safety, improved infrastructure, and better connections to destinations to help them walk, bike, or take public tranpsortaiton more.
- Fewer participants from areas located in the furthest extents of the city, especially the west, north, and east areas of the city, identified challenges that, if solved, would encourage more walking, biking, and use of public transportation as compared to participants located in more centralized areas of the city.

Tucson's Priorities

- Improved travel options for biking, walking, and public transportation were identified as a priority across central areas of the city.
- While maintenance was commonly identified as a need in the survey, distribution among zip codes indicates that areas to the far north of the city and the southeast responded with the greatest interest in prioritizing road maintenance.
- Within high equity areas, affordability of transportation options was frequently identified as a priority. Indication of affordability as a priority is shown in Figure 11.

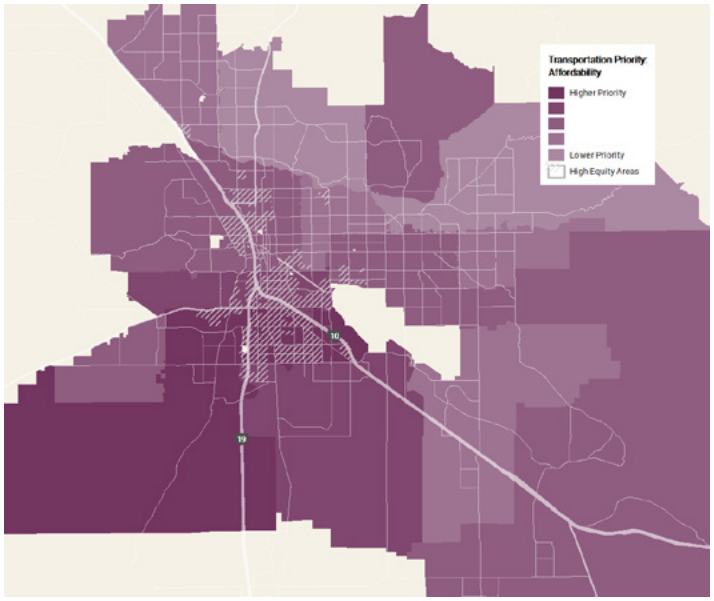


Figure 11: Transportation Priority: Affordability

- Cross-town mobility and travel time were identified as priorities more frequently in the furthest extents of the city, particularly in the areas furthest north and furthest southeast.

Shifting Patterns

While many respondents indicated desire to shift their daily transportation patterns, it is important to understand what is missing in today's network that if improved, would support this shift. Participants were asked to identify what would help them walk, bike, or take public transportation more.

55% indicated that they would bike more if there was better infrastructure and improved safety across the network. Similarly, 51% indicated that they would walk more if it was safer, but also if they could connect to more destination nearby. These responses in particular closely align with the desire to prioritize safety for all modes, improve crossings for bicyclists and pedestrians, and create a more balanced system that supports all modes.

47% of participants indicated that they would also use public transportation more if they knew they could get to where they needed to go on time and in a timely manner. While this points to improved frequency and route coverage for the public transportation network, it also supports the desire to have a more balanced transportation system overall.

Interactive Web Map

The interactive web map invited participants to identify locations around Tucson that are routes used today, routes they would like to use, or locations that are challenges to or opportunities to improved travel in the city. Participants had the option to categorize responses by mode or provide general comments. Further, participants could also like, dislike, or add comments to locations identified by other participants.

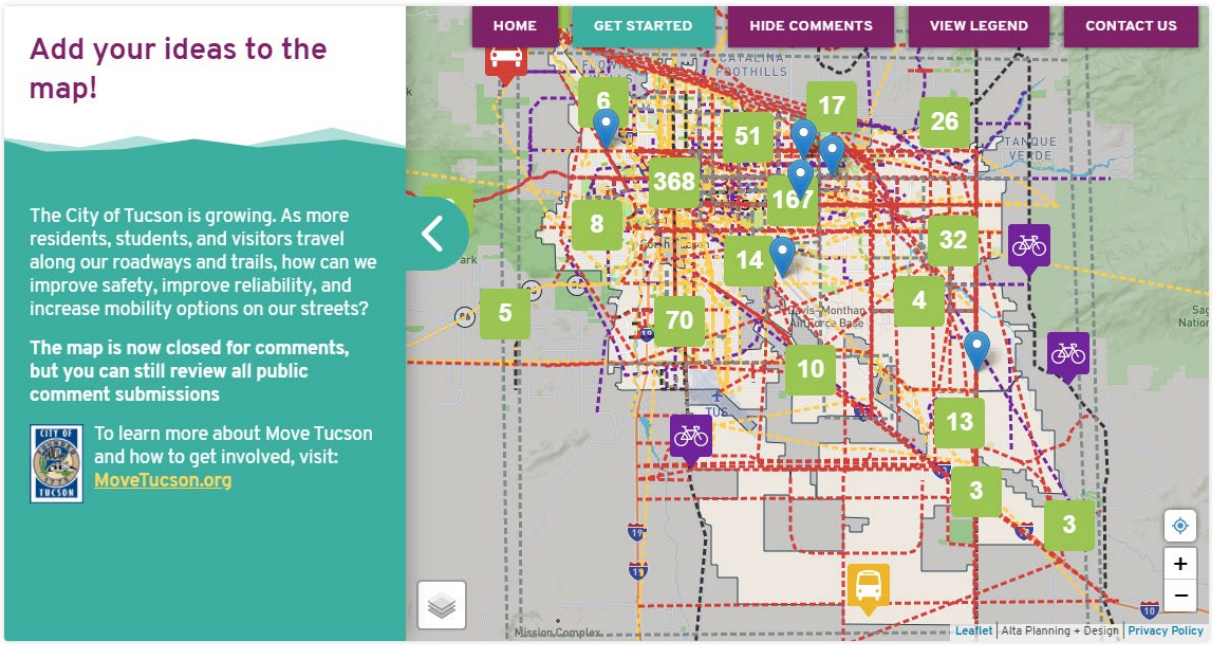


Figure 12: Map Responses and Interaction by Mode

The web map opened in February 2020 and by the beginning of August received over 6,000 interactions, including:

- Over 1,500 unique project opportunities
- 4,216 likes or dislikes
- Over 250 comments on suggestions from other participants

Comments were distributed across modes:

Table 1: Response Count by Mode

MODE	TOTAL COMMENTS	LIKES	DISLIKES
Biking	516	1699	61
Driving	387	592	330
Walking	276	403	13
General	163	339	52
Public Transportation	162	561	119
Shared Mobility	43	43	3
Freight	5	0	1

While these numbers suggest a significant amount of feedback in support of biking and driving, it is important to note comments often reflected the needs of multiple modes. Examples include comments identifying improvements that would benefit both walking and biking, or roadway comments that focused on traffic calming, rebalancing the right-of-way, and/or slowing speeds to improve travel for all modes.

Response Themes

Participants identified a wide range of improvements, ranging from very specific locations requiring upgraded curb ramps or crosswalks to comments that reflect a broad system-wide need or longer corridor for improvement.

Across all modes, the top themes include:

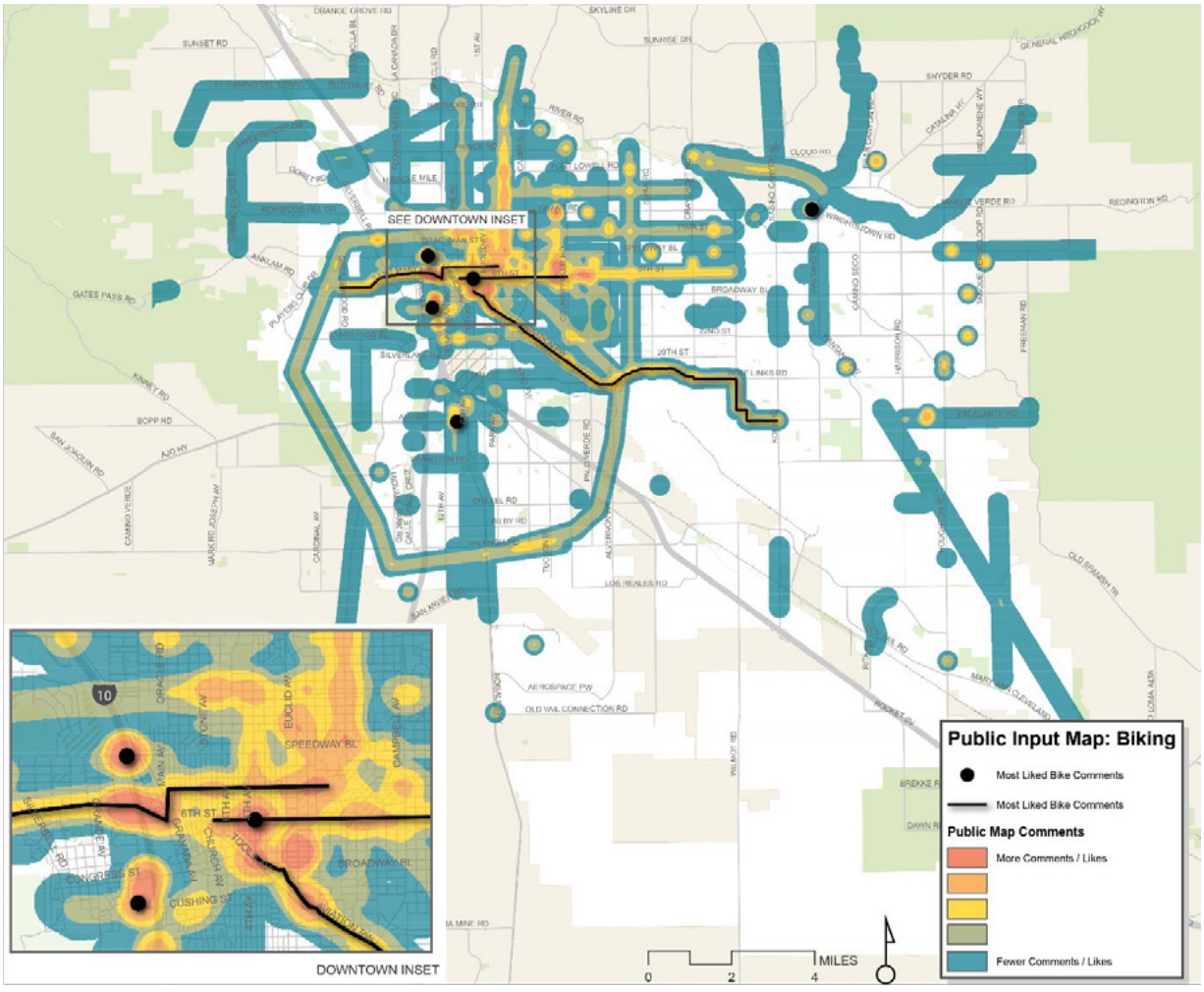
- **Support for improved cross-town mobility**. This was identified in various ways, from loop freeways to improvements along major east-west corridors.
- **Improved local pedestrian connections**, creating safer, more direct routes to schools, libraries, public transportation, and other destinations.
- **Improved access for persons with disabilities**, including curb ramps, filling sidewalk gaps, and improving the quality of existing sidewalks.
- **Right-sizing roadways** to provide for complete streets where motor vehicle volumes are low.
- **Calming traffic**, particularly along high use corridors for bikes and pedestrians, to improve safety and comfort of travel.
- **Prioritized maintenance** of roadways, including motor vehicle travel lanes and on-street bikeways. This includes repairing pot holes and clearing debris.

- **Improved reliability** and speed for public transportation options, including expansion of street car or consideration of bus rapid transit and light rail.
- **Improved shade** along high-use sidewalks and specifically at public transportation stops.

The sections that follow provide a summary of comments by mode, including a map that displays both the density of comments (weighted by 'Likes') and the top projects by mode. It should be noted that comments identified as 'Freight' typically referenced other concerns, including roadway maintenance and safe crossings; for this reason, these comments have been incorporated into the modes to which they most closely relate.

Biking

Biking comments focused significantly on connections. This includes improving connections among existing facilities, providing connections across barriers, and improved connections across major roadways. Many comments identified well-loved bikeways around Tucson, such as the Loop, the trail along Aviation Parkway, and bicycle boulevards. However, while these comments did indicate the importance of these routes in particular, among others, they also specified the ways in which the routes do not meet the needs of bicyclists. For example, connections to and from the Loop were indicated at least 85 times, representing 16% of all bike-specific comments. The heat maps of comments received with top project identified is shown in Figure 12 below.



Projects/comments with the greatest number of likes included:

- Prioritize bike travel on 4th Avenue
- Improve wheelchair and bicycle access to the Loop from Cushing Street with a ramp; only safe crossing under freeway
- Dangerous transitions required crossing lane of traffic to remain eastbound on Tanque Verde (at Grant Road)
- Improve connections under I-10 for bicyclists (identified at Speedway)
- Southbound bike traffic needs HAWK crossing button; cyclists must cross into on-coming traffic to push the button (Ajo Way and S Liberty Avenue)
- Prioritize maintenance on Aviation; this has the potential to be a wonderful cross-town connection
- Improve/add routes wet of the freeway that connect to the University of Arizona and Pima Community College
- Add a bike lane (along 6th Street); this is a major roadway with connections to numerous destinations

Walking

When considered in aggregate, walking comments were the most widely-distributed, covering the majority of the city. The highest density of comments and map interactions are observed primarily Downtown and in proximity to University of Arizona, with additional hot spots located in midtown and in the northeastern areas of the city. Walking comments were often tied closely to biking-related comments, with recognition that improved crossings, traffic calming, and improve curb ramps would benefit both modes. Further, comments noting accessibility and ADA considerations specifically were interspersed among modes. While approximately 6% (14) of walking comments identified accessibility-related needs, an additional 94 accessibility-related comments were identified in the biking and general categories. Overall, these comments identified need for improvements associated with curb ramps and surface quality, particularly at roadway crossings.

The need for safer crossings was identified by a significant number of participants. In fact, over 38% of comments focused on the need for improved crossings, specifically ways to increase safety through protected crossing opportunities, increased compliance for motor vehicles with traffic control features, and generally more opportunities to cross. Several comments also indicated desire for shorter crossing distances, especially through pedestrian refuge islands that provide adequate separation from motor vehicles. Crossing-related comments were identified across the city, with higher density of comments occurring in and around Downtown, the University of Arizona, near Randolph Park, and further east in the city, in the vicinity of Craycroft Rd and Pima Street.

Finally, several locations identified included calls for restricting access for motor vehicles and the creation of routes prioritizing pedestrian, bike, and public transportation travel.

Projects/comments with the greatest number of likes included:

- Provide a pedestrian crossing light system and a left turn arrow at the intersection of Congress and Grande
- Scary intersection for pedestrians, including many kids on their way to/from schools and library on either side (South 10th Avenue and 18th Street)
- Sentinel Peak Road from Panorama to the Park Gates is dangerous for walking and bicyclists. There is virtually no separation between vehicles and other road users.
- New landscape design is needed to provide for visibility (E Morrill Way)
- E Morrill Way improvements to provide for greater pedestrian comfort (including improved vegetation/visibility)

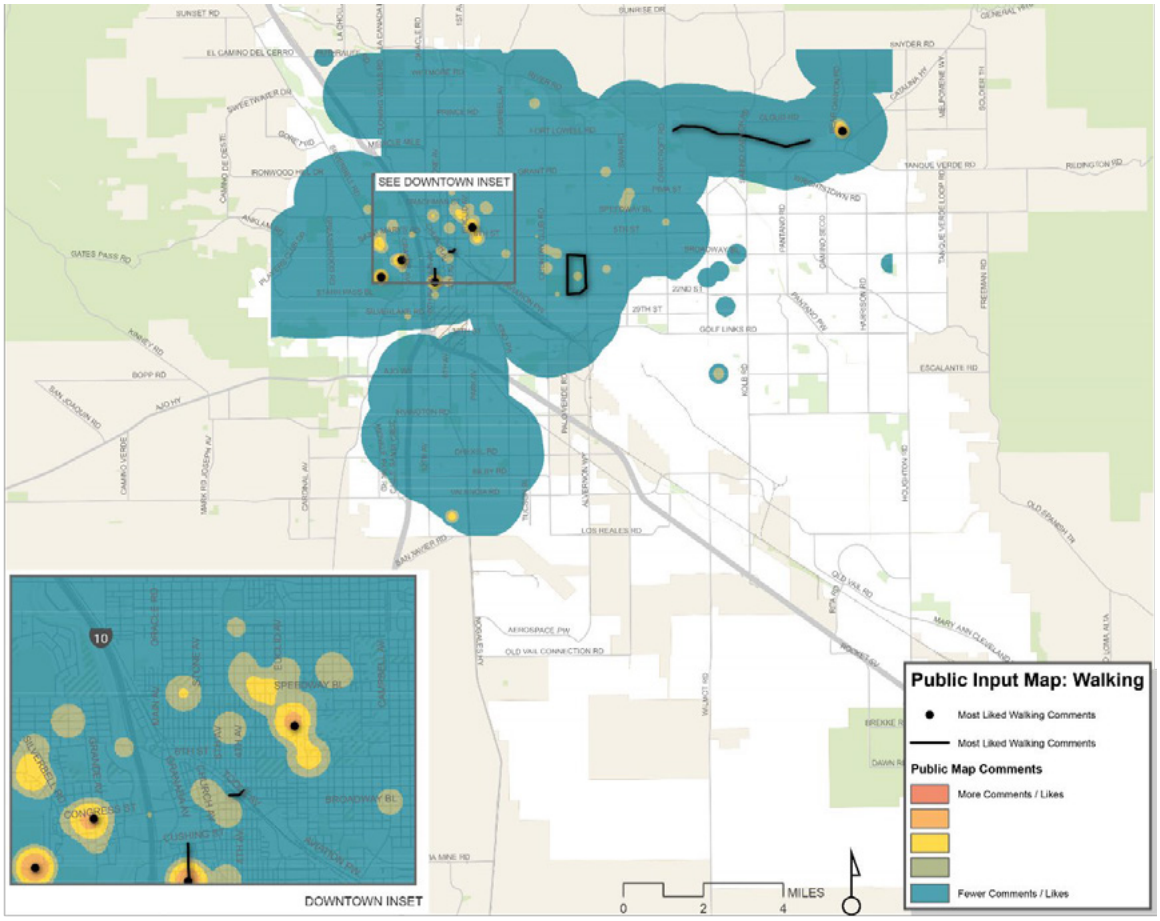


Figure 13: Walking Map Comments and Top Projects

Driving

The most frequent comment indicated under driving was a need for improved cross-town options. Although the location and mechanism varied among comments, they all generally focused on travel speed, route directness, and length of trip. Several comments specified a loop around the city as one way to accomplish this, while many others highlighted the importance of major east-west routes, including Speedway Boulevard, Grant Road, and Broadway Boulevard. Comments were also varied as to precisely what would most benefit cross-town travel but generally focused on either improved signal timing or limited-access roadways. In observing the heat map of comments, results generally indicate the need for improvements traveling east-to-west, while fewer challenges and opportunities are identified north-to-south. However, it is important to note that the challenges to cross-town mobility do not necessarily specify destinations or areas for improved travel but instead reflect a more general request. This is demonstrated through the large boxes, loops, and other lines shared that do not follow existing roadway alignments.

Conversely, comments also included requests for motor vehicle traffic to be slowed through traffic calming features, new stop controls, and improved delineation of space for all modes within the right-of-way. Safety for pedestrians, particularly children, and safety of all road users was the reason cited most often for this comment.

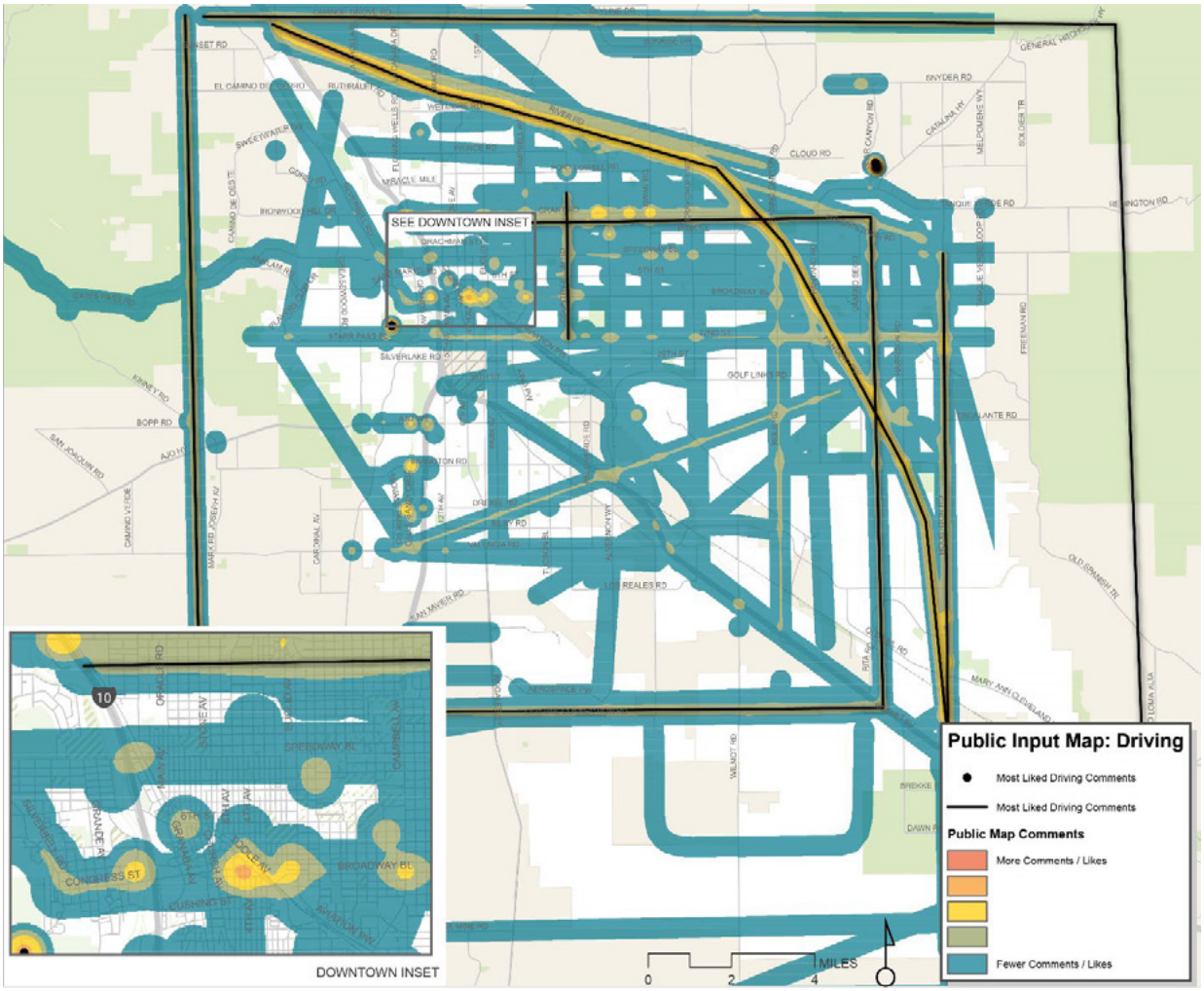


Figure 14: Driving Comments and Top Projects

Projects/comments with the greatest number of likes included:

- Improved roadway surface needed in Indian Hills North Subdivision
- Speed bumps needed to support road up and around A-Mountain to encourage observance of 15mph speed limit
- Near Bear Canyon and Catalina Highway, comments identified blind corners, overgrown vegetation, and dip in roadway as creating safety challenges for all modes, specifically limiting visibility. Area was also identified as needing pavement maintenance.
- Along Country Club, remove a lane to make a 3-lane roadway with a left-turn lane; add bike lanes.
- Opportunities for cross-town corridors both through and around the city
- Improve Houghton Road to include consistent number of lanes and improve capacity

Public Transportation

Public transportation locations and comments included both route and stop improvements. When considering routes, the resulting heat map of comments show two primary needs: a main east-west route and a route connecting north-to-south through the city generally linking Tohono Tadai Transit Center and the Tucson airport. Both routes received strong support for bus rapid transit (BRT), streetcar, or light rail. In fact, over 40% of comments requested more reliable, faster transit options in the form of BRT, streetcar, or light rail.

