

City of Arnold, Missouri

Bicycle and Pedestrian Master Plan



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Table of Contents

Executive Summary

Development of the Master Plan

Building on Momentum

- Defining the Goals
- Discovering Arnold

Defining the Path

- Making Connections
- Engaging the Public
- Evaluating the Possibilities

Starting the Journey

- Refining the Scope
- Creating a Network
- Developing the Corridors

Master Plan

Exhibits

1. Bicycle and Pedestrian Master Planning Map
2. Missouri State/Church Road Shared Use Path Preliminary Analysis Documentation
3. Old Lemay Ferry Road Sidewalk Addition Preliminary Analysis Documentation
4. Manufacturers Drive Shared Use Path Preliminary Analysis Documentation
5. Arnold Tenbrook Road Shared Use Path Preliminary Analysis Documentation
6. Tenbrook Road Shared Use Path Preliminary Analysis Documentation
7. Arnold Tenbrook Sidewalk Addition Preliminary Analysis Documentation

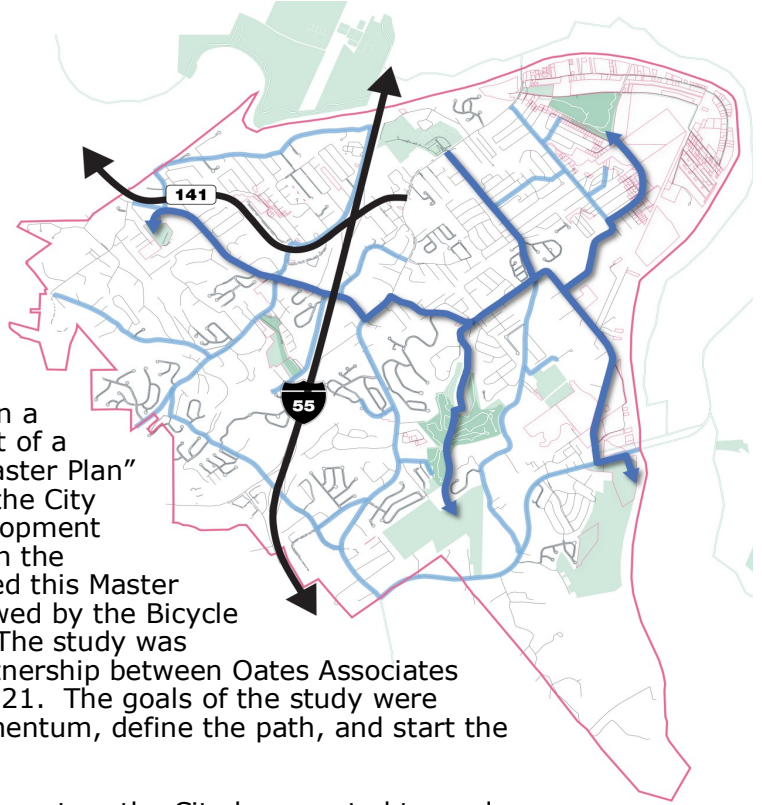
Appendix

- | | |
|--|-------------------|
| 1. Community Advisory Committee Meeting #1 | June 10, 2021 |
| 2. Community Advisory Committee Meeting #2 | August 12, 2021 |
| 3. Open House Documentation | November 4, 2021 |
| 4. East-West Gateway Presentation | November 10, 2021 |



Executive Summary

The City of Arnold "City" is known for its bustling community and small town feel while being located only minutes from St. Louis. With a growing active life style mission and increasing strength in Age Friendly development, the City began to set its sights on pursuing opportunities to enhance their bicycle and pedestrian infrastructure as a way to build on the momentum created by these progressive movements. A vital step in a pursuit such as this is the development of a Bicycle and Pedestrian Master Plan "Master Plan" in order to give a framework to guide the City toward effective and progressive development that can be enjoyed by everyone within the community. The study which formulated this Master Plan is summarized herein and is followed by the Bicycle and Pedestrian Master Planning Map. The study was completed through a collaborative partnership between Oates Associates and Lamar Johnson Collaborative in 2021. The goals of the study were three fold. They were to build on momentum, define the path, and start the journey.



This study intended to build on the momentum the City has created toward a healthier, more active, and all inclusive lifestyle. The City, having recently adopted their Age Friendly Action Plan and committed to developing their ADA Transition Plan, has already created an atmosphere of inclusion for its residents. This Master Plan will build on that momentum by using previous planning efforts as building blocks and incorporating like minded goals.

This study also defined the path for development by studying the layout of the City and making clearly defined connections to not only serve the present but also the future of the City. Arnold is in a truly unique position being close to the urban amenities that St. Louis has to offer while also being entrenched in a nature filled landscape dense with creeks and rivers. This sets Arnold up to be a nature enthusiast destination with offerings for water sports and other outdoor recreational possibilities. This Master Plan accentuates this prospect by defining connections not only within the community but also between many of these unique opportunities.

Finally, this study starts the journey of development by taking the first step in the process. The journey to establishing a more developed bicycle and pedestrian friendly network begins with creating the momentum necessary to gain public approval of the various projects. Therefore, defined in this Master Plan, is a cohesive network of connections based in public support and prioritized with momentum in mind. This Master Plan defines the journey needed to not only create a healthy start and but also sustain its future growth.

Within the Master Plan three high priority corridors and six additional corridors have been established. The Master Plan is a flexible plan with implementation geared to coincide with funding as it becomes available. Funding sources may be City funds, County funds, federal dollars, or private development sources. Executing the Master Plan will be a long-term process with portions of the proposed multimodal corridors completed over a number of years as either stand alone projects or in conjunction with other projects. The Master Plan is intended to serve as a guiding document as the City identifies future projects and development continues toward a more bicycle and pedestrian friendly City.

Building on Momentum

The initial step in the development of the Bicycle and Pedestrian Master Plan “Master Plan” was to set the tone for the project. This was accomplished by meeting with members of the City of Arnold “City” and defining the goals for the Master Plan that they would like to see met. Another aspect of setting the tone was to discover all of Arnold. Familiarization with the City, past planning efforts, City amenities, community, and feel helps ensure the Master Plan represents all of Arnold.

Defining the Goals

The City laid out several goals for the Bicycle and Pedestrian Master Plan. Each of the goals described below set the tone and helped define the development of the Master Plan.

GOALS

For the Master Plan

The City desired a plan that would not only provide a layout of a cohesive bicycle and pedestrian network but they also wanted a recipe for future implementation. It was to include a delineated break down of projects into fundable, and achievable segments that could be easily carried forward by the City into design and development. The Master Plan needed to provide the definition, layout, and prioritization for these improvements and provide the City with a step by step guide to move 5-10 years worth of planned projects through development.

For the Community

The City desired a plan that would compliment their commitment to enhancing age friendly infrastructure. They also wanted a plan that would serve all of the varied socioeconomic needs of the community equally. They wanted a plan that placed an emphasis on improving safety for members of the community. Lastly, they wanted a plan that would emphasize the ideal of connecting neighborhoods to vital community assets to make Arnold a more walkable community.

For the Region

The City desired a plan that would highlight the City within the region. With several regional and national bicycle routes surrounding or traveling through the City and numerous opportunities to experience nature within the City, Arnold is primed to be a regional bicycle and nature seeker’s destination. With the entire City located within the Meramec River Watershed and countless creeks, wildlife, and nature opportunities, the goal was set to develop a plan that would highlight these assets and draw people from surrounding areas to the City.

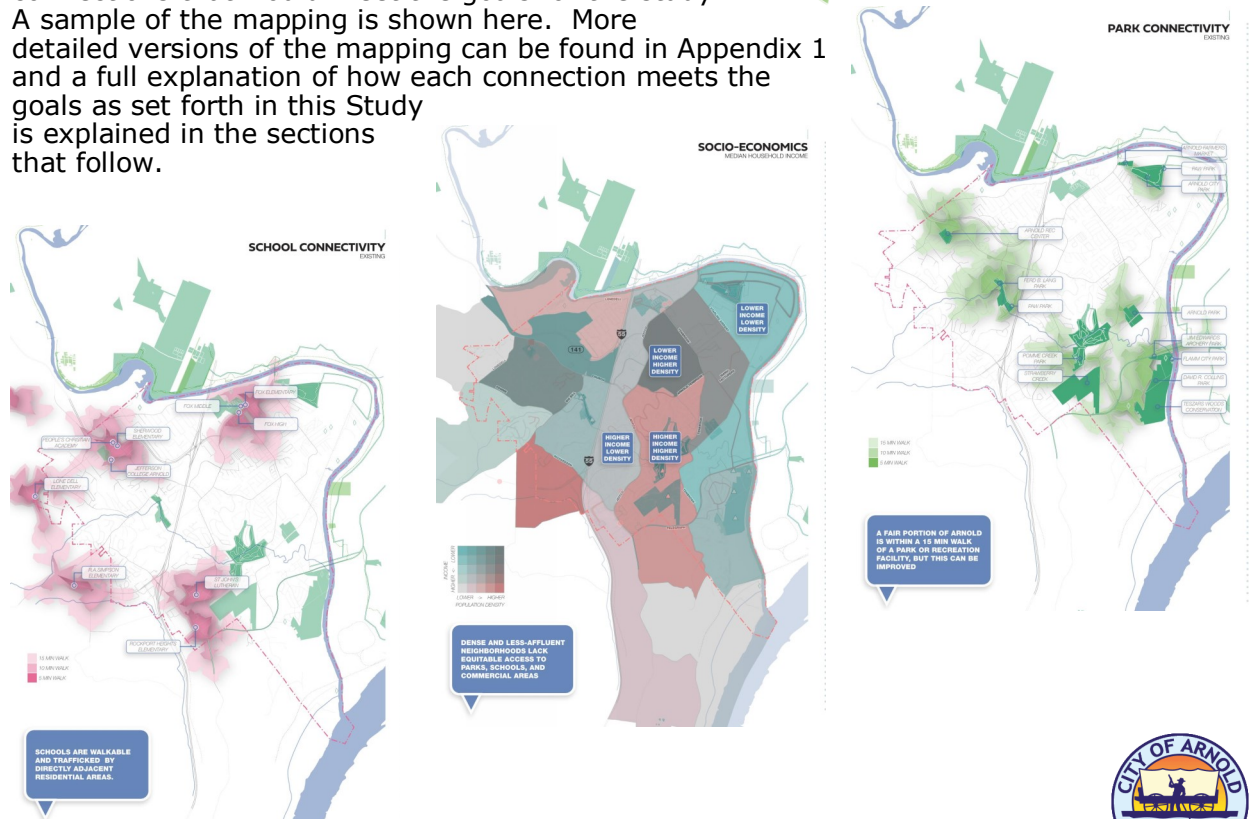


Discovering Arnold

The study began with a multifaceted approach to understanding the City of Arnold and the many characteristics that make up its community. This approach included gathering data from the city, researching and understanding multiple previous planning efforts, and doing a deep dive into the landscape of Arnold to become familiar with the many characteristics that can help to define a master plan.



Once all the information was gathered, it was placed in a geospatial database for interpretation and study. The many layers were placed upon each other in a large data map. They were then analyzed against each other until patterns emerged for logical connections that would meet the goals for the study. A sample of the mapping is shown here. More detailed versions of the mapping can be found in Appendix 1 and a full explanation of how each connection meets the goals as set forth in this Study is explained in the sections that follow.

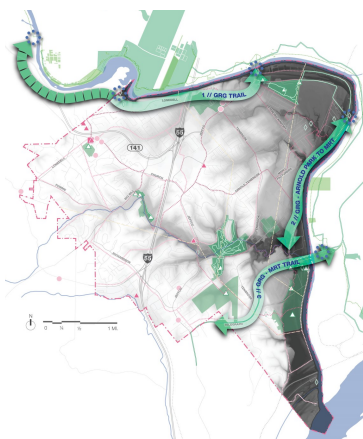


Defining the Path

Once the tone of the Master Plan was developed through setting goals and looking into existing conditions, and once the mapping was complete; defining logical connections became the next step in the process. This was accomplished by mapping logical routes, engaging with the community, and finally evaluating the possibilities into workable segments for development.

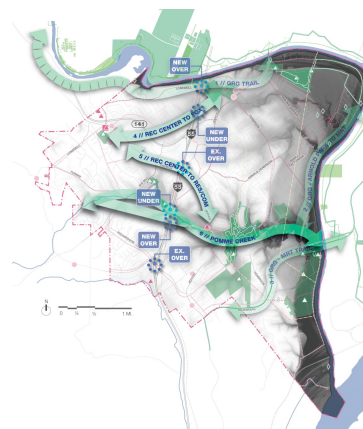
Making Connections

A study of the public realm using information from heat maps, knowledge of anticipated future growth patterns, and city layouts was performed. This information was combined with the GIS maps in Appendix 1 to layout desired and logical connections. These connections were broken into three groups each with three connections for study. A description of the three groups is shown here. A detailed description of the three connections within each grouping is given in the following pages.



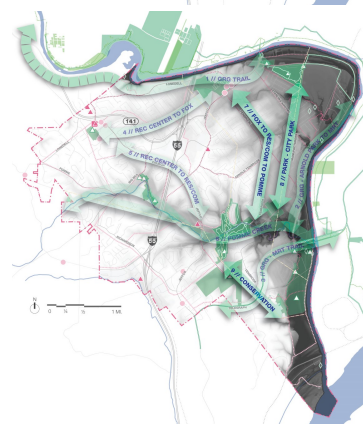
Regional Connections

The Regional Connections group provides connections from the City to regional activities and national trails. These connections would help the citizens of Arnold reach the opportunities provided outside the city as well as bring others from outside of Arnold to the city to help increase commercialism and tourism in the City.



Municipal Connections

The Municipal Connections group provides connections to help bridge some of the natural and manmade barriers that exist in Arnold. This group helps connect communities on one side of the barrier to amenities and neighborhoods on the other side of the barrier. They were developed in an effort to better connect the City of Arnold within its boundaries.



Local Connections

The Local Connections group provides routes that help connect neighborhoods to parks or schools or other amenities within the city. This group of connections focuses on getting the citizens of Arnold from their homes to other parts of Arnold through walking or bicycling instead of through the use of vehicles.



Regional Connections

Connection 1: GRG Trail

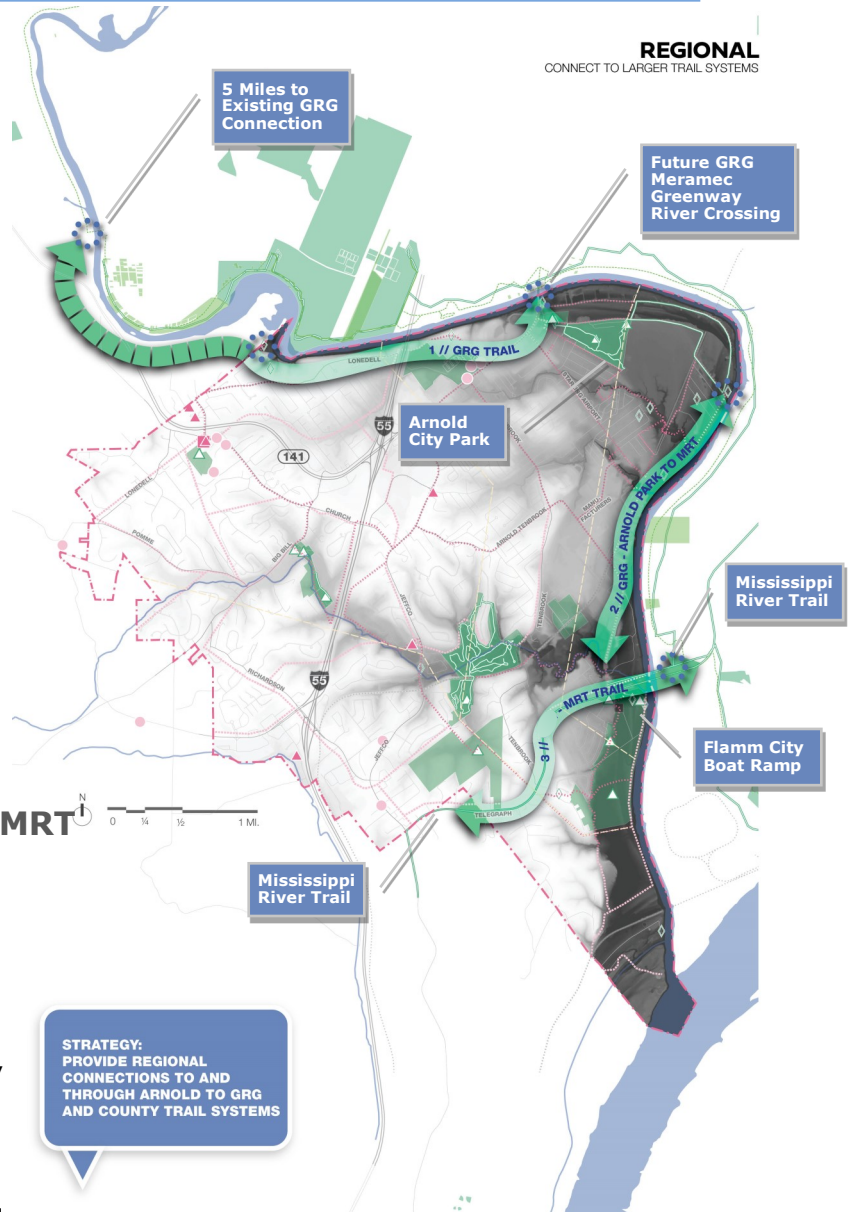
Connection 1, named the "GRG Trail," would provide a connection on the northern end of Arnold from one Great Rivers Greenway (GRG) trailhead to another. Meramec Greenway currently has a southern termini on the south and west side of the Meramec River located at George Winter Park. This park is 5 miles north and west of Arnold. Another segment of the Meramec Greenway is planned to cross the Meramec River into Arnold at Jeffco Boulevard. Therefore, this proposed connection, would span the northern edge of Arnold and provide a Jefferson County side link between these two GRG crossings of the Meramec River and ultimately providing a loop in a highly used regional greenway network that will attract users to Arnold.

Connection 2: Arnold Park to MRT

Connection 2, named "Arnold Park to MRT," would provide a connection on the eastern side of Arnold from the GRG trailhead at Jeffco Boulevard mentioned in Connection 1 through Arnold City Park and onto the Mississippi River Trail (MRT). The MRT is a national trail which winds its way through the country following the Mississippi River. It is a unique opportunity for the city of Arnold to attract trail users from all over the United States. Located along the MRT is the Flamm City Boat Ramp. Providing a bicycle connection from the boat ramp to the City Park would create a loop where enthusiasts can kayak one leg of the loop along the Meramec and bike the other leg back to the park. Connecting the MRT to Arnold's largest park is an exciting route that would wind through natural wetlands along the Meramec River and help promote ecological awareness of this vital natural resource while providing several unique recreational opportunities for the area.

Connection 3: MRT

Connection 3, named "MRT," follows the nationally designated MRT trail along Telegraph Road from its crossing of the Meramec through Arnold to the city limits at Jeffco Boulevard. Emphasis on this connection gives the City the ability to enhance the environment that supports this nationally recognized trail and ultimately help attract its users into the City and maximize its tourism potential.

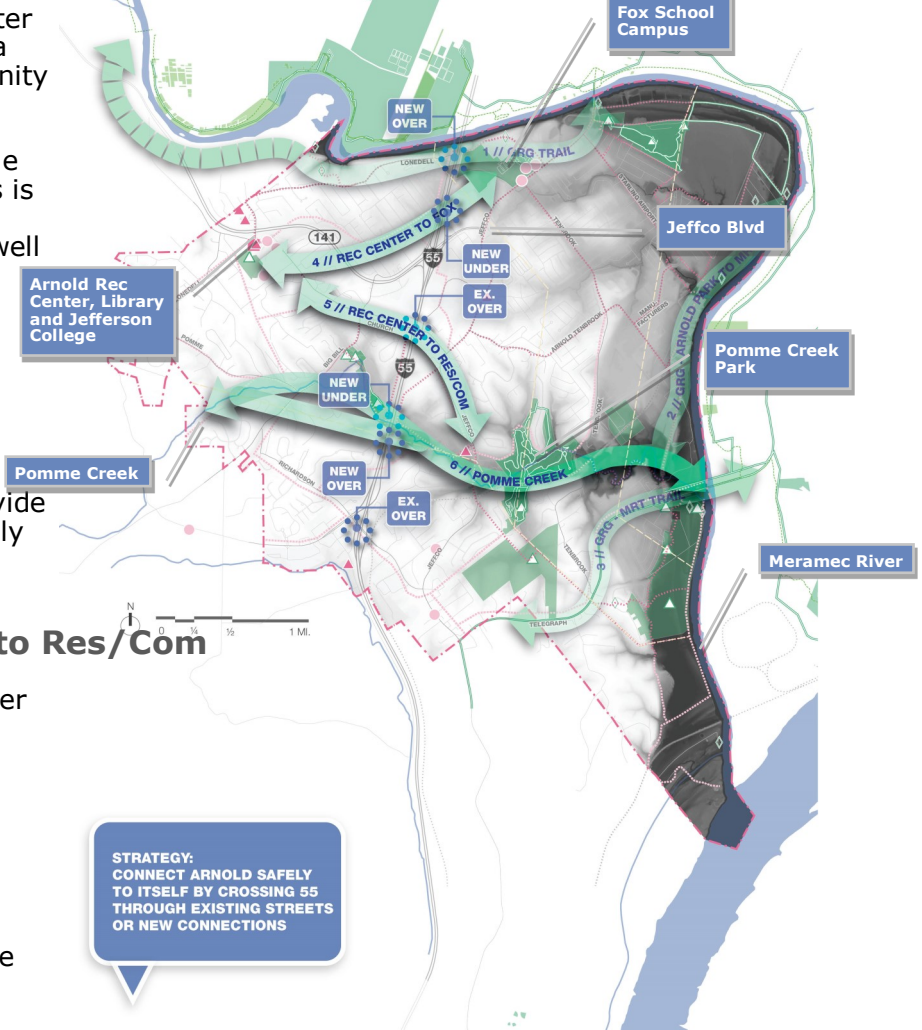


Municipal Connections

MUNICIPAL
CONNECT ARNOLD TO ITSELF

Connection 4: Rec Center to Fox

Connection 4, named the “Rec Center to Fox” connection, would provide a corridor that would link the community in and around the new Arnold Rec Center to the Fox School Campus. The new Rec Center with its multiple amenities and indoor/outdoor pools is located adjacent to the Jefferson County Library—Arnold Branch as well as Jefferson College Arnold making this a bustling activity center for Arnold and a great location for community connection. Municipal connections were chosen with the concept of linking Arnold across a barrier. This connection could utilize a new underpass of I-55 or modify an existing overpass to provide a new bicycle and pedestrian friendly link within the community.



Connection 5: Rec Center to Res/Com

Connection 5, named the “Rec Center to Res/Com,” provides a corridor linking the Rec Center and all the amenities of its surrounding area to the residential and commercial corridors encompassed around and along Jeffco Boulevard. Jeffco Boulevard is one of the main commercial routes in Arnold and is home to multiple businesses, service establishments, and municipal buildings. Jeffco Boulevard also intersects many main residential streets. Connecting Jeffco Boulevard to the new Rec Center would utilize the existing I-55 overpass at Church Road.

Connection 6: Pomme Creek

Connection 6, named for its prominent asset, Pomme Creek, utilizes the beautiful riparian land surrounding Pomme creek to provide a link under I-55 through an existing culvert which carries the creek under the interstate. Following the natural lines of the creek, this connection would travel from the west side of Arnold through to Pomme Creek Park and beyond to its confluence with the Meramec River. Pomme Creek Park is a local walking trail destination and attracts many recreation enthusiasts as well as the casual walker. The Pomme Creek and Meramec confluence area is ripe in wetlands and would be a beautiful back drop to encourage natural exploration and promote a healthier lifestyle.

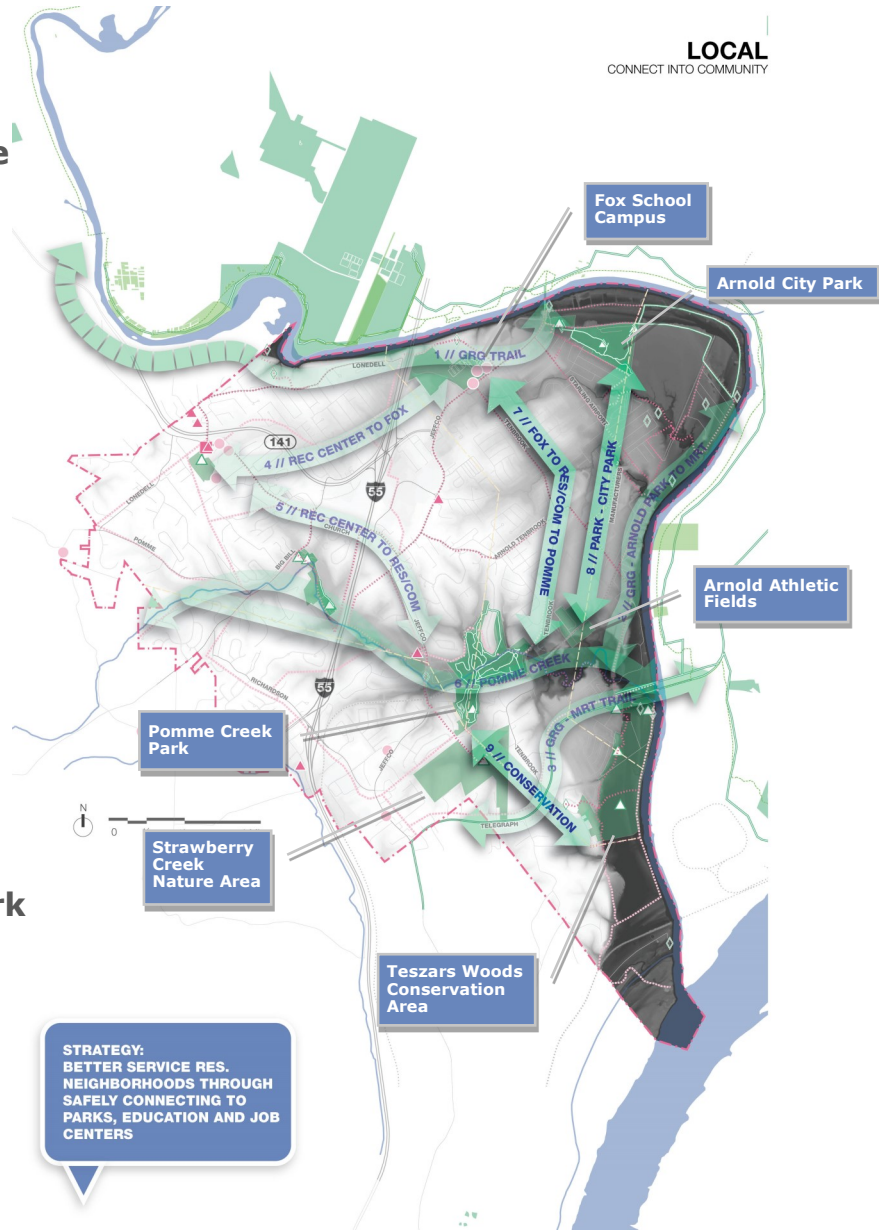


Local Connections

LOCAL
CONNECT INTO COMMUNITY

Connection 7: Fox to Pomme

Connection 7, named “Fox to Pomme,” would provide a connection from the Fox School Campus to Pomme Creek Park. Both of these assets are arguably some of the most used recreation assets in Arnold. The Fox Campus houses three school campuses and all the activities that surround them and Pomme Creek is a growing favorite walking destination. Local connections were based on their ability to bring Arnold’s recreational assets to its residents by providing safe pedestrian and bicycle friendly connections. This connection accomplishes the goal by connecting the lively Fox Campus through densely residential corridors to Pomme Creek Park allowing for everyone in between to have a safe and accessible route to both amenities.



Connection 8: Park—City Park

Connection 8, named the “Park—City Park” connection, would connect the extremely popular Arnold City Park through to Pomme Creek Park and Arnold Athletic Fields located on Tenbrook Road. This connection would again traverse heavy residential roadways and provide a link for these residents to all three parks. Many varied activities happen at the parks throughout the year. Safe access to these types of amenities will increase usage and promote Arnold’s goal of greater community connectivity.

Connection 9: Conservation

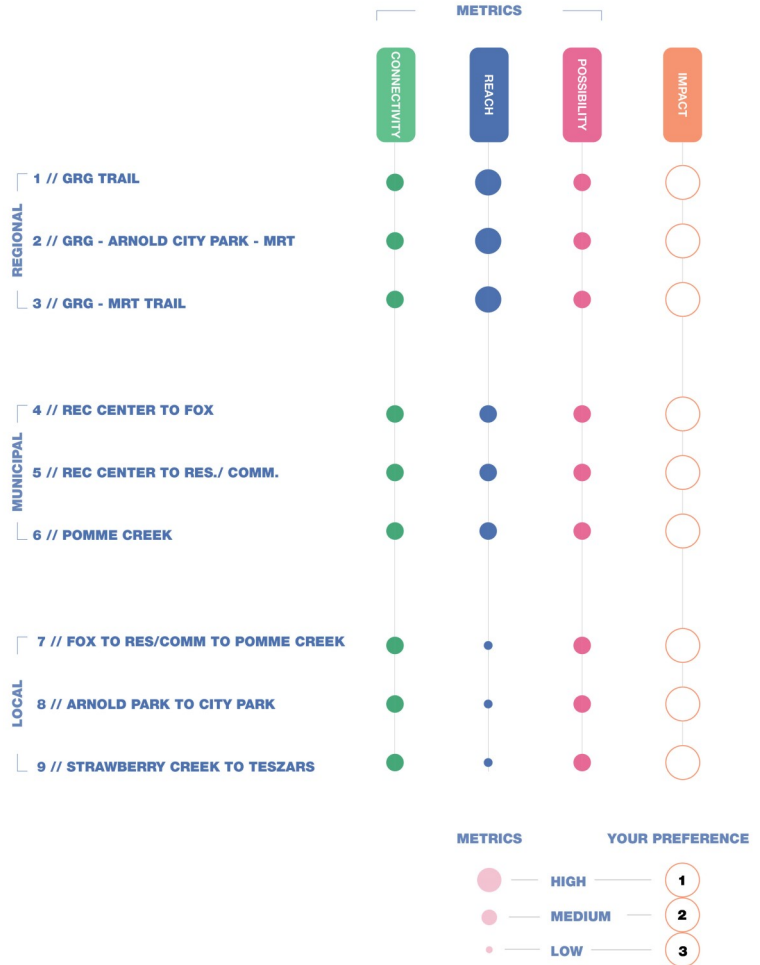
Connection 9 is named “Conservation” and is based on linking two natural conservation areas in Arnold and Pomme Creek Park. Strawberry Creek Nature Area and Tetzars Woods Conservation Area both promote love of nature and provide unique opportunities for the residents of Arnold. Strawberry Creek is located within walking distance of Pomme Creek Park; making a link between all three of these amenities an appealing connection. Chosen as a local connection, this segment would also link several residential areas directly to all three of these natural amenities increasing the residents usage of these areas and helping to promote healthier lifestyles and a love and respect for nature.



Engaging the Public

Bicycle and pedestrian plans are developed with public funding and are created with the goal of serving the entire community in mind. A vital step in ensuring that goal is met is to engage with the community. For this Master Plan, a Community Advisory Committee (CAC) was created. This committee was created through invitation by the City. Several key community members of both municipal and private backgrounds were invited to the committee. To ensure regional compatibility of the Master Plan, members of East West Gateway, St. Louis County, and MoDOT were invited to the committee as well. The members were presented the study results on two occasions during the process in an effort to obtain opinions, tailor the study, and finalize planning. Documentation of the CAC meetings are located in Appendix 1 and Appendix 2.

At the first CAC meeting, the three groups of connections described previously were introduced to the committee. The CAC members were first asked to vote on the connections for each of the three groupings separately. A ranking of "1" was for their most favorable connection and "3" the least favorable of each grouping. They were asked to tailor their preferences and voting to not only their own needs but to that of their fellow community members as well. Secondly, they were asked to pick their top two connections from all nine connections presented. A copy of the voting card is shown here and the rankings were tabulated and are shown below in Table 1 with the highest scoring connections highlighted in blue.



Conceptual Corridor Preferences (lower score is preferred option)

| Regional | | Average Score | Member Rankings | | | | | | | | | | | |
|-----------|--|---------------|-----------------|---|---|---|---|---|---|---|---|---|---|--|
| 1 | GRG Trail | 1.91 | 2 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 3 | |
| 2 | GRG - Arnold City Park (MRT) | 2.09 | 1 | 1 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 | |
| 3 | GRG - MRT Trail | 2.00 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 2 | |
| Municipal | | Average Score | Member Rankings | | | | | | | | | | | |
| 4 | Rec Center to Fox | 2.18 | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | |
| 5 | Rec Center to Residential / Commercial | 1.55 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | |
| 6 | Pomme Creek | 2.27 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 1 | |
| Local | | Average Score | Member Rankings | | | | | | | | | | | |
| 7 | Fox to Res / Comm to Pomme Creek | 1.82 | 1 | 3 | 1 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | |
| 8 | Arnold Park to City Park | 1.64 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 1 | |
| 9 | Strawberry Creek to Teszars | 2.55 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 1 | 3 | |

Table 1 - CAC Connection Scoring Table



Evaluating the Possibilities

With the logical connections defined, valuable data collected, and community input tallied the nine connections were evaluated against each other in a matrix as shown on the following page in Table 2. This comparison not only helped to group projects into sets of defined corridors for planning, but also helped to prioritize the corridors so emphasis and development could be placed on the areas that would have the most beneficial and economical impact on the City first.

The comparison matrix developed measured the connections based on criteria from three separate categories: **Connectivity**, **Reach**, and **Possibility**. Each connection was compared against the others and received a score of 1 through 9 for each of the categories below. In this matrix, the higher the score the more impactful the connection was determined to be.

- **Connectivity** — This category evaluated each connection’s ability to make new or improved connections for the citizens of Arnold between destinations on both the local and regional level. More connections along a route would bring a higher rating. Connectivity is accounted for in the first six rows of the matrix with a row dedicated to new connections so that weight could be given to providing connections where none currently exist.

Destinations considered include:

- Schools
- Civic Centers
- Existing Trails
- Future Trails
- National Trails
- Shopping Centers
- Neighborhoods
- Parks
- Streams
- Bus Stops

- **Reach** — This category evaluated the connection’s ability to have the greatest impact on the most people. This criteria would give weight to the connections that would impact the most people. Reach is accounted for in the next 5 rows of the matrix.

Criteria considered includes:

- Population
- Socioeconomics
- Growth Patterns
- Usage Patterns
- Equity
- Density
- Safety
- Future Planning

- **Possibility** — This category evaluated each connection in regards to characteristics that may challenge its full implementation giving consideration to feasibility and cost. Since many aspects of the built environment can affect each connection differently, this criteria would give weight to the connections with the least obstacles to being incorporated into the existing built environment.

Challenges considered includes:

- Available Property
- Land Space
- Terrain
- Cost
- Utility Impacts
- Available Infrastructure
- Existing Infrastructure
- Drainage
- Environmental Concerns



Evaluating the Possibilities

| | Regional Connections | | | Municipal Connections | | | Local Connections | | |
|---|----------------------|--------------|--------------|-----------------------|--------------|--------------|-------------------|--------------|--------------|
| | Connection 1 | Connection 2 | Connection 3 | Connection 4 | Connection 5 | Connection 6 | Connection 7 | Connection 8 | Connection 9 |
| School Connectivity | 6 | 1 | 4 | 9 | 8 | 5 | 7 | 2 | 3 |
| Parks and Natural Resources Connectivity | 7 | 9 | 2 | 4 | 3 | 6 | 1 | 5 | 8 |
| Regional Connection | 7 | 8 | 9 | 2 | 1 | 4 | 3 | 6 | 5 |
| Transit Connectivity | 3 | 1 | 6 | 9 | 7 | 4 | 5 | 8 | 2 |
| Commercial, Cultural and Civic Connectivity | 5 | 1 | 2 | 8 | 9 | 6 | 7 | 3 | 4 |
| Existing Trails Connectivity | 5 | 9 | 6 | 1 | 2 | 3 | 4 | 8 | 7 |
| Provides a New Connection | 4 | 7 | 6 | 2 | 3 | 1 | 8 | 9 | 5 |
| Arnold Connector | 3 | 4 | 1 | 8 | 9 | 7 | 6 | 5 | 2 |
| Population | 4 | 1 | 5 | 8 | 7 | 3 | 9 | 6 | 2 |
| Heat Rating | 3 | 6 | 7 | 1 | 5 | 2 | 8 | 9 | 4 |
| Safety | 2 | 3 | 6 | 9 | 8 | 1 | 7 | 5 | 4 |
| Equity | 1 | 6 | 3 | 2 | 9 | 4 | 8 | 7 | 5 |
| Property Impacts | 3 | 9 | 5 | 1 | 4 | 8 | 2 | 6 | 7 |
| Terrain and Natural Barriers | 2 | 5 | 3 | 9 | 8 | 6 | 4 | 7 | 1 |
| Infrastructure Needs | 2 | 5 | 8 | 3 | 9 | 1 | 7 | 6 | 4 |
| Total | 57 | 75 | 73 | 76 | 92 | 61 | 86 | 92 | 63 |

Table 2 - Evaluation Matrix



Starting the Journey

To finalize the plan and begin the journey toward a more bicycle and pedestrian friendly community, specific high priority corridors would need to be developed into a complete network serving all of Arnold. Once the network is established, the City will be able to begin planning incorporation of the plan into their existing framework, projects, and development ideals.

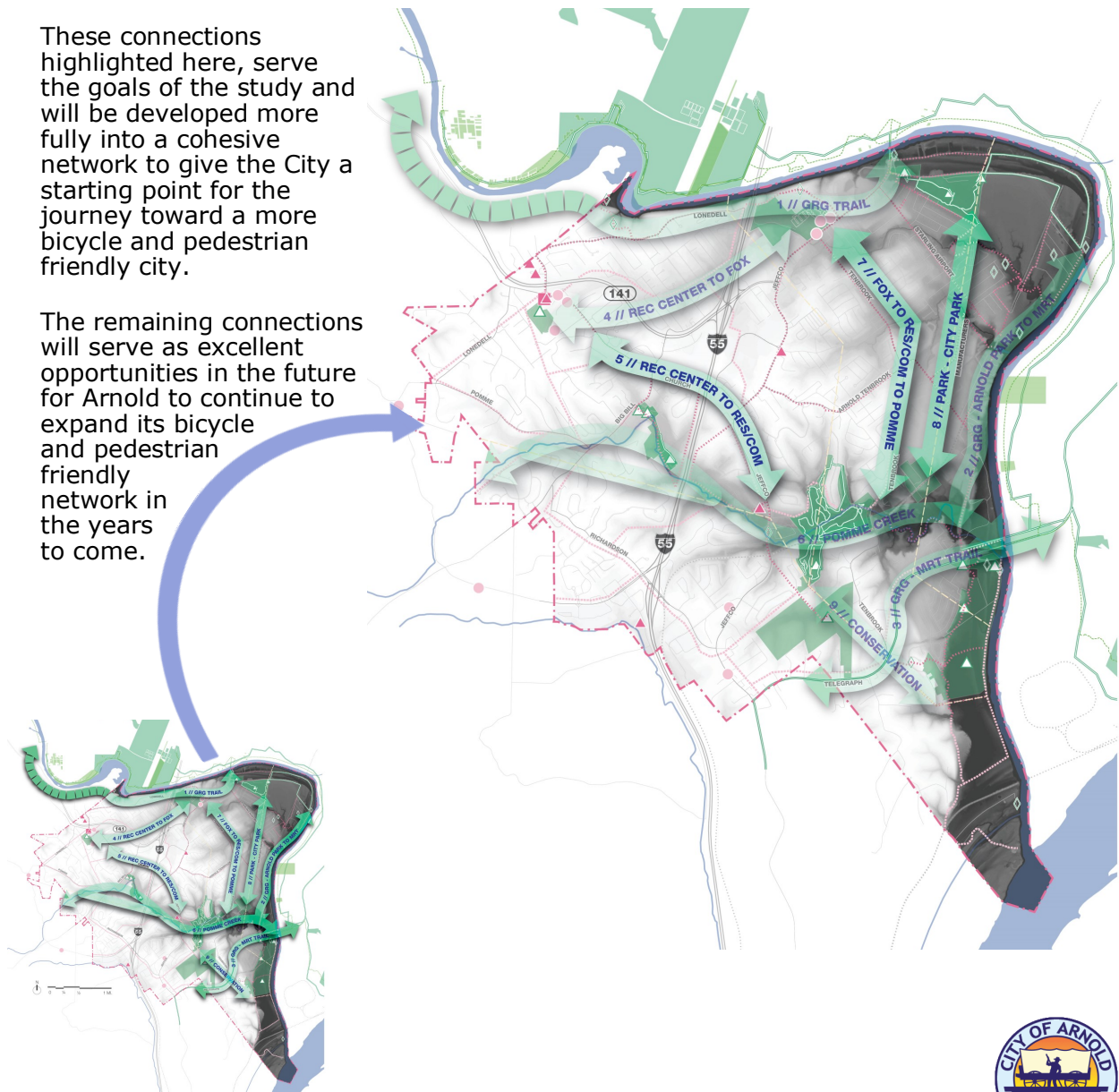
Refining the Scope

During the evaluation phase described previously, three connections not only placed as the three highest connections chosen by the public, but also ranked the three highest in the evaluation matrix. These three connections are:

- **Connection 5** — Connecting the Rec Center to Jeffco Boulevard
- **Connection 7** — Connecting Fox School Campus to Pomme Creek Park
- **Connection 8** — Connecting Arnold City Park to Pomme Creek Park

These connections highlighted here, serve the goals of the study and will be developed more fully into a cohesive network to give the City a starting point for the journey toward a more bicycle and pedestrian friendly city.

The remaining connections will serve as excellent opportunities in the future for Arnold to continue to expand its bicycle and pedestrian friendly network in the years to come.

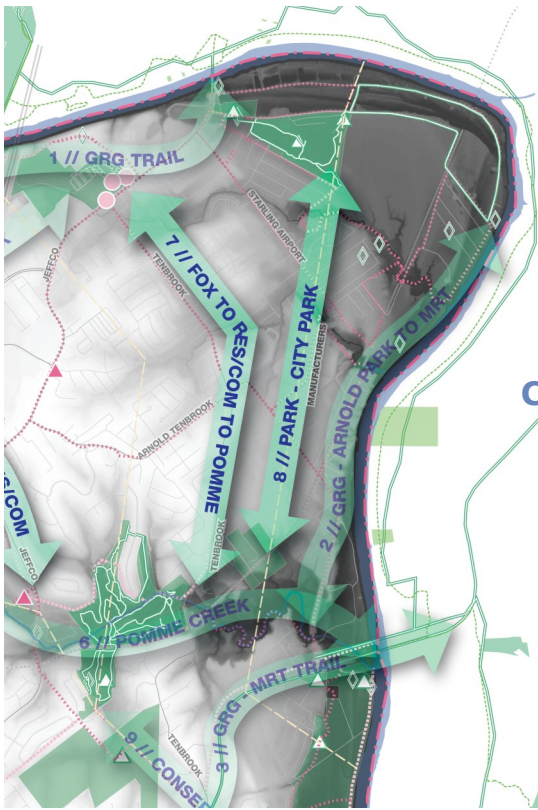
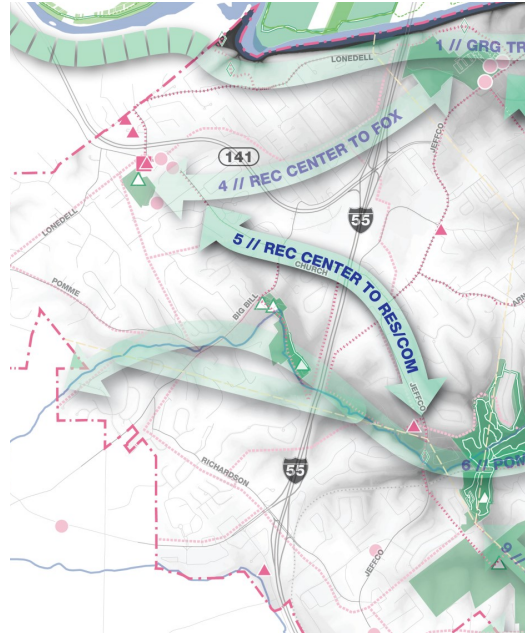


Refining the Scope

A brief description of the characteristics of each of the three priority connections follows:

Connection 5: Rec Center to Res/Com

Connection 5 represents a corridor that connects the newly constructed Rec Center on the west side of Arnold to Jeffco Boulevard and onto the very popular Pomme Creek Park and walking trails on the east side of Arnold. This connection was the highest scored corridor from our community outreach and was one of the top two corridors when evaluated through the matrix. It scored high in all three of the evaluation categories making it a top preference to take into further development.



Connection 7: Fox to Pomme

Connection 7 which connects Pomme Creek Park with the Fox School Campus was the third highest scoring corridor from our community outreach voting and was in the top three corridors when evaluated through the matrix. It scored high in the Reach category but lower in the connectivity category. When paired with Connection 8, however, the connectivity ratings are greatly increased making this a viable corridor to develop further. This corridor is also mentioned as a priority project by the Missouri Bicycle and Pedestrian Federation giving it more support and validation.

Connection 8: Park—City Park

Connection 8 represents a corridor that connects Arnold City Park to Pomme Creek Park. This connection was the second highest in our community outreach voting and was one the other top two corridors when evaluated through the matrix. Scoring high in both Reach and Connectivity and reasonably high in Possibility makes this corridor a preference to take into further development.



Refining the Scope

For future planning purposes, the connections not used as priority connections in this Master Plan are briefly described below. Included is an explanation of why the connections were not taken forward as priority connections. Some will be used to supplement the three priority connections while others will serve as excellent opportunities for Arnold to continue to expand its bicycle and pedestrian friendly network in the future. Also included here is a brief description of their challenges so if those challenges can ever be overcome, then these connections may be prioritized by the City at that time.

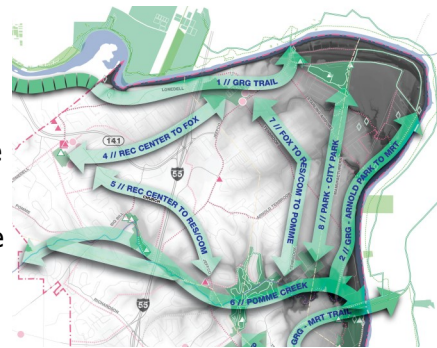
Connection 1: GRG Trail

Connection 1 was the 4th highest connection by the citizens. This Connection’s challenges consists of the barrier issue of an above grade crossing of I-55. Though a large span, aesthetically pleasing, pedestrian bridge over this thoroughfare at the entrance to the City of Arnold would meet the Master Plan’s goal of a signature project, the added expense of this type of structure makes it less appealing for this initial phase in the network’s development. This connection could be a viable option in the future as some of the less expensive or simpler connections start to define the network and community wide support and excitement has grown. Another defining moment in the development of this connection would be when Great Rivers Greenway further develops its plans for the Meramec Greenway. As this Greenway’s development approaches the City, this connection would be a valuable asset to the City’s connection to a regional network.



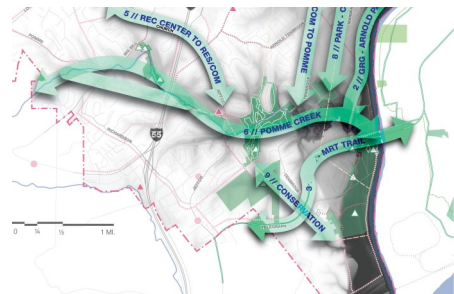
Connection 2: Arnold Park to MRT

Connection 2 also has the potential of being a signature project for the City. Defining a greenway through the wetlands of the Meramec River and being fully immersed in the natural and serene setting would make this connection stand out on a regional scale. Thus, giving it the potential of drawing consumerism and commercialism into the City. However, at this time, the connection’s reach did not warrant it a viable first priority to develop at this time. It is important to note that several members of the community did prefer this route as a leg in a possible waterway/bicycle loop from Arnold City Park to Flamm City Boat Ramp. For that reason, a portion of this connection was included as a multimodal subsidiary to Connection 8. The community also expressed currently using Haag Road and carrying their bikes over the creek as a means to traverse this connection. Future development of this connection to make it more accessible to everyone in the community would be met with wide support and should be considered in the near future.



Connection 3: MRT

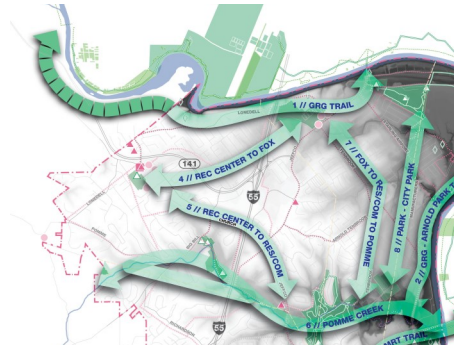
Connection 3, like Connection 2, scored in the middle range for both the evaluation matrix and the public vote. This Connection follows the MRT trail and adds great regional connectivity. However, at this time the development of this connection beyond the wide shoulder bike lanes that already exist is not found to be worthy as a top tiered priority connection. It is however, a valuable asset to the City and for that reason its improvements or enhancements will be added to the overall plan as a multimodal subsidiary to Connection 8.