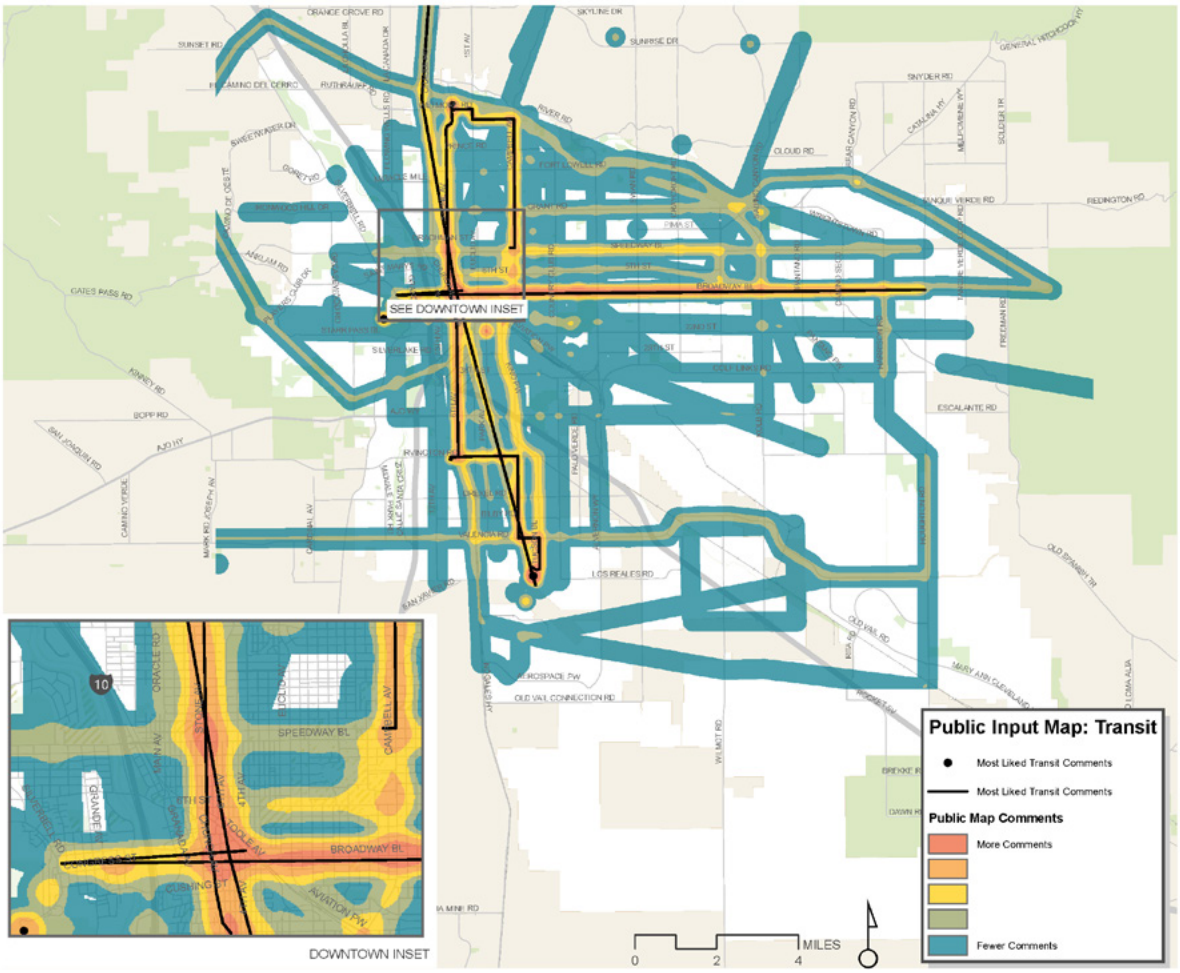


Figure 15: Public Transportation Comments and Top Projects

Projects/comments with the greatest number of likes included:

- Express bus service and/or rail from Airport to Downtown and University of Arizona campus
- Close A Mountain to vehicular traffic and offer Sun Shuttle service connecting Downtown, Saint Mary's Hospital, and A Mountain with frequent departures
- Expand streetcar or add Light Rail/BRT along North-South corridors and East-West (specifically identified Speedway)

Other public transportation comments specifically called for:

- More routes providing north-to-south service across Tucson, including but not limited to access to Raytheon, the airport
- Connections between Saguaro National Park East and West
- More reliable service with increased frequency
- Improved conditions at bus stops, including shade, seating, and accessible routes to the stop

Shared Mobility

Comments related to scooter and bike share were generally in support of shared mobility options and called for an expansion of the system. Bike share was specifically requested in locations both north of downtown toward Prince, as well as south of downtown, including locations along Ajo Way and Irvington Road. Several areas further east in the city were also identified, including near Fort Lowell Rd and Craycroft Road, as well as Sabino Canyon Road and Tanque Verde Road.

However, concerns regarding existing use of share mobility systems were also identified.

While at least one comment called for the removal of scooters completely, other comments focused on the conflicts among scooters, bikes, and pedestrians as well as the safety concerns posed by deteriorating road surfaces for scooters specifically.

Of the few comments provided for other shared modes, including Uber, Lyft, and Taxis, the common theme was designating pick up and drop off spaces in some areas to help organize the curb space and increase predictability on the roadway.

Projects/comments with the greatest number of likes included:

- Road diet along 6th Street to improve multi-modal connections to and between schools
- Traffic calming, improved separation, and improved stormwater management along Sentinel Peak Road to support all roadway users
- Add a better drop off location to access Tumamoc
- Preference to remove scooters
- Four-way stop at 18th Street and S Main Avenue to support all modes

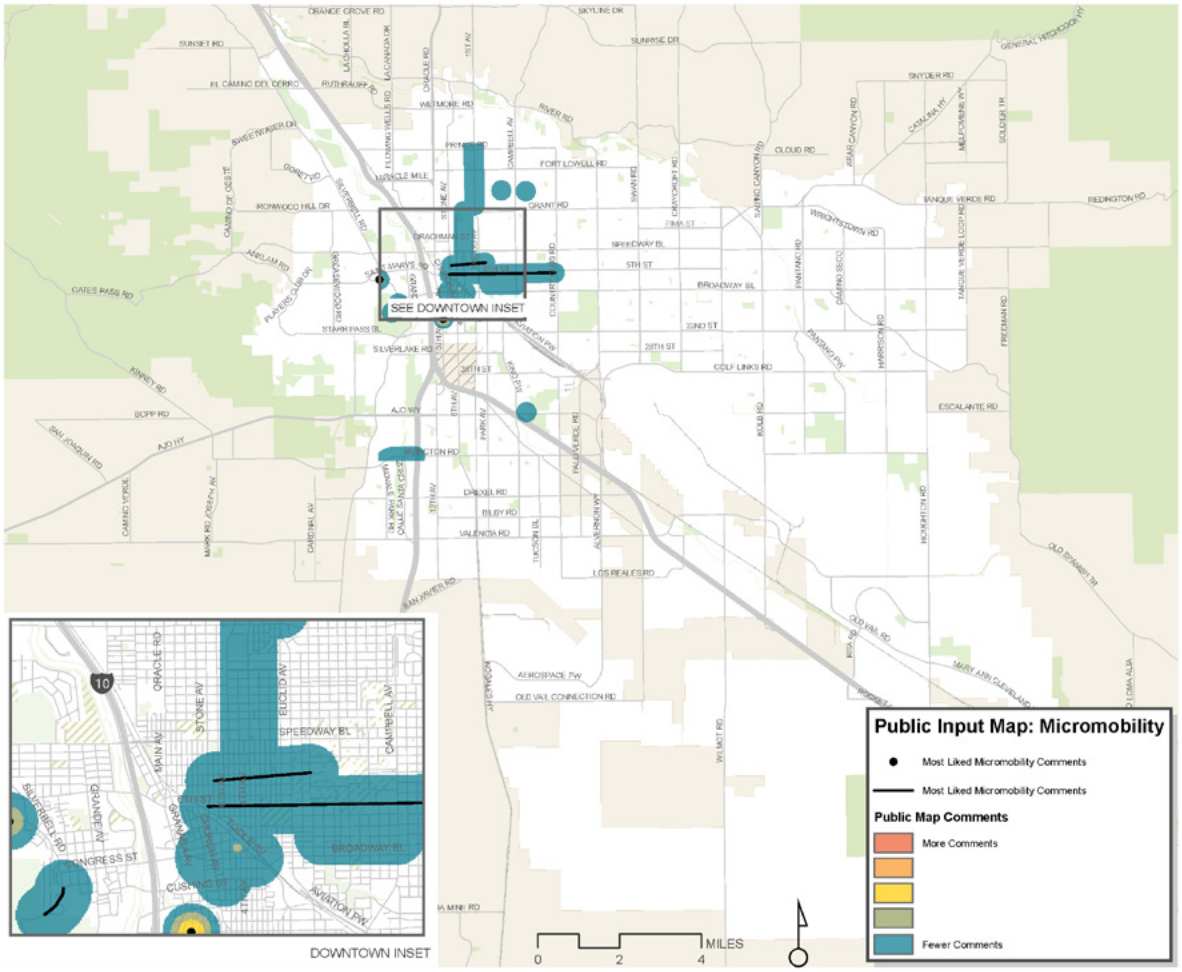


Figure 16: Shared Mobility Comments and Top Projects

General

Locations identified under the "General" option reinforced many of the themes shared under each mode, explored in the sections above. Pavement repair, slowing traffic in neighborhoods and along collectors, improving safety for pedestrians and particular children, and in general improving the aesthetics and comfort of public spaces through vegetation and other elements were most frequently identified. In addition to slow traffic in neighborhoods and reallocating space to provide more space for bikes and pedestrians, comments also included references to better organization of space more broadly, including separating freight activity or dedicating space specifically for transit.

Projects/comments with the greatest number of likes included:

- Close 4th Avenue to cars, allowing only transit, emergency vehicle, and bikes/scooters; remove on-street parking and extend sidewalk and bike travel space.
- Make A Mountain car-free all the time
- Replace underpass (at 6th Avenue); compare to 4th Avenue Underpass
- Repair potholes and street surface

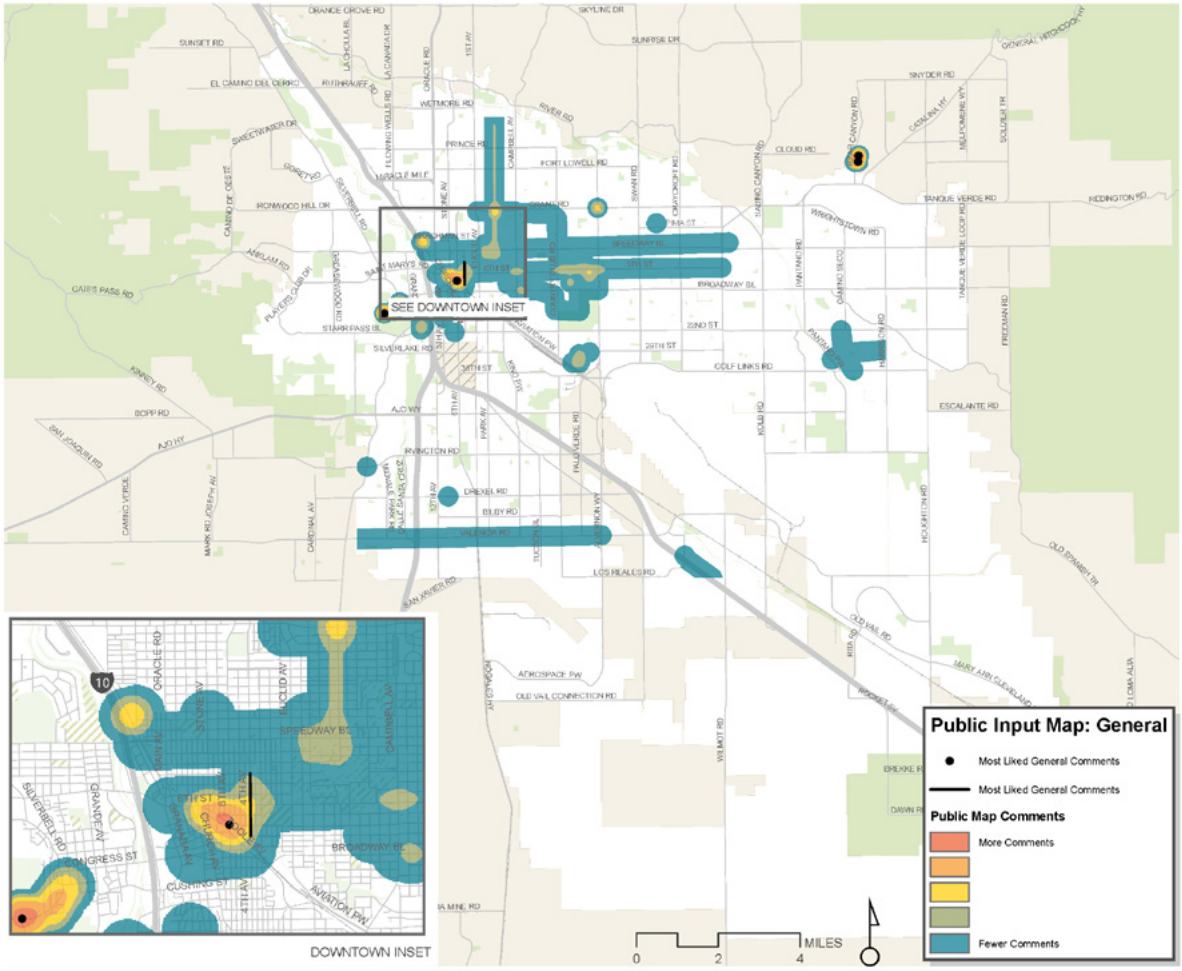


Figure 17: General Comments and Top Projects

Summary

Engagement activities to date demonstrate a wide range of needs, challenges, and opportunities for Tucson's mobility future. While challenges specifically related to Tucson's roadways and how they move personal motor vehicles were identified, there is also significant desire expressed for increasing choices for how people get around and relying on motor vehicles less. Consistent themes across all activities include:

- A balanced transportation system that serves the needs of all modes
- Improved cross-town mobility
- Improved network safety across all modes, but in particular for those walking and biking
- Investment in the existing network through improved maintenance
- Increased transportation choices
- A transportation system that is equitable and supports a sustainable city
- Improved connectivity and accessibility

Through these results, it is clear that there is potential for a shift in how Tucsonans understand and use transportation as part of their daily lives.

PUBLIC ENGAGEMENT SUMMARY PART 2

Public Engagement Summary Part 2

The following memorandum summarizes feedback received through the Virtual Open House regarding project recommendations, project priorities, and funding allocation. The Virtual Open House was open for public comment between July 1 and August 2, 2021 and presented the prioritized project list for Move Tucson. A series of interactive maps walked participants through the recommended project approach, asked for feedback about each project category, and finally asked participants to identify their funding priorities across a series of location-based and system-wide improvements.

Project Map Feedback

The Virtual Open House process guided participants through each of the four project categories (Catalyst Corridors, Strategic Solutions, Local Connections, and High-Capacity Transit). For each category, the site provided a map of proposed projects by type and priority tier, with information about the proposed improvements for each project, project length, and planning-level cost estimates. Overall, the project category was also introduced, including a description of the benefit the project category offered for Tucson.

Participants had the opportunity to both provide feedback on individual projects (including liking, disliking, and/or commenting on the project alignment) as well as identify overall support for the category as a whole.

Participation generally declined as the Virtual Open House sequence progressed, with pages located early in the site receiving a larger number of participants than those located at the end of the site. Table 1 below identifies the overall participation in terms of site visitors as well as the number of participants for each section of the Virtual Open House.

Table 1: Virtual Open House Visitors and Participants

	Project Rating Summary Participants				Final Input Activity Participants	
Unique Visitors to the Site	Catalyst Corridors	Strategic Solutions	Local Connections	High-Capacity Transit	Survey (Sliders)	Demographics
2228	622	519	527	560	473	456

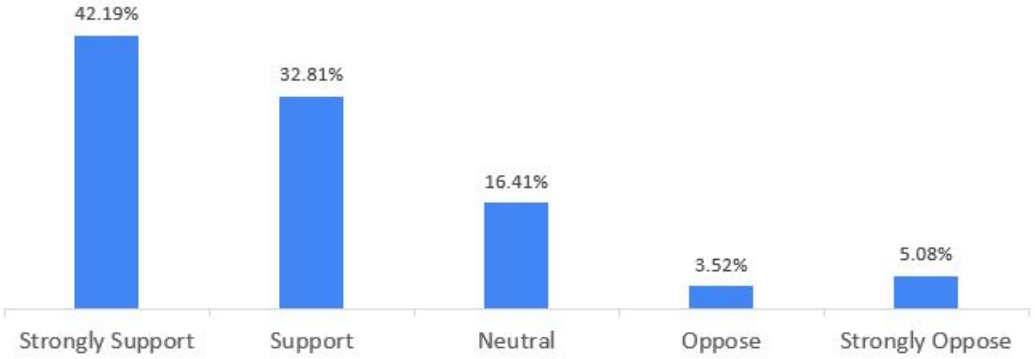
Catalyst Corridors

The 51 Catalyst Corridor projects are large-scale Complete Streets projects that create space for multiple modes along an entire corridor, creating significant change to the look, feel, and operations on the street. These projects improve safety and access for most modes of travel and will involve: reconstructing pavement, adding continuous sidewalks and enhanced bike lanes, and upgrading traffic signals, among others. Catalyst Corridors are organized into:

- Modernization Projects;
- Lane Reduction Projects; and
- Expansion Projects.

In general, participants indicated support for Catalyst Corridor projects, with 75% of participants Supporting or Strongly Supporting this category. Figure 1 below shows these results.

Figure 1: Level of support for Catalyst Corridor Projects



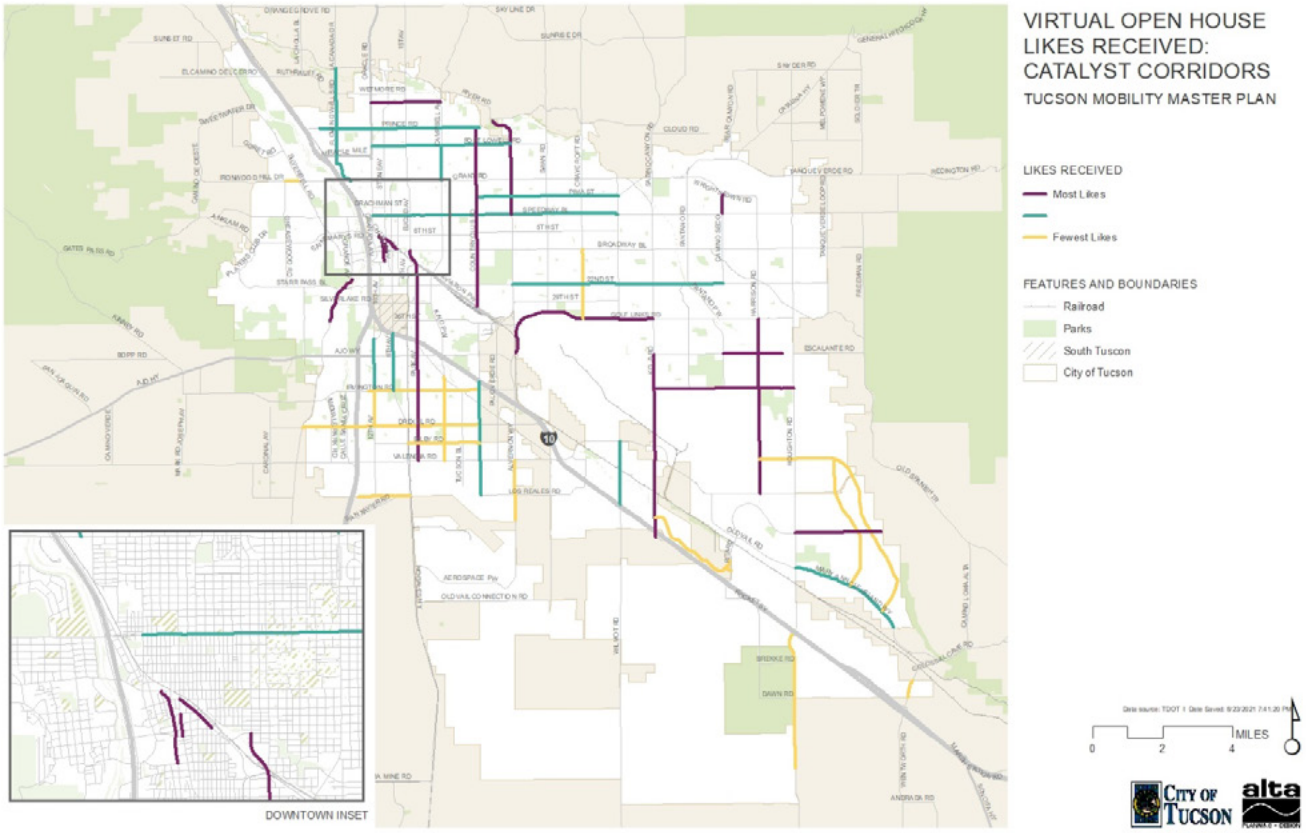
Feedback on specific projects was generally positive, with more than 2,600 'likes' indicated across all Catalyst Corridor projects. The projects with the greatest number of 'likes' included 7 expansion projects, 3 lane reduction projects, and 6 modernization projects. Comments provided on projects included the following themes:

- Significant support for projects that remove travel lanes to provide a more balanced approach for all modes. Specifically, comments acknowledged the improvement this could provide for improving comfort and safety along the identified corridors.
- Concern regarding increased congestion if travel lanes are removed.
- High levels of support for new roadways connecting expanding areas of Tucson in the southeastern areas of the city, specifically regarding supporting increasing population in this area, improving network connectivity and route options, and getting ahead of future growth.
- Concern regarding new roads in relationship to Move Tucson goals; specifically, questions regarding expansion as it relates to sustainability goals and taking care of what the city already has.
- Identification of the role that major streets provide for people bicycling, especially in regard to multimodal trips by bike and bus as well as to access destinations. Participants indicated support for projects enhance connectivity for bicyclists.
- Overall support for project elements that improve safety for people walking, bicycling, and taking public transportation. Comments included support for balance among modes, slowing traffic, and improving safety through crossings, dedicated facilities, and right-sized infrastructure.
- Overall support for increasing connectivity of the bicycle network, improving crossings for pedestrians, and adding shade along key corridors.

Of particular note for Catalyst Corridor projects is the difference between project 'likes' and comments. For example, expansion projects, including grade-separated intersections along Golf Links, received a significant number of 'likes', especially when compared to other projects. However, comments provided on these projects typically expressed concern over expansion projects, both in terms of its relationship to the Vision of Move Tucson as well as the cost and anticipated benefit of these projects.

Figure 2 below shows the results of the Catalyst Corridor projects based on the number of 'likes' indicated for each. It should also be noted that while participants had the ability to like or dislike a project, a much smaller number of 'dislikes' were indicated (approximately 300 for Catalyst Corridors).

Figure 2: Catalyst Corridors - Virtual Open House 'Likes' Received



The most-liked projects were Golf Links Rd from Alvernon Way to Kolb Rd, which received 106 'likes', and Harrison Rd from Irvington Rd to Valencia Rd, which received 107 'like's. Projects with the least number of 'likes' included modernization projects along both 12th Avenue between Irvington Rd and Drexel Rd and Drexel Rd between Calle Santa Cruz and S 12th Ave.

Strategic Solutions

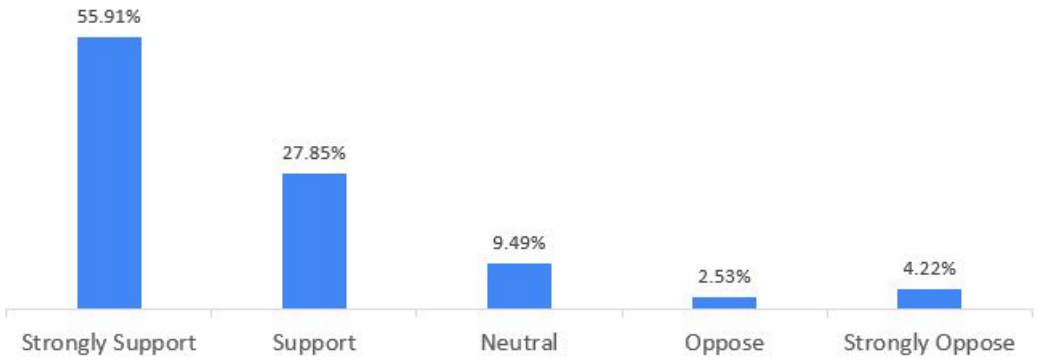
The 80 Strategic Solutions Projects improve access for two or three modes and are generally smaller in scale and/or less complex that Catalyst Corridors. These projects may involve: protected on-street bikeway improvements, expanded sidewalks and ADA improvements, or improved connections. Strategic Solutions are organized into:

- Bicycle and Pedestrian Improvement Projects;

- Lane Reduction Projects; and
- Signal Upgrade Projects.

In general, participants indicated support for Strategic Solutions projects, with nearly 84% of participants Supporting or Strongly Supporting this category. Figure 3 below shows these results.

Figure 3: Level of Support for Strategic Solutions Projects

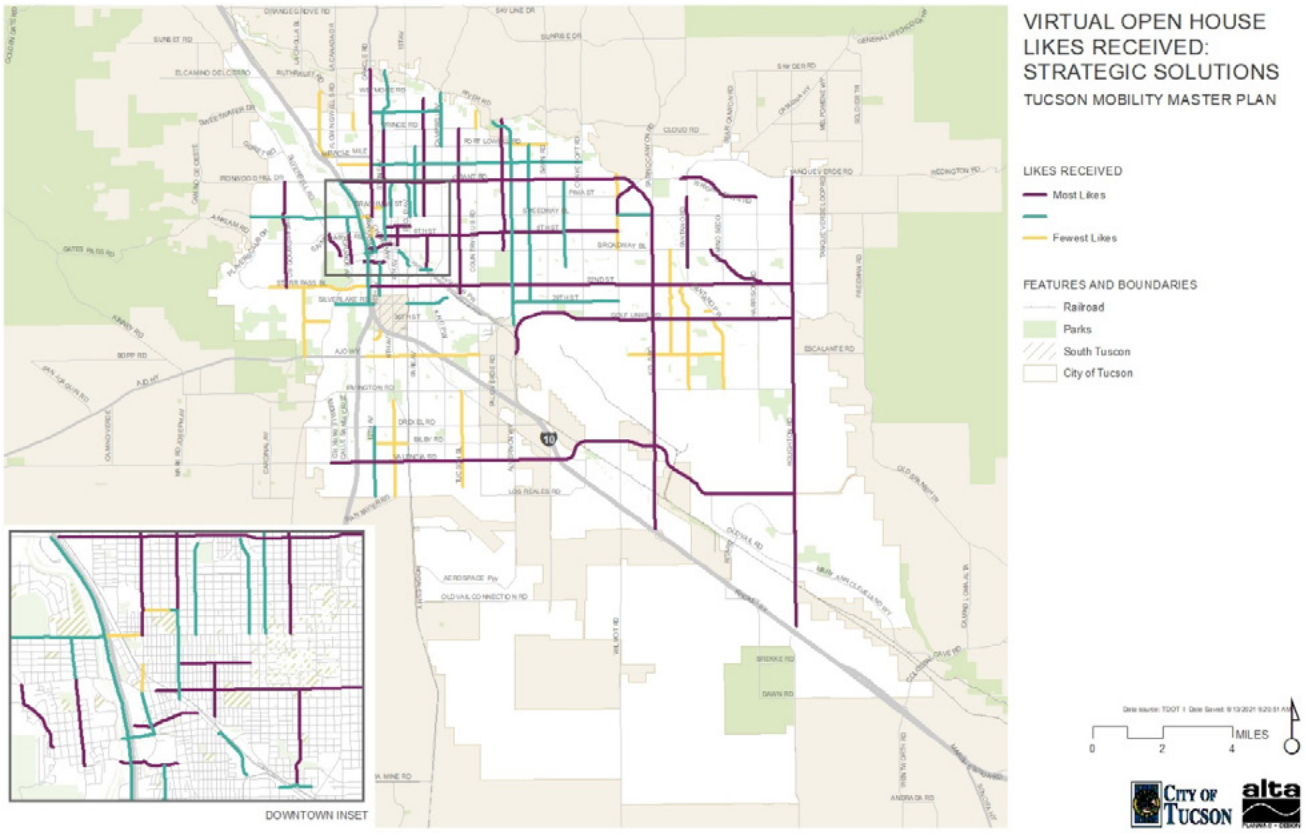


Feedback on specific projects was generally positive, with more than 1,200 'likes' indicated across all Strategic Solutions projects. Projects with the greatest number of 'likes' generally included those focused on Bicycle and Pedestrian improvements but also included signal upgrade projects. Comments provided on projects included the following themes:

- Support for projects that provide bicycle and pedestrian connectivity across major barriers, such as I-10. Comments acknowledged the challenge created for safe and comfortable travel and identified network connectivity as critical for improving travel in the city.
- Locations where bicycle infrastructure ends unexpectedly (such as approaching I-10 in many locations) or where bicycle infrastructure is degrading were key points of concern for participants.
- Concern was noted from several participants about the impact of reducing lane widths or otherwise reallocating space for bicyclists on corridors that are also important for motor vehicles.
- Participants typically supported projects that enhanced bicycle and pedestrian movement along lower-volume corridors, such as Tucson Blvd. Comments expressed excitement for reimagining these roadways into a more balanced corridor.
- All comments (18) provided on the project along 6th Street between Court Avenue and Campbell Avenue were in strong support for this project to reallocate space for active travel. Comments included people who live and commute along the corridor, with strong support for the benefit that this project would provide for safety.
- In particularly, bicycle and pedestrian projects received strong support through comments from both people who drive and people who use active transportation. Benefits were noted for all modes, including first/last mile connections for transit, and there was significant support for the safety benefits these projects could provide.
- Concern was noted regarding the eventual design of buffered or protected bicycle lanes. Specifically, notes identified visibility issues with cross-traffic and debris along the edge of the road that diminished support for these improvements.
- In many cases, comments critical of the projects identified opportunities to expand safety improvements and further improve connectivity for all modes.

Figure 4 below shows the results of the Strategic Solutions projects based on the number of 'likes' indicated for each. It should also be noted that while participants had the ability to like or dislike a project, a much smaller number of 'dislikes' were indicated (approximately 30 for Strategic Solutions projects).

Figure 4: Strategic Solutions - Virtual Open House 'Likes' Received



The most liked projects include Bicycle and Pedestrian Improvements along Wrightstown Rd between Tanque Verde Rd and Harrison Rd, which received 83 'likes', and Bicycle and Pedestrian Improvements along Old Spanish Trail between Broadway Boulevard and 22nd St, which received 79 'likes'. The least liked projects include Bicycle and Pedestrian Improvements along Wilmot Rd and along Houghton Rd.

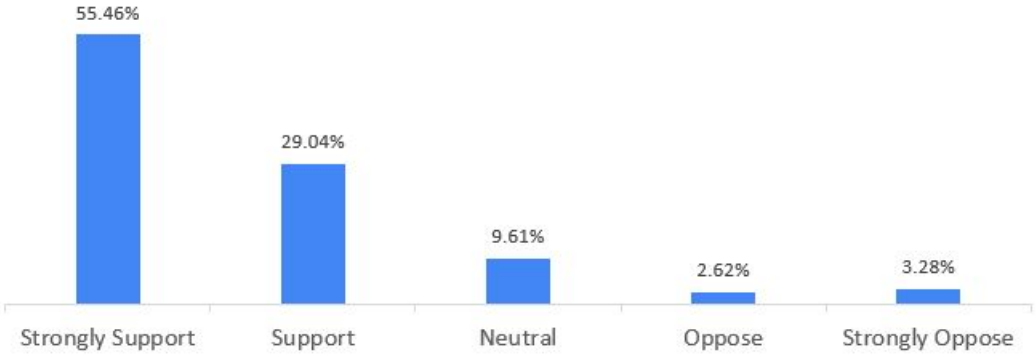
Local Connections

The 96 Local Connections Projects fill mode-specific gaps to create complete, connected networks. The value gained from these projects extends well beyond an individual segment. With each gap closed, the City increases the usefulness and return on investment of the network that connects to it. These projects may involve: bicycle boulevards, greenways, and completion of small sidewalk gaps. These projects may involve:

- Bicycle boulevards;
- Greenways; and
- Completion of small sidewalk gaps.

In general, participants indicated support for Local Connections projects, with nearly 85% of participants Supporting or Strongly Supporting this category. Figure 5 below shows these results.

Figure 5: Level of support for Local Connections Projects

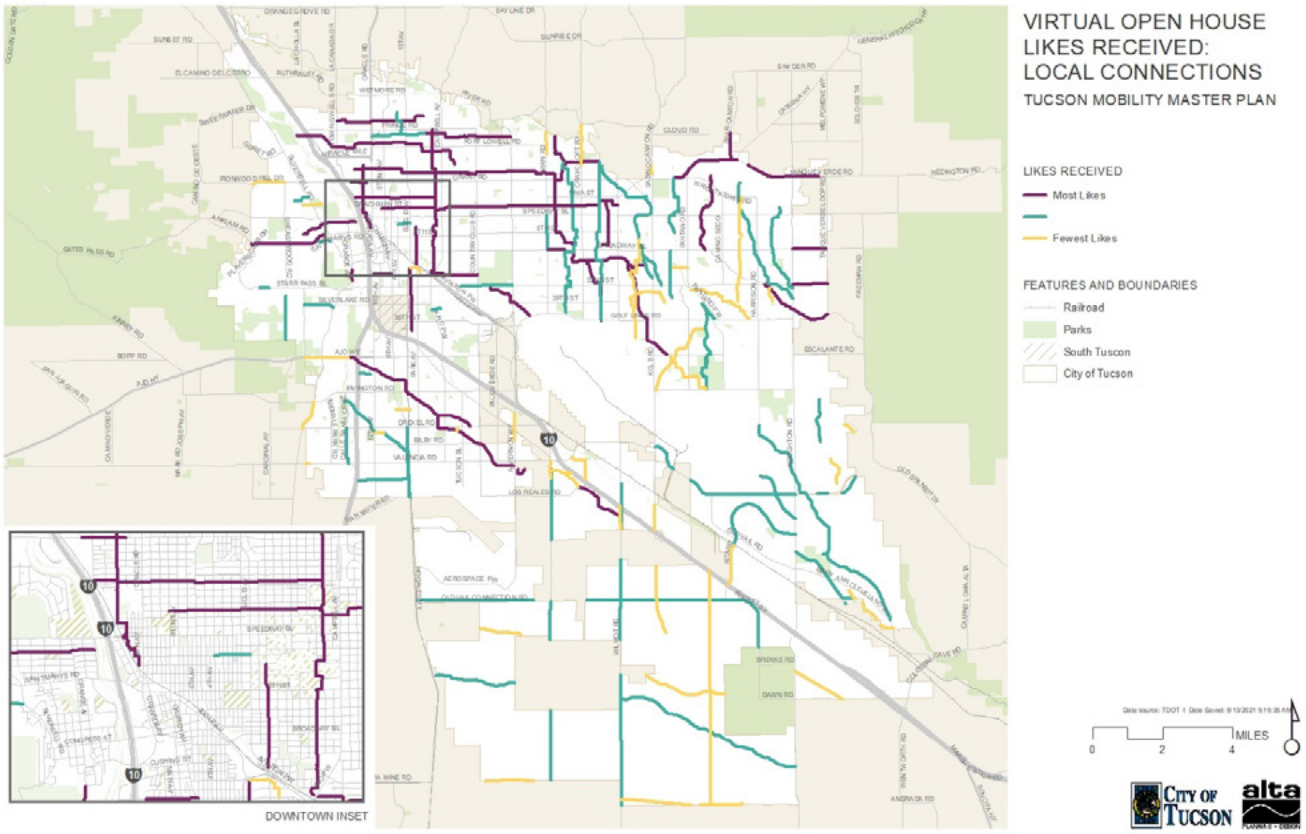


Feedback on specific projects was generally positive, with more than 1,100 'likes' indicated across all Local Connections projects. Projects with the greatest number of 'likes' generally included bicycle boulevards and sidewalk infill projects; however, greenways projects also received significant support from participants. Comments provided on projects included the following themes:

- Support for greenways acknowledged the benefit they provide in connecting to the Loop, providing low-stress/car-free connections for recreation, and connecting people to local parks. In particular, participants acknowledged how greenways can provide more direct or easier to navigate connections in areas where development has created barriers
- Concern was noted regarding the location of some greenways; specifically comments either asked about the intended utility of the route or the difference between the identified route and nearby sidewalks or bikeways.
- Sidewalk infill was frequently requested within neighborhoods; these comments further support the inclusion of systemwide pedestrian improvements in Move Tucson.
- Comments on these projects acknowledge the importance of providing for safe crossing opportunities and emphasize the need for these projects to support connections to schools, parks, and bus stops.
- Comments also noted concern about the lower tiers of bicycle boulevards; further, participants noted the difference in cost between Local Connections improvements and more substantial roadway improvements.
- Concern was also noted about the redundancy of the network; e.g., if an adjacent major corridor is being improved through Move Tucson, why also include a bicycle boulevard?

Figure 6 below shows the results of the Local Connections projects based on the number of 'likes' indicated for each. It should also be noted that while participants had the ability to 'like' or 'dislike' a project, a much smaller number of 'dislikes' were indicated (approximately 56 for Local Connections projects).

Figure 6: Local Connections - Virtual Open House 'Likes' Received



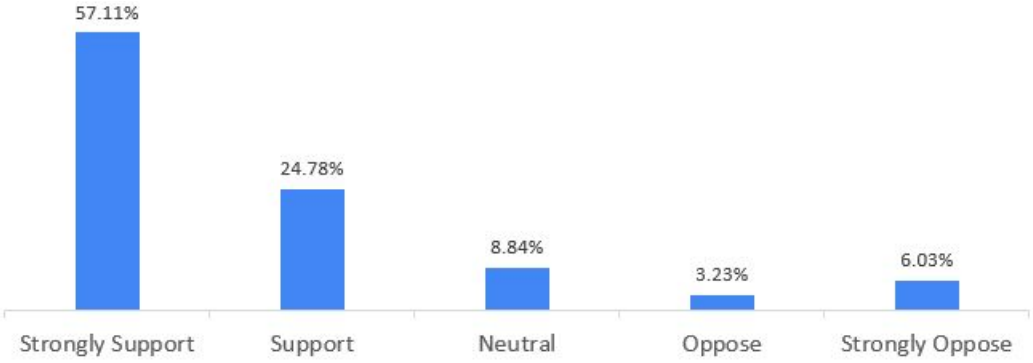
The projects with the lowest number of 'likes' were sidewalk infill on Alvernon Wy and a bicycle boulevard on Desert Vista Dr, both of which received only 1 'like.' However, projects with the most 'likes' included: Navajo Wash Greenway (31 'likes'); Rodeo Wash Greenway (30 'likes'); sidewalk infill project along Tanque Verde Rd (two separate projects with 37 and 38 'likes', respectively); and the bicycle boulevard along Drachman St/Fairmont St (31 'likes').

High-Capacity Transit

The eight High-capacity transit projects include Streetcar and Bus Rapid Transit (BRT), which provide faster and more frequent service that can serve more people. High-Capacity Transit projects often include upgraded transit stops and may change street design.

In general, participants indicated support for High-Capacity Transit projects, with nearly 82% of participants Supporting or Strongly Supporting this category. Figure 7 below shows these results.

Figure 7: Level of support for High-Capacity Transit Projects

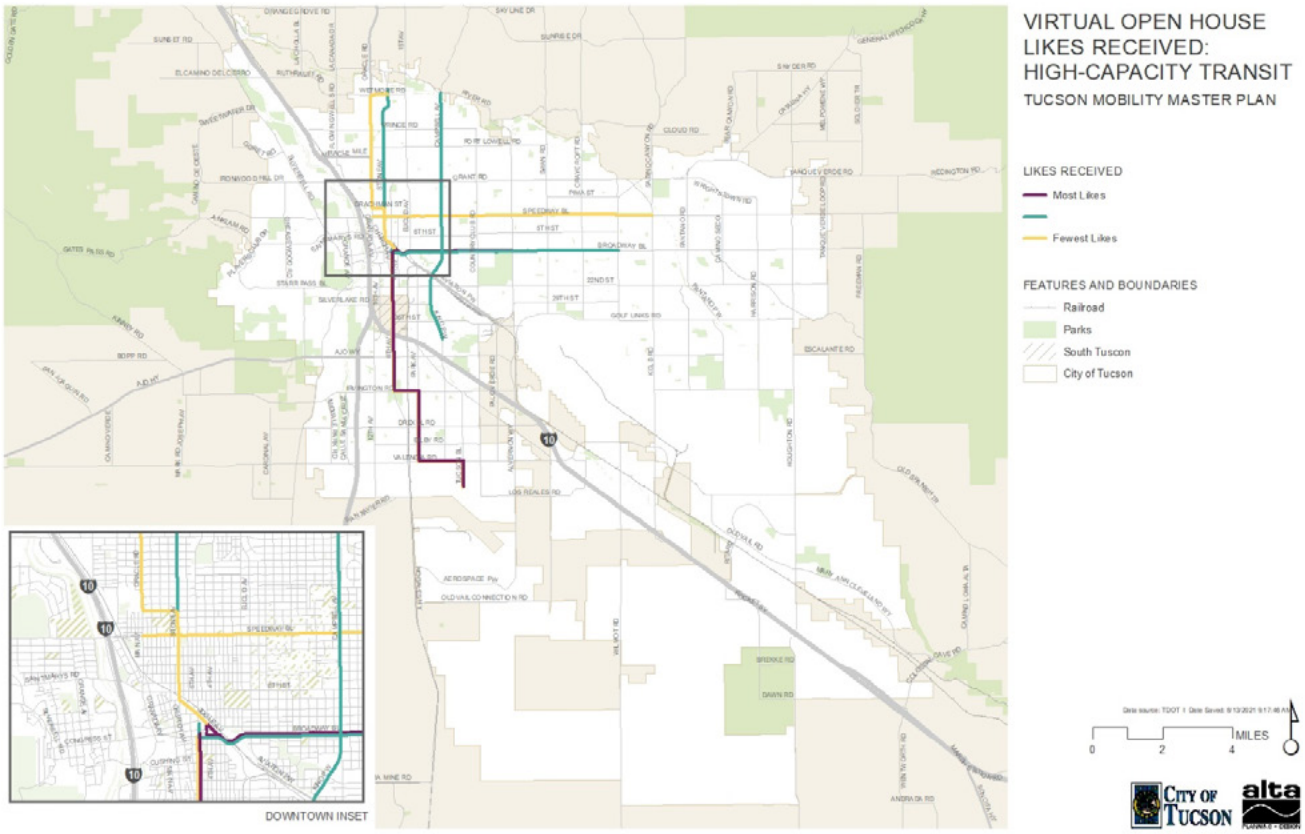


Feedback on specific projects was generally positive, but despite general support with the category overall, High-Capacity Transit projects received fewer 'likes' and more 'dislikes' than other categories. Over 600 'likes' were recorded, as well as nearly 200 'dislikes'. Comments provided on projects included the following themes:

- Participants generally liked the proposed projects, including opportunities to improve transit reliability and speed
- In general, BRT lines received less support than streetcar projects. Streetcars accounted for 503 'likes' and only 24 'dislikes', while BRT accounted for 161 'likes' and 174 'dislikes'.
- In locations that provided options for either a streetcar or a BRT, the streetcar was overwhelmingly supported; the BRT option often received a similar number of 'dislikes' to the number of 'likes' for the streetcar.
- For east-west routes, comments generally identified Broadway as the preferred route. In particular, comments on the Speedway BRT identified Broadway Streetcar as a preferred route.
- However, several participants noted the cost-savings for BRT when compared to streetcar as well as the benefit to bicyclists in relationship to track crossings. These comments did acknowledge the need to implement BRT with appropriate infrastructure (e.g., dedicated lanes, raised platforms) in order to be an adequate trade off.
- Significant concern was noted regarding the current Broadway Blvd project and its exclusion of streetcar/high-capacity transit.
- Comments on the alignments acknowledged the benefit that high-capacity transit can provide for economic development.

Figure 8 below shows the results of the High-Capacity Transit projects based on the number of 'likes' indicated for each.

Figure 8: High-Capacity Transit - Virtual Open House 'Likes' Received



The most-liked projects are the streetcar alignment from Downtown to the Airport, which received 129 'likes', and the streetcar alignment along Broadway from Downtown to Alvernon Wy, which received 144 'likes'.

Funding Priorities

Virtual Open House participants were also asked to determine how they would spend $100 to improve Tucson's transportation system. They were given the choice between different improvement priorities, including both location-specific projects**, which include the categories of projects explored above,** and systemwide improvements. **Systemwide improvements refer to projects that are needed more broadly across the city, such as pavement, neighborhood safety projects, and public transportation service.**

Based on the feedback shared, participants on average allocated the following dollar amounts to each category:

- **Location Specific Improvements: $57**
  - Catalyst Corridors and Strategic Solutions: $18
  - Local Connections: $16
  - High-Capacity Transit: $23
- **Systemwide Improvements: $43**
  - Pavement Maintenance: $13
  - Public Transportation Service Improvements: $7

- Sidewalk and Pedestrian Accessibility Improvements: $9
- Traffic Signal Technology Upgrades: $3
- Neighborhood Street Improvements: $7
- Safety Projects and Programs: $4

These results suggest that while participants support and are excited for location-specific improvements, expanding systemwide improvements is also important. Several observations regarding this data include:

- Despite frequent feedback throughout the Move Tucson process about the quality of pavement in the City, only $13 (13%) of available funds were allocated to this improvement. Similarly, Safety Projects and Programs only received $4 (4%), although Safety was commonly cited as a primary need for Tucson's transportation system.
- However, participants frequently noted the safety benefits of location-specific projects and/or the ability of a project to also address pavement needs.
- These results suggest that additional information may be needed to effectively communicate the benefit of systemwide improvements. This could include the development of a specific funding program that identifies locations for improvements over time.
- Despite strong support for high-capacity transit—both in terms of project comments and likes as well as allocation of funding to those projects—participants did not allocate funding to support transit service improvements.
- In general, comments also suggest an opportunity to advance residents' understanding of the transportation network and available options. This provides supports for programs such as a resident education program, comprehensive and equitable outreach through the scoping and design of a project, and an informational campaign to better communicate the transportation needs of a broad range of Tucsonans.