Refining the Scope

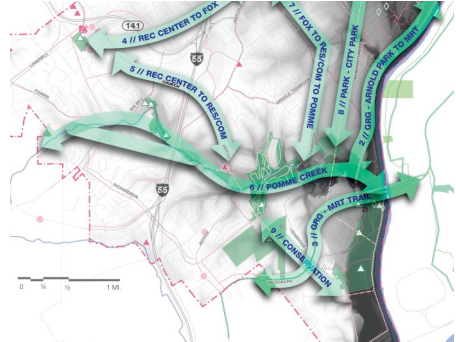
Connection 4: Rec Center to Fox

Connection 4 scored fourth in the evaluation matrix making it a viable connection but its lower public appeal shows that this connection is not a priority for development at this time. This connection would require a crossing of I-55. This can either be done by an above grade crossing at Hwy 141 or an newly constructed underpass. The Hwy 141 interchange is a long and complicated crossing of the interstate which faces many design challenges in its ability to be an appealing facility for all user types. Constructing a new underpass would first need to be studied for feasibility before it can be considered a viable option. One additional option that could forgo these challenges is if Connection 1's pedestrian bridge crossing becomes viable. This connection could then utilize the new bridge and successfully connect the Fox School Campus to the new Rec Center. Combining this connection with the development of Connection 1's pedestrian bridge should be further studied for viability in order to avoid the need for the facilities on the 141 overpass. Land acquisition, cost, and MoDOT approval could be sought in a study of the viability of the I-55 pedestrian bridge crossing. As the network in this Master Plan is further developed a study of the ability to move forward on the pedestrian bridge could coincide development such that the design and construction of the bridge could proceed as soon as funding and support is secured.



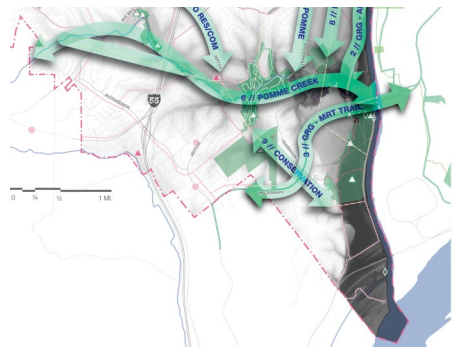
Connection 6: Pomme Creek

Connection 6 scored relatively low in both the evaluation matrix and through the public polling. This connection would require a study for the viability of using an existing culvert running under I-55 as a crossing of this barrier. Even if this type of culvert crossing was found to be a viable option it was not deemed to be favorable due to its extra long length, limited clearance and lighting, and safety concerns. However, Pomme Creek is a beautiful asset of the City of Arnold and developing a greenway through this corridor should be considered a welcome addition to the plan as it develops in the years to come.



Connection 9: Conservation

Connection 9 scored the lowest in our public opinion polling as well as low on the evaluation matrix. Connecting Strawberry Creek Nature Area to Tetzars Woods Conservation Area would be a relatively easy connection utilizing the neighborhoods between the two areas or utilizing the MRT trail along Telegraph Road. Since this will be a welcome addition to the Arnold network and greatly enhance the priority connections being developed in this study, it will be included in this plan as a multimodal subsidiary to Connection 8. Simple enhancements at a minimal cost will provide a pedestrian route between these two valuable natural amenities and perhaps encourage future development of them as natural recreational resources for the City.

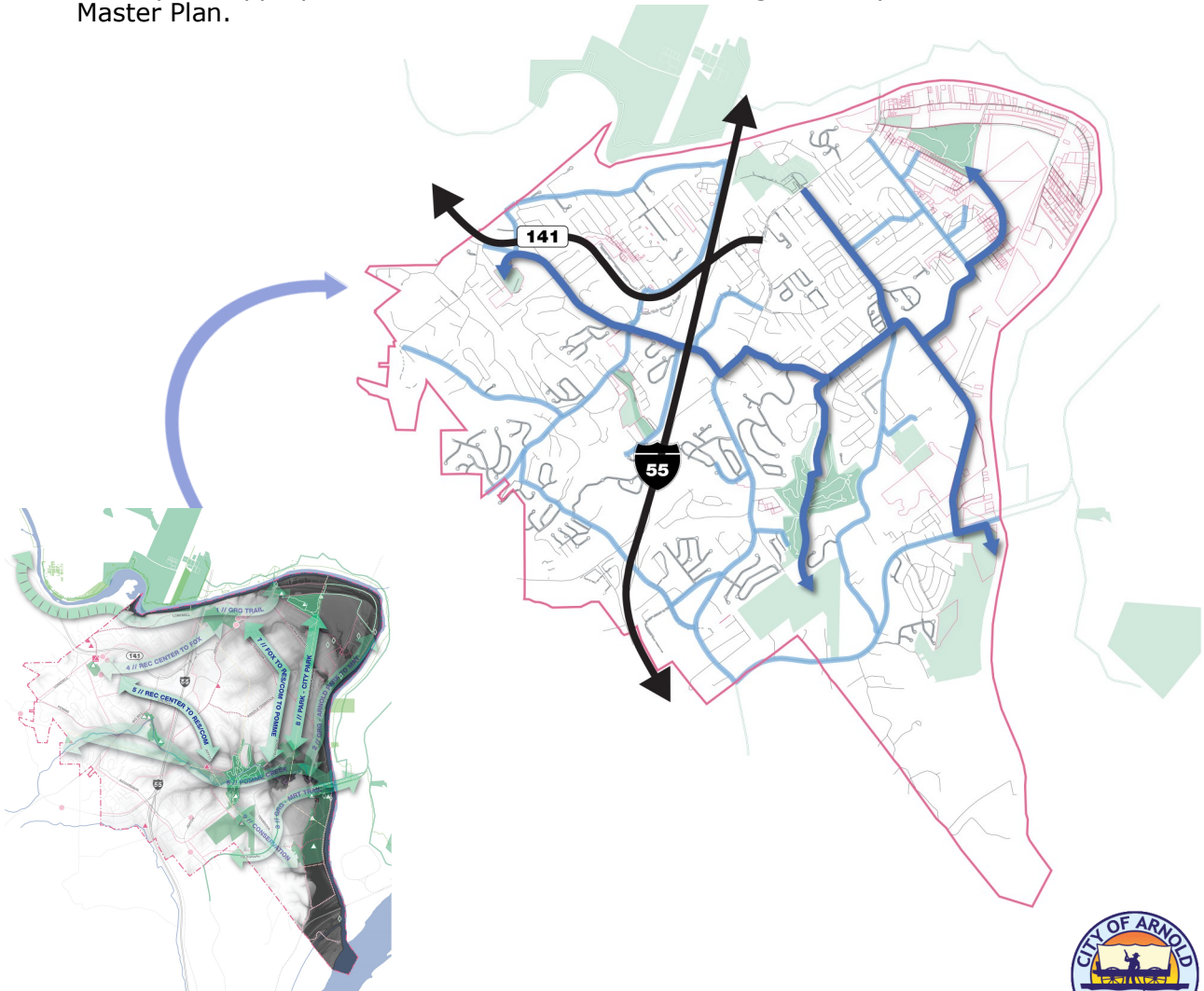


Creating a Network

The goal of the Master Plan is to create a cohesive network of bicycle and pedestrian friendly connections. To achieve this, the study started with the three priority connections described previously and created from their basis a network of connecting corridors. In the end forming a complete and cohesive network of multimodal connections for the City of Arnold.

This network is shown below and a detailed map is included as Exhibit 1. Each of the three priority connections pointed toward Pomme Creek Park. Knowing that forming loops in a multimodal network is appealing to the public, the priority connections would need to connect in more than just one way. Using our detailed mapping originally used during the Discovery Phase of this study and combining it with the subsidiary connections described previously, a network was developed with loops, interconnections and an emphasis on the priority connections discovered through the analysis.

Each corridor within this network is defined by a “Trunk” that will provide the main route through the corridor. This trunk which links the priority connections, will be a shared use path lending to both bicycle and pedestrian friendly travel. From the trunk, multimodal branches were added to enhance the system and extend its reach. The multimodal branches are defined in this Master Plan to ensure that any future development or maintenance projects along the branches can address the needs within the overall network. As funding becomes available The City can address these branches as they see appropriate with the confidence of knowing their importance in the overall Master Plan.



Developing the Corridors

The corridors that were developed in the creation of the network went through a preliminary evaluation to ensure their feasibility. Each corridor had varying aspects that were analyzed and several segments were evaluated. A summary of each corridor is provided in the sections that follow as well as documentation of this preliminary analysis in subsequent Exhibits.

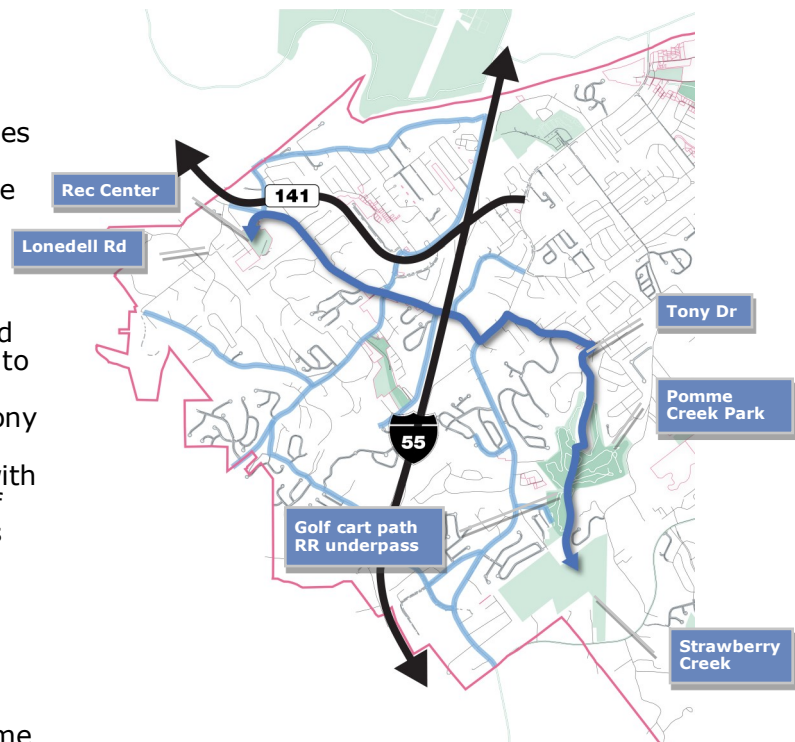
Missouri State/Church Road to Pomme Creek Park Corridor

This corridor, utilizing the previously defined Connection 5, would provide a connection from the Arnold Rec Center through the City, and over I-55 to connect to Pomme Creek Park and eventually Strawberry Creek Nature. This corridor will provide the vital crossing over I-55 that is necessary to create the east/west connection of Arnold which was an important goal of the study.

The information gathered during the evaluation of this corridor was presented to the Community Advisory Committee and is provided Appendix 2.

Trunk Line

- Description:
 1. Total Length—Approximately 4 miles
 2. Description—10' Shared use path
 3. Route—Beginning on Missouri State Road/Church Road at the newly funded sidewalk additions along Lonedell Road and traveling past the new Arnold Rec Center. The route would run along Church Road and over I-55. Linking eventually to Arnold Tenbrook Road, where the shared use path would travel to Tony Drive culminating on Pomme Meadows Drive at its connection with Pomme Creek Park via the old golf cart paths at the Pomme Meadows roundabout.

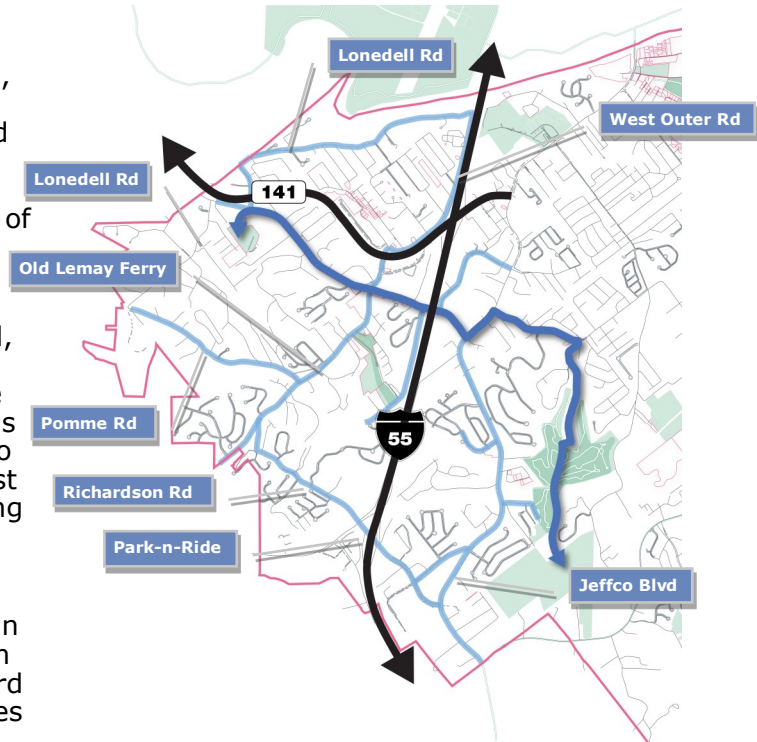


- Notes:
 1. Future development plans of Pomme Creek Park into a biking destination as studied by Living Life on 2 Wheels in June of 2021 would dictate the eventual route and future of this corridor within Pomme Creek Park.
 2. It is important to note that the existing golf cart path which travels under the railroad tracks within Pomme Creek Park is possibly the most viable crossing of this barrier within the City and planning should revolve accordingly around this fact.
 3. Pomme Creek and Strawberry Creek Nature Area can be connected through the use of the Gran Villa Common Grounds through either a hiking trail, sidewalk or shared use path.

Missouri State/Church Road to Pomme Creek Park Corridor

Multimodal Branches

- On the north side of Missouri State Road, sidewalks along Lonedell Road and wrapping around to the West Outer Road would tie in the condensed housing and apartments in the area to the network. Lonedell Road could be an eventual part of the studied "Connection 1" and any future development planning should take that into consideration.
- On the south side of Missouri State Road, Old Lemay Ferry Road sidewalk improvements would be beneficial to the multiple neighborhoods located along this route. Branches on both Pomme Road to the west and Richardson Road to the east would finish out this branch by connecting to the park-n-ride along I-55 and to the new sidewalk improvements along Lonedell Road.
- Jeffco Boulevard is currently under design and construction for improved pedestrian facilities from Church Road and northward through the City. This leaves the facilities south of Church Road to Telegraph Road in need of updating or creation. This is a vital pedestrian corridor and the adoption of improved sidewalks along this Boulevard should be implemented as additional funding becomes available.
- The remaining branches shown provide connections to schools neighborhoods and commercial centers and should be considered in all future development along these routes.



Challenges

- Crossing I-55 - Church Road could be reduced in width here as a turning lane is unnecessary for a significant portion of the bridge. The bridge also has a current pedestrian sidewalk that could be expanded in width either beyond the current bridge deck or by narrowing the travel lanes on the bridge to accommodate the shared use path entirely on the structure as it is now. This crossing needs in-depth further study to be fully developed.
- Connecting Church Road to Arnold Tenbrook through a crossing of Jeffco Boulevard. Jeffco Boulevard is currently under design for pedestrian improvements. Using a portion of this newly placed sidewalk and upgraded crossings as a connection between two shared use paths will either leave a gap in the system or will cause issues with federal funding or public disapproval if the new sidewalk needs to be replaced. Timely coordination could be vital in the development of this intersection to serve both the Jeffco Boulevard improvements and this Master Plan.
- Multiple crossings of Church Road are needed if Right Of Way from the Immaculate Conception Cemetery is not a viable option. A full ROW study is needed to understand the limitations at this location.

Next Steps

- Documentation of the preliminary analysis of one segment of the shared use path corridor along Missouri State/Church Road is located in Exhibit 2.
- Documentation of the preliminary sidewalk addition analysis along Old Lemay Ferry Road is included in Exhibit 3.

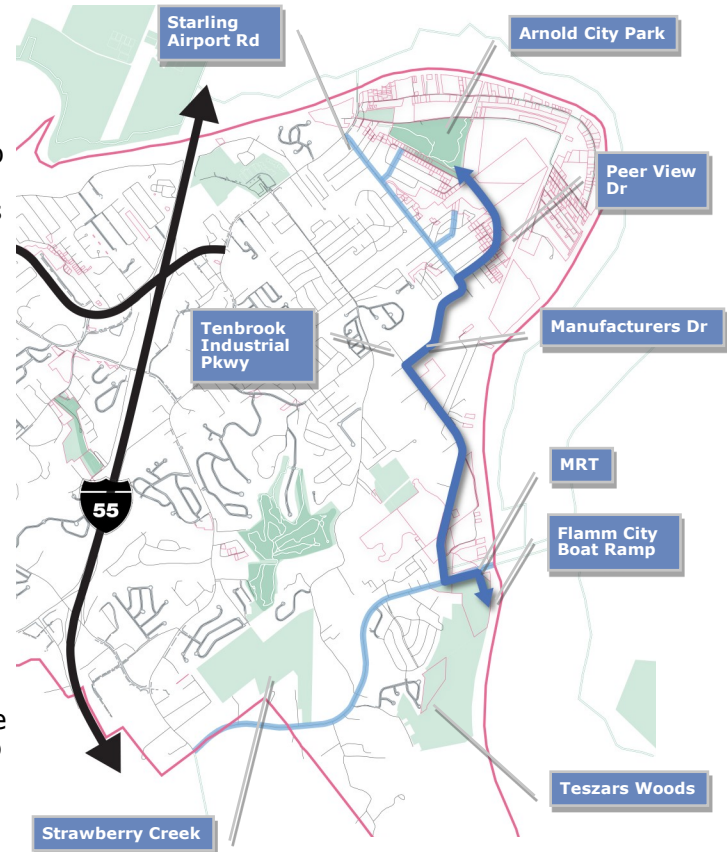


Arnold City Park to Telegraph Road Corridor

This corridor, utilizing the previously defined Connection 8 in combination with portions of Connections 2, 9, and 3, provides a connection from the Arnold City Park to the MRT Trail and extends its reach to the Flamm City Boat Ramp making the waterway/bicycle connection which was heavily requested by the community. This corridor also provides for a connection to the Teszars Woods Conservation Area and Strawberry Creek Nature Area.

Trunk Line

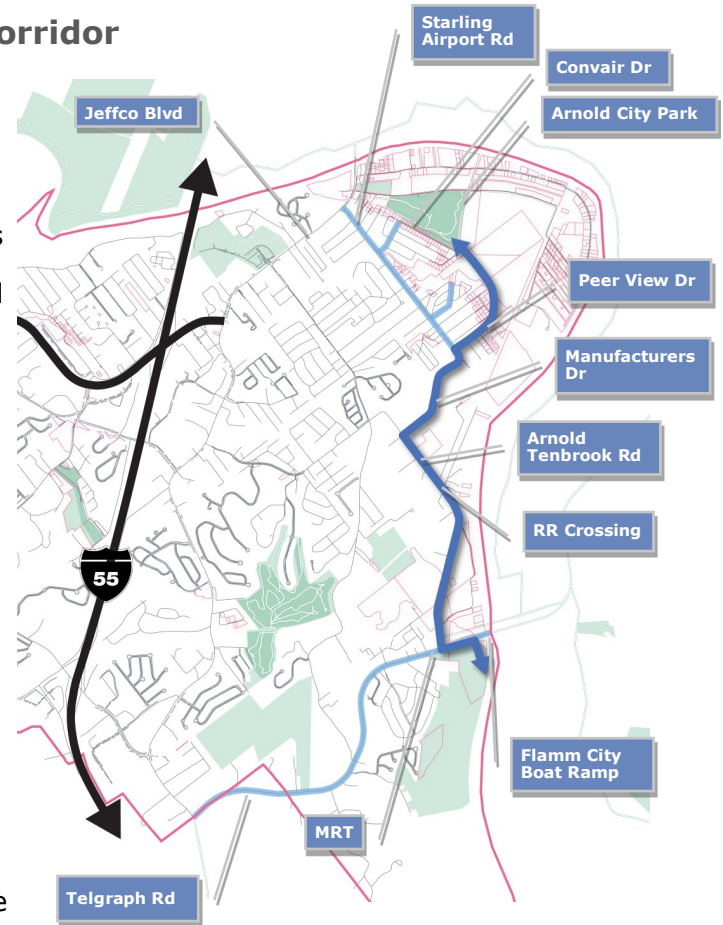
- Description:
 1. Total Length—Approximately 3 miles
 2. Description—10' Shared use path where feasible
 3. Route—Beginning at Arnold City Park's walking trail traveling through the City owned park property, into the neighborhoods along Starling Airport Road. From here, the route follows Manufacturer's Drive through its intersection with Arnold Tenbrook Drive and following Arnold Tenbrook south to Telegraph Road and the MRT culminating at the Flamm City Boat Ramp parking lot.
- Notes:
 1. Arnold City Park presents an exciting opportunity to bring trail users into the natural setting of the wetland and forestry in and around the alignment. Consideration to flooding and environmental concerns would need to be taken into account during development of this section. A concrete trail would likely be the preferred material type. A short pedestrian crossing of the creek running through the parcel would add to the characteristics of this segment.
 2. The route from Arnold City Park to Starling Airport road would need further study. Initial evaluations lend to Peer View Drive being the preferred route at this location. The houses on the west side of this road front another road making possible land acquisition easier along this route. Evaluations of this concern would be necessary before further development can occur.
 3. To reduce the amount of roadway conflicts given on this route, the path could circumvent Manufacturer's Drive by utilizing a utility corridor located between Tenbrook Industrial Parkway and Starling Airport Road.



Arnold City Park to Telegraph Road Corridor

Multimodal Branches

- Starling Airport Road running from Jeffco Boulevard south to its connection with the trunk line is a valuable pedestrian connection from the many residents in this area up to the business and schools located on the Boulevard. Maintaining and improving the sidewalks on both sides of this roadway is an important branch in the network.
- Connecting Starling Airport Road to Arnold City Park could be completed at multiple locations. Currently the park is not traversable by these residents and an accessible connection through these neighborhoods from Starling Airport Road would increase usage to the park by more residents. Multiple City owned parcels along Convair Drive makes a connection and possible trail head here a viable amenity with great benefits to the local residents.
- The Mississippi River Trail is located along Telegraph Road and is a significant national connection to the network. Proper signage, trail awareness, enhanced shoulder conditions, and safety measures could be added to this segment to enhance its presence in Arnold.



Challenges

- The southern end of the Arnold Tenbrook Road segment of this corridor has an at-grade rail crossing near Haag Road. This can prove to be a time consuming issue during design and implementation and at-grade crossing of railroads is a safety concern for users. Careful consideration of where and how to cross the railroad at this location should lead the design and be taken into account through development.
- Multiple residential parcels along Peer View Drive dictates that careful consideration to public support will need to be included in the development of this segment. Several possibilities exist for connecting through the Arnold City Park and the one most accepted by the local residents should be evaluated.
- Arnold Tenbrook and Manufacturers Drive are both heavily traveled by trucks and serve as a major industrial route for the City. Bicycle and Pedestrian facilities along this route should be placed a safe distance from the roadway and commercial entrances adequately signed for safety.
- To reach Flamm City Boat Ramp from Arnold Tenbrook Road, a crossing of Telegraph Road is necessary. A signalized intersection would provide the safest crossing of this Principal Arterial roadway.

Next Steps

- Documentation of the preliminary analysis of one segment of the shared use path corridor along Manufacturers Drive is located in Exhibit 4.
- Documentation of the preliminary analysis of another segment of the shared use path corridor along Arnold Tenbrook Road is included in Exhibit 5.