Who We Heard From

A brief optional survey at the end of the Virtual Open House collected information on the participant's zip code and how they would describe their relationship to Tucson. It should be noted that not all participants completed the survey. In fact, only 456 people completed this survey, whereas 622 people provided feedback on the first set of projects (Catalyst Corridors).

Based on data provided in the survey, we generally heard from people who live in Tucson (87%). However, 9% of respondents indicated that they either live outside of Tucson or live in Tucson seasonally. Ten percent of participants indicate that they own a business in Tucson, and 3% of participants indicated that they are a student.

The zip codes with the most participants include 85705 (57 participants), 85719 (52 participants), and 85716 (51 participants).

Summary of Project Comments

In general, the results of the Virtual Open House indicate strong support for the Move Tucson projects. Participants often indicated enthusiasm for projects that enhanced connectivity, improved safety, and supported a balanced transportation system. This feedback is consistent with what participants have shared throughout Move Tucson. As the plan advances toward adoption, it will be important to consider opportunities to expand city programs consistent with feedback shared in this effort, as well as to consider feedback on project and funding priorities in the development of the Implementation Strategy.

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APPENDIX C: ADDITIONAL MOVE TUCSON SUPPORTED PROJECTS

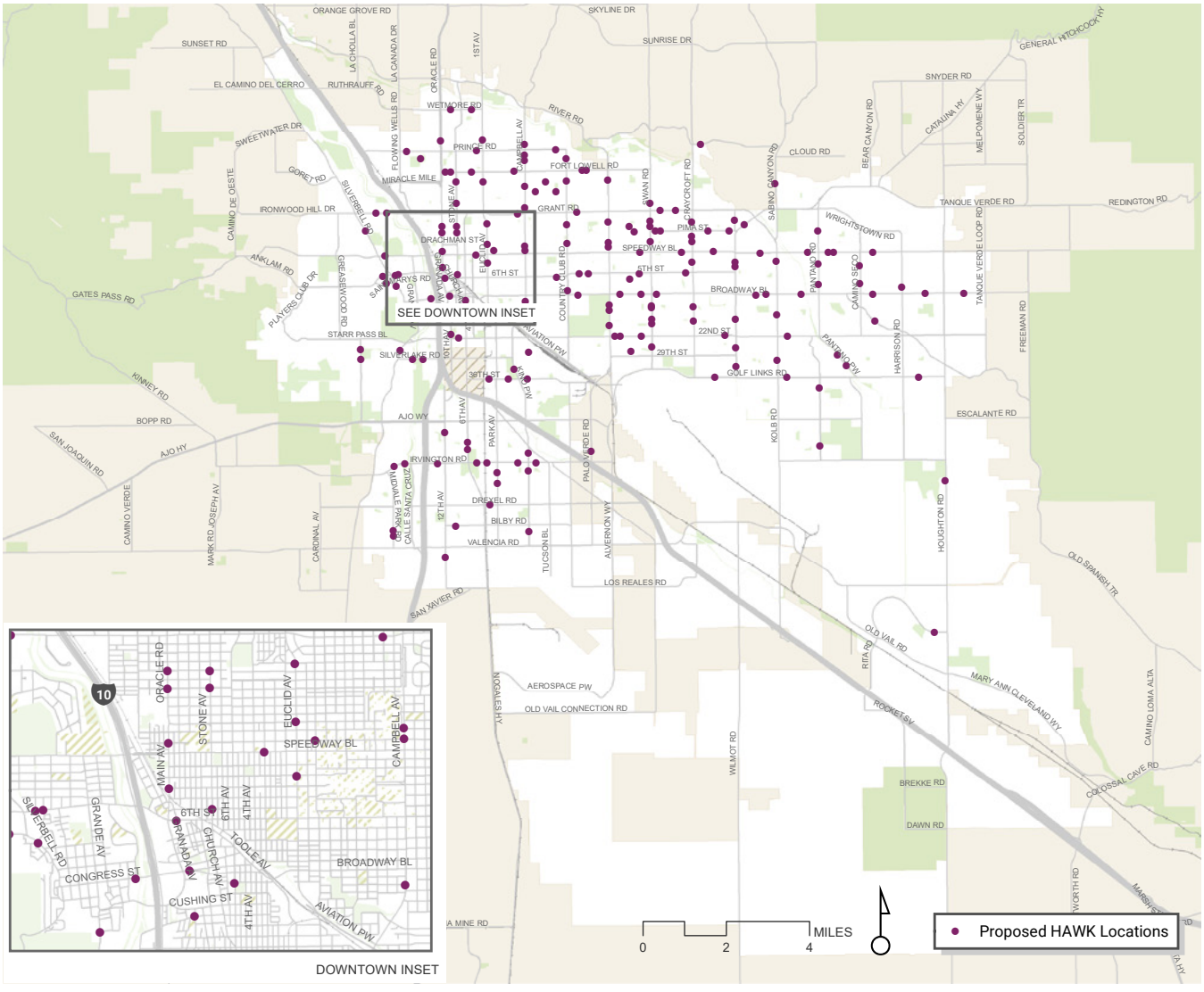
HAWK PROJECT LIST

HAWK Project List

The City of Tucson maintains a list of planned and requested locations for new signalized bicycle and pedestrian crossings of major streets.

The Department of Transportation receives requests from the general public for installation of pedestrian hybrid beacons (HAWK beacons). When requests are received, the location is entered onto a HAWK Beacon Request List that is maintained by the Traffic Engineering Division. Funding for design and construction of HAWK beacons is limited and funding availability inconsistent. Because of the relatively high cost of design and construction, coupled with the large number of locations where HAWK beacons have been requested, criteria and points assignments have been developed to rank each location.

It is the intent of this policy that when discretionary funds are available, the top ranked location(s) on the most recent HAWK Beacon Prioritization List be funded for design and/or construction. Locations may be taken out of order when the source of funding carries certain restrictions, such that higher ranked locations are ineligible for the available funding.



RANK	LOCATION	CROSS STREET	FUNDED
1	E Grant Rd	N Edith Bl	YES
2	N 1st Av	E Pastime Rd	NO
3	Fort Lowell Rd	Castro St	YES
4	E Speedway Bl	N Beverly Av	NO
5	E 22nd St	S Irving Av	YES
6	E Irvington Rd	S Cherry Av	YES
7	E 22nd St	S Belvedere Av	YES
8	N Wilmot Rd	E Brian Kent	NO
9	W Ft Lowell Rd	N Balboa Ave	NO
10	E Speedway Bl	N Grady Av	NO
11	N Wilmot Rd	E Rosewood St	YES
12	N Euclid Av	E 2nd St	NO
13	W Prince Rd	N Crescent Manor Dr	YES
14	E Grant Rd	N Arcadia Av	YES
15	W 22nd St	S 8th Av	YES
16	N 1st Av	E Blacklidge Dr	YES
17	E Broadway Bl	N Belvedere Av	NO
18	N Swan Rd	E Seneca St	YES
19	E Broadway Bl	N Irving Av	YES
20	S Kolb Rd	E Kenyon Dr	YES
21	N Stone Av	E Ventura St	YES
22	E Golf Links Rd	S Sahuara Av	NO
23	W Grant Rd	N Dragoon St	YES
24	E 22nd St	S Turquoise Vista	NO

RANK	LOCATION	CROSS STREET	FUNDED
25	E Fort Lowell Rd	N Cherry Av	NO
26	E Irvington Rd	S 3rd Av	YES
27	S Campbell Av	E Wyoming St (@5040 S Campbell)	YES
28	E Grant Rd	N Warren Av	NO
29	S Wilmot Rd	E Calle Marte	YES
30	E Broadway Bl	S Broadway Pl	NO
31	E Rita Rd	S Via Del Timbre	NO
32	N Stone Av	E Lester St	NO
33	E Broadway Blvd	S Langley Av	NO
34	W Grant Rd	N Coyote Dr	NO
35	E Speedway Bl	N Belvedere Av	NO
36	E Fort Lowell Rd	N Kelvin Bl	NO
37	N Silverbell Rd	W Saddle Hills Dr	YES
38	E Grant Rd	N Wyatt Dr	NO
39	N Craycroft Rd	E Fairmount St	NO
40	N Swan Rd	E Fairmount St	NO
41	S Craycroft Rd	E 18th St	YES
42	S Kino Pky	E Saint Isidore	NO
43	S Wilmot Rd	E Eli St	YES
44	S Pantano Parkway	S Sarnoff Dr	YES
45	N Craycroft Rd	E Rosewood St	YES
46	S Alvernon Wy	E Paseo Dorado	YES
47	E Wetmore Rd	N 4th Av	YES
48	E Speedway Bl	N 3rd Av	NO

RANK	LOCATION	CROSS STREET	FUNDED
49	S Swan Rd	E Scarlett St	NO
50	S Alvernon Wy	E Timrod St	YES
51	S Kino Pw	E Miles St	NO
52	N Oracle Rd	W Pastime Rd	NO
53	E Tanque Verde Rd	@6500 E Tanque Verde Rd	NO
54	N Sabino Canyon Rd	E Vactor Ranch Tr	NO
55	E Broadway Bl	N Camino Miramonte	YES
56	S Craycroft Rd	E Williams Bl / E 14th St	NO
57	N Craycroft Rd	E Waverly St	YES
58	S Campbell Av	E Missouri St	YES
59	E Speedway Bl	N Sarnoff Dr	YES
60	N Country Club Rd	E Drachman St	NO
61	E Fort Lowell Rd	N Geronimo Av	NO
62	E Speedway Bl	N Maguire Av	NO
63	W Silverlake Rd	S Cottonwood Ln	YES
64	W St Mary's Rd	N Cherokee Av	NO
65	S Kolb Rd	E Calle Marte	YES
66	W St Mary's Rd	N Shawnee Av	YES
67	N Oracle Rd	W Lester St	NO
68	N Tucson Bl	E Blacklidge Dr	YES
69	N Oracle Rd	W Ventura St	YES
70	N Alvernon Wy	E Bellevue St	YES
71	N Country Club Rd	E Kleindale Rd	NO
72	E Speedway Blvd	N Caribe Ave	NO

RANK	LOCATION	CROSS STREET	FUNDED
73	N Country Club Rd	E Waverly St	YES
74	N Country Club Rd	E Blacklidge Dr	YES
75	E Fort Lowell Rd	N Palo Verde Av	YES
76	N Swan Rd	E Water St	NO
77	E Speedway Bl	N Sahuara Av	YES
78	E Pima St	N Arcadia Av	YES
79	E 5th St	N Woodland Vista Av	NO
80	S Alvernon Wy	E Whittier St	NO
81	N Pantano Rd	E Centrepark Dr	NO
82	36th St	Martin Luther King Jr. Wy	YES
83	E 22nd St	S Longfellow Ave	YES
84	S Swan Rd	E Cecelia St	YES
85	S Main Av	W Simpson St	NO
86	N Park Ave	E Helen St	NO
87	N Campbell Av	E Kleindale Rd	NO
88	S Swan Rd	E Eastland St	YES
89	E 5th St	N Camino Miramonte	YES
90	N Pantano Rd	E Pima St	YES
91	N Main Av	W University Bl	NO
92	Speedway Bl	N Avenida Ricardo Small	NO
93	E 6th St	N Treat Av	YES
94	Broadway Bl	Mann Av	NO
95	E Irvington Rd	S Greenway Dr	YES
96	N Campbell Av	E Mabel St	NO

RANK	LOCATION	CROSS STREET	FUNDED
97	N Alvernon Wy	E Fairmount St	NO
98	S Houghton Rd	E Seven Generations Way	YES
99	W Speedway Bl	N El Rio Dr	YES
100	S Pantano Parkway	E 29th St	NO
101	22nd St	Alamo Av	NO
102	S Swan Rd	E Montecito St	NO
103	N Craycroft Rd	E Lee St	NO
104	S Columbus Blvd	E Sylvane St	NO
105	E 36th St	S Euclid Av	YES
106	E Prince Rd	N Los Altos Av	NO
107	E Broadway Bl	N Evelyn Av	NO
108	E Old Spanish Tr	S Blacksburg Dr	NO
109	Irvington Rd	Oakmore Dr	NO
110	W Irvington Rd	@ 1354 W Irvington Rd	NO
111	N Alvernon WY	E Seneca St	YES
112	S Park Av	E Bantam Rd	YES
113	N Alvernon Wy	E Blacklidge Dr	YES
114	E Pima St	N Rook Av	NO
115	S 10th Av	W 21st St	NO
116	E 36th St	S Campbell Av	NO
117	S Pantano Rd	E Poinciana Dr	NO
118	N Campbell Av	D Greenlee Rd	NO
119	S Swan Rd	E Andrew St	YES
120	S Wilmot Rd	E Calle Castor	YES

RANK	LOCATION	CROSS STREET	FUNDED
121	E Glenn St	N Treat Av	YES
122	N Stone Av	E 5th St	NO
123	Stone Av	Jacinto St	NO
124	Broadway Bl	Bonanza Av	NO
125	S Mission Rd	W San Marcos Bl	YES
126	E Golf Links Rd	S Calle Yucatan	NO
127	S 6th Av	E Michigan Dr (HAWK 325ft North@Penn.)	NO
128	S 6th Ave	W Ohio St	YES
129	E Pima St	N Mountain View Ave	YES
130	Wetmore Rd	Neffson Dr	YES
131	N Columbus Bl	E Linden St	NO
132	N Swan Rd	E Linden St	NO
133	W Congress St	W Pennington St	NO
134	E 5th St	N Belvedere Av	NO
135	N Campbell Av	E Adelaide Dr	NO
136	N Campbell Av	E King Dr	NO
137	Kolb Rd	Rosewood St	YES
138	W Silverlake Rd	S Santa Cruz Ln	NO
139	S Midvale Park Rd	S Commerce Ct	NO
140	W Anklam Rd	N Tumamoc Hill Rd	NO
141	E 5th St	N Palo Verde Blvd	YES
142	N Campbell Av	E Water St	NO
143	E Golf Links Rd	S Kevin Dr	YES
144	N Stone Av	E Blacklidge Dr	YES

RANK	LOCATION	CROSS STREET	FUNDED
145	N Camino Seco	E Vicksburg St	YES
146	S Palo Verde Rd	E Gas Rd	NO
147	S 12th Ave	W District St	YES
148	N Campbell Av	E Helen St	NO
149	W Bilby Rd	S Liberty Av	NO
150	N Wilmot Rd	E Sunny Dr	NO
151	N Euclid Av	E Seneca St	YES
152	Pima St	McKinley Av	NO
153	Irvington Rd	1st Av	YES
154	W 6th St	N Main Av	NO
155	W Irvington Rd	S 15th Av	NO
156	E Broadway Bl	N Mountain View Av	NO
157	N Fairview Av	N Erma Av (3450 N Fairview)	NO
158	N Harrison Rd	E Shiloh St	NO
159	W Congress St	N Bonita Av	NO
160	S Grande Av	E Mission Ln	NO
161	N Silverbell Rd	W West St	NO
162	E Prince Rd	N Treat Av	YES
163	Pima St	Catalina Ave	NO
164	S La Cholla Bl	W San Juan Tr	NO
165	E Drexel Rd	S Southland Bl (@812 E Drexel)	NO
166	S Campbell Ave	6221 S Campbell Av	NO
167	N Country Club Rd	E 10th St	NO
168	N Euclid Av	E Drachman St	NO

RANK	LOCATION	CROSS STREET	FUNDED
169	S 6th Av	E 12th St	NO
170	S Pantano Rd	E Lurlene Dr	NO
171	S Midvale Park Rd	W Headley Rd	NO
172	N Camino Seco	E Collette St	NO
173	N Pantano Rd	E 3rd St	NO
174	E Broadway Bl	S Avenida Los Reyes	NO
175	S La Cholla Bl	W San Marcos Bl	NO
176	S Park Av	E Wyoming St	NO
177	E River Rd	@5655 E. River Road (N Craycroft Rd/River)	NO
178	E Silverlake Rd	@1940 E Silverlake Rd	NO
179	N Main Av	W Helen St	NO
180	E Glenn St	N Plumer Av	NO
181	W St Mary's Rd	N San Rafael Av	NO
182	S 12th Av	W Medina Rd	NO
183	N Columbus Blvd	E Holmes St	NO

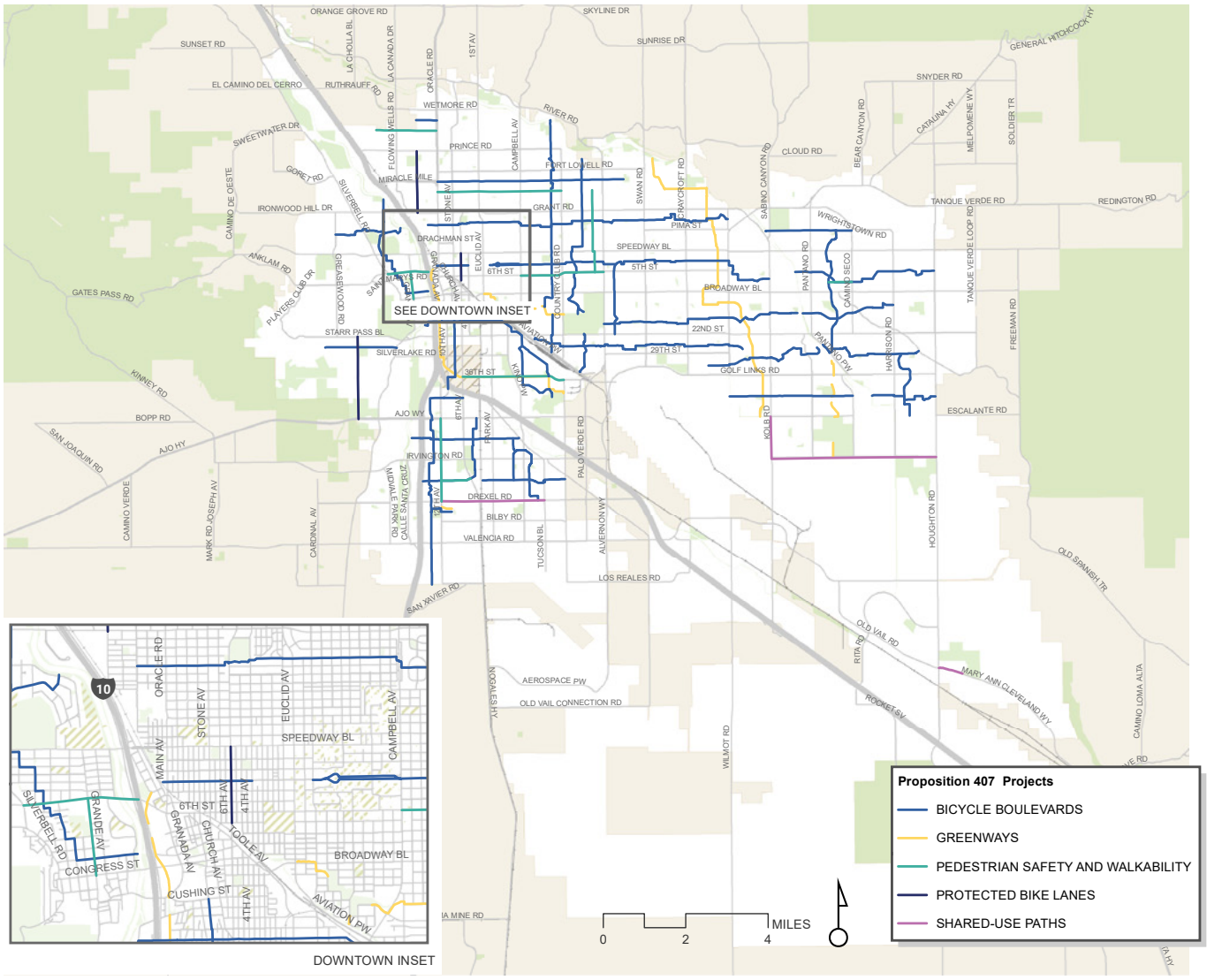
TUCSON DELIVERS: PARKS + CONNECTIONS PROJECTS

Tucson Delivers: Parks + Connections Projects

In November 2018, the City of Tucson voters approved Proposition 407, a $225 million bond package to improve City parks amenities and connections. Connection projects include greenways and shared-use paths, pedestrian safety and walkability, and bicycle boulevards.

Proposition 407 projects were not included in the Move Tucson project list as funding is already committed. However, the City will continue to advance these projects to construction and completion over the next seven years.