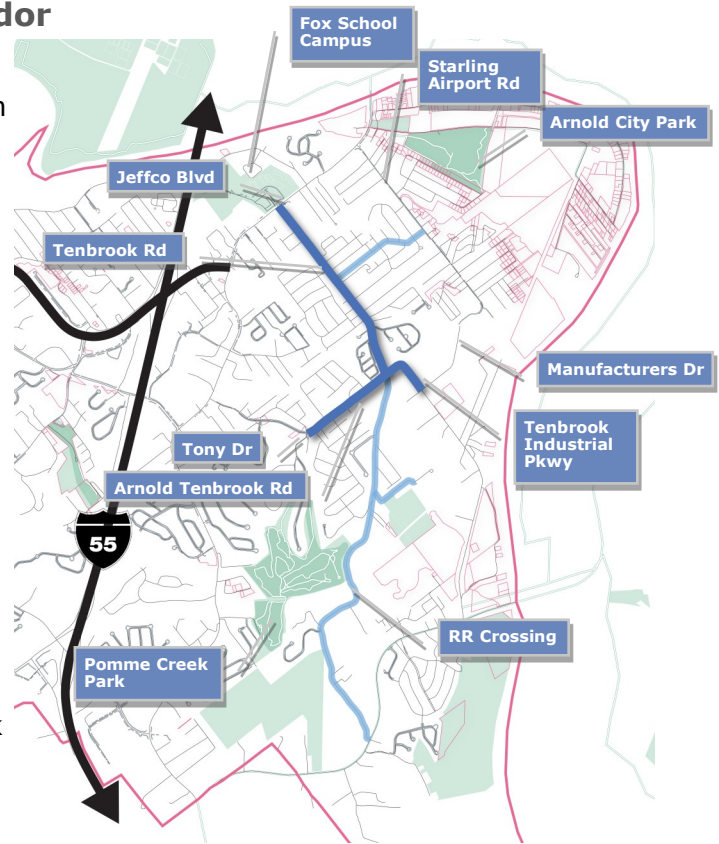


Tenbrook and Arnold Tenbrook Corridor

This corridor, utilizing the previously defined Connection 7, would provide a connection from the Fox School Campus and Jeffco Boulevard to both of the previously described corridors. This segment provides the link between them and finalizes the cohesive network.

Trunk Line

- Description:
 1. Total Length—Approximately 2 miles
 2. Description—10' Shared use path
 3. Route—Jeffco Boulevard and traveling south along Tenbrook Road until its intersection with Arnold Tenbrook Road. Another segment of shared use path will intersect this segment here. The second segment would begin at Tony Drive where the Church Road to Pomme Creek Corridor turned to go into Pomme Creek Park. It would travel east along Arnold Tenbrook Road through the intersection with Tenbrook and over to a connection with the Arnold City Park Corridor alignment at Manufacturers Drive



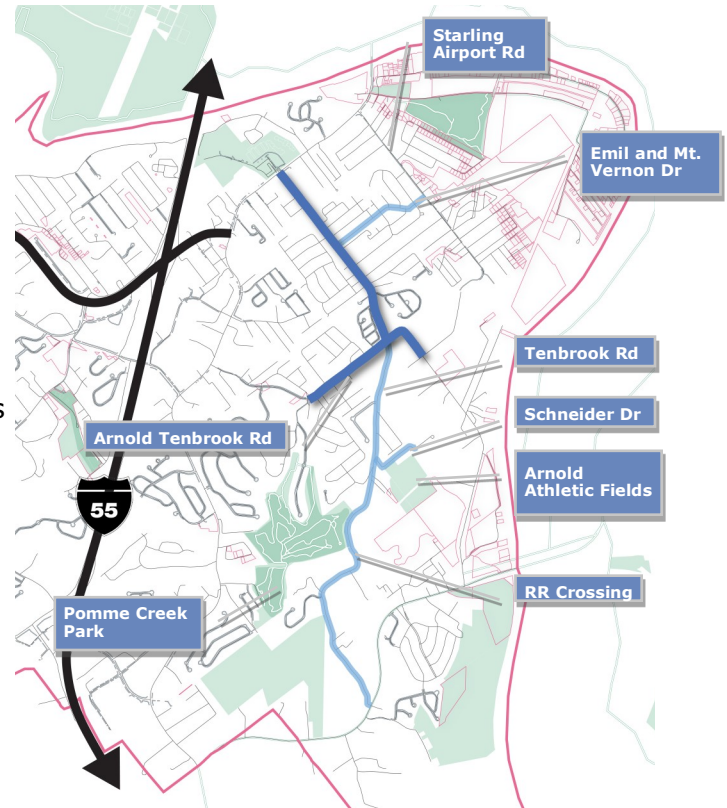
- Notes:
 1. This connection is proposed as the link between the two corridors described previously. Development and funding opportunities may be best leveraged after the other two corridors have been more fully developed and the importance of this link can be fully justified.
 2. The segment along Arnold Tenbrook Road would provide a much needed sidewalk connection in this area and is an improvement that the City has been very much in support of.
 3. The intersection of Arnold Tenbrook Road and Tenbrook Road is a safety concern and a study to fully understand how this intersection can be best utilized and improved would be needed before final design of the shared use paths could be completed.



Tenbrook and Arnold Tenbrook Corridor

Multimodal Branches

- Emil Drive to Mt. Vernon Drive is a residential connection between Tenbrook Road and Starling Airport Road. Providing for a multimodal connection between these two major corridors would greatly increase usage and community connection. Currently this linking road lacks sidewalks and exhibits safety issues with speeding vehicles. Several opportunities exist to increase the safety of this road and the surrounding residents by incorporating speed reducing measures into the redevelopment of the roadway to incorporate bicycle and pedestrian friendly amenities.
- Tenbrook Road south of Arnold Tenbrook Road is a limited right of way road that exhibits several challenges to pedestrian improvements. However, this roadway links several key assets in Arnold and currently lacks sidewalks. Including it in this Master Plan will ensure its eventual redevelopment includes multimodal amenities.
- Once the multimodal improvements on Tenbrook Road south have been developed, Schneider Drive amenities should soon be considered in order to complete the connection to the Arnold Athletic Fields.



Challenges

- As mentioned, limited available right of way along Tenbrook Road will limit the amenities that can be developed along this route. The roadway would be an excellent opportunity for a shared use path or bicycle lanes given its crossing of Pomme Creek and link to Pomme Creek Park. However, it currently passes under the railroad tracks and the railroad structure leaves very limited opportunities for upgrading the roadway unless the railroad bridge is replaced.
- The intersection of Arnold Tenbrook and Tenbrook has a unique set of challenges and safety issue. This intersection will need to be further studied before this corridor can be finalized and land acquisition may be necessary.

Next Steps

- Documentation of the preliminary analysis of one segment of the shared use path corridor along Tenbrook Road is located in Exhibit 6.
- Documentation of the preliminary analysis of a sidewalk addition and upgrade along Arnold Tenbrook Road is included in Exhibit 7.

EXHIBITS

- 1. Bicycle and Pedestrian Master Planning Map**

- 2. Missouri State/Church Road Shared Use Path
Preliminary Analysis Documentation**

- 3. Old Lemay Ferry Road Sidewalk Addition
Preliminary Analysis Documentation**

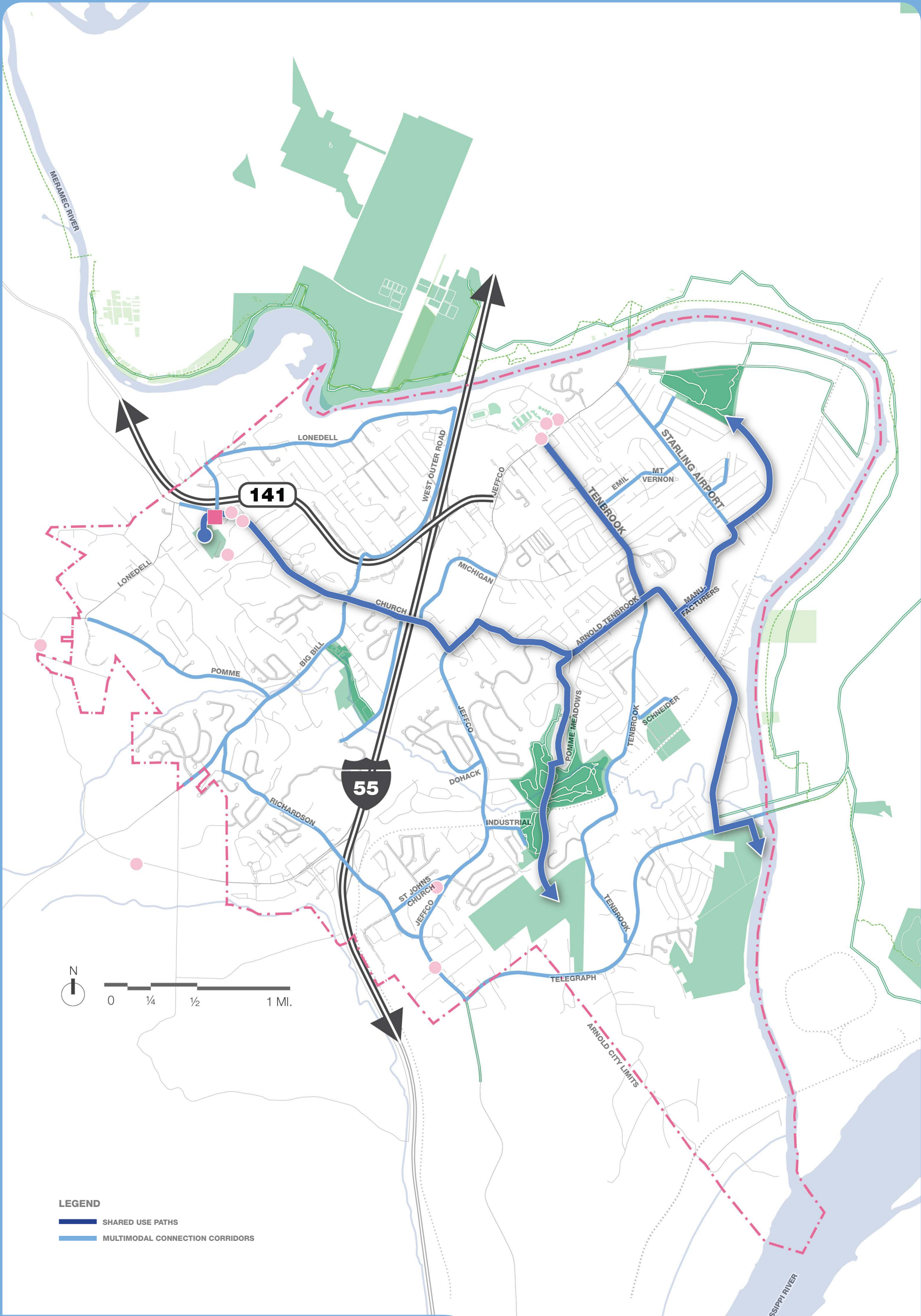
- 4. Manufacturers Drive Shared Use Path
Preliminary Analysis Documentation**

- 5. Arnold Tenbrook Road Shared Use Path
Preliminary Analysis Documentation**

- 6. Tenbrook Road Shared Use Path
Preliminary Analysis Documentation**

- 7. Arnold Tenbrook Sidewalk Addition
Preliminary Analysis Documentation**






CITY OF ARNOLD, MO

BICYCLE & PEDESTRIAN MASTER PLAN — 2022

Exhibit 1



OATES ASSOCIATES
LJC



**EXHIBIT 2 - Missouri State/Church Road Shared Use Path
Preliminary Analysis Documentation**



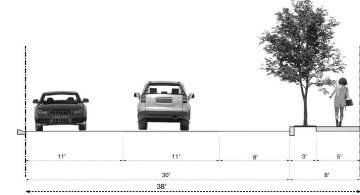
CHURCH ROAD SHARED USE PATH:

ARNOLD RECREATION CENTER TO
JEFFCO BLVD

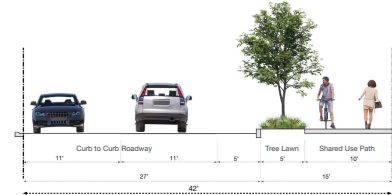
SEGMENT 1/1

MISSOURI STATE RD - SOUTH OF ASTRA WAY

EXISTING SECTION



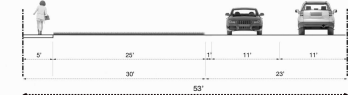
PROPOSED SECTION



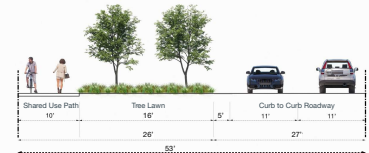
SECTION A-A

MISSOURI STATE RD - SOUTH OF WOODLANDS

EXISTING SECTION



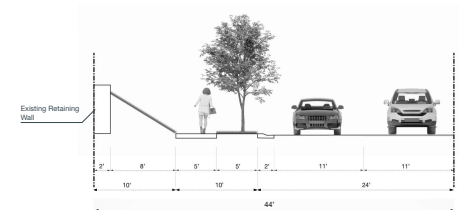
PROPOSED SECTION



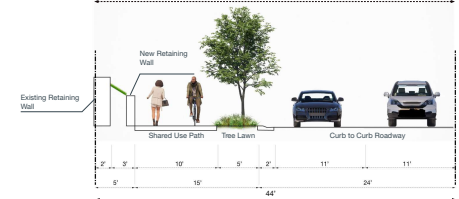
SECTION B-B

CHURCH RD - SOUTH OF OLD LEMAY FERRY RD

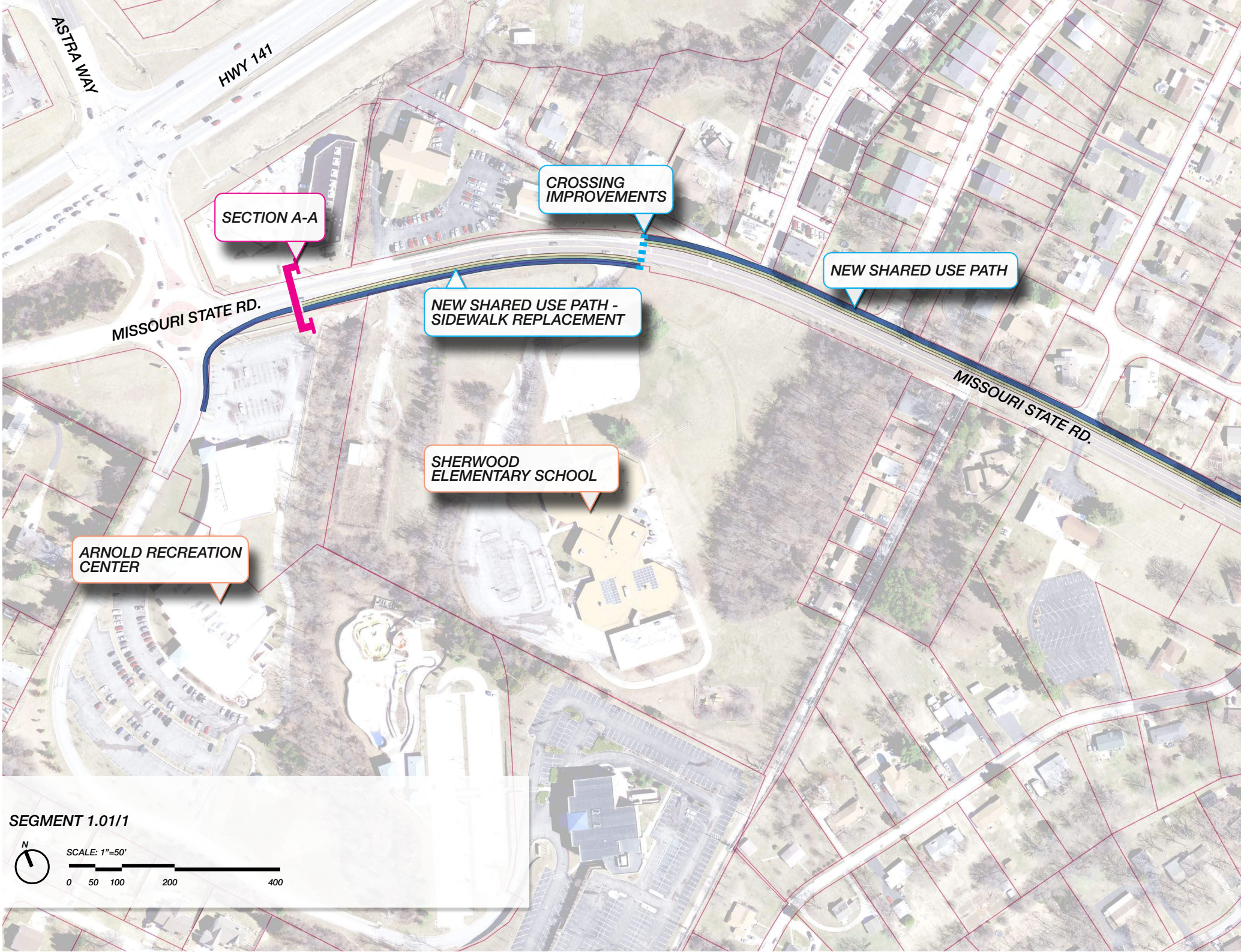
EXISTING SECTION



PROPOSED SECTION



SECTION C-C



SECTION A-A

CROSSING IMPROVEMENTS

NEW SHARED USE PATH

NEW SHARED USE PATH - SIDEWALK REPLACEMENT

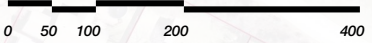
SHERWOOD ELEMENTARY SCHOOL

ARNOLD RECREATION CENTER

SEGMENT 1.01/1



SCALE: 1"=50'



HWY 141

WOODLANDS

NEW SHARED USE PATH

FIRST BAPTIST CHURCH

SECTION B-B

NEW SHARED USE PATH -
SIDEWALK REPLACEMENT

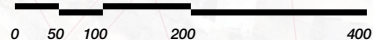
NEW SHARED USE PATH

MISSOURI STATE RD.

SEGMENT 1.02/1



SCALE: 1"=50'



HWY 141

OLD LEMAY FERRY RD

I-55N

LOWE'S HOME IMPROVEMENT

INTERSECTION IMPROVEMENTS

NEW SHARED USE PATH - SIDEWALK REPLACEMENT

SECTION C-C

INTERSECTION IMPROVEMENTS

NEW SHARED USE PATH

CHURCH RD.

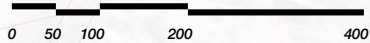
MISSOURI STATE RD.

OLD LEMAY FERRY RD. ADA IMPROVEMENTS CONNECTION

SEGMENT 1.03/1



SCALE: 1"=50'



**INTERSECTION
IMPROVEMENTS**

**INTERSTATE CROSSING
IMPROVEMENTS**

**INTERSECTION
IMPROVEMENTS**

**NEW SHARED USE PATH -
SIDEWALK REPLACEMENT**

I-55N

CHURCH RD.

SEGMENT 1.04/1

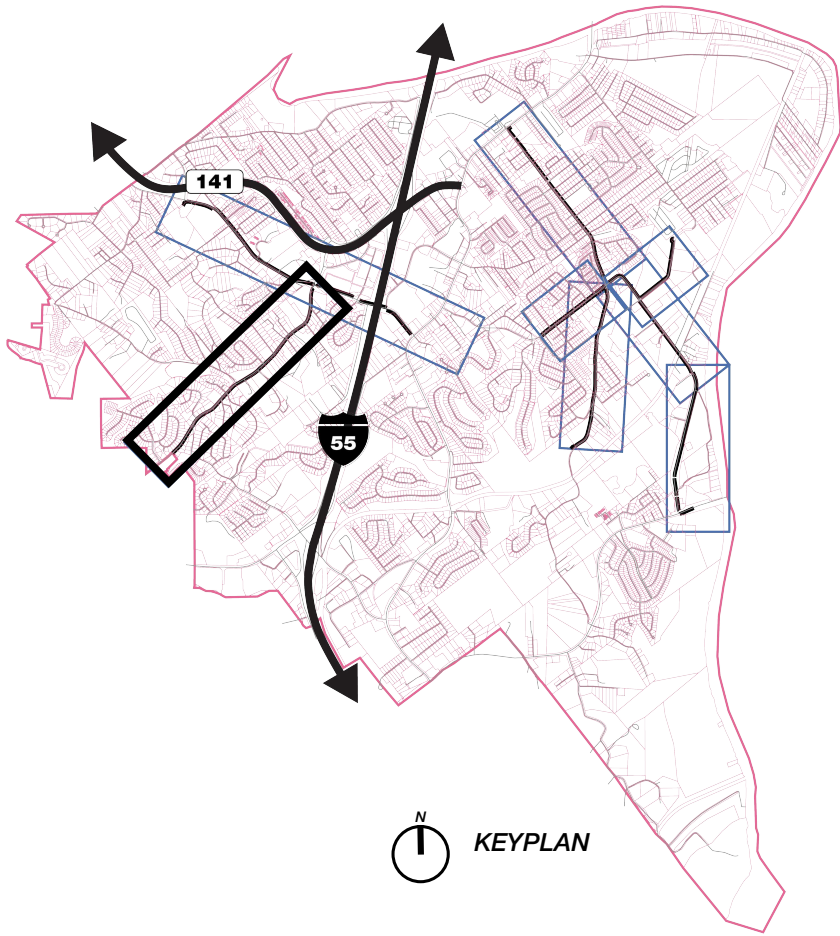


SCALE: 1"=50'





**EXHIBIT 3 - Old Lemay Ferry Road Sidewalk Addition
Preliminary Analysis Documentation**



OLD LEMAY FERRY RD ADA IMPROVEMENTS:

CHURCH RD SOUTH TO ARNOLD CITY LIMITS

SEGMENT 1/1

CHURCH ROAD SHARED USE
PATH CONNECTION

MISSOURI STATE RD

INTERSECTION
IMPROVEMENTS

CHURCH

OLD LEMAY FERRY RD

NEW SIDEWALK -
SIDEWALK REPLACEMENT

NEW SIDEWALK

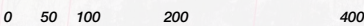
BIG BILL RD

- SEGMENT 1.02/1 -

SEGMENT 1.01/1



SCALE: 1"=50'





- SEGMENT 1.03/1 -

BIG BILL RD

POMME RD

NEW SIDEWALK

SEGMENT 1.02/1



SCALE: 1"=50'





**ARNOLD
CITY LIMIT**

NEW SIDEWALK

OLD LEMAY FERRY RD

BLOSSOM LN.