More information about these projects can be found at https://tucsondelivers.tucsonaz.gov/pages/parks-connections



CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Andrew St Bicycle Blvd	AviationBikeway to Jessica-Mann Ave	Residential street improvements including enhanced street crossings at Swan and Wilmot Roads, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Aviation Bikeway.	$1,198,717	1
CONNECTIVITY	BICYCLE BOULEVARDS	Bantam Rd Bicycle Blvd	Country Club Rd to Park Ave	Residential street improvements including an enhanced street crossing at Park Avenue, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$430,432	1
CONNECTIVITY	BICYCLE BOULEVARDS	Blacklidge Dr Bicycle Blvd	Oracle Rd to McCormic Park	Residential street improvements including enhanced street crossings at Stone Ave, 1st Ave, Country Club Rd, and Alvernon Rd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$1,802,882	1
CONNECTIVITY	BICYCLE BOULEVARDS	Calle Alvord Bicycle Blvd	Liberty Ave to Calle Pinta	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$126,645	1
CONNECTIVITY	BICYCLE BOULEVARDS	Carondelet Dr/5th St Bicycle Blvd	Pantano River Park to Houghton Rd	Residential street improvements including enhanced street crossings at Wilmot and Camino Seco Roads, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$1,179,466	1

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Cherry Ave Bicycle Blvd	Bantam Rd to Michigan St / Fair St	Residential street improvements including an enhanced street crossing at Irvington Road, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$391,522	1
CONNECTIVITY	BICYCLE BOULEVARDS	Cherrybell Stra/ Pinal Vista Bicycle Blvd	James Thomas Park to 18th St	Residential street improvements including an enhanced street crossing at 36th Street, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$398,802	1
CONNECTIVITY	BICYCLE BOULEVARDS	Golden Hills Rd Bicycle Blvd	Greasewood Rd to Santa Cruz River Park	Residential street improvements including an enhanced street crossing at Silverbell, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop.	$465,907	1
CONNECTIVITY	BICYCLE BOULEVARDS	Greenway Dr Bicycle Blvd	Drexel Rd to Cherry Ave	Residential street improvements including enhanced street crossings at Campbell Ave and Irvington Rd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$738,492	1
CONNECTIVITY	BICYCLE BOULEVARDS	Michigan St/Fair St Bicycle Blvd	Santa Cruz River Park to Julian Wash	Residential street improvements including an enhanced street crossing at 6th Avenue, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Rodeo Wash Greenway.	$502,921	1

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Treat Ave Bicycle Blvd	Aviation Park to Rillito River Park	Residential street improvements including enhanced street crossings at Prince Rd, Glenn Rd, Speedway Blvd, 6th Street, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environmen	$1,438,040	1
CONNECTIVITY	BICYCLE BOULEVARDS	3rd St Bicycle Blvd	Main Ave to Wilmot Rd	Residential street improvements including enhanced street crossings at Craycroft and Wilmot Roads, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$853,500	1
CONNECTIVITY	BICYCLE BOULEVARDS	Limberlost Dr Bicycle Blvd	Flowing Wells to Oracle Rd	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$98,500	1
CONNECTIVITY	BICYCLE BOULEVARDS	18th St Bicycle Blvd	Santa Cruz River Park to Kino Envr Restoration Project	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$476,087	1
CONNECTIVITY	BICYCLE BOULEVARDS	8th Ave/Convent Ave Bicycle Blvd	Jullian Wash Greenway to Cushing St	Residential street improvements including an enhanced street crossing at 22nd Street, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop.	$684,954	2

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Camino Miramonte Bicycle Blvd	Arroyo Chico to 3rd St	Residential street improvements including enhanced street crossings at 5th Street and Broadway Boulevard, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$664,460	2
CONNECTIVITY	BICYCLE BOULEVARDS	El Rio Dr/Dragoon Ave Bicycle Blvd	El Rio Golf Course to Juhan Park	Residential street improvements including enhanced street crossings at Grant Rd and Speedway Blvd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop.	$643,614	2
CONNECTIVITY	BICYCLE BOULEVARDS	Kenyon Dr Bicycle Blvd	Pantano River Park to Harrison Rd	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop at the Pantano River Park.	$408,631	2
CONNECTIVITY	BICYCLE BOULEVARDS	Kenyon Dr/ Eastland St Bicycle Blvd	Alvernon to Pantano River Park	Residential street improvements including enhanced street crossings at Alvernon, Swan, Craycroft, and Wilmot Roads, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$1,892,917	2
CONNECTIVITY	BICYCLE BOULEVARDS	Kevin Dr/Portia Ave Bicycle Blvd	Escalante Rd to 29th St	Residential street improvements including an enhanced street crossing at Golf Links, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$454,947	2

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Menlo Park Bicycle Blvd	El Rio Golf Course to Santa Cruz River Park	Residential street improvements including enhanced street crossings at Speedway Blvd, St. Mary's, and Grande Ave, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment	$804,360	2
CONNECTIVITY	BICYCLE BOULEVARDS	Palo Verde Bicycle Blvd	3rd St to Kleindale Rd	Residential street improvements including an enhanced street crossing at Ft. Lowell Rd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to Aviation Bikeway	$1,260,581	2
CONNECTIVITY	BICYCLE BOULEVARDS	Pima St Bicycle Blvd	Pantano River Park to Camino Seco	Residential street improvements including an enhanced street crossing at Pantano Rd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop.	$839,625	2
CONNECTIVITY	BICYCLE BOULEVARDS	Sarnoff Dr Bicycle Blvd	Pantano River Park to Pima St	Residential street improvements including enhanced street crossings at Speedway Blvd and Pantano Road, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$859,714	2

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	San Marcos Bl Bicycle Blvd	Marmora Ave to Mission Rd	Residential street improvements including an enhanced street crossing at Mission Rd, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$429,685	2
CONNECTIVITY	BICYCLE BOULEVARDS	33rd St/Calle Marte/29th St Bicycle Blvd	Sahura Ave to Old Spanish Trail	Residential street improvements including enhanced street crossings at Kolb and Sarnoff Roads, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop.	$1,294,474	2
CONNECTIVITY	BICYCLE BOULEVARDS	Irving Ave Bicycle Blvd	22nd St to 3rd St	Residential street improvements including enhanced street crossings at Broadway Blvd and 22nd Street, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$850,003	3
CONNECTIVITY	BICYCLE BOULEVARDS	Nebraska St Bicycle Blvd	Santa Clara Ave to Ajo Way	Residential street improvements including an enhanced street crossing at Irvington Road, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment.	$666,056	3
CONNECTIVITY	BICYCLE BOULEVARDS	Santa Clara Ave Bicycle Blvd	Los Reales Rd to Julian Wash Greenway	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop at the Julian Wash Greenway.	$1,126,554	3

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	BICYCLE BOULEVARDS	Seneca St/Waverly St Bicycle Blvd	15th Ave to Wilmot Rd	Residential street improvements including enhanced street crossings at Oracle Rd, Stone Ave, Country Club Rd, Alvernon Way, Swan Rd, Craycroft Rd, and Wilmot Ave, traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping.	$3,102,943	3
CONNECTIVITY	BICYCLE BOULEVARDS	Stella Rd Bicycle Blvd	Golf Links Rd to Houghton Rd	Residential street improvements including traffic calming to slow car speeds, wayfinding signage, pavement markings, and landscaping to enhance the walking and biking environment. Connects to the Loop at the Pantano River Park and to the Houghton Shared Use Path.	$345,563	3
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	36th St Pedestrian Safety & Walkability	6th Ave to Country Club Rd	Street improvements to provide complete and connected sidewalks on the north side of the road (El Paso Southwest Greenway to be on the south side of road), enhanced street crossings, street lighting, and landscaping for shade.	$1,958,426	1
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Roger Road Pedestrian Safety & Walkability	Oracle Rd to Romero Rd	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$4,067,129	1
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	S 12th Ave Safety & Walkability	Drexel Rd to Ajo Way	Street improvements to include sidewalk improvements, enhanced crossings, and landscaping.	$2,127,530	1

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Glenn St Pedestrian Safety & Walkability	Oracle Rd to Country Club Rd	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$9,400,435	2
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Grande Ave Pedestrian Safety & Walkability	St. Mary's Rd to Congress St	Street improvements to include traffic calming and water harvesting.	$200,000	2
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	St. Mary's Rd Safety & Walkability	Silverbell Rd to I-10	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$2,200,000	2
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	5th/6th St Pedestrian Safety & Walkability	Campbell Ave to Alvernon Way	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$5,320,640	2
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Dodge Blvd Pedestrian Safety & Walkability	Glenn St to 5th St	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$3,375,554	3
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Nebraska St Pedestrian Safety & Walkability	Old Nogales Hwy to 12th Ave	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$2,773,840	3

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	PEDESTRIAN SAFETY AND WALKABILITY	Vicksburg St Safety & Walkability	Camino Seco to Sarnoff Dr	Street improvements to provide complete and connected sidewalks on both sides of the road, enhanced street crossings, street lighting, and landscaping for shade.	$1,608,104	3
CONNECTIVITY	PROTECTED BIKE LANES	6th Ave Protected Bike Lane	Speedway Blvd to 7th St	New curb-separated protected bike lane that runs adjacent to 6th Ave, from Speedway Blvd to 7th St, providing a safer bike route to multiple parks, stores, and neighborhoods.	$888,067	1
CONNECTIVITY	PROTECTED BIKE LANES	Fairview Ave Protected Bike Lane	Prince Rd to Grant Rd	New curb-separated protected bike lane that runs adjacent to Fairview Ave, from Prince Rd to Grant Rd, providing a safer bike route to Jacobs Park, stores, and neighborhoods.	$1,641,076	3
CONNECTIVITY	PROTECTED BIKE LANES	La Cholla Blvd Protected Bike Lane	Starr Pass Blvd to Ajo Way	New protected bike lane that runs adjacent to La Cholla Blvd, from Starr Pass Blvd to Ajo Way, providing a safer bike route to multiple schools, parks, neighborhoods and a community center.	$1,617,641	3
CONNECTIVITY	SHARED-USE PATHS	Mary Ann Cleveland Way Shared-Use Path	Houghton Rd to Empire High School	New off-street walking and biking path that runs adjacent to Mary Ann Cleveland Way, connecting nearby neighborhoods to Empire High school.	$702,755	1
CONNECTIVITY	SHARED-USE PATHS	Drexel Rd Shared-Use Path	12th Ave to Country Club Rd	New off-street walking and biking path on the southside of Drexel Rd. Safety and comfort improvements include shade trees, path lighting, and ADA accessible curb ramps.	$1,230,908	2

CATEGORY	SUBCATEGORY	NAME	LOCATION	DESCRIPTION	ESTIMATED COST	PHASE
CONNECTIVITY	SHARED-USE PATHS	Kolb Rd/Irvington Rd Shared-Use Path	Kolb - Escalante to Irvington & Irvington - Kolb to Houghton	New off-street walking and biking path on the west side of Kolb Rd (Escalante to Irvington) and the south side of Irvington Rd (Kolb to Houghton). Connects the Aviation Bikeway to the Loop at Harrison Road and to the Houghton Rd Shared Use path.	$1,573,555	2
GREENWAYS	GREENWAYS	Arroyo Chico Greenway	Reid Park to Downtown	New off-street asphalt path shared by people biking and walking. Improvements include landscaping, shade trees, lighting, and benches.	$4,401,445	2
GREENWAYS	GREENWAYS	El Paso & Southwestern Greenway	University Blvd at Main Ave to Kino Sports Complex	New off-street asphalt path shared by people biking and walking. Improvements include landscaping, shade trees, lighting, and benches. Connects to the Loop at the Kino Sports Complex.	$2,586,280	2
GREENWAYS	GREENWAYS	Alamo Wash Greenway	Rillito River Park to Aviation Bikeway	New off-street asphalt path shared by people biking and walking. Improvements include landscaping, shade trees, lighting, and benches. Connects to the Loop at the Rillito River Park and Aviation Bikeway.	$13,120,474	2
GREENWAYS	GREENWAYS	Atterbury Wash Greenway	Pantano River Park to Lincoln River Park	New off-street asphalt path shared by people biking and walking. Improvements include landscaping, shade trees, lighting, and benches. Connects to the Loop at the Pantano River Park.	$3,172,699	3
GREENWAYS	GREENWAYS	Airport Wash Greenway	Liberty Ave to S. 12th Ave	New off-street asphalt path shared by people biking and walking. Improvements include landscaping, shade trees, lighting, and benches.	$530,950	3

REGIONAL TRANSPORTATION AUTHORITY ROADWAY IMPROVEMENT ELEMENT PROJECTS

Regional Transportation Authority Roadway Improvement Element Projects

The 13 projects presented below are those that have yet to be completed from the 2006 voter-approved Regional Transportation Authority Plan. The City will continue to advance these projects to construction or completion over the next five years as regional funding becomes available.

RTA-funded projects are not included in the Move Tucson project list because the funding is already committed to them.

Project Status is as follows:

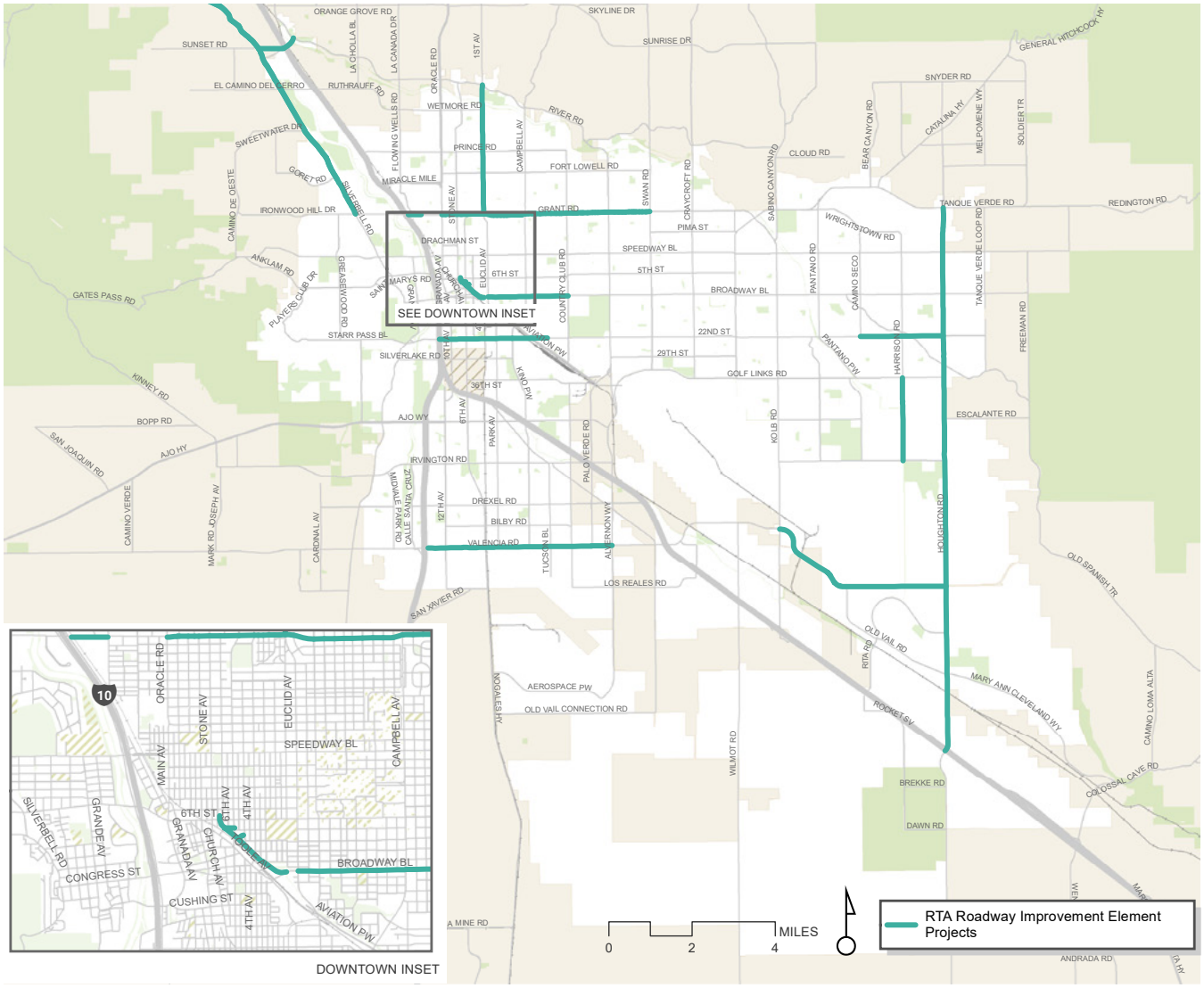
Planned - listed in the RTA Plan but no portions of the project has been completed

Partial - One or more phases of the project has been constructed but the entire project is still incomplete

Under Construction - the project is under active construction as of the writing of Move Tucson

The full RTA plan can be found at:
https://rtamobility.com/who-we-are/rta-plan/

Photo courtesy of Phantom Aerial Solutions, Inc.


SEE DOWNTOWN INSET
DOWNTOWN INSET
RTA Roadway Improvement Element Projects
MILES
0
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ORANGE GROVE RD
SUNSET RD
EL CAMINO DEL CERRO
RUTHRAUFF RD
SKYLINE DR
SUNRISE DR
SNYDER RD
GENERAL MITCHCOCK HY
WETMORE RD
RIVER RD
PRINCE RD
FORT LOWELL RD
CLOUD RD
SWEETWATER DR
GORET RD
MIRACLE MILE
IRONWOOD HILL DR
GRANT RD
PIMA ST
TANQUE VERDE RD
REDINGTON RD
WRIGHTSTOWN RD
DRACHMAN ST
SPEEDWAY BL
5TH ST
6TH ST
BROADWAY BL
22ND ST
29TH ST
GOLF LINKS RD
ESCALANTE RD
ANKLAM RD
GATES PASS RD
PLAYERS CLUB DR
STARR PASS BL
SILVERLAKE RD
36TH ST
KINNEY RD
BOPP RD
AJO WY
AJO HY
IRVINGTON RD
DREXEL RD
BILBY RD
VALENCIA RD
LOS REALES RD
SAN XAVIER RD
OLD SPANISH TR
OLD VAIL RD
AEROSPACE PW
OLD VAIL CONNECTION RD
ROCKET SV
MARY ANN CLEVELAND WY
BREKKE RD
COLOSSAL CAVE RD
DAWN RD
ANDRADA RD
A MINE RD
ORACLE RD
STONE AV
EUCLID AV
CAMPBELL AV
MAIN AV
SPEEDWAY BL
6TH ST
6TH AV
4TH AV
GRANADA AV
CHURCH AV
GRANDE AV
SILVERBELL RD
CONGRESS ST
CUSHING ST
BROADWAY BL
AVIATION PW
10

RTA ID#	PROJECT LOCATION	PROJECT DESCRIPTION	STATUS
5	Silverbell Rd: Ina to Grant	Widen to 3- and 4-lane divided desert parkway, drainage improvements and bike lanes	Partial
8	Sunset Rd: Silverbell to River (Pima County led project)	New 3-lane arterial, bridge over Santa Cruz River and bike lanes	Partial
14	1st Ave: River to Grant	Modernize 4-lane roadway, bike lanes and sidewalks	Planned
15	Union Pacific Railroad Underpass at Grant Road	Expand railroad underpass east of I-10 to accommodate 6 lanes	Planned
16	Downtown Links: I-10 to Broadway	New 4-lane urban linkage, enhanced multimodal features, drainage and noise mitigation	Under Construction
17	Broadway Blvd: Euclid to Country Club	Widen roadway to 6-lane arterial, bike lanes and sidewalks	Under Construction
18	Grant Rd: Oracle to Swan	Widen to 6-lane arterial, streetscaping, bike lanes and sidewalks	Partial
19	22nd St: I-10 to Tucson	Widen to 6 lanes, 6-lane bridge over railroad tracks, bicycle lanes and sidewalks	Partial
23	Valencia Rd: I-19 to Alvernon (access control)	Access management improvements, safety improvements and intersection improvements	Planned
25	Valencia Rd: Kolb to Houghton	Widen to 6-lane desert parkway, bike lanes and sidewalks	Planned
30	22nd St: Camino Seco to Houghton	Widen to 4-lane arterial, bicycle lanes and sidewalks	Planned
31	Harrison Rd: Golf Links to Irvington	New bridge over Pantano Wash, drainage improvements	Planned
32	Houghton Rd: I-10 to Tanque Verde	Widen to 4- and 6-lane desert parkway, new bridges, bike lanes and sidewalks	Partial

NEIGHBORHOOD WALKABILITY WORKSHOPS

Neighborhood Walkability Workshops

The list of neighborhood moblility challenges detailed here was developed through a series of Neighborhood Walkability Assessments conducted with several Tucson neighborhoods between 2013 and 2016, as well as over the course of the Move Tucson planning process through neighborhood walk-and-talk events conducted as part of the City of Tucson's Slow Streets Pilot Program. This list is not intended to be a comprehensive inventory of all neighborhood scale mobility challenges, but to serve as a starting point for identifying improvements that could be funded through a dedicated program aimed at addressing safety, mobility and livability challenges in and around local streets.

CHALLENGE:	LOCATION:
Difficult Crossing	Wilmot/Park Place Dr
Difficult Crossing	Wilmot b/t 15th & 16th
Difficult Crossing	Wilmot/Park Place Dr
No Crosswalk	Camino Miramonte/Speedway
No Crosswalk	Dodge/5th St
Difficult Crossing	5th St b/t Country Club & Alvernon
Difficult Crossing	Park Ave & 6th St
Difficult Crossing	Martin Ave & 6th St
Difficult Crossing	Vine & Broadway
Cars Ignore Crosswalk	Campbell & 9th St
Walk Signal Too Short	Campbell & Broadway
Slow Walk Signal	Highland & Broadway
No Crosswalk	4th Ave & 2nd St
No Crosswalk	3rd Ave & University
No Crosswalk	Stone & 4th St
Crosswalk Fading	4th Ave & 1st St
Difficult Crossing	Euclid & 2nd St

Photo courtesy of Phantom Aerial Solutions, Inc.

CHALLENGE:	LOCATION:
Difficult Crossing	Park Ave & University
Difficult Crossing	Euclid & 5th St
Cars Ignore Crosswalk	4th St & Park Ave
No Stop Signs	3rd Ave & 4th St
Cars Ignore Stop Sign	3rd Ave & 4th St
Cars Ignore Stop Sign	2nd Ave & 4th St
Cars Cutting Light	1st Ave & 1st St
No Crosswalk	1st St/Main Ave
No Crosswalk	1st St/Stone Ave
No Crosswalk	2nd St/Main Ave
No Crosswalk	University/Main Ave
No Crosswalk	University/9th Ave
No Crosswalk	4th St/Stone Ave
No Crosswalk	6th St/Main Ave
No Crosswalk	6th St/9th Ave
Difficult Crossing	Helen/10th Ave
Difficult Crossing	6th St/Church Ave
No Crosswalk	Grande b/t St. Mary's & Emery
Difficult Crossing	Grande b/t St. Mary's & Emery
Difficult Crossing	Silverbell b/t St. Mary's & Anklam
Difficult Crossing	Grande/Spruce
Difficult Crossing (to Bus Stop)	Congress b/t Linda & I-10
Cars Ignore Crosswalk	Tucson Terrace/Silverbell
Cars Ignore Crosswalk	Congress/Melrose

CHALLENGE:	LOCATION:
No Walk Signals	Congress/Grande
Difficult Crossing	Tumamoc Hill Road & Anklam
Difficult Crossing	I-10/Congress
Difficult Crossing	Grande/Congress
Difficult Crossing	Bonita/Congress
Difficult Crossing	Grande/St. Mary's
Difficult Crossing	Melrose/St. Mary's
Difficult Crossing	Westmoreland/St. Mary's
Difficult Crossing	Bonita/Congress
Difficult Crossing	Silverbell/Bella Vista
Difficult Crossing	Melrose/Congress
Difficult Crossing	Westmoreland/Congress
Difficult Crossing	Silverbell/Tucson Terrace
No Crosswalk	Tuttle/Roger
No Crosswalk	Flowing Wells b/t Roger & Knox
Difficult Crossing	Crescent Manor Dr & Prince
Difficult Crossing	Flowing Wells/Pastime
Cars Don't Stop at Sign	Reno/Knox
Difficult Crossing	Flowing Wells/Knox
No Crosswalk	Swan Rd & Hampton St
No Crosswalk	Swan Rd & Fairmount St
No Crosswalk	Swan Rd & Seneca St
Difficult Crossing	Ralph Ave & Grant
Difficult Crossing (kids)	Columbus Blvd & Pima St

CHALLENGE:	LOCATION:
Difficult Crossing	Catalina Ave & Pima St
No Stop Signs	Belvedere Ave & Duncan St
Difficult Crossing	Belvedere Ave & Pima St
Difficult Crossing	Swan Rd & Duncan/Edison St
Difficult Crossing	Alvernon Way & Belevue St
Difficult Crossing	Madelyn Ave & Grant
Difficult Crossing	Swan Rd & Duncan/Edison St
Difficult Crossing	Belvedere Ave & Pima St
Difficult Crossing	Alvernon & Grant
Difficult Crossing	Belvedere Ave & Grant
Difficult Crossing	Alvernon Way & Belevue St
Difficult Crossing	Alvernon Way & Belevue St
No Crosswalk	Euclid Ave & Helen St
No Crosswalk	Euclid Ave & Mabel St
No Crosswalk	2nd Ave & Speedway
Difficult Crossing	Euclid Ave & Drachman St
Difficult Crossing	Euclid Ave & Speedway
Difficult Crossing	4th Ave & Speedway
Difficult Crossing	Columbus and Sylvane
Difficult Crossing	Belvedere and 24th
Difficult Crossing	Belvedere and 26th
Hard to cross	Belvedere and 29th
Difficult to cross and wait for bus	Belvedere and 29th
Hard to cross	29th and Venice