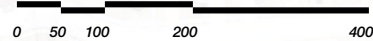
BIG BILL RD

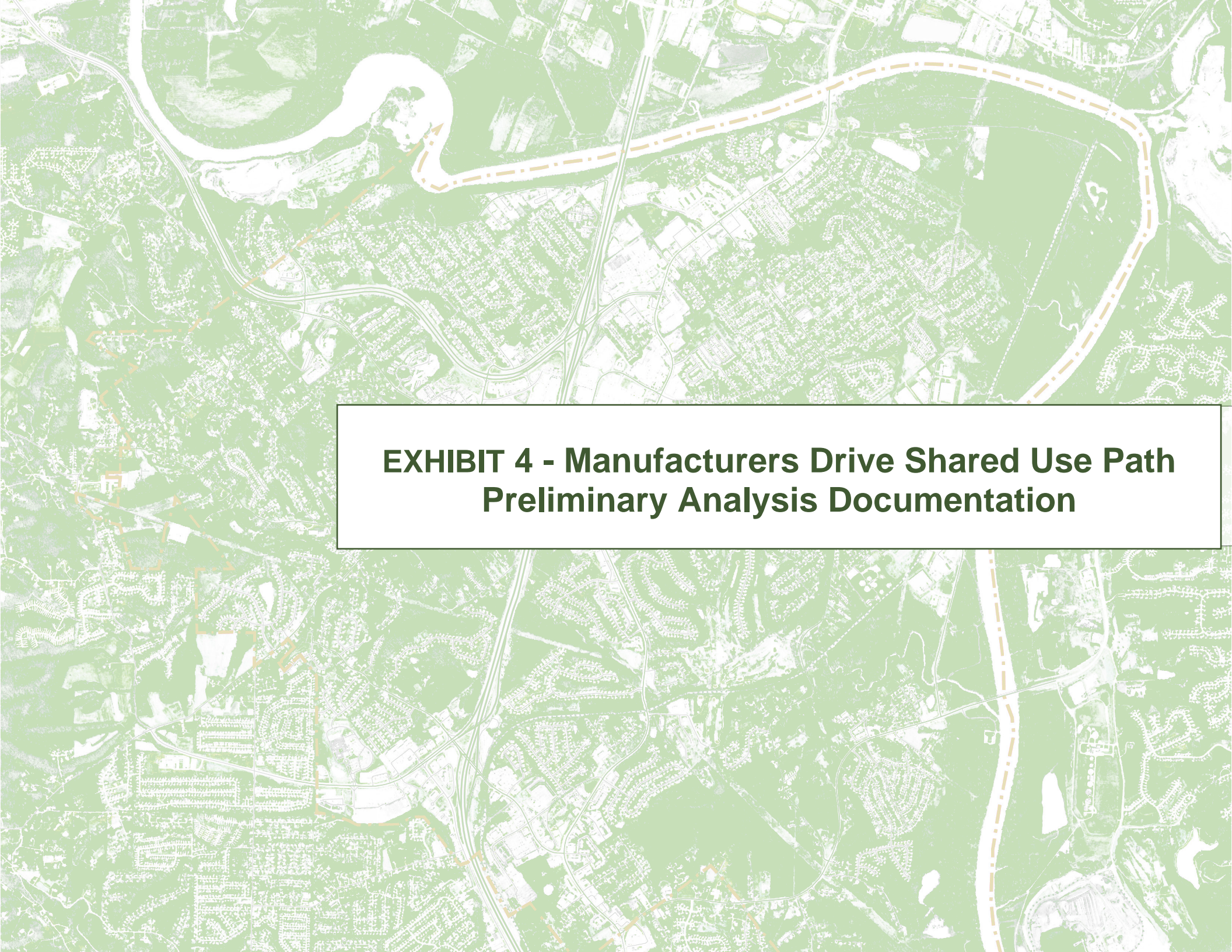
RICHARDSON RD

SEGMENT 1.03/1

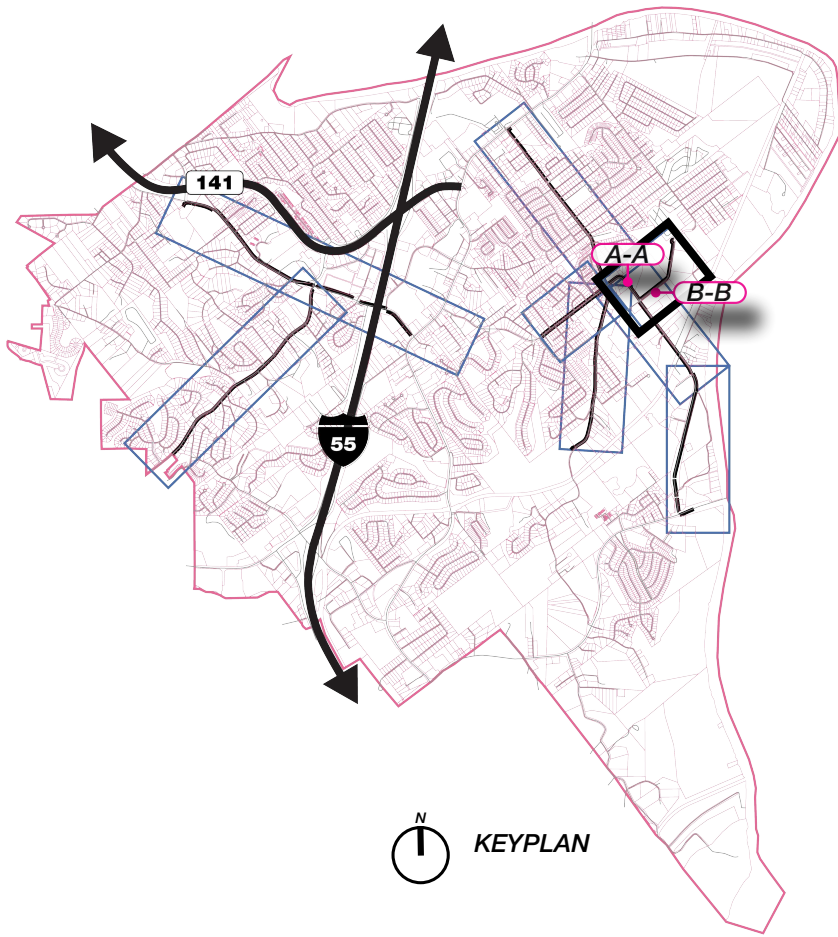


SCALE: 1"=50'





**EXHIBIT 4 - Manufacturers Drive Shared Use Path
Preliminary Analysis Documentation**



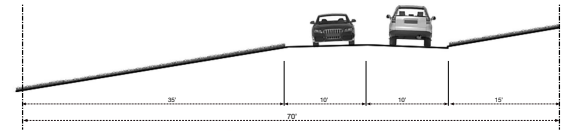
MANUFACTURERS DR SHARED USE PATH:

ARNOLD TENBROOK RD TO STARLING AIRPORT RD

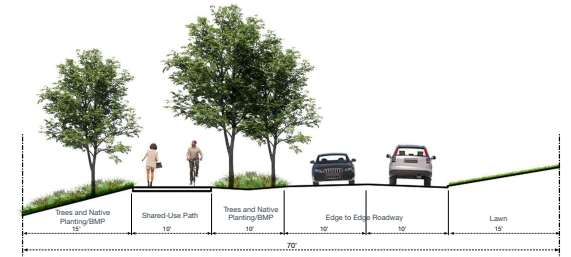
SEGMENT 1/1

ARNOLD TENBROOK RD - AT INDUSTRIAL PARK

EXISTING SECTION



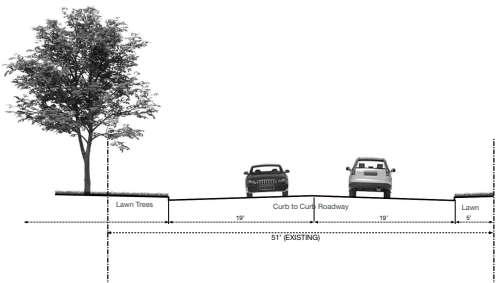
PROPOSED SECTION



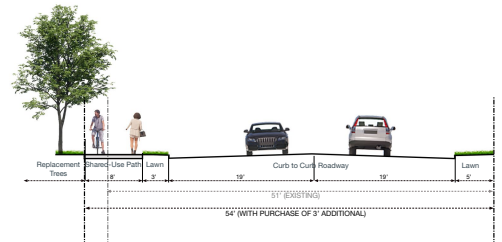
SECTION A-A

MANUFACTURERS DRIVE

EXISTING SECTION



PROPOSED SECTION



SECTION B-B

TENBROOK RD SHARED USE PATH CONNECTION

TENBROOK INDUS.

INTERSECTION IMPROVEMENTS

SECTION A-A

TENBROOK INDUSTRIAL PARK

NEW SHARED USE PATH

SECTION B-B

NEW SHARED USE PATH

MANUFACTURERS DR

INTERSECTION IMPROVEMENTS

ARNOLD TENBROOK RD SHARED USE PATH CONNECTION

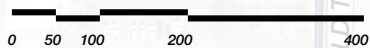
MANUFACTURERS DR

ARNOLD TENBROOK RD

SEGMENT 1.01/1

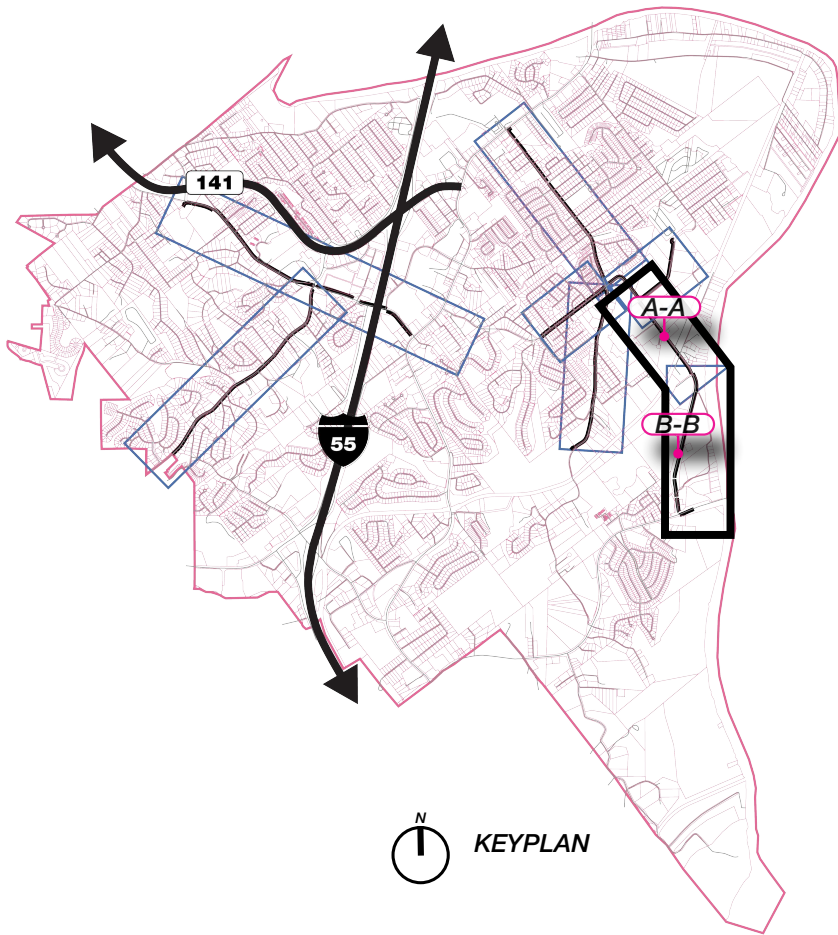


SCALE: 1"=50'



An aerial photograph of a suburban area with a road network. A prominent road, Arnold Tenbrook Road, runs horizontally across the upper portion of the image. A dashed orange line traces a path along the road and through various residential and commercial areas. A white box with a black border is overlaid on the lower right portion of the map, containing the title text.

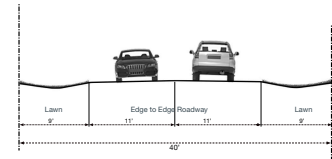
**EXHIBIT 5 - Arnold Tenbrook Road Shared Use Path
Preliminary Analysis Documentation**



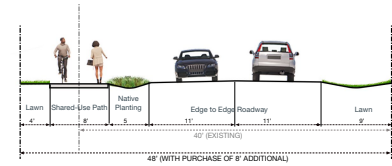
**ARNOLD TENBROOK ROAD
SHARED USE PATH:
MANUFACTURERS DR TO FLAMM CITY BOAT RAMP
SEGMENT 2/2**

ARNOLD TENBROOK RD - SOUTH OF MANUFACTURER'S DRIVE

EXISTING SECTION



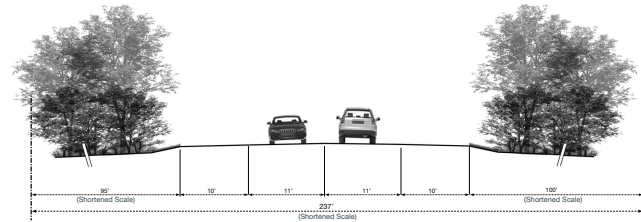
PROPOSED SECTION



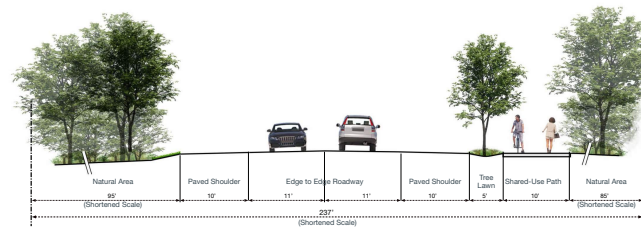
SECTION A-A

ARNOLD TENBROOK RD - SOUTH OF RIVERSIDE DR

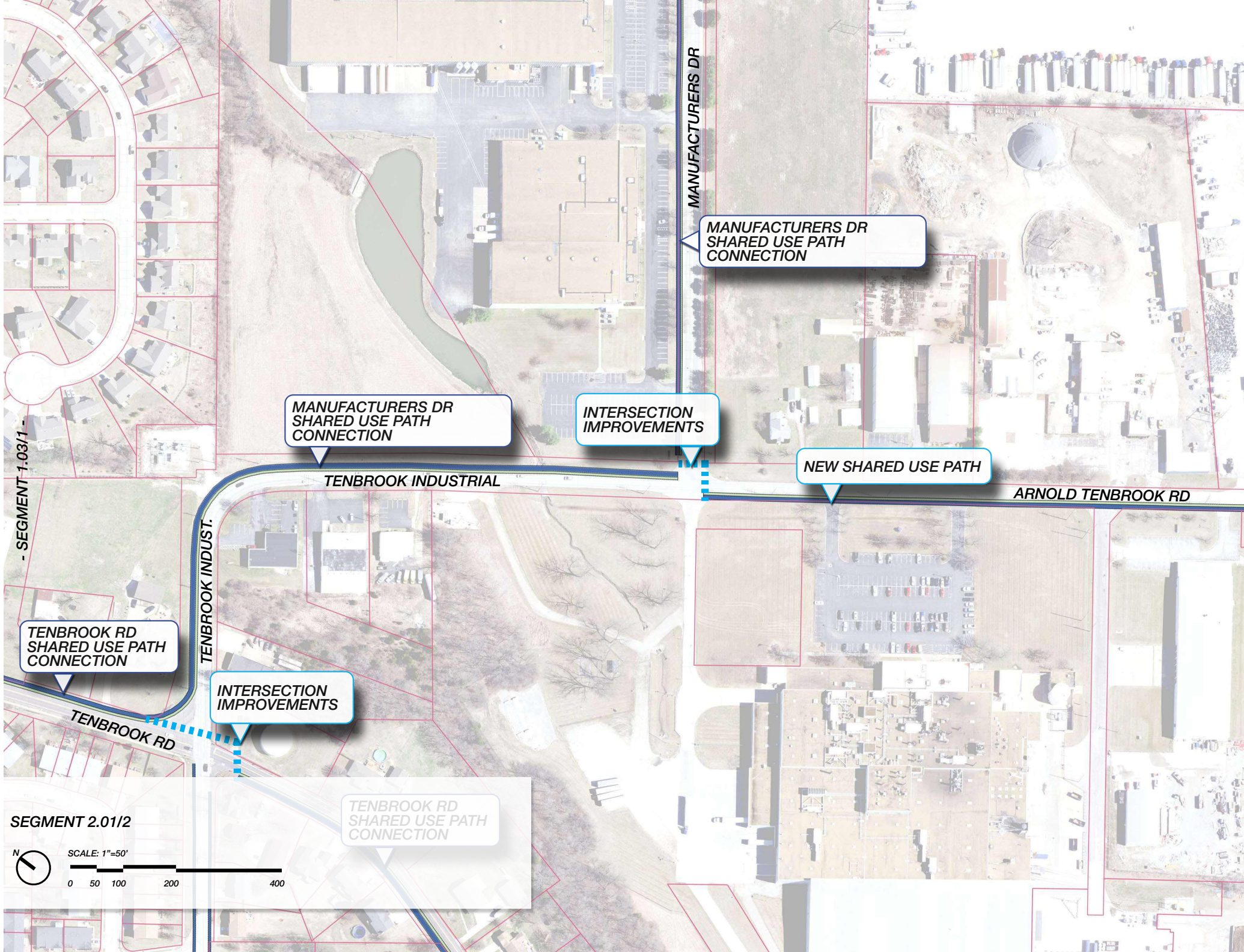
EXISTING SECTION



PROPOSED SECTION



SECTION B-B



MANUFACTURERS DR

MANUFACTURERS DR SHARED USE PATH CONNECTION

MANUFACTURERS DR SHARED USE PATH CONNECTION

INTERSECTION IMPROVEMENTS

NEW SHARED USE PATH

- SEGMENT 1.03/1 -

TENBROOK INDUSTRIAL

ARNOLD TENBROOK RD

TENBROOK RD SHARED USE PATH CONNECTION

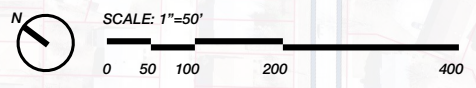
TENBROOK INDUST.

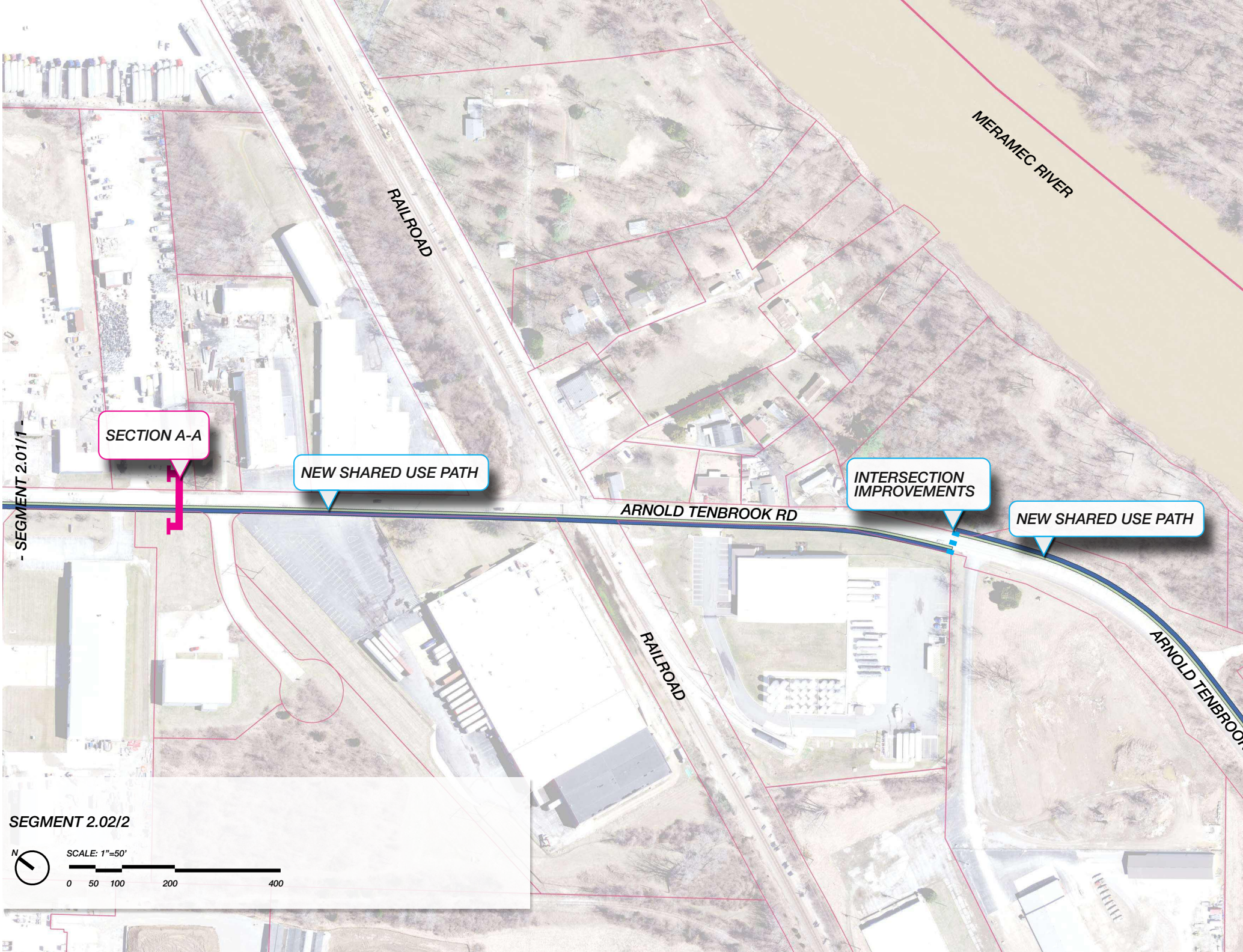
INTERSECTION IMPROVEMENTS

TENBROOK RD

TENBROOK RD SHARED USE PATH CONNECTION

SEGMENT 2.01/2





SECTION A-A

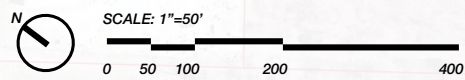
NEW SHARED USE PATH

INTERSECTION IMPROVEMENTS

NEW SHARED USE PATH

- SEGMENT 2.01/1 -

SEGMENT 2.02/2



MERAMEC RIVER

RIVERSIDE DR

- SEGMENT 2.02/1 -

ARNOLD TENBROOK RD

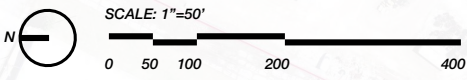
NEW SHARED USE PATH

SECTION B-B

ARNOLD TENBROOK RD

NEW SHARED USE PATH

SEGMENT 2.03/2



MERAMEC RIVER

FLAMM CITY BOAT RAMP

TELEGRAPH RD

NEW SHARED USE PATH

INTERSECTION IMPROVEMENTS

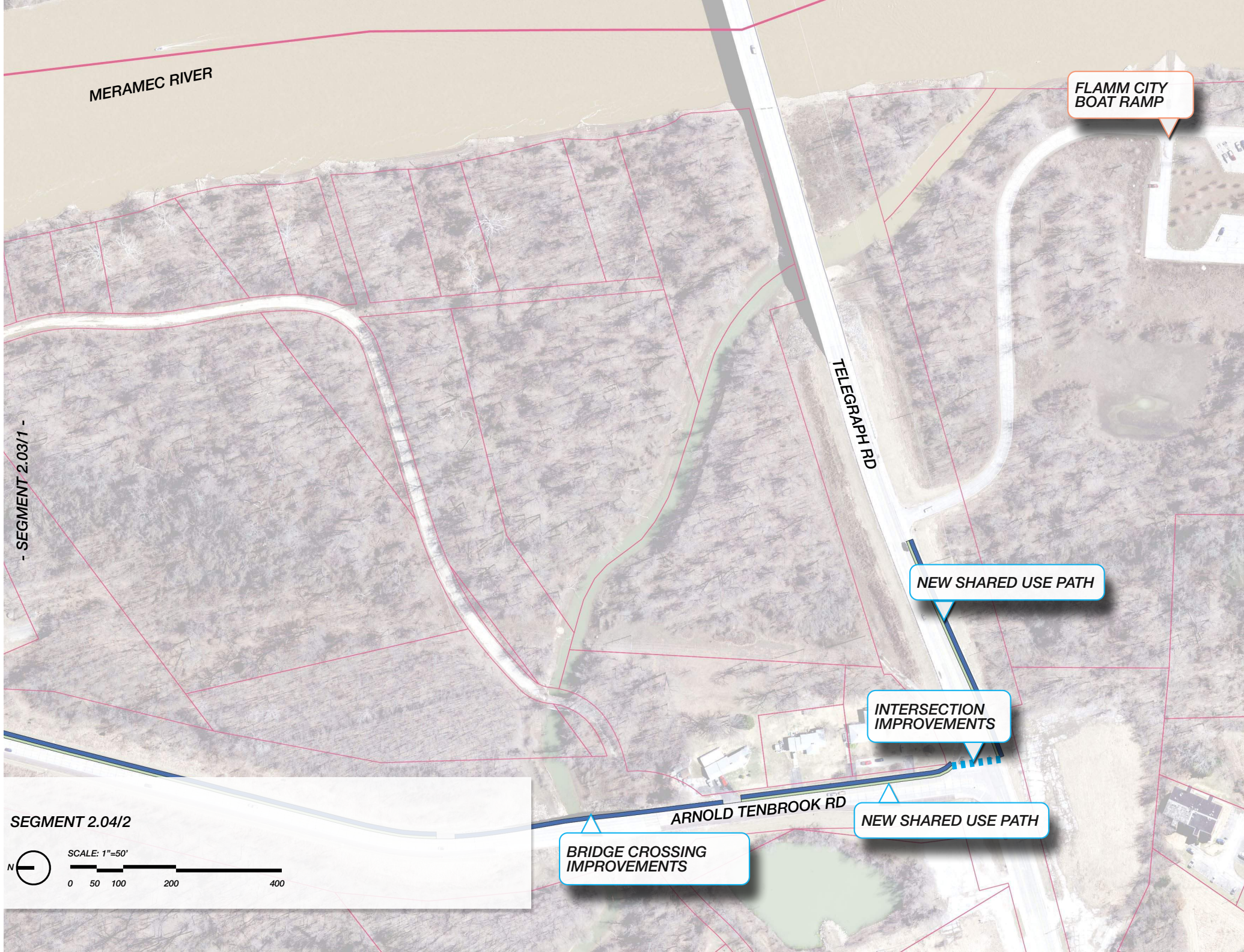
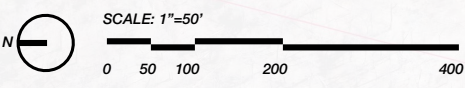
ARNOLD TENBROOK RD

NEW SHARED USE PATH

BRIDGE CROSSING IMPROVEMENTS

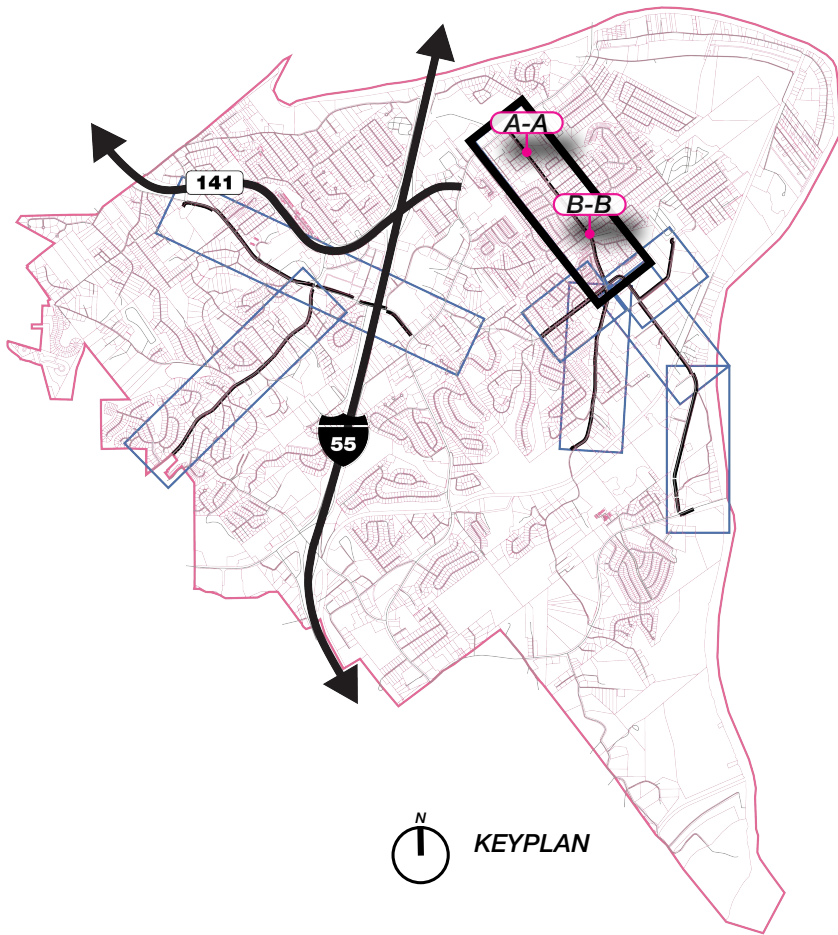
- SEGMENT 2.03/1 -

SEGMENT 2.04/2



An aerial photograph of a suburban area with a road network. A prominent road, Tenbrook Road, runs horizontally across the upper portion of the image. A dashed orange line traces a path along the road and through the surrounding residential areas. A white box with a black border is overlaid on the lower-middle part of the image, containing the title text.