CHALLENGE:	LOCATION:
Hard to cross	Swan and 29th
Difficult Crossing	Columbus and 22nd
Difficult crossing	22nd and Belvedere
Too hard to cross	Stone and Blacklidge
Can't cross	Grant and N6th / Fontana
Need HAWK light	Blacklidge and 1st
No pedestrian crossing	Copper and 1st
No Sidewalks	18th St b/t Del Valle & Wilmot
No Ramps	Alamo/14th St
No Sidewalk	Country Club & Hawthorne
No Sidewalk	5th St b/t Camino Miramonte & Richey
No Sidewalk	Dodge/5th St
No Sidewalk	Campbell & 8th St
No Sidewalk	Warren b/t 7th St & 8th St
No Sidewalk	Fremont b/t 8th St & 9th St
No Sidewalk	9th St b/t Fremont & Santa Rita
No Sidewalk	10th St b/t Tyndall & Park Ave
Discontinuous Sidewalk	8th St b/t Vine & Cherry
Uneven Sidewalk	Park Ave b/t 6th St & 7th St
No Sidewalk	1st Ave & University
No Sidewalk	7th Ave & 4th St
Sidewalk Discontinuous	3rd Ave & 1st St
Sidewalk Too Narrow	University b/t Hoff & 3rd Ave
Sidewalk Cracked	4th Ave & University

CHALLENGE:	LOCATION:
No Wheelchair Access	6th Ave & 5th St
No Sidewalks	Pima b/t Palo Verde & Dodge
Sidewalks Uneven	Waverly b/t Howard & Palo Verde
Sidewalks Not Continuous	Country Club & Linden
Bad Shoulder	Dodge & Edison
Sidewalk Damaged	Speedway b/t Stone & 7th Ave
Sidewalk Damaged	1st St/9th Ave
Sidewalk Too Narrow	Speedway/Santa Cruz River Bridge
No Sidewalks	Fresno/Cuesta
No Sidewalks	Congress/Silverbell
No Sidewalks	Nearmont Dr
No Sidewalks	Mission Lane
No Sidewalks	Mission Road
No Sidewalks	Sentinel Peak Road
Sidewalks Uneven	Congress b/t Melrose & Palomas
No Sidewalks	Nearmont b/t Grande & Melwood
No Sidewalks	Lawson/Roger Road
No Sidewalks	Roger b/t Palm Grove & Fairview
No Sidewalks (2)	Fairview b/t Roger/Simmons
Sidewalks Uneven (2)	McMillan b/t Reno & Palm Grove
No Sidewalk	Belvedere Ave b/t Fairmount & Belevue St
No Sidewalk	Catalina Ave b/t Fairmount & Lee
Sidewalk Too Close to Street	Speedway b/t Columbus & Catalina
No Sidewalks	Lee St b/t Belvedere & Venice

CHALLENGE:	LOCATION:
No Sidewalks	Belvedere Ave & Waverly St
No Sidewalks	2nd Ave & Elm St
No sidewalks	Columbus, just north of Sylvane
No sidewalks	Belvedere and 25th
Narrow footbridge	Belvedere and 25th
No sidewalks	Belvedere and Swan Park, north of Sylvane
Uneven pavement	Belvedere and Naylor track field
No sidewalks around park	Swan Park
No sidewalk	28th between Columbus and Belvedere
River path not wide enough	Diamond St loop, west bank, across from Verdugo Park
No sidewalks along 19th	19th between freeway and the loop
Broken sidewalk	Stone, just South of Fort Lowell
No sidewalks	Stone between Blacklidge and Laguna
No crosswalks or sidewalks	Stone and Alturas
No sidewalks	Fontana, Prince to Grant
No sidewalks	Fort Lowell and Geronimo
Sidewalk needs repair	Los Altos South of Delano
Flooding	Richey b/t Speedway & 3rd St
Flooding	3rd St b/t Richey & Dodge
No Shade	Highland b/t 8th St & 9th St
No Shade	9th St b/t Highland & Vine
No Shade	Highland & Broadway
No Shade	4th Ave & Speedway
Little Shade	6th St b/t 6th Ave & 5th Ave

CHALLENGE:	LOCATION:
Need Trees	3rd Ave & 6th St
Pooling Water	4th Ave & University
Little Shade	Palo Verde b/t Seneca & Pima
Flooding	Seneca b/t Camilla & Howard
Flooding	Fairmount b/t Howard & Jones
No Shade	University/11th Ave
No Shade	Speedway/Ash Ave
No Shade	4th St/Perry Ave
No Shade	11th Ave b/t Speedway & 1st St
No Shade	11th Ave b/t University & 4th St
No Shade	4th St/10th Ave
No Shade	University/9th Ave
No Shade	1st St/9th Ave
No Shade	Franklin/Grande
No Shade	Congress/I-10
No Shade	Grande b/t Cedar & Spruce
No Shade	Nearmont Dr
No Shade	Mission Lane
No Shade	The Loop
Little shade	Sentinel Peak Road
Dust	Sentinel Peak
No Shade	Palm Grove/Roger
No Shade	Roger b/t Palm Grove & Fairview
Flooding	Reno/Pastime

CHALLENGE:	LOCATION:
Flooding	Tuttle/Pelaar
No Shade	Alvernon b/t Seneca & Pima
No Shade	Pima b/t Catalina & Belvedere
No Shade	Fairmount St b/t Bryant & Columbus
No Trees	Pima b/t Catalina & Belvedere
Heat Island Hot Spot	Longfellow Ave & Fairmount St
Flooding	N Village Dr & Justin Ln
Flooding along Belvedere	Belvedere Ave & Lee St
Flooding	Justin Ln b/t Alvernon & Sycamore
Flooding	Pima b/t Sycamore & Bryant
Flooding	Pima b/t Bryant & Columbus
Flooding	Belvedere Ave & Pima St
Flooding	Fairmount St b/t Alvernon & Longfellow
Flooding	Belvedere Ave & Waverly St
Flooding	Justin Ln b/t Alvernon & Sycamore
Flooding	Pima b/t Catalina & Belvedere
Flooding	Park Ave & Drachman St
Flooding	Drachman St b/t 2nd & Euclid
Flooding	2nd Ave & Mabel St
Flooding	Stone Ave & Mabel St
Poor drainage	6th Ave b/t Speedway & Mabel
Poor drainage	1st Ave & Mabel St
Poor drainage	4th Ave b/t Mabel & Helen
Poor drainage	1st Ave & Drachman St

CHALLENGE:	LOCATION:
Poor drainage	6th Ave b/t Speedway & Mabel
Poor drainage	1st Ave & Speedway
Poor drainage	Columbus south of 22nd
Alvernon not walkable (no shade or cutoffs)	Alvernon and E Sylvane Dr
Poor drainage	E 24th st and E 25th St off Columbus
Poor drainage	Naylor wash behind Changemaker High School
Water backs up	Belvedere and Naylor track field
Flooding	Belvedere and Naylor track field
No trees, very hot	Belvedere and 29th
No shade	Swan and 29th bus stop
No shade	Glenn and Fontana
Need trees in park	Mansfield Park
Water problem	Laguna between Los Altos and 1st
Fast Traffic	Camino Miramonte/Speedway
Fast Traffic	Camino Miramonte/5th St
Fast Traffic	Country Club/2nd St
Fast Traffic	Campbell & 9th St
Scary Traffic	1st Ave & 1st St
Scary Traffic	2nd Ave & 1st St
Scary Traffic	5th Ave b/t 1st & 2nd Sts
Scary Traffic	Euclid & 4th St
Scary Traffic	6th St b/t 5th & 4th Aves
Scary Traffic	Speedway b/t 2nd & 1st Aves
School Traffic	1st Ave & 6th St

CHALLENGE:	LOCATION:
Traffic/Parking Problem	6th St b/t 3rd & 2nd Aves
Too Narrow for Traffic	6th Ave & 6th St
Speeding	5th St b/t 5th Ave & 4th Ave
Speeding	5th Ave & 1st St
Speeding	5th Ave & 6th St
Fast Traffic in Alley	Hoff b/t 5th & 6th Sts
Needs Roundabout	5th Ave & 2nd St
Needs Roundabout	5th Ave & 4th St
Fast Traffic	Seneca b/t Dodge & Alvernon
Cut Through	Bellevue b/t Richey & Dodge
Fast Traffic	9th Ave b/t 2nd St & University
Fast Traffic; Cut-Through Traffic	4th St/Alder Ave
Cut-Through Traffic	4th St/Main Ave
Cut-Through Traffic	Main Ave b/t 2nd St & University
Cut-Through Traffic	1st St/10th Ave
Cut-Through Traffic	9th Ave b/t 4th St & 5th St
Cut-Through Traffic	4th St/Perry Ave
Cut-Through Traffic	5th St b/t Queen & 10th Ave
Cut-Through Traffic	1st St/11th Ave
Cut-Through Traffic	1st St b/t Ash & Stone Ave
Cut-Through Traffic	University b/t 10th Ave & Perry
Cut-Through Traffic	4th St/Alder Ave
Cut-Through Traffic	9th Ave b/t Speedway & 1st St
Cut-Through Traffic	5th St/Main Ave

CHALLENGE:	LOCATION:
Cut-Through Traffic	University/Main Ave
Cut-Through Traffic	University/Stone Ave
Cut-Through Traffic	4th St/ Main Ave
Fast Traffic	Cushing/Grande Roundabout
Fast Traffic	Sentinel Peak Road
Fast Traffic	Alameda/Melwood
Fast Traffic	Grande b/t St. Mary's & Emery
Fast Traffic	Westmoreland/St. Mary's
Fast Traffic	Silverbell/Anklam
Fast Traffic	Silverbell/Hillside Dr
Fast Traffic	Silverbell/Bella Vista
Fast Traffic	Grande b/t Fresno & Congress
Fast Traffic	Grande/Congress
Fast Traffic	Melrose/Congress
Fast Traffic	Cuesta b/t Silverbell & Congress
Fast Traffic	Westmoreland/St. Mary's
Fast Traffic	Grande/Alameda
Fast Traffic	Reno/Roger
Fast Traffic	Simmons b/t Tuttle & Fairview
Fast Traffic	Flowing Wells/Pastime (high school)
Fast Traffic	Pomona/Roger
Fast Traffic	Reno/Knox
Fast Traffic	Flowing Wells b/t Knox & Pastime
Fast Traffic	Flowing Wells/King Pl

CHALLENGE:	LOCATION:
Fast Traffic	Reno b/t Roger & McMillan
Fast Traffic	Reno/McMillan
Fast Traffic	McMillan b/t Reno & Palm Grove
Fast Traffic	Palm Grove b/t Roger & Pelaar
Fast Traffic	Roger b/t Fairview & Commanche
Fast Traffic	Pelaar b/t Reno & Palm Grove
Fast Traffic	Grant b/t Alvernon & Columbus
Fast Traffic	Madelyn Ave & Duncan St
Fast Traffic	Alvernon b/t Seneca & Pima
Fast Traffic	Pima b/t Justin & Columbus
Fast Traffic	Pima b/t Belvedere & Venice
Fast Traffic	Belvedere Ave & Linden St
Fast Traffic	Seneca St b/t Marion & Fair Oaks
Speeding Traffic	Ralph Ave & Seneca St
Speeding Traffic	Pima b/t Bryant & Columbus
Traffic	Alvernon & Justin Ln
High Traffic	Speedway b/t Columbus & Catalina
Cut-Through Traffic	Seneca St b/t Dodge & Alvernon
Cut-Through Traffic	Bell Ave & Duncan St
Cut-Through Traffic	Madelyn Ave & Seneca St
Cut-Through Traffic	Catalina Ave & Lee St
Cut-Through Traffic	Belvedere Ave & Seneca St
Cut-Through Traffic	Belvedere Ave & Lester St
Cut-Through Traffic	Seneca St b/t Isabel & Marion

CHALLENGE:	LOCATION:
Cut-Through Traffic	Belvedere b/t Lee & Pima
Cut-Through Traffic	Roberts Way & Belevue St
Cut-Through Traffic	Belevue St b/t Belvedere & Venice
Cut-Through Traffic	Belvedere b/t Fairmount & Lee
Cut-Through Traffic	Belevue St b/t Columbus & Catalina
Cut-Through Traffic	Belevue St b/t Catalina & Belvedere
Cut-Through Traffic	Fairmount St b/t Dodge & Alvernon
Cut-Through Traffic	Pima b/t Columbus & Catalina
Cut-Through Traffic	Columbus b/t Lee & Pima
Cut-Through Traffic	Duncan St b/t Bell & Swan
Cut-Through Traffic	Columbus Blvd & Seneca St
Cut-Through Traffic	Seneca St b/t Fair Oaks & Columbus
Cut-Through Traffic	Columbus b/t Pima & Linden
Cut-Through Traffic	Alvernon & Hampton Pl
Fast Traffic	1st Ave b/t Adams & Elm
Fast Traffic	3rd Ave & Drachman St
Fast Traffic	Stone Ave b/t Adams & Drachman
More Traffic	Vine Ave & Drachman St
Very Wide Street	1st Ave b/t Helen & Mabel
Speeding throughout neighborhood	21st and Ochoa
Speeding	Kroeger and 19th
Cut-through traffic off frontage road	Freeway frontage and 19th
Cars don't stop, line of sight is poor	Kroeger and 19th
Ineffective speed bumps	Hopi just south of Glenn

CHALLENGE:	LOCATION:
Park Wall	Park Place Dr/14th St
Barriers to Walking	Park Place Mall
Church Blocks Street Access	Craycroft/Broadway
Walkway Ends	1st St b/t Anderson Blvd & Camino Miramonte
No Cut Through	1st St b/t Jones & Holly
Dead End	1st St b/t Holly & Palo Verde
Dead End	2nd St b/t Jones & Holly
Wall	El Con Mall
Gate	2nd St b/t Holly & Palo Verde
Fence; No Through Access	Crest Dr/4th St
Route Blocked	Vine & 7th St
No Bike Lanes	Stone & Speedway
No Bike Lane	Speedway/Santa Cruz River Bridge
Bike/Ped Corridor Blocked	University/Train Tracks
Fence Blocks Trail	Tumamoc Hill Road
No Connection to Loop	Commerce Park Loop
Low Connectivity	Village Dr & Louis Ln
Not Ped Friendly	Venice Ave b/t Speedway & Belevue St
Overgrown wash used as walkway	Naylor Wash behind Chapman Honda
Shopping Carts	Dodge/4th St
Foliage/Cactus	Camino Miramonte/5th St
Foliage/Cactus	Richey/3rd St
Foliage/Cactus	Park Ave & Florita
Foliage/Cactus	10th St b/t Mountain & Highland

CHALLENGE:	LOCATION:
Dumpsters	Vine & 10th St
Cars on Sidewalk	9th St b/t Santa Rita & Mountain
Sidewalk Blocked	University b/t Euclid & Tyndall
Dumpsters	Fairmount b/t Howard & Jones
Unpassable	1st St b/t Perry & 9th Ave
Foliage/Cactus	2nd St/9th Ave
Foliage/Cactus	Speedway/Perry Ave
Foliage/Cactus	10th Ave b/t 2nd St & University
Parked Cars	10th Ave b/t 2nd St & University
Parked Cars	10th Ave b/t Speedway & 1st St
Stones	University/11th Ave
Stones	10th Ave b/t 2nd St & University
Stone Wall	9th Ave b/t University & 4th St
Stone Wall	9th Ave b/t 4th St & 5th St
Walking Route Blocked	Menlo Park Pl/Westmoreland
Walking Route Blocked	Menlo Park @ Menlo Park Pl
Foliage/Cactus	Fresno/Westmoreland
Foliage/Cactus	Fresno/Cuesta
Debris	Cushing Street Bridge
Foliage/Cactus	Lawson/Roger Road
Foliage/Cactus	Seneca St b/t Fair Oaks & Columbus
Garbage Cans	Lee St b/t Catalina & Belvedere
Foliage/Trees	1st Ave & Mabel St
Foliage/Trees	Helen St b/t 3rd & 2nd

CHALLENGE:	LOCATION:
Blocked walkway	Alley linking Juarez and 24h between Belvedere and Swan
Walkway blocked	Alley linking Columbus and Belvedere between 28th and 29th
Overgrown vegetation forces people into the street	Belvedere and 25th
Walkway overgrown	28th between Belvedere and Swan
Drachman school median creates poor visablity	10th ave in front of Drachman Montessori school
No Streetlights	Camino Miramonte & 1st St
No Streetlights	Richey b/t 3rd St & 4th St
No Streetlights	10th St b/t Cherry & Warren
No Streetlights	3rd Ave & 1st St
Few Streetlights	Arizona Ave & 5th St
No Streetlights	Nearmont Dr
No Streetlights	Mission Lane
No Streetlights	Alley b/t Congress & Cedar
No Streetlights	Sentinel Peak Road
No Streetlights	Roger b/t Lawson & Flowing Wells
No Streetlights	Roger b/t Reno & Palm Grove
No Streetlights	Roger b/t Palm Grove & Fairview
No Streetlights	Roger b/t Fairview & Commanche
No Streetlights	Palm Grove/McMillan
No Streetlights	Reno/Smoot
No Streetlights	Simmons b/t Tuttle & Fairview
No Streetlights	Fairview b/t Roger/Simmons
No Streetlights	Smoot Pl b/t Reno & Palm Grove

CHALLENGE:	LOCATION:
No Streetlights	Grant b/t Goyette & Ralph Aves
No Streetlights	2nd Ave & Elm St
Streetlights Burnt Out	1st Ave b/t Mabel & Drachman
Very dark and feels unsafe	29th and S Irving
No lighting	Between E24th st and Fry's
No lights	Columbus and 24th, across from Tucson Baptist Church
Dark	Alley of Sylvane and 28th between Belvedere and Swan
No lights	Swan Park
No lights	Sylvane between Columbus and Belvedere
Very dark	28th between Columbus and Belvedere
Bad at night, no lighting	The loop by Verdugo park
No lighting	Kroeger and 19th
Lighting needed	Barrio Nopal
No sidewalks	Westmoreland b/t St Mary's and Placita Plata
Pavement needed on dirt street	8107 E Tanque Verde Rd
No sidewalks	Seneca b/t Maguire and Pantano
Widen sidewalk to accommodate bikes	Plumer b/t 1st St and Post office
Repair ped bridge over citation wash	Julia Keen neighborhood
No sidewalk	Jones Blvd b/t 22nd and 24th St

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SIDEWALK AND PEDESTRIAN ACCESSIBILITY PLAN

Sidewalk and Pedestrian Accessibility Plan

The Move Tucson process identified $950 million in total estimated need for packaged improvements for sidewalk and pedestrian accessibility. These improvements include pedestrian accessibility needs such as sidewalk gaps fills, curb ramps, driveways, accessibility technologies at intersections and signalized crossings, medians/traffic islands, streetcar and local bus stops – any improvements that are not addressed through Network Improvement projects.

Over the last few years, the City of Tucson has been conducting an inventory and analysis of pedestrian assets citywide. Both major and local streets were included in effort. The resulting inventory maps are included, and prioritization of future improvements will be grounded in the Move Tucson prioritization methodology and Network Screening Scores (see Map 19 that follows).

Data Collection

In order to determine access deficiencies and barriers within the City's ROW, existing geometric information needed to be collected for sidewalk, ramps, driveways, traffic signals, traffic islands, medians, transit stops, and at grade rails. The data was collected using a mobile mapping (LiDAR) scanning vehicle which collects a point data cloud of the environment with a high resolution 360-degree camera taking continuous photographs along the ROW. Roadways were driven in both directions, to ensure complete coverage of the ROW and adjacent properties. LiDAR and imagery were collected in both directions of travel, approximately 2,100 centerline miles (4,200 miles both ways) for all City arterials, collectors, and local streets. Following the collection, data was post processed with the georeferenced imagery. Overall, the data collected included:

- Sidewalks –~ 1,800 miles
- Driveways –~30,000
- Curb Ramps –~26,500
- Pedestrian Push Buttons –~2,800
- Medians/Traffic Islands –~700
- Streetcar Stops –19
- Bus Stops –~2,000

The data was collected for each of the six wards within the city limits (see Map 20-Map 25 at the end of this section).

Analysis

The existing accessibility assets were analyzed for compliance based on the Public Rights-of-Way Accessibility Guidelines commonly called PROWAG. Each accessibility asset was evaluated based on several attributes. For example, sidewalks were evaluated based on status (whether they exist or not), width, cross slope, running slope, road grade slope, material, raised crossing, flush to roadway, flush sidewalk barrier, failures, gap in route, and passing space. Each attribute was analyzed based on existing geometric values and then a compliance category was assigned.

Barriers

Based on the analysis of the accessibility assets, barriers were identified with different levels of severity throughout the city.

Public Involvement Summary. Efforts to engage with the public regarding the self-inventory were conducted in March-June 2017. The public was provided information about the self-inventory, asked to assist in ranking priorities by location, and provided the project team with additional information about areas of concern. Small group meetings with the Pedestrian Advisory Committee, Commission on Disability Issues (CODI), the DIRECT Center for Independence, and each of the six Wards were held, and one large public open house culminated in participation of approximately 74 stakeholders. Just over 260 comments were received in the form of comment forms, emails, and questionnaires (print and online via Survey Monkey and Social Pinpoint online engagement tool). These comments and priorities were reflected in the final inventory data incorporated into the Move Tucson plan.

Initial Prioritization Criteria

The criteria for prioritizing the accessibility retrofits were developed through a series of meetings with stakeholders, the public and City staff to determine the appropriate methodology. As a result, it was determined to score each asset based on four indices resulting in a total priority index. The four indices are the attribute, accessibility, benefit-cost, and public input with different weighting to comprise a total priority index from 1 to 125. The specific criteria foreach index are outlined in Table 28 on page 335.

Table 28. *Initial Sidewalk and Pedestrian Accessibility Prioritization Criteria*

Index Criteria	Location Rating	Point Value	Possible Score
ATTRIBUTE INDEX	*Calculation of all accessibility ASSET Scores Summarizing Rating of Existing Conditions*		**35**
ACCESSIBILITY INDICES			
Arterial & Collector Street	Within 1/16 mile	4	4
Governmental Building	Within 1/4 mile	4	4
School	Within 1/4 mile	4	4
Park	Within 1/4 mile	4	4
Health Facility	Within 1/4 mile	4	4
Bus/Streetcar Stop Within 1/8 mile	Top Third Ridership Volume	4	4
	Middle Third Ridership Volume	2	
	Bottom Third Ridership Volume	1	
Lower Income Residence	Top Third (US Census density*)	4	4
	Middle Third	2	
	Bottom Third	1	
Mobility Impaired Residence	Top Third (US Census density*)	4	4
	Middle Third	2	
	Bottom Third	1	
Elderly Residence	Top Third (US Census density*)	4	4
	Middle Third	2	
	Bottom Third	1	
* 2010 U.S. Census or 2015 American Community Survey (ACS) housing Block Group geography for both low-income and mobility-impaired housing. "Density" values derived by dividing U.S. Census or ACS housing data by area (square miles), then dividing "density" range into even thirds.			
High Pedestrian Demand Areas	Top Third (2014 PAG Regional Pedestrian Plan)	4	4
	Middle Third	2	
	Bottom Third	1	
ACCESSIBILITY INDEX *(Add all Accessibility Indices Scores from above)*			**40**
BENEFIT-COST INDEX	*SUBTOTAL Divided by Project Cost*		**25**
	Highest one-third point/cost (HIGH priority)	25	
	Middle one-third point/cost (MODERATE priority)	15	
	Lowest one-third point/cost (LOW priority)	5	
SUBTOTAL *(Attribute Index + Accessibility Index + Benefit-Cost Index)*			**100**
PUBLIC INPUT INDEX			**25**
	Top one-third based on comments received	25	
	Middle one-third based on comments received	15	
	Bottom one-third based on comments received	5	
TOTAL PRIORITY INDEX			**125**

Budgets

Based on the access deficiencies identified, cost for upgrades werehave been calculated for each of the asset groups based on present day dollars. Each asset group was divided into two categories 1) Non-Compliant –Severe/Significant and 2) Non-Compliant–Moderate/Minor. The budget level cost for each of the asset groups is shown in Table 29 below. The top three largest cost items are sidewalks, driveways, and ramps. The current City of Tucson budget does not include adequate funding for all the necessary improvements. The US Department of Justice (USDOJ) Title II regulation anticipates that cities will not have the resources to make every retrofit occur all at once. The regulation permits a phased approach to correct deficiencies. A portion of the improvements can be made utilizing existing local, regional, and Federal funding. Additional funding will be necessary to complete all the necessary improvements.