**EXHIBIT 6 - Tenbrook Road Shared Use Path
Preliminary Analysis Documentation**

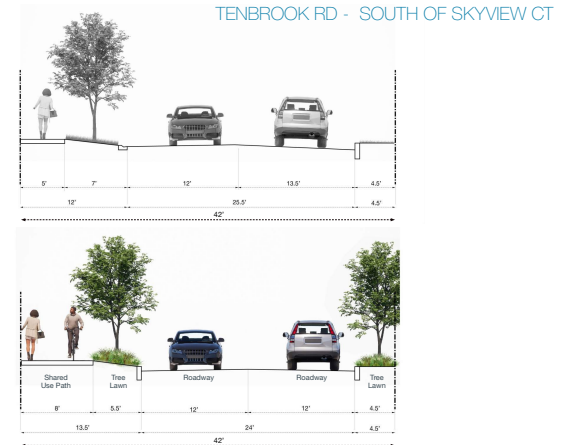


TENBROOK ROAD SHARED USE PATH:

FOX CAMPUS TO
ARNOLD TENBROOK RD

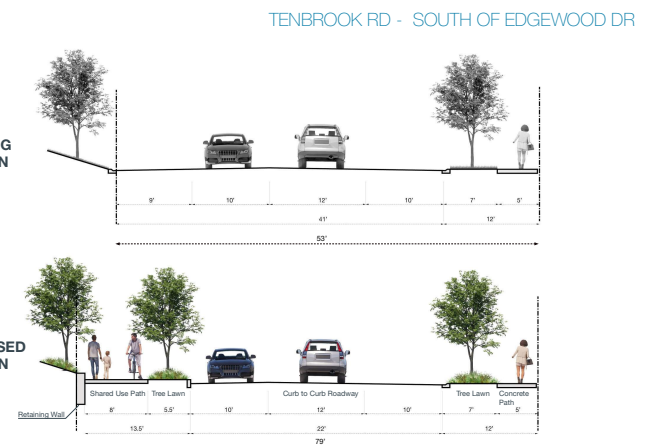
SEGMENT 1/2

EXISTING SECTION



SECTION A-A

EXISTING SECTION



SECTION B-B

JEFFCO BLVD

INTERSECTION IMPROVEMENTS

NEW SHARED USE PATH -
SIDEWALK REPLACEMENT

SECTION A-A

NEW SHARED USE PATH

TENBROOK RD

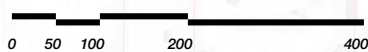
FOX SCHOOL
CAMPUS

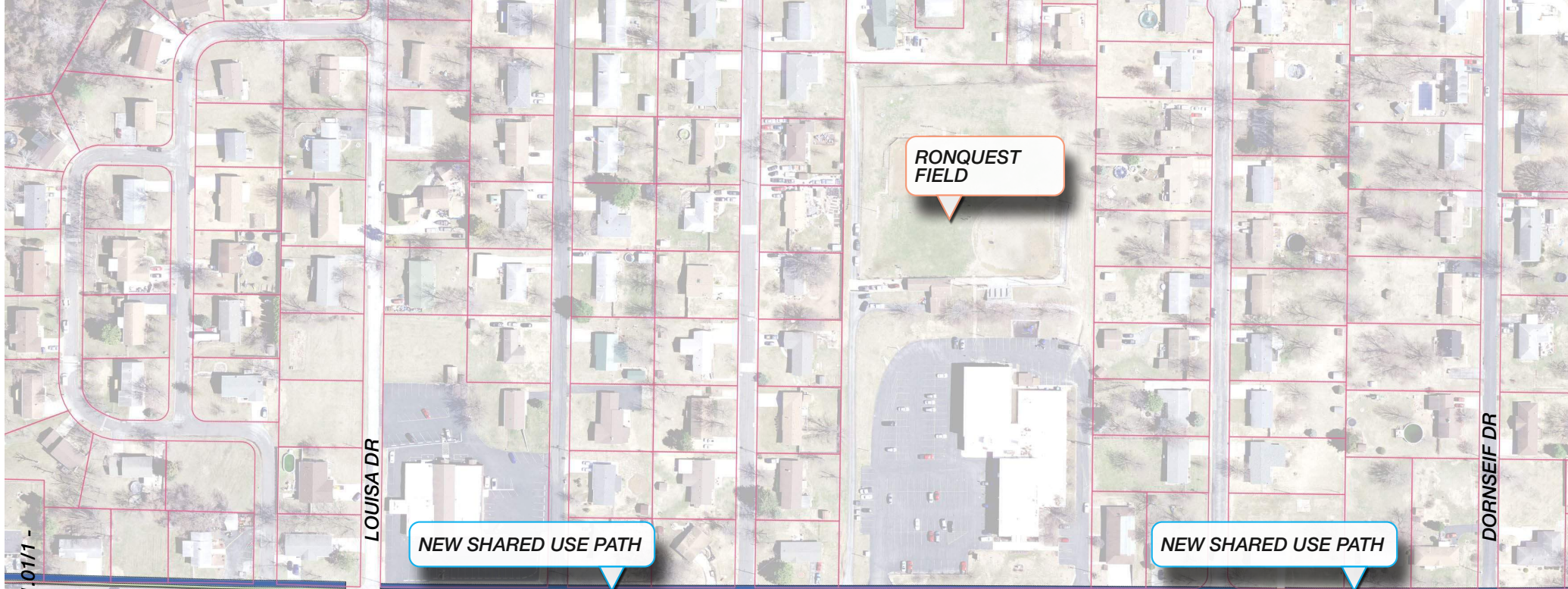
SKYVIEW CT

SEGMENT 1.01/2



SCALE: 1"=50'



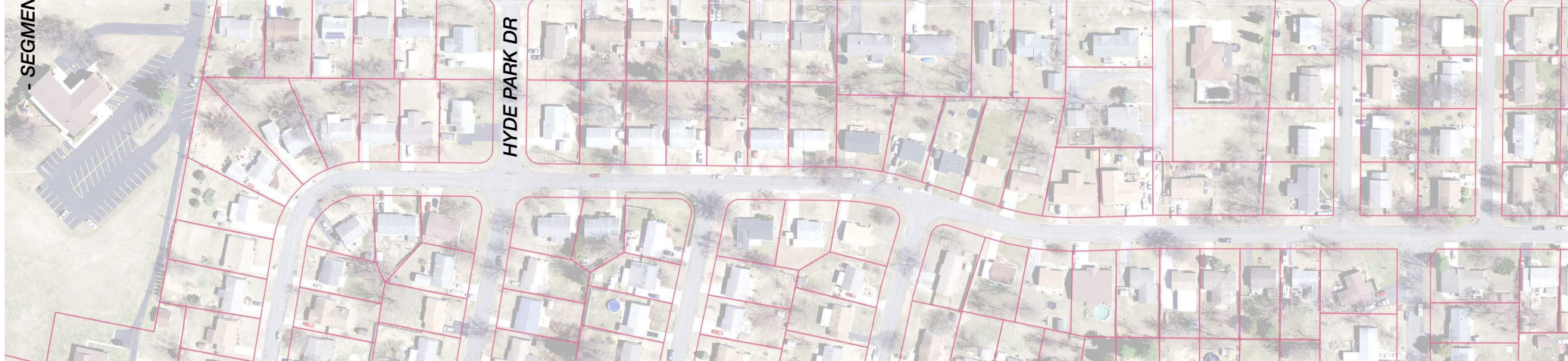


**RONQUEST
FIELD**

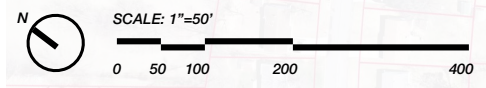
NEW SHARED USE PATH

NEW SHARED USE PATH

TENBROOK RD



SEGMENT 1.02/2



SEGMENT 1.02/1 -

NEW SHARED USE PATH

SECTION B-B

NEW SHARED USE PATH

MANUFACTURERS DRIVE SHARED USE PATH CONNECTION

INTERSECTION IMPROVEMENTS

ARNOLD TENBROOK RD ADA IMPROVEMENTS CONNECTION

TENBROOK RD

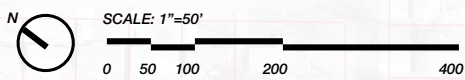
EDGEWOOD DR

TENBROOK RD

V BROOK INDUS.

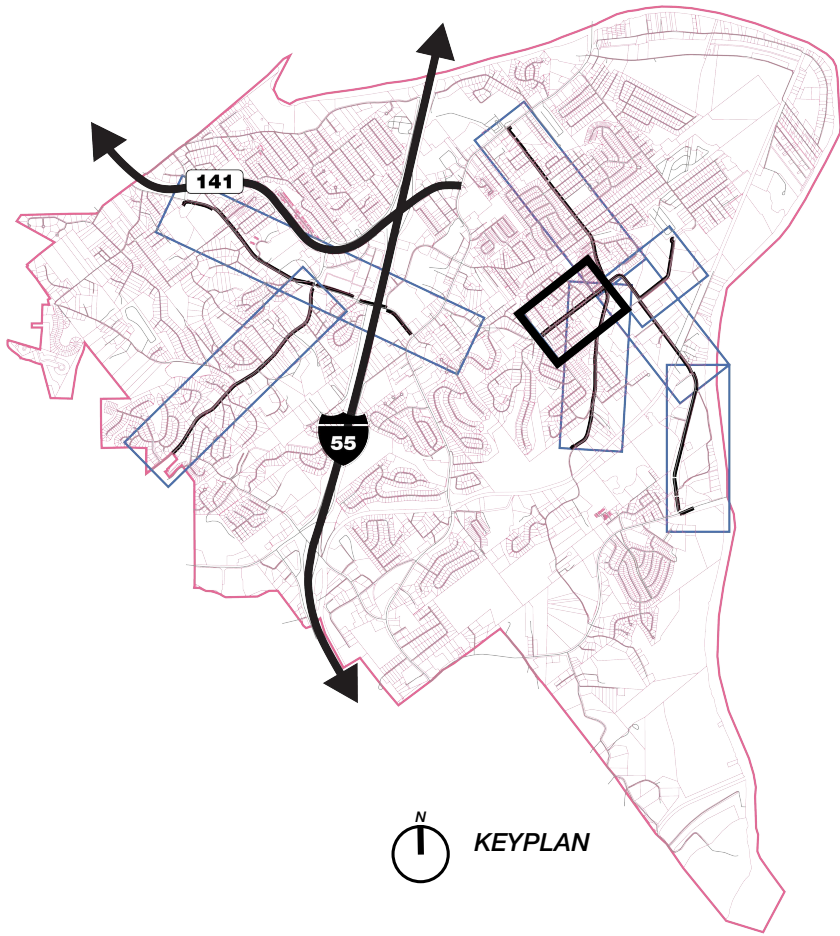
ARNOLD TENBROOK RD

SEGMENT 1.03/2





**EXHIBIT 7 - Arnold Tenbrook Sidewalk Addition
Preliminary Analysis Documentation**



ARNOLD TENBROOK RD ADA IMPROVEMENTS:

ROSEWOOD DR TO TENBROOK ROAD

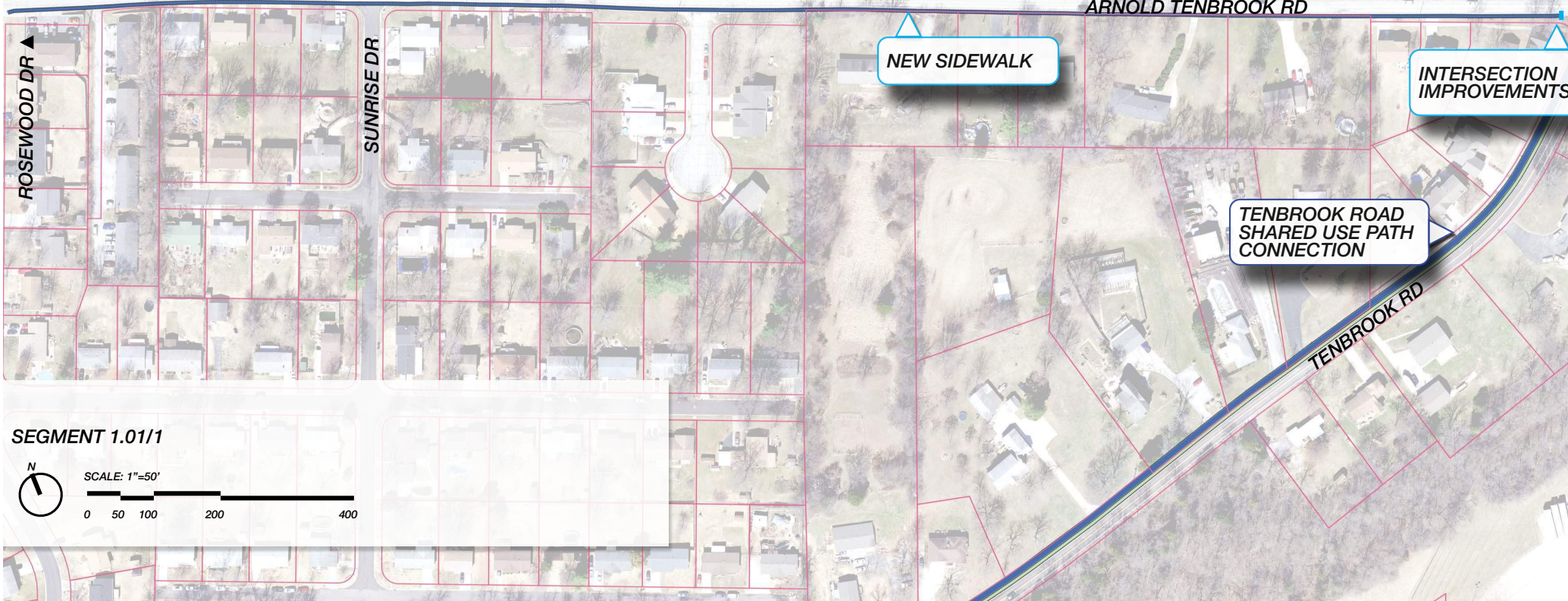
SEGMENT 1/1



NEW SIDEWALK

WOODRIDGE DR

ARNOLD TENBROOK RD



NEW SIDEWALK

INTERSECTION IMPROVEMENTS

TENBROOK ROAD SHARED USE PATH CONNECTION

ROSEWOOD DR

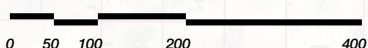
SUNRISE DR

TENBROOK RD

SEGMENT 1.01/1



SCALE: 1"=50'



APPENDIX

- | | |
|---|--------------------------|
| 1. Community Advisory Committee Meeting #1 | June 10, 2021 |
| 2. Community Advisory Committee Meeting #2 | August 12, 2021 |
| 3. Open House Documentation | November 4, 2021 |
| 4. East-West Gateway Presentation | November 10, 2021 |



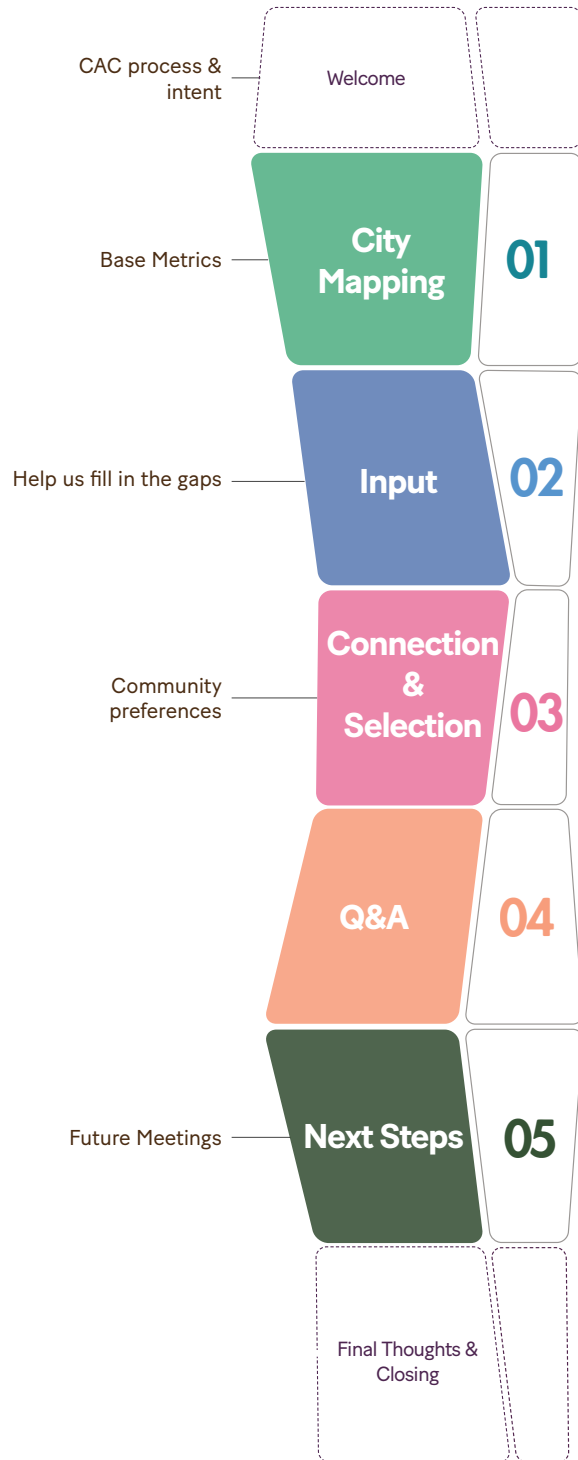
Appendix 1 - Community Advisory Committee Meeting # 1



ARNOLD

PUBLIC MEETING
2021.06.10

AGENDA

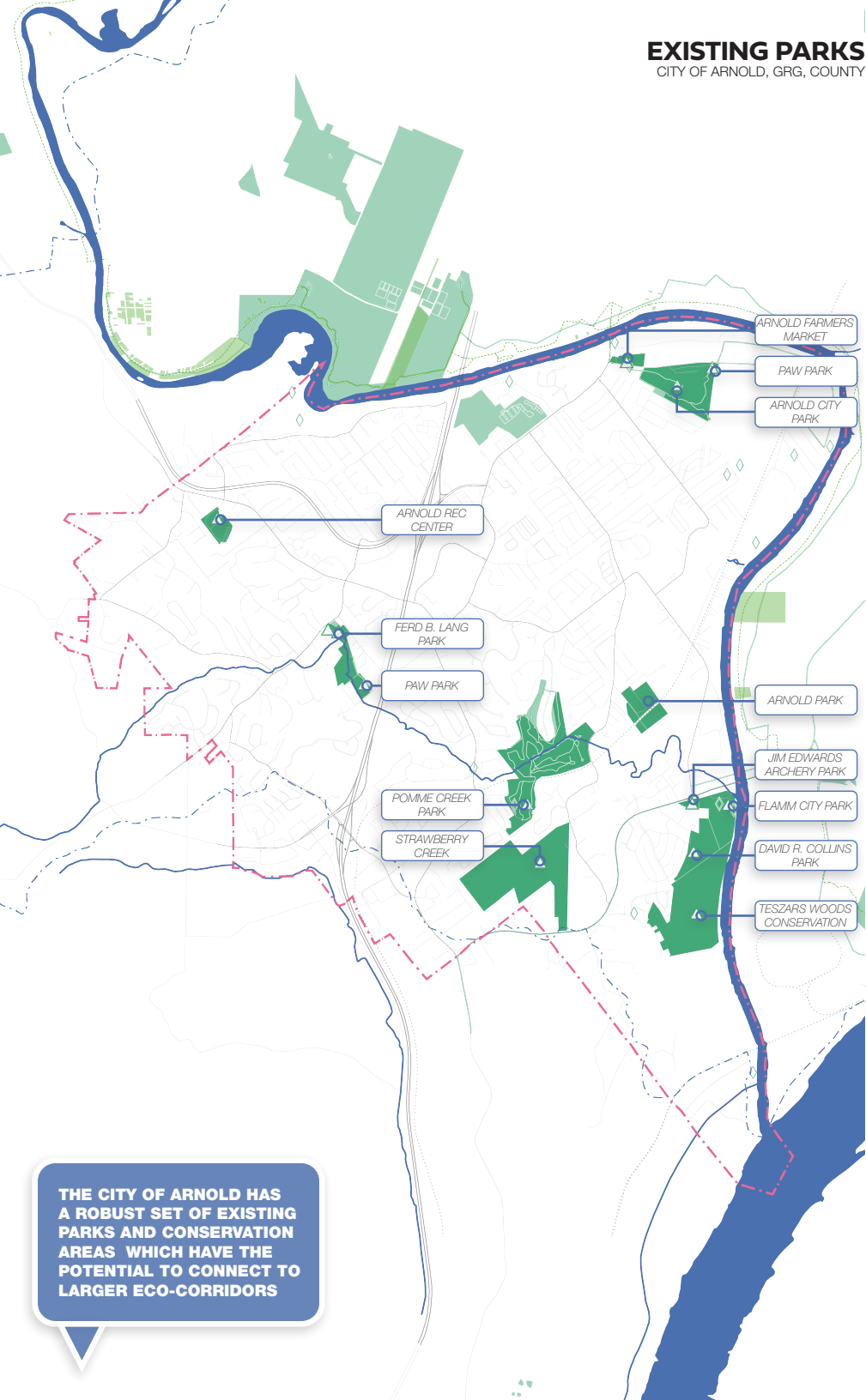


WELCOME

CAC PROCESS + INTENT

EXISTING PARKS

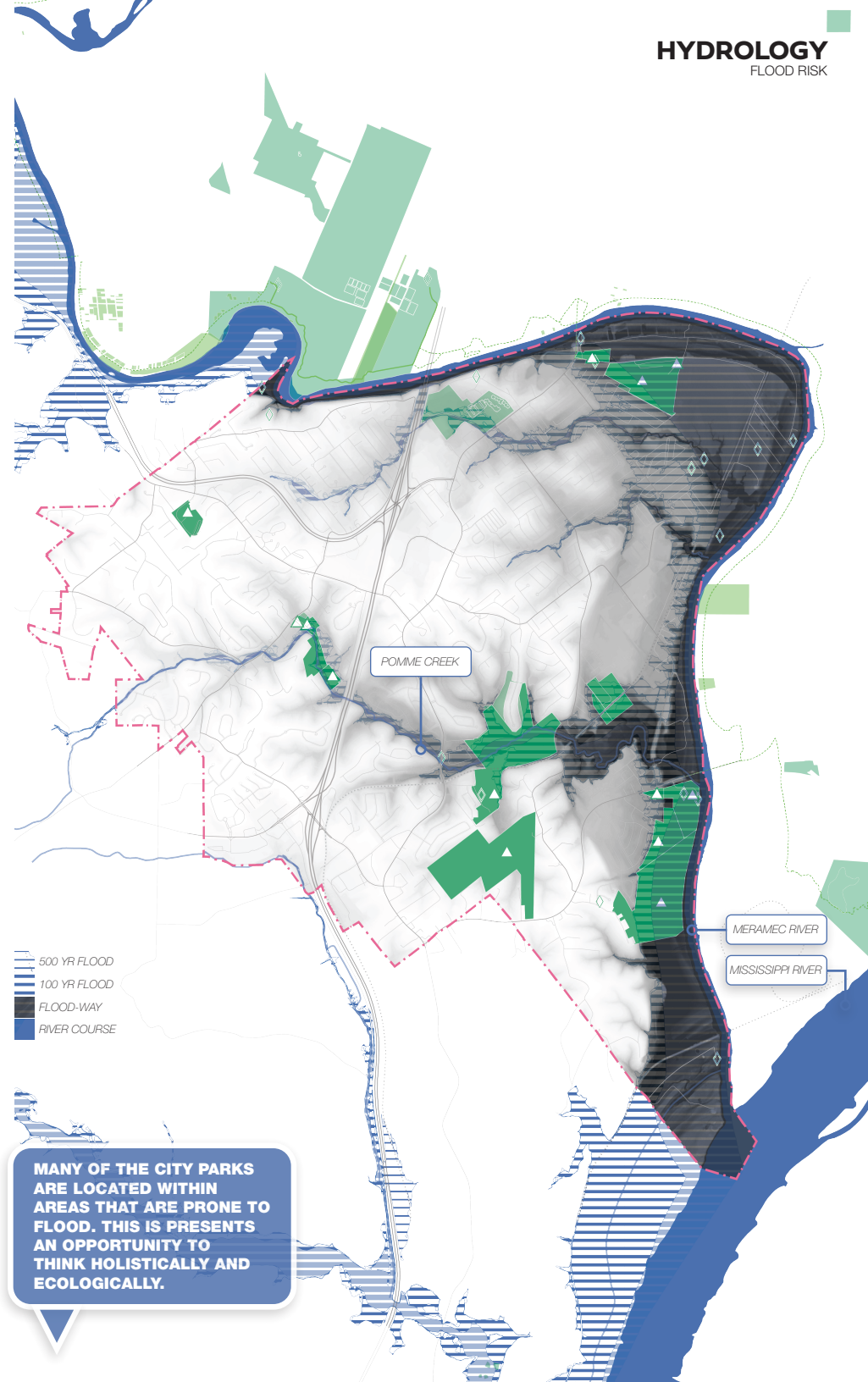
CITY OF ARNOLD, GRG, COUNTY



THE CITY OF ARNOLD HAS A ROBUST SET OF EXISTING PARKS AND CONSERVATION AREAS WHICH HAVE THE POTENTIAL TO CONNECT TO LARGER ECO-CORRIDORS