Table 29. *Total Estimated Cost for Sidewalk and Pedestrian Accessibility Improvements*

Description of Asset	Compliance Category	Total Qty	Unit	Unit Price	Total
Total Construction Cost	>2: Non Compliant - Severe/Significant				$426,372,916.80
Total Construction Cost	0-2: Non Compliant - Moderate/Minor				$505,810,814.40
Total Overall Construction Cost					$932,183,731.20

Sidewalk and Pedestrian Accessibility Improvements will be addressed in two ways through the Move Tucson plan.

1. Prioritized Network Improvement projects include sidewalk and other pedestrian improvements to make all corridors fully compliant with the requirements of the Americans with Disabilities Act. High-priority Move Tucson projects will fill sidewalk gaps make pedestrian accessibility improvements over many of miles on major roadways throughout the city.
2. The Sidewalk and Pedestrian Accessibility Improvements category recommends specific funding to address pedestrian needs outside of Network Improvements. The prioritization methodology used for Move Tucson, and reflected in the Network Screening Scores (see the Move Tucson Plan chapter, "Where Do We Start?") will guide future investment decisions.

   Move Tucson recommended funding for Sidewalk and Pedestrian Accessibility Improvements in current year dollars:

   - 2021-2023 -$1M per year
   - 2023-2041 -$5M per year
   - Total 2021-2038 = $92M

Based on this available funding, Move Tucson looks at a 20-year projection for improvements and includes an inflation rate of 2% compounded annually.

City of Tucson ADA Program Responsibility

The City has an established ADA program within the Equal Opportunity Programs Division. The City is committed to ensuring that the terms and conditions mandated by the ADA are enforced within the City's level of authority and within its jurisdiction.

The program is administered by:

Will Rivera
Senior Equal Opportunity Specialist

(520) 837-4010

City of Tucson
Office of Equal Opportunity Programs
255 W. Alameda, 5th floor, City Hall

will.rivera@tucsonaz.gov

(520) 791-4593 (Voice)

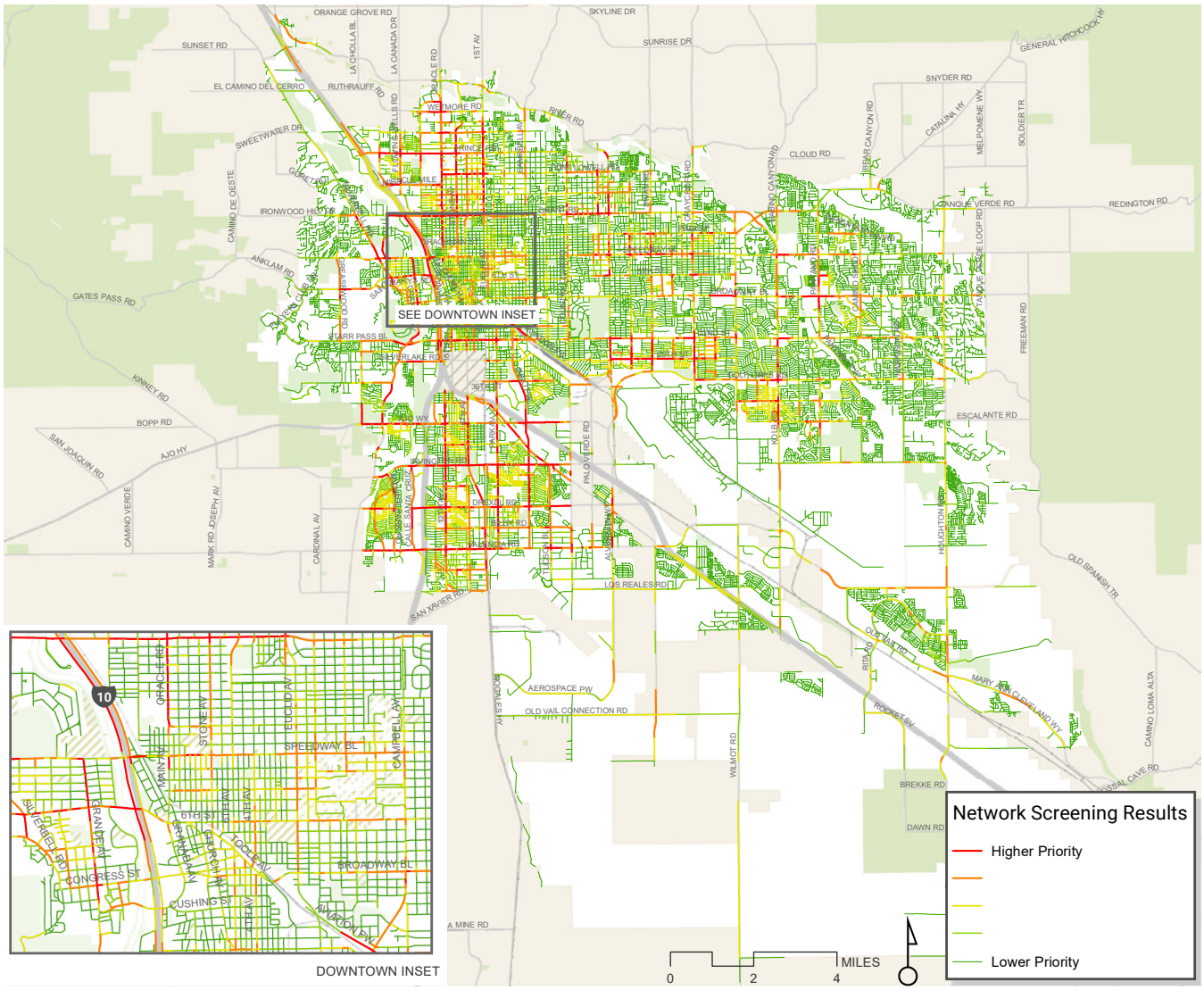
(520) 791-2639 (TTY/TDD)

Monday-Friday, 8:00a.m.-5:00p.m.

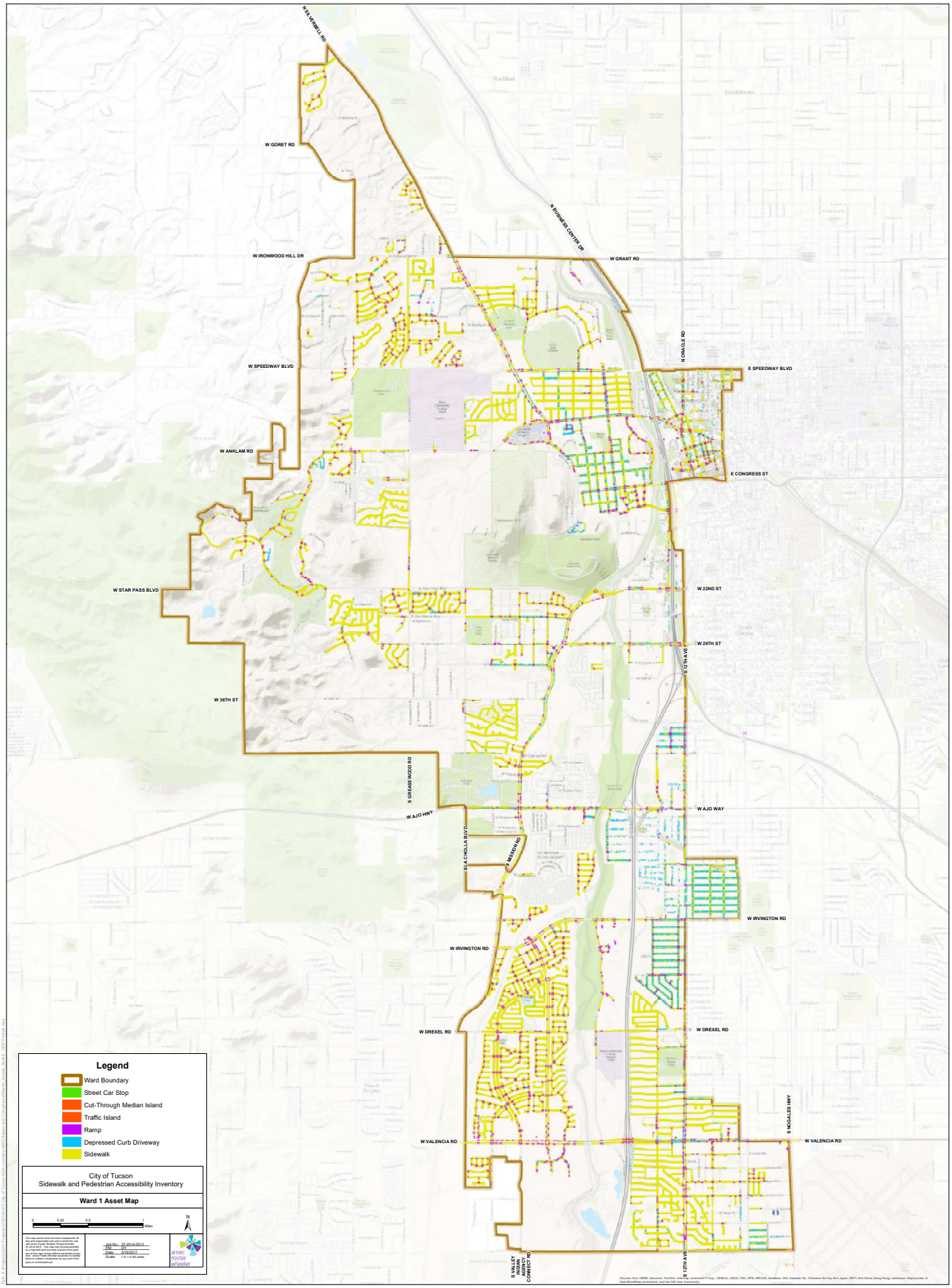
In addition, the City's website provides information and links for filing discrimination and accessibility complaints at:

https://www.tucsonaz.gov/oeop/americans-disabilities-act-ada

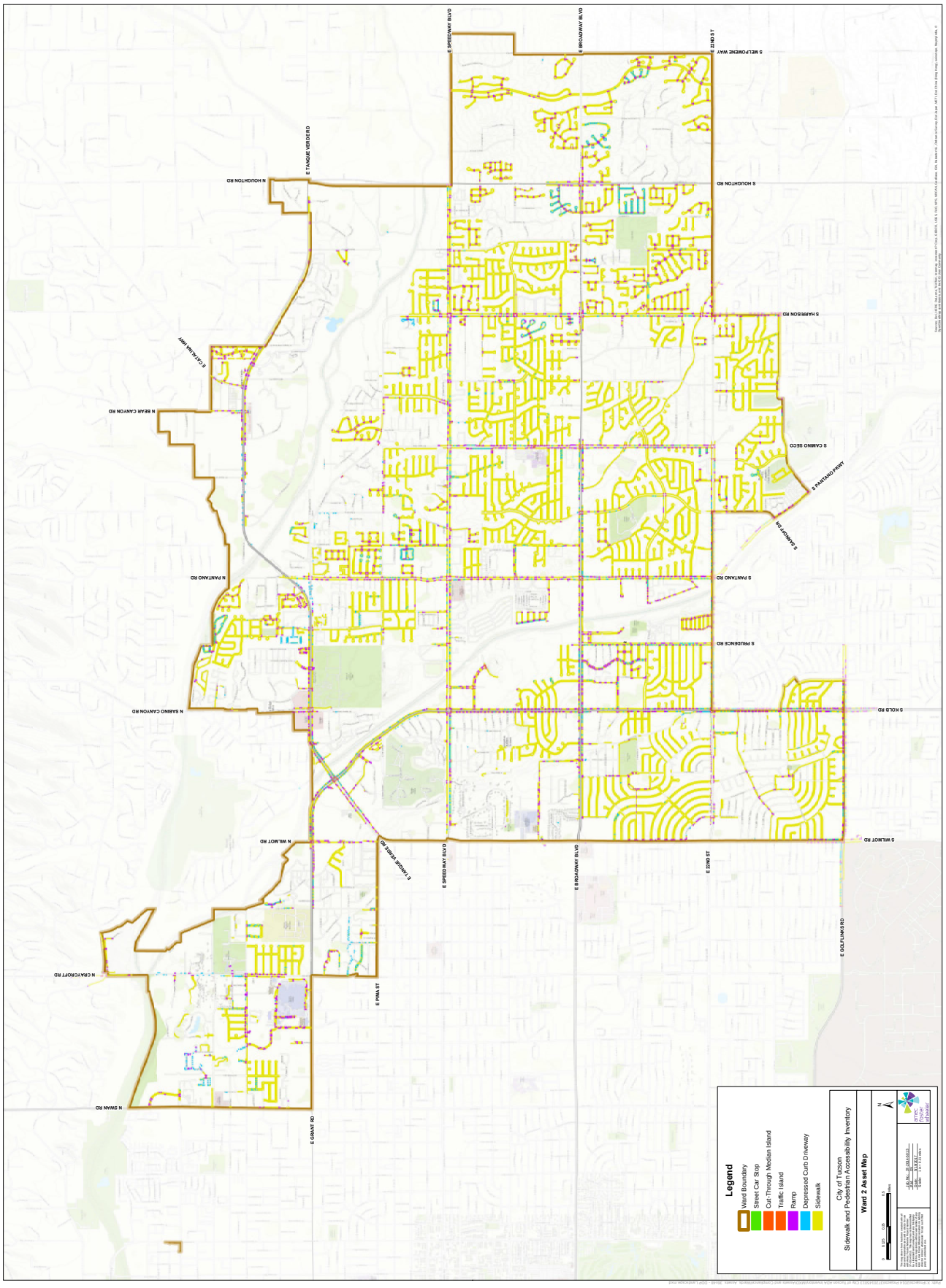
Map 19. *Network Screening Results*



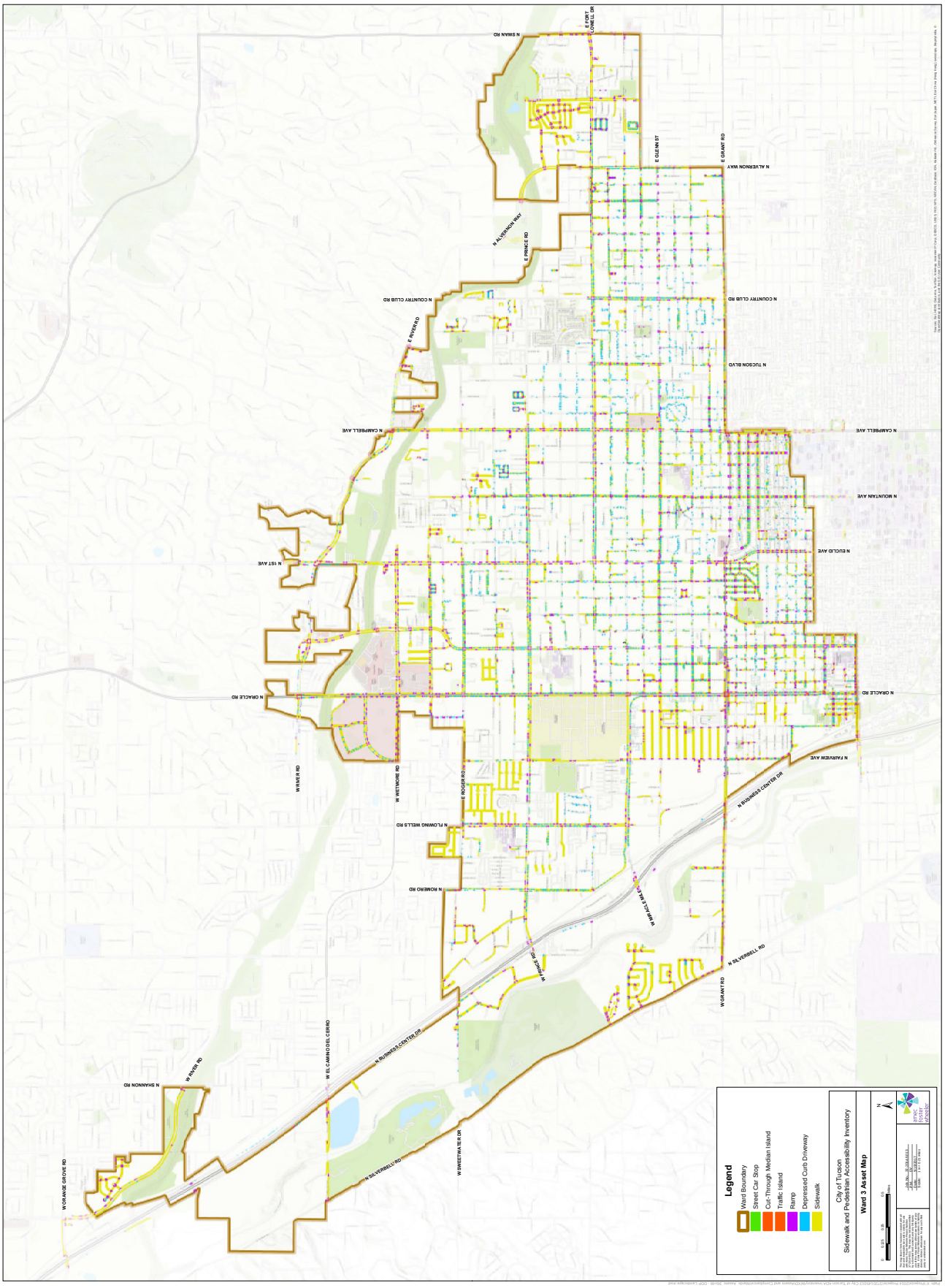
Map 20. *Ward 1 Assets*



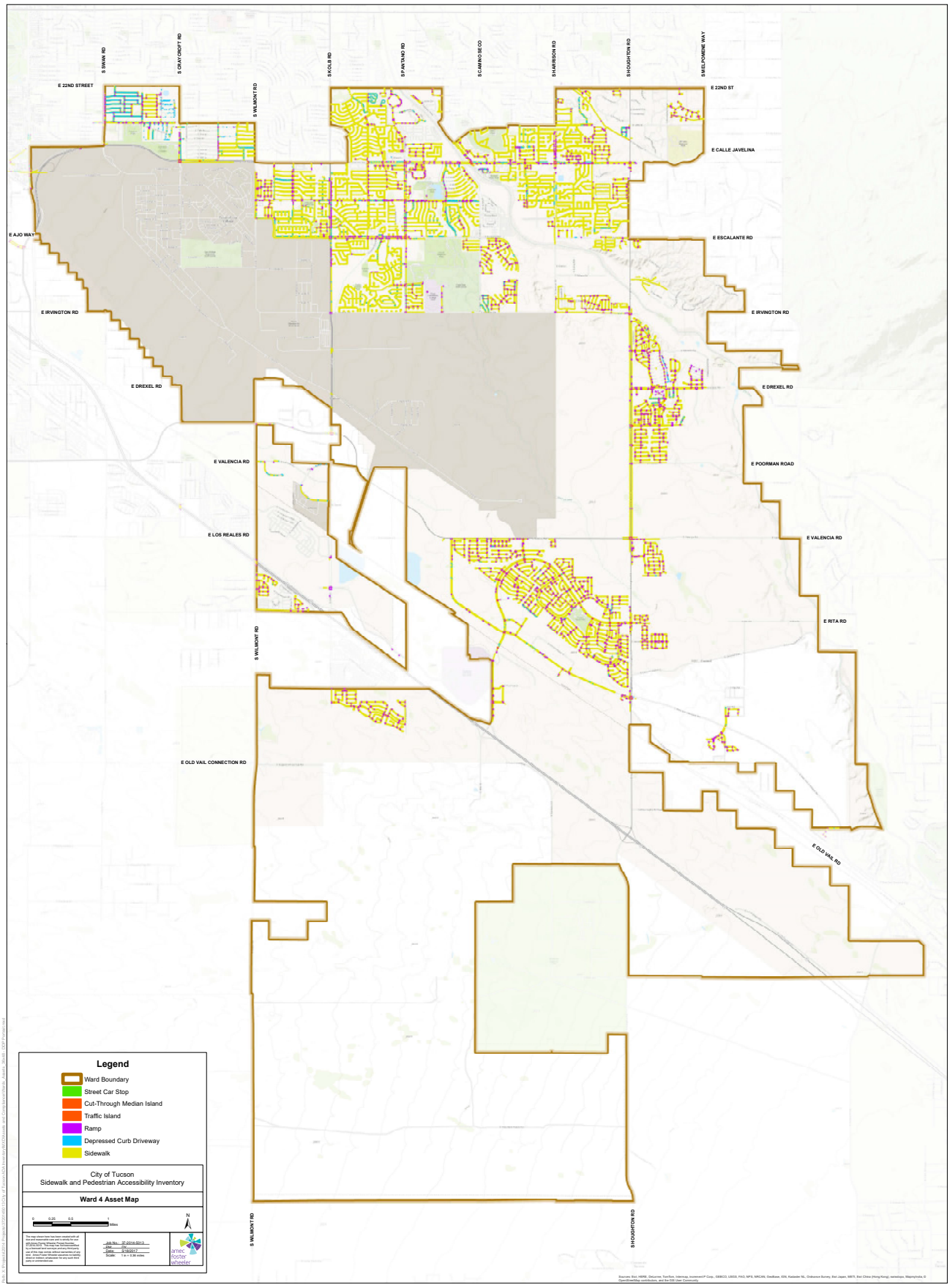
Map 21. *Ward 2 Assets*



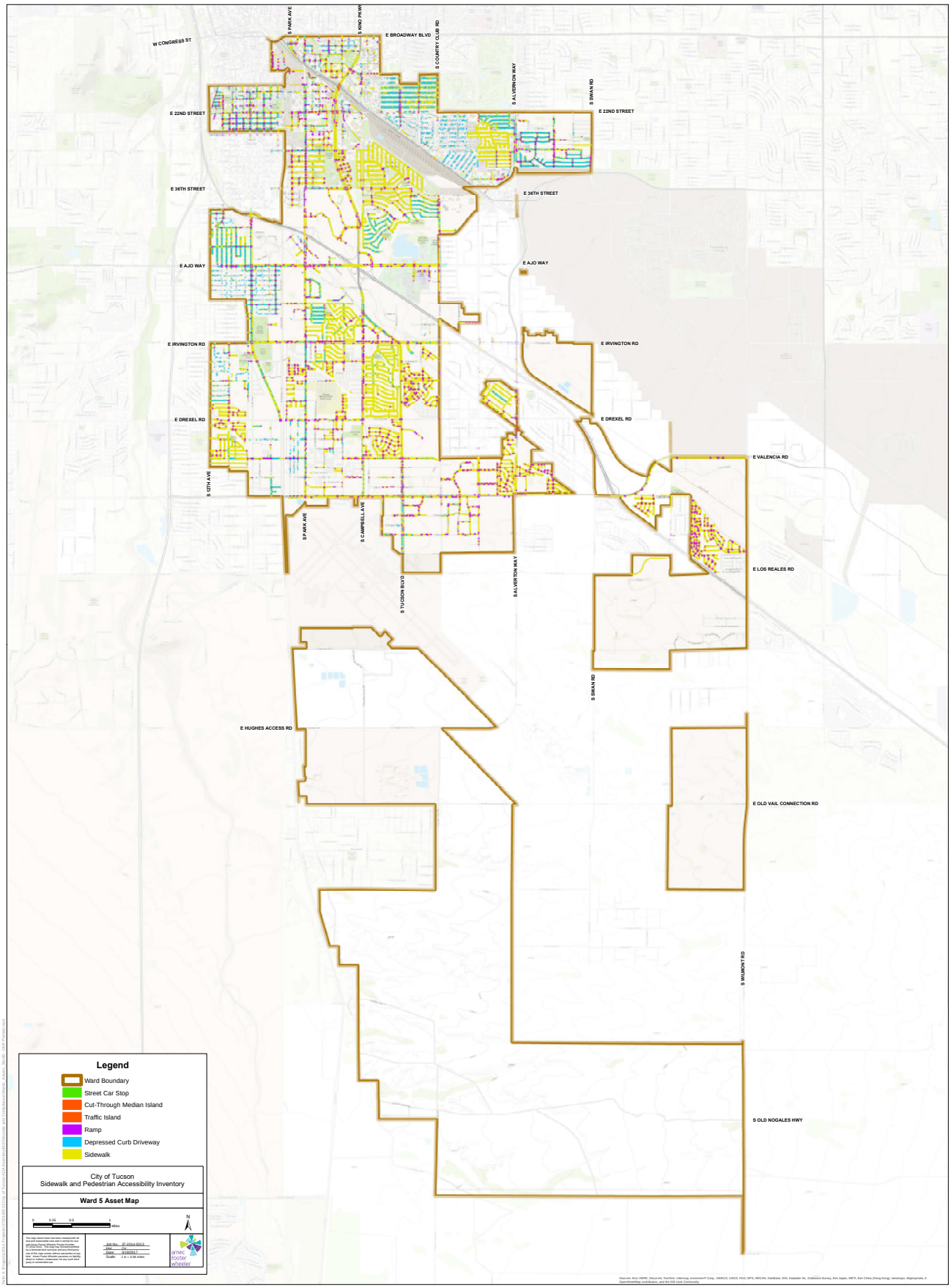
Map 22. *Ward 3 Assets*



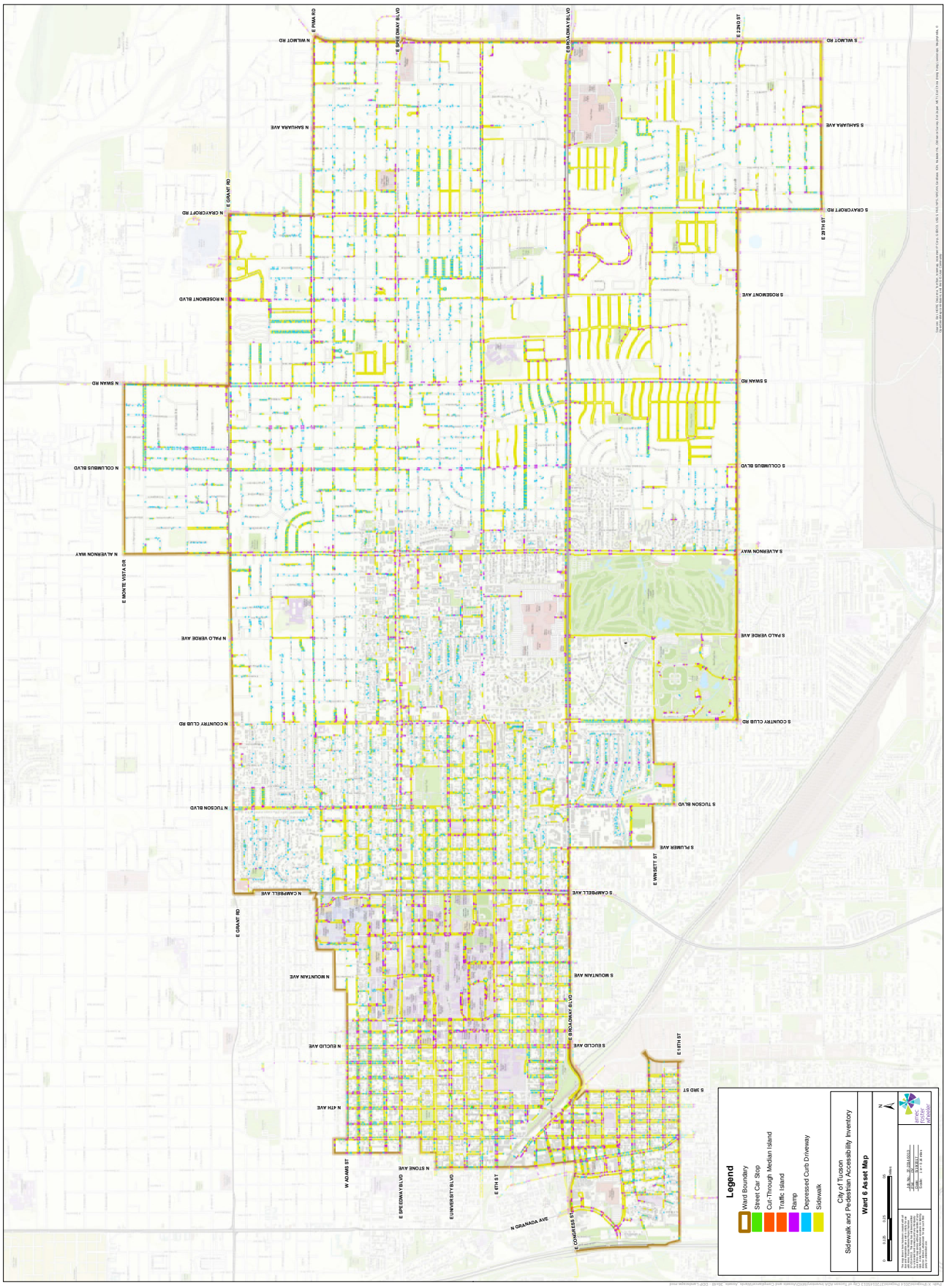
Map 23. *Ward 4 Assets*

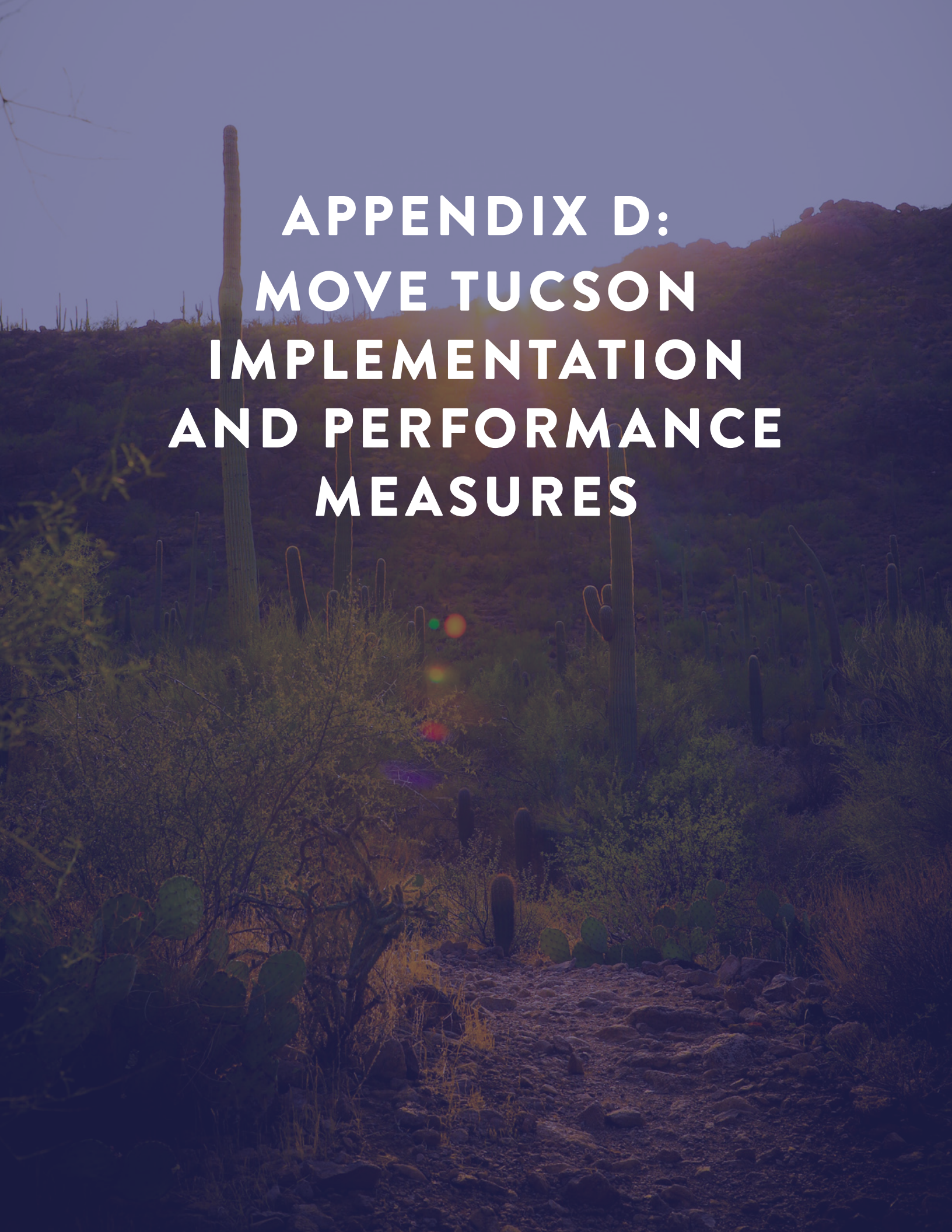


Map 24. *Ward 5 Assets*



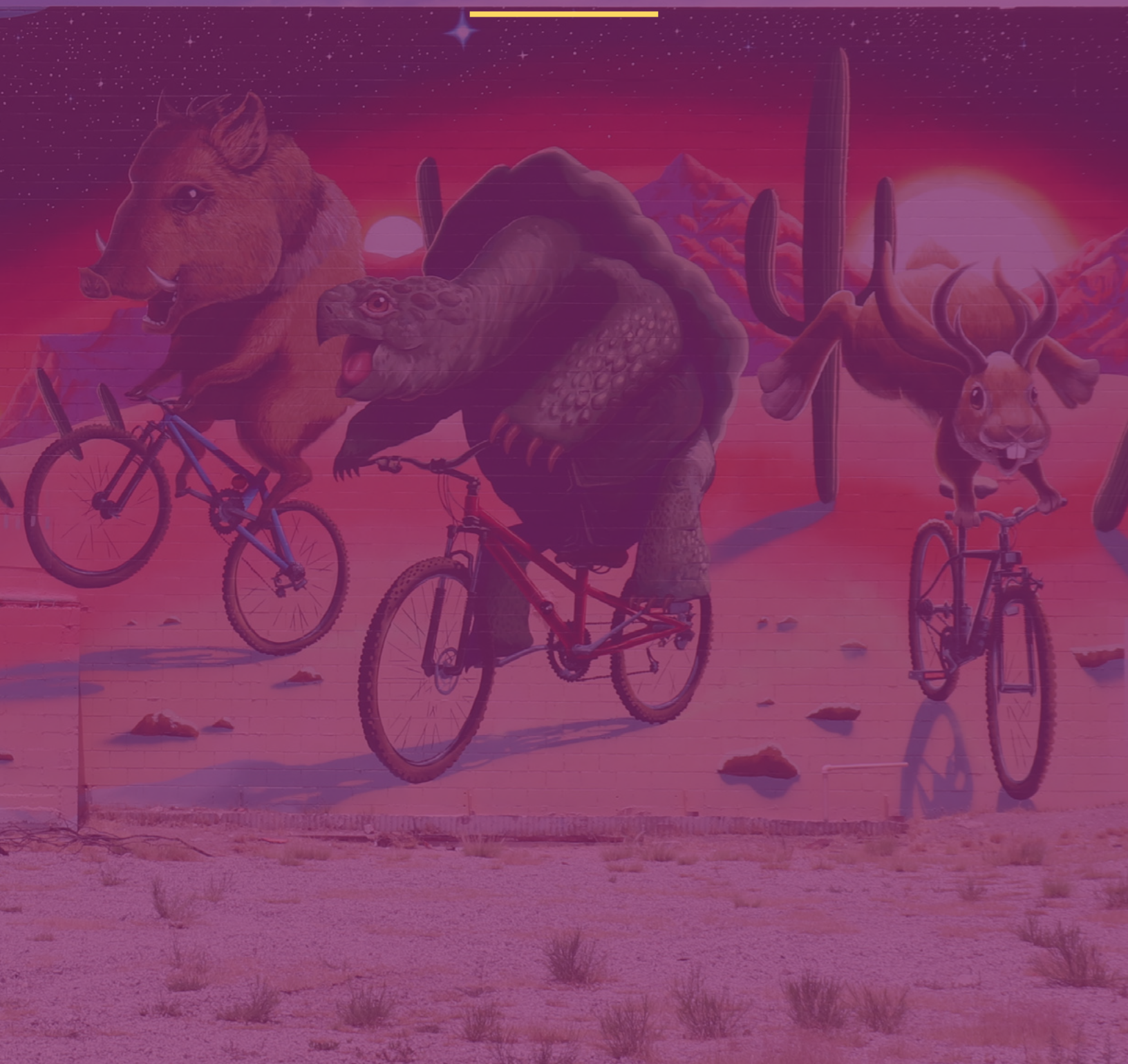
Map 25. *Ward 6 Assets*





APPENDIX D: MOVE TUCSON IMPLEMENTATION AND PERFORMANCE MEASURES

MOVE TUCSON PROJECT SUMMARY



Move Tucson Project Summary

Move Tucson recommendations include three concurrent paths for advancing the plan's vision and guiding principles:

- Network Improvements,
- Packaged Improvements, and Policies, Programs, and
- Project Strategies.

Each is complementary to the other, and each plays an important role in meeting the goals of Move Tucson. More information about each recommendation can be found in Chapter 4 of Move Tucson, Tucson's Mobility Future. The tables below provide a quick reference for each of these recommendations.

NETWORK IMPROVEMENTS These are capital projects that are identified for specific locations along the street network.	
PROJECT CATEGORY	**MILES OF RECOMMENDED IMPROVEMENTS**
High-Capacity Transit	53 miles
Catalyst Corridors	122 miles
Strategic Solutions	199 miles
Local Connections	266 miles

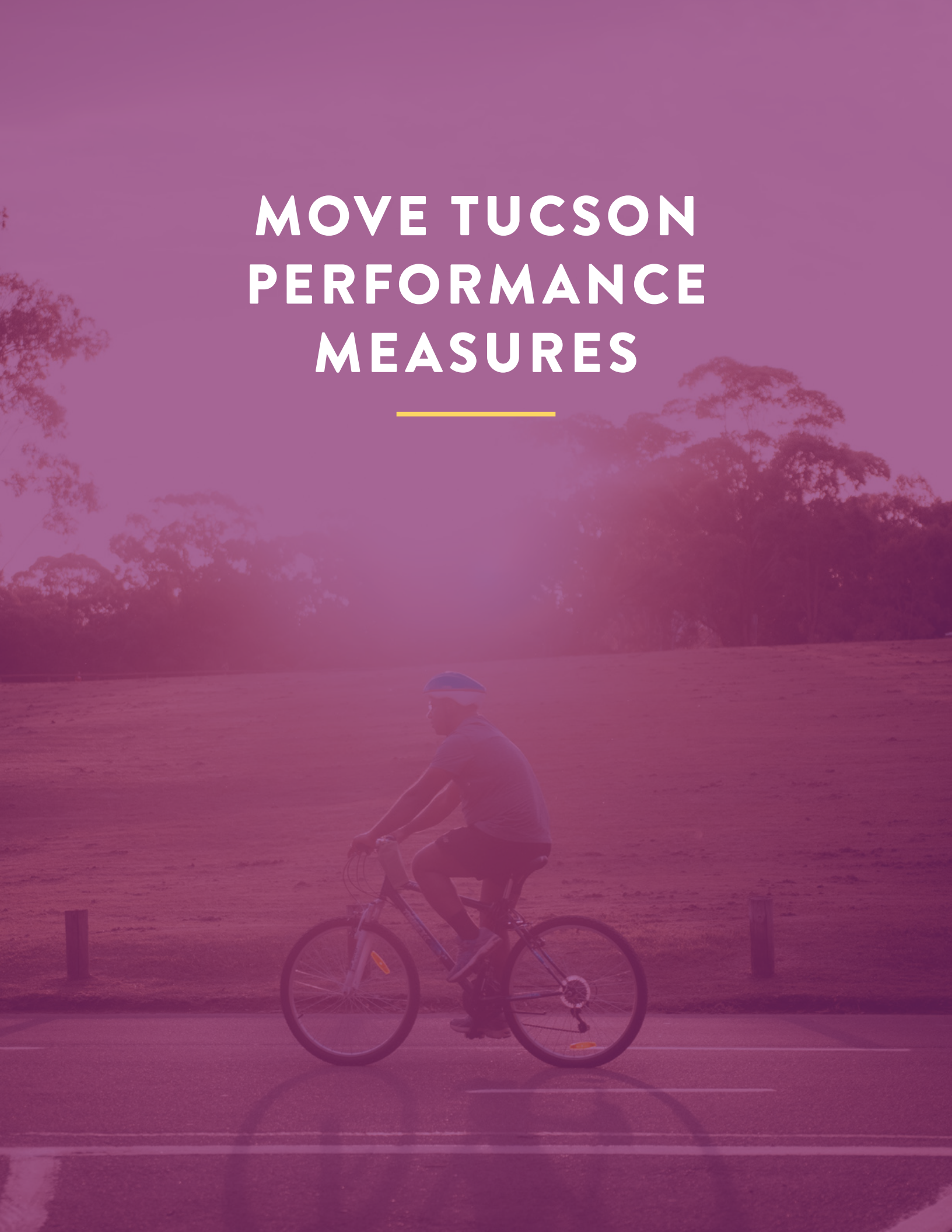
PACKAGED IMPROVEMENTS These are capital projects and service improvements that are not tied to a specific street but address a system-wide need, such as bus operations, pavement repair, or curb ramps. These can be delivered where needed, beyond the locations where a network improvement is proposed.
Pavement Maintenance and Repair
Public Transportation Service Improvements
Sidewalk and Pedestrian Accessibility Improvements
Traffic Signal Technology Upgrades
Neighborhood Mobility Improvements
Safety Projects and Programs

PROGRAMS These initiatives support a well-functioning system and improve outcomes for each capital and service investment.
Vision Zero
Safe Ride Home and Impaired Driving Campaigns
Transit Education and Encouragement, including Safe Routes to Transit
Expansion of Employee Programs
Wayfinding
Infrastructure Funding (Safe Routes to School)
Our Tucson Promotional Campaign
Equitable Engagement + Street Ambassador Program
Resident Transportation Planning Education Program
Adult Bicycle Education Program
Annual Benchmarking Publication
Bicycle Friendly Community

POLICIES These initiatives support a well-functioning system and improve outcomes for each capital and service investment.
Align City Policies and Codes
Updated Street Typology Designations
Major Streets and Routes Update
Vision Zero Policy + Action Strategy

PROJECT STRATEGIES These initiatives support a well-functioning system and improve outcomes for each capital and service investment.
Identify Quick Build Projects
Replicate Flexible Project Delivery
Leverage Share Mobility Services
Establish Curbside Management Principles
Co-Locate Mobility Options
Engage with Move Tucson as a Living Document

MOVE TUCSON PERFORMANCE MEASURES



Move Tucson Performance Measures

Move Tucson recommends that the City establish a regular benchmarking publication to track and communicate the outcomes of Tucson's transportation investment. The following table recommends measures that the City can track over time to assess progress toward Move Tucson's vision and guiding principles. Each recommendation includes the Metric, the desired direction over time (increase, decrease, maintain), the associated Guiding Principle, and baseline measures as available from the Move Tucson Existing Conditions and Needs Analysis.

INPUT METRIC	BASELINE MEASURE1	DESIRED DIRECTION	GUIDING PRINCIPLES
Infrastructure			
Percent of major street pavement in good or better conditions (>70 OCI)	32%	Increase	Optimized
Percent of minor street pavement in good or better conditions (>70 OCI)	3%	Increase	Optimized
Percentage of roadways with complete and accessible sidewalks on both sides	New Measure	Increase	Complete, Safe, Equitable
Percentage of major roadways with greater than ¼ mile distance between safe crossing opportunities (e.g. from existing conditions report)	92%	Decrease	Connected, Safe
Percentage of population ***working*** within a ten-minute walk of a Frequent Transit Network stop	72%	Increase	Connected, Authentic

1 Baseline measurements are based on data from the Move Tucson Existing Conditions and Needs Analysis.

INPUT METRIC	BASELINE MEASURE1	DESIRED DIRECTION	GUIDING PRINCIPLES
Percentage of population ***living*** within a ten-minute walk of a Frequent Transit Network stop	46%	Increase	Connected, Authentic
Miles of Low-Stress Bikeways	New Measure	Increase	Connected, Safe
Percentage of residents living within a ¼ mile of a low-stress bikeway	New Measure	Increase	Connected, Safe
Percentage of major roadways with Dedicated Bikeways	39%	Increase	Connected, Safe
Percentage of major roadways with low-stress bikeways (LTS 1 or LTS 2)	26%	Increase	Connected, Safe
Ratio of Dedicated Bikeways to Miles of Roadway	New Measure	Increase	Connected
Number of bus stops with shelters	48%	Increase	Optimized, Connected
Percent of bus stops with ADA-compliant sidewalk access to nearest intersection	New Measure	Increase	Optimized, Connected, Equitable
Miles of improved bikeways and pedestrian facilities in equity focus areas	New Measure	Increase	Equitable
Percent change in tree canopy cover in public rights-of-way within equity focus areas	New Measure	Increase	Resilient, Equitable
Number of green infrastructure features installed in the public right-of-way	New Measure	Increase	Resilient
System Safety			
Annual rate of all reported collisions (per 100,000 residents)	New Measure	Decrease	Safe

INPUT METRIC	BASELINE MEASURE1	DESIRED DIRECTION	GUIDING PRINCIPLES
Number of pedestrian or bicycle involved fatalities or serious injuries reported annually	97	Decrease	Safe
Number of fatalities or serious injuries reported annually	341	Decrease	Safe
Proportion of fatalities or serious injuries reported annually occurring in equity focus areas	New Measure	Decrease	Safe, Equitable
Proportion of pedestrian/bicycle-involved collisions to total collisions (annually)	6%	Decrease	Safe
Proportion of pedestrian/bicycle-involved collisions occurring in equity focus areas (annually)	New Measure[2]	Decrease	Safe, Equitable
Service Provision and User Activity			
Trips completed by Bike Share or eScooter Share annually	New Measure	Increase	Connected, Optimized
Percent of transit stops with co-located shared mobility service(s)	New Measure	Increase	Connected, Optimized
Percentage of Tucsonans who drive to work alone	74%	Decrease	Optimized
Percentage of travelers who bike, walk, or take transit to work	8%	Increase	Optimized, Connected
Percentage of bus trips that are reliable (on time)	93%[3]	Increase	Optimized, Connected

2 23% of bicycle- or pedestrian-involved serious injury or fatal collisions occurred in equity focus areas between 2014-2018

3 SunTran Annual Report, 2020

movetucson.org