HYDROLOGY

FLOOD RISK

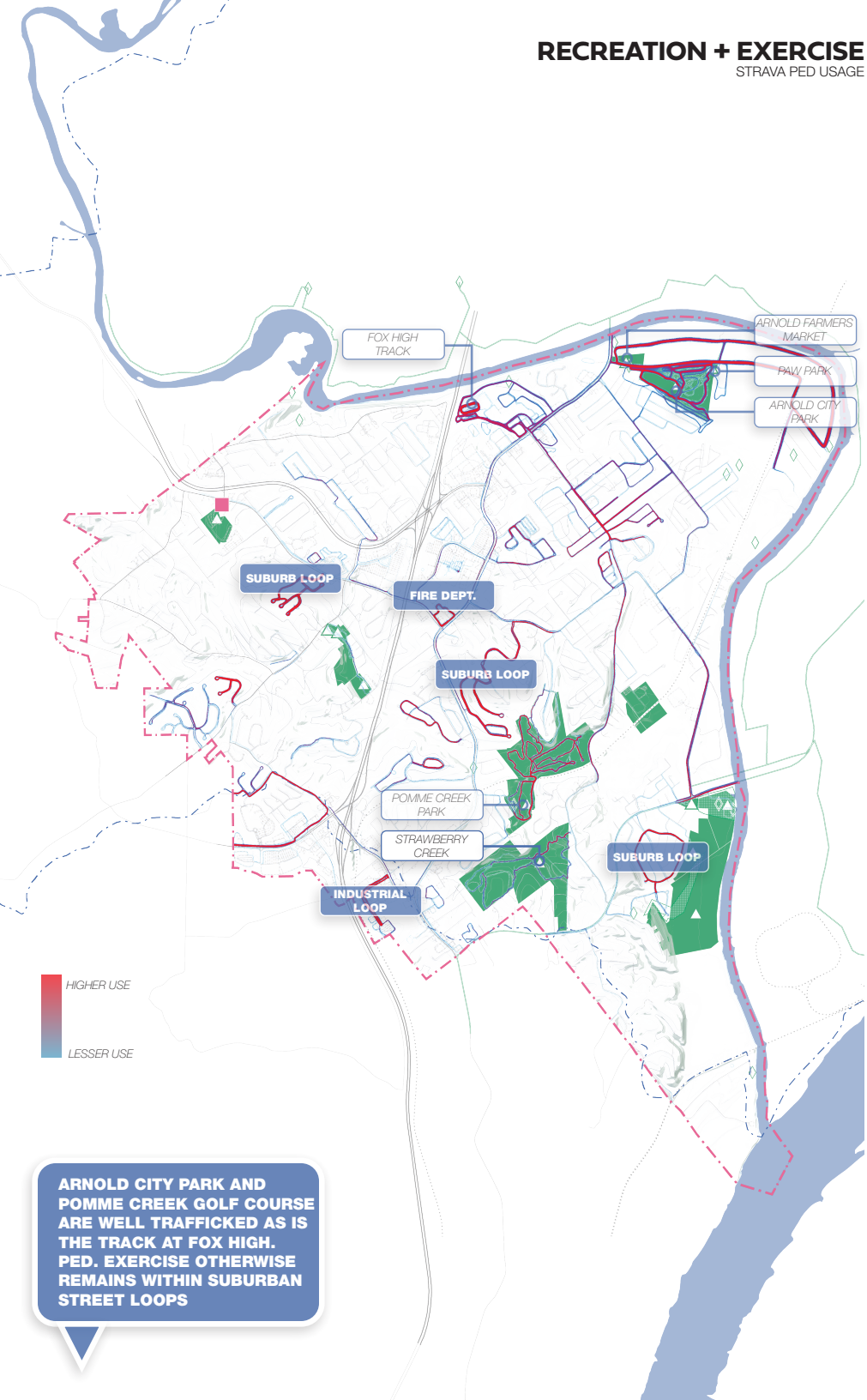


500 YR FLOOD
100 YR FLOOD
FLOOD-WAY
RIVER COURSE

MANY OF THE CITY PARKS ARE LOCATED WITHIN AREAS THAT ARE PRONE TO FLOOD. THIS PRESENTS AN OPPORTUNITY TO THINK HOLISTICALLY AND ECOLOGICALLY.

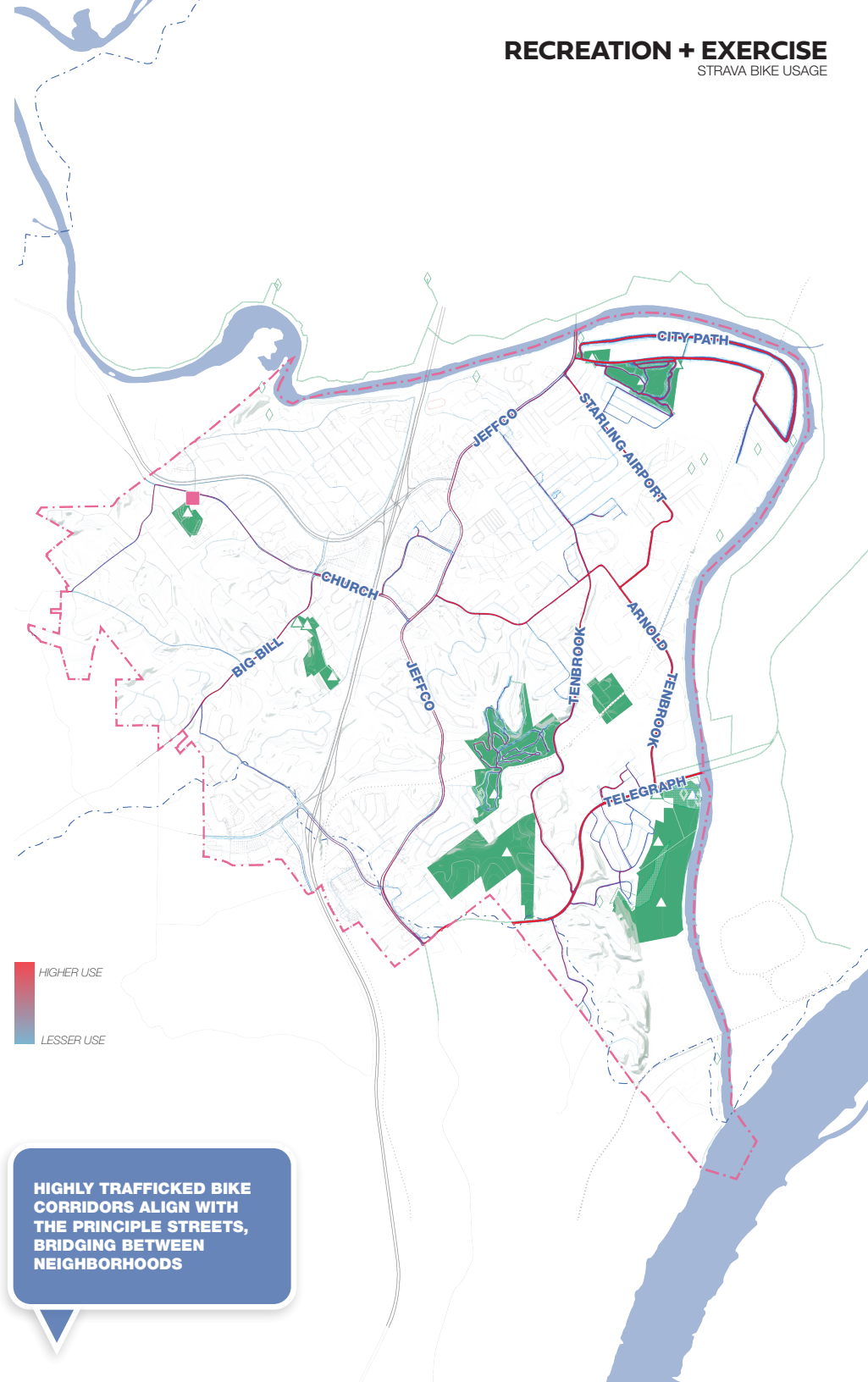
RECREATION + EXERCISE

STRAVA PED USAGE



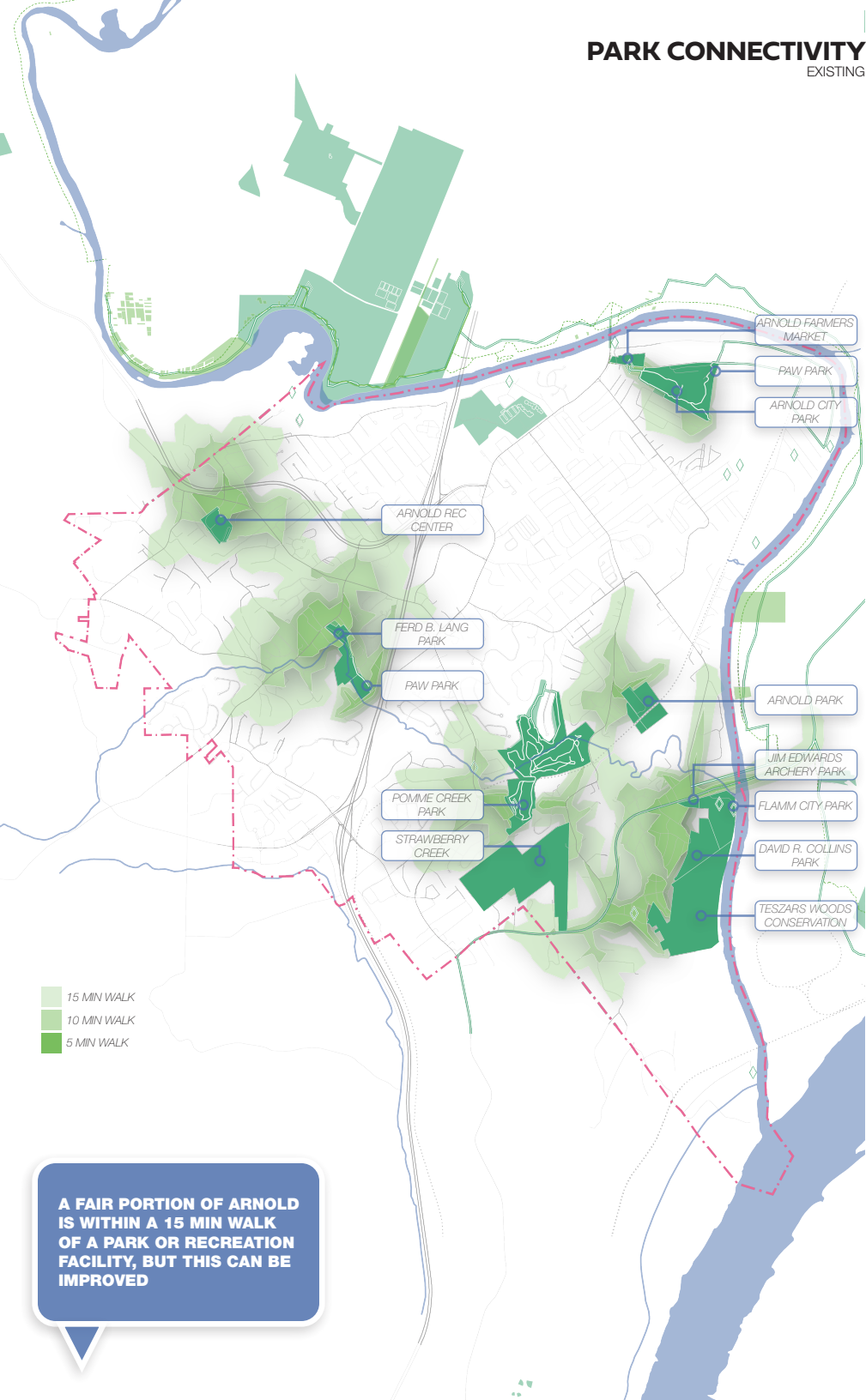
RECREATION + EXERCISE

STRAVA BIKE USAGE



PARK CONNECTIVITY

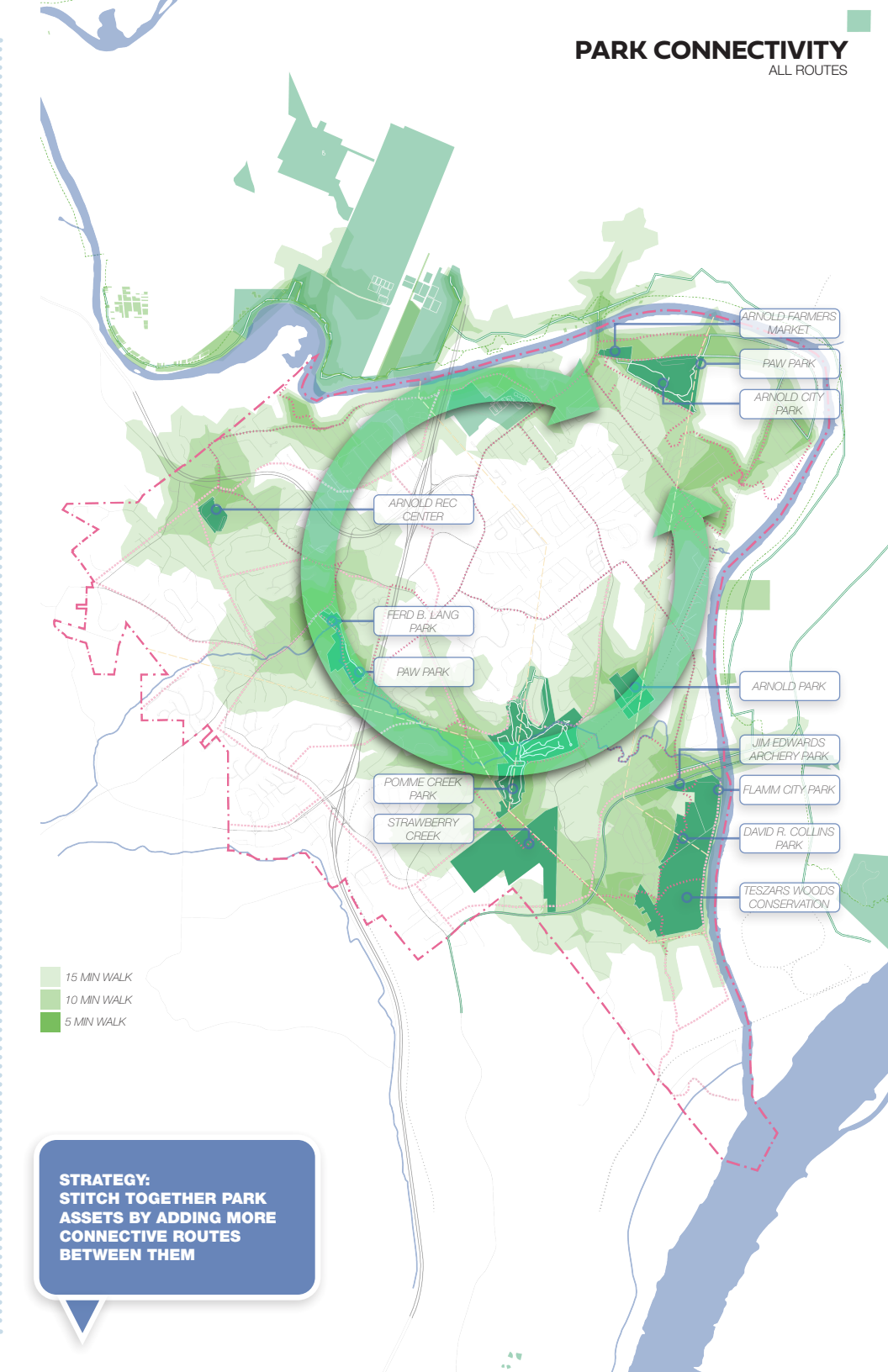
EXISTING



A FAIR PORTION OF ARNOLD IS WITHIN A 15 MIN WALK OF A PARK OR RECREATION FACILITY, BUT THIS CAN BE IMPROVED

PARK CONNECTIVITY

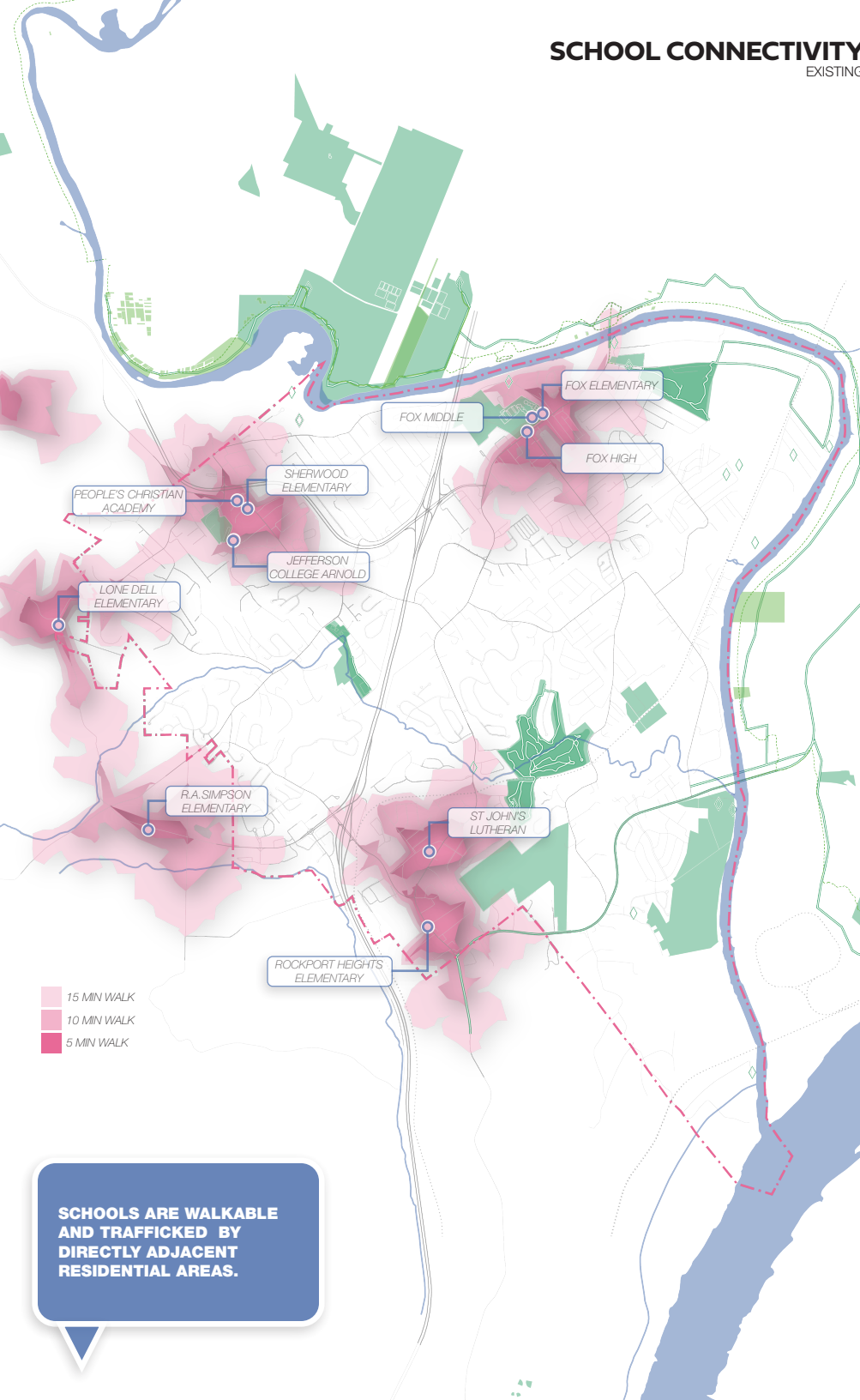
ALL ROUTES



STRATEGY: STITCH TOGETHER PARK ASSETS BY ADDING MORE CONNECTIVE ROUTES BETWEEN THEM

SCHOOL CONNECTIVITY

EXISTING

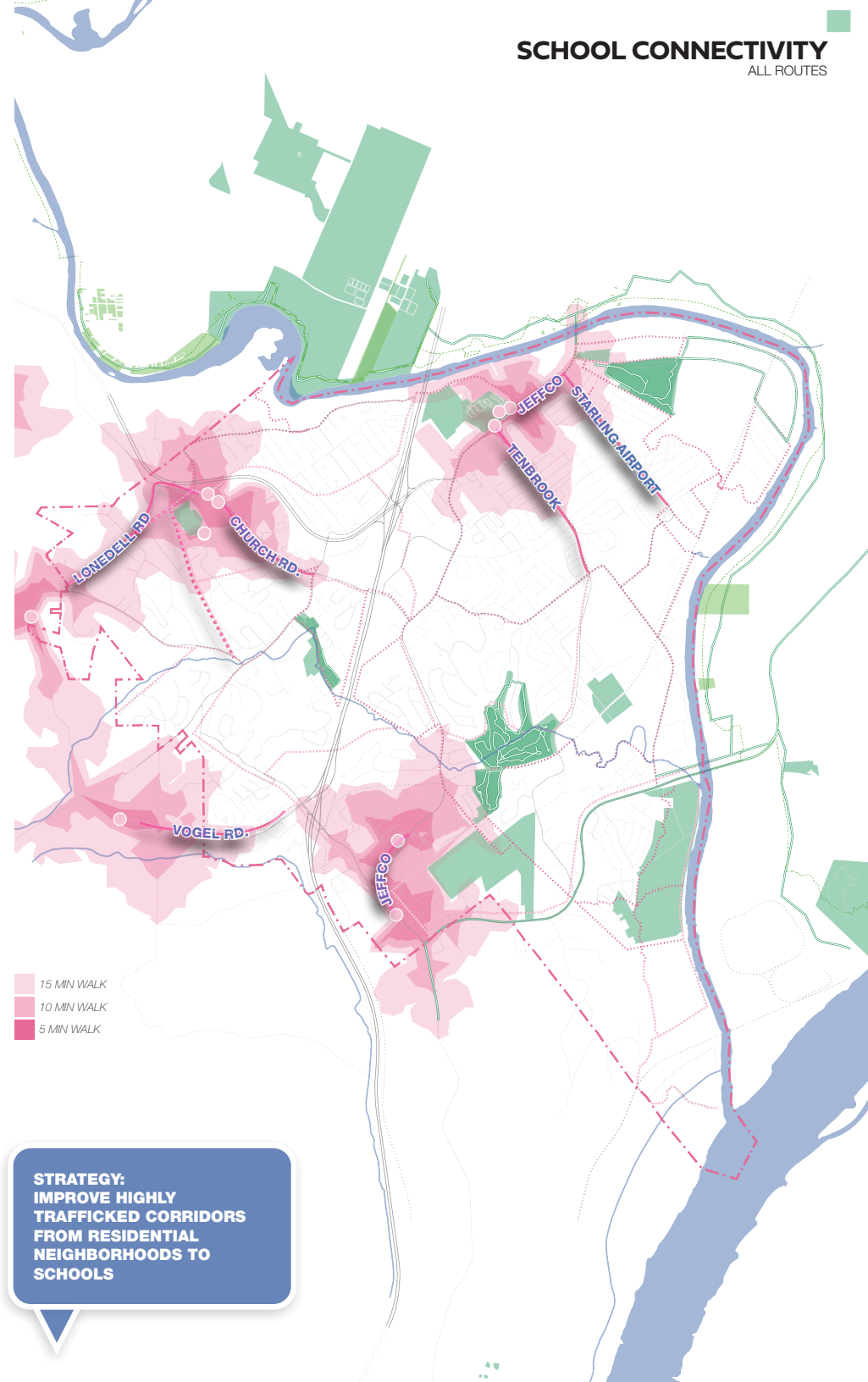


- 15 MIN WALK
- 10 MIN WALK
- 5 MIN WALK

SCHOOLS ARE WALKABLE AND TRAFFICKED BY DIRECTLY ADJACENT RESIDENTIAL AREAS.

SCHOOL CONNECTIVITY

ALL ROUTES



- 15 MIN WALK
- 10 MIN WALK
- 5 MIN WALK

STRATEGY: IMPROVE HIGHLY TRAFFICKED CORRIDORS FROM RESIDENTIAL NEIGHBORHOODS TO SCHOOLS

PEDESTRIAN ACCESSIBILITY

EXISTING SIDEWALKS



PRIMARILY PLANNED, NEWER SUBURBAN AREAS HAVE MORE ACCESS TO SIDEWALKS THAN OLDER RESIDENTIAL AREAS

PEDESTRIAN ACCESSIBILITY

MISSING SIDEWALK AREAS



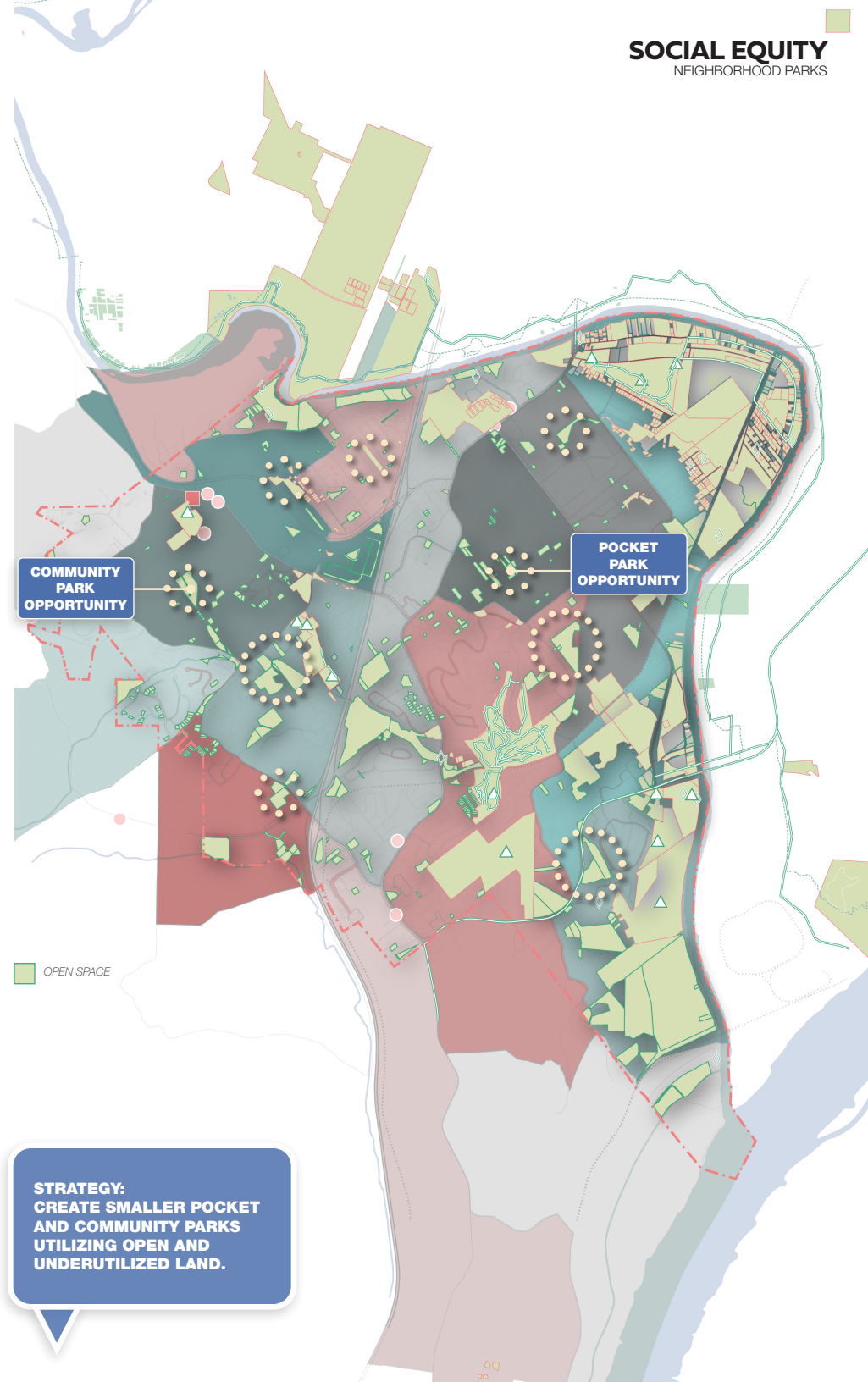
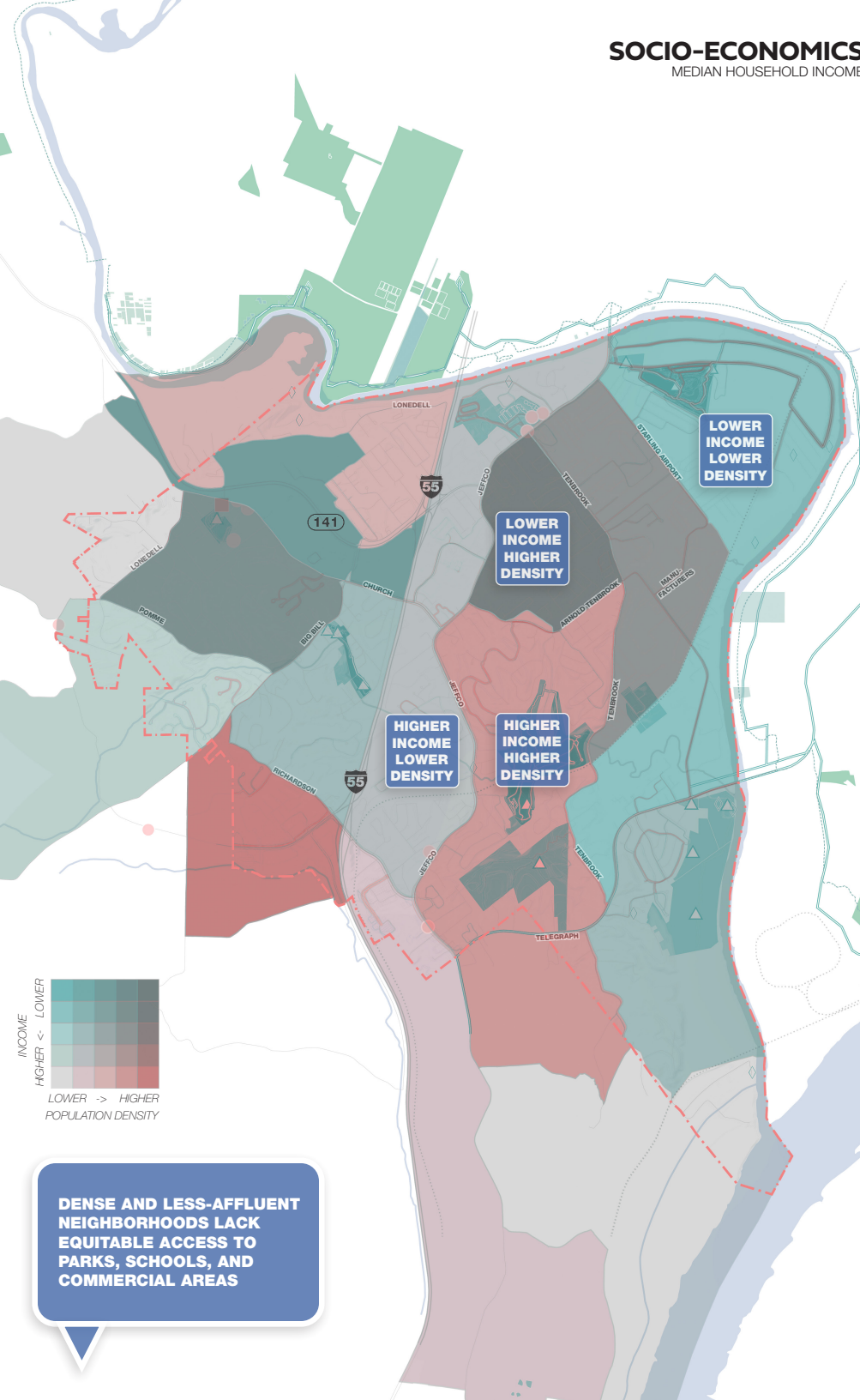
STRATEGY: LINK TOGETHER SUBURBAN SIDEWALK ROUTES ALONG PRIMARY CORRIDORS AND IMPROVE CONNECTIVITY AROUND OLDER RESIDENTIAL AREAS

SOCIO-ECONOMICS

MEDIAN HOUSEHOLD INCOME

SOCIAL EQUITY

NEIGHBORHOOD PARKS



HAVE WE MISSED ANYTHING?

SCALE: WE ARE GROUPING CORRIDORS BASED ON HOW FAR THEY GO AND WHO THEY CONNECT

REGIONAL

CORRIDOR NAMES

MUNICIPAL

CORRIDOR NAMES

LOCAL

CORRIDOR NAMES

METRICS

CONNECTIVITY

REACH

POSSIBILITY

IMPACT

METRICS: WE ARE EVALUATING THE ROUTES BASED ON THESE PRINCIPLES

CONNECTIVITY: HOW MANY?
REACH: HOW FAR?
POSSIBILITY: HOW PROBABLE?

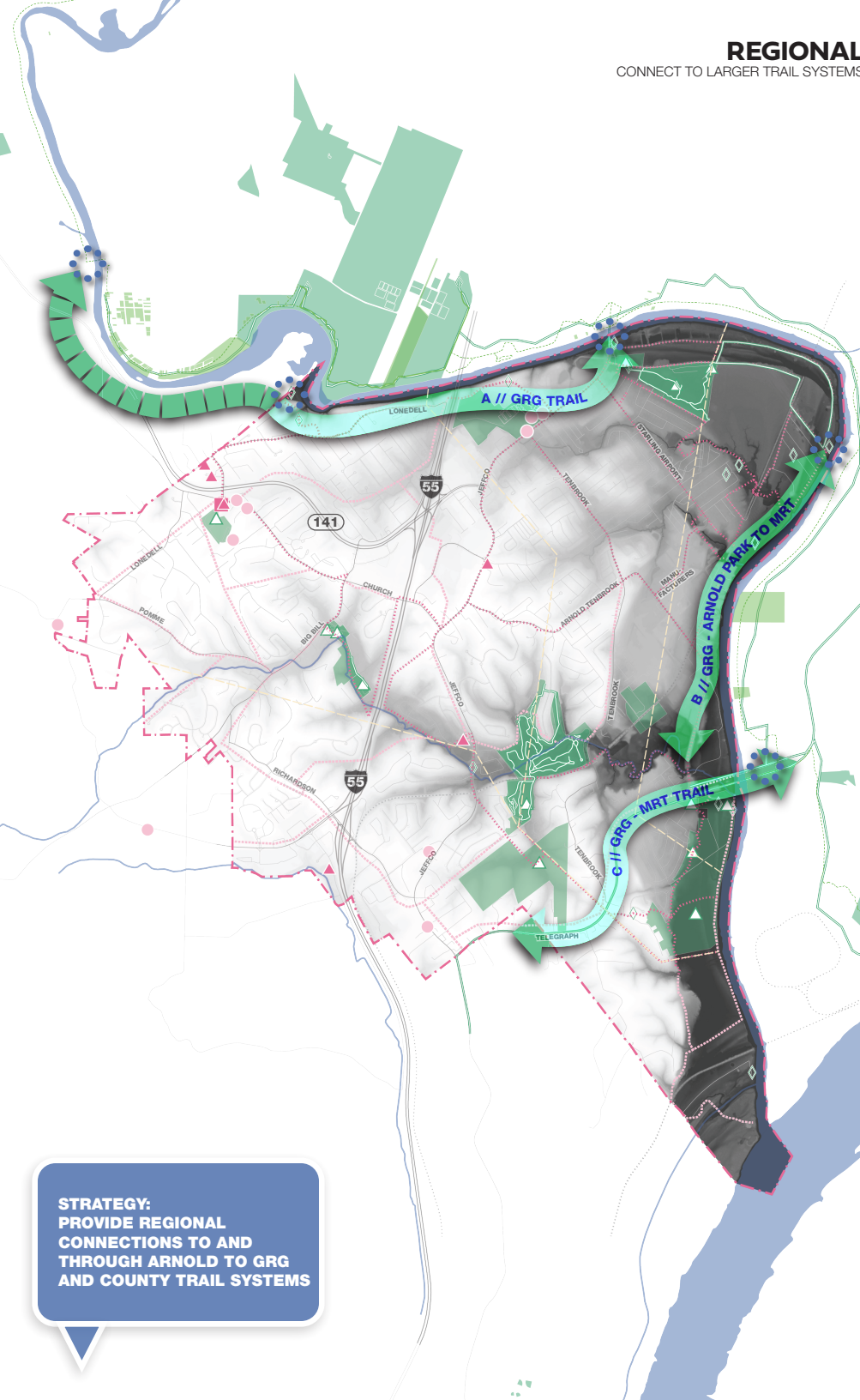
IMPACT: WE ARE ASKING FOR COMMUNITY INPUT, PLEASE RATE YOUR PREFERRED ROUTE CHOICE FOR EACH SCALE FROM 1-3

METRICS

YOUR PREFERENCE

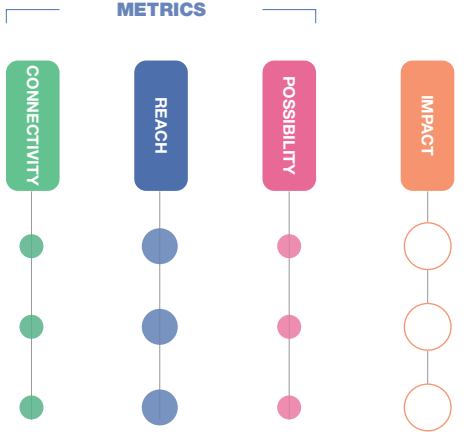
- — HIGH — 1
- — MEDIUM — 2
- — LOW — 3

REGIONAL
CONNECT TO LARGER TRAIL SYSTEMS

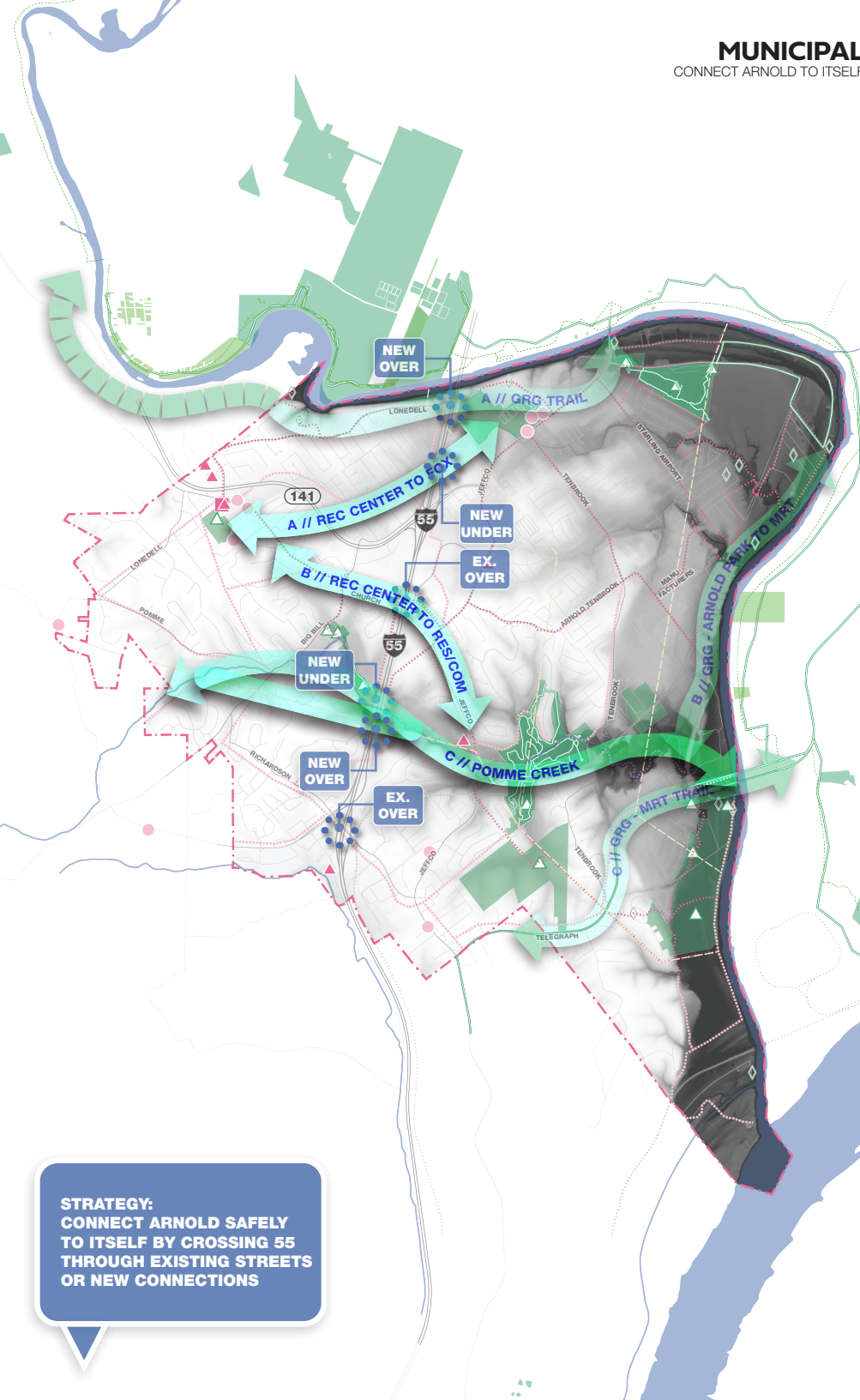


STRATEGY:
PROVIDE REGIONAL
CONNECTIONS TO AND
THROUGH ARNOLD TO GRG
AND COUNTY TRAIL SYSTEMS

- REGIONAL**
- A // GRG TRAIL
 - B // GRG - ARNOLD CITY PARK - MRT
 - C // GRG - MRT TRAIL

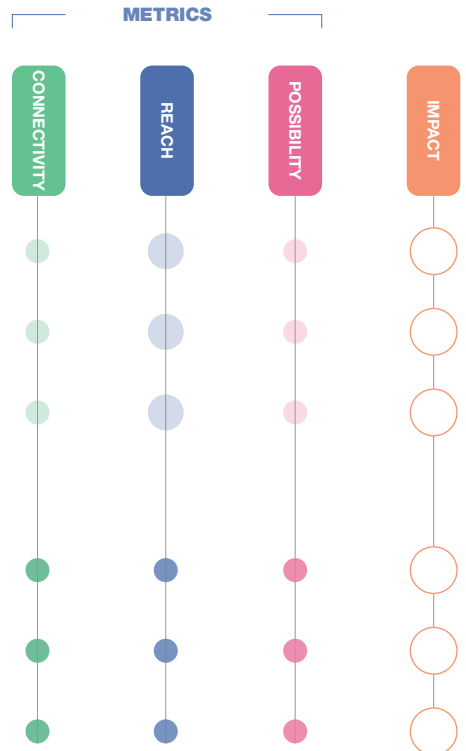


MUNICIPAL
CONNECT ARNOLD TO ITSELF

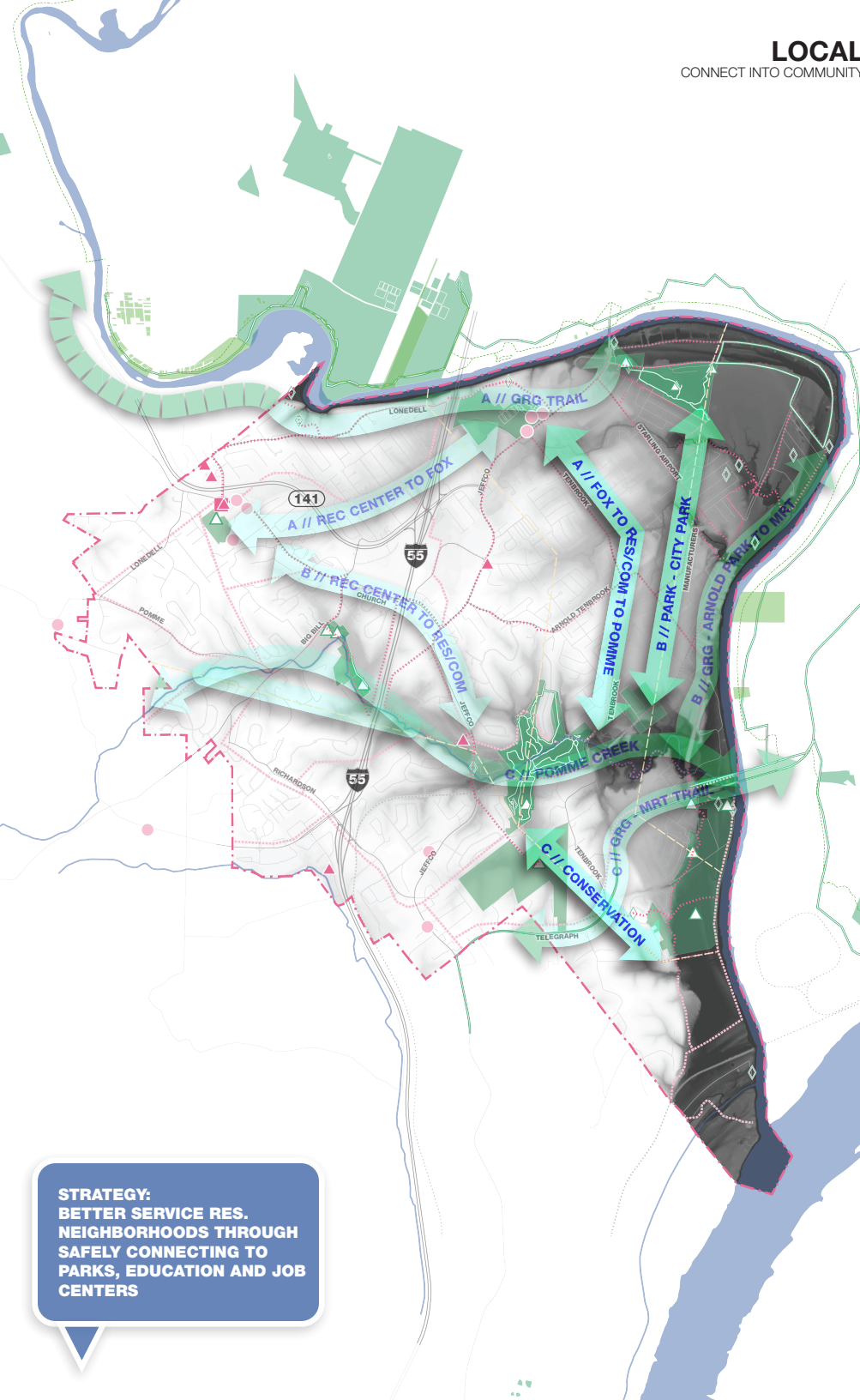


STRATEGY:
CONNECT ARNOLD SAFELY
TO ITSELF BY CROSSING 55
THROUGH EXISTING STREETS
OR NEW CONNECTIONS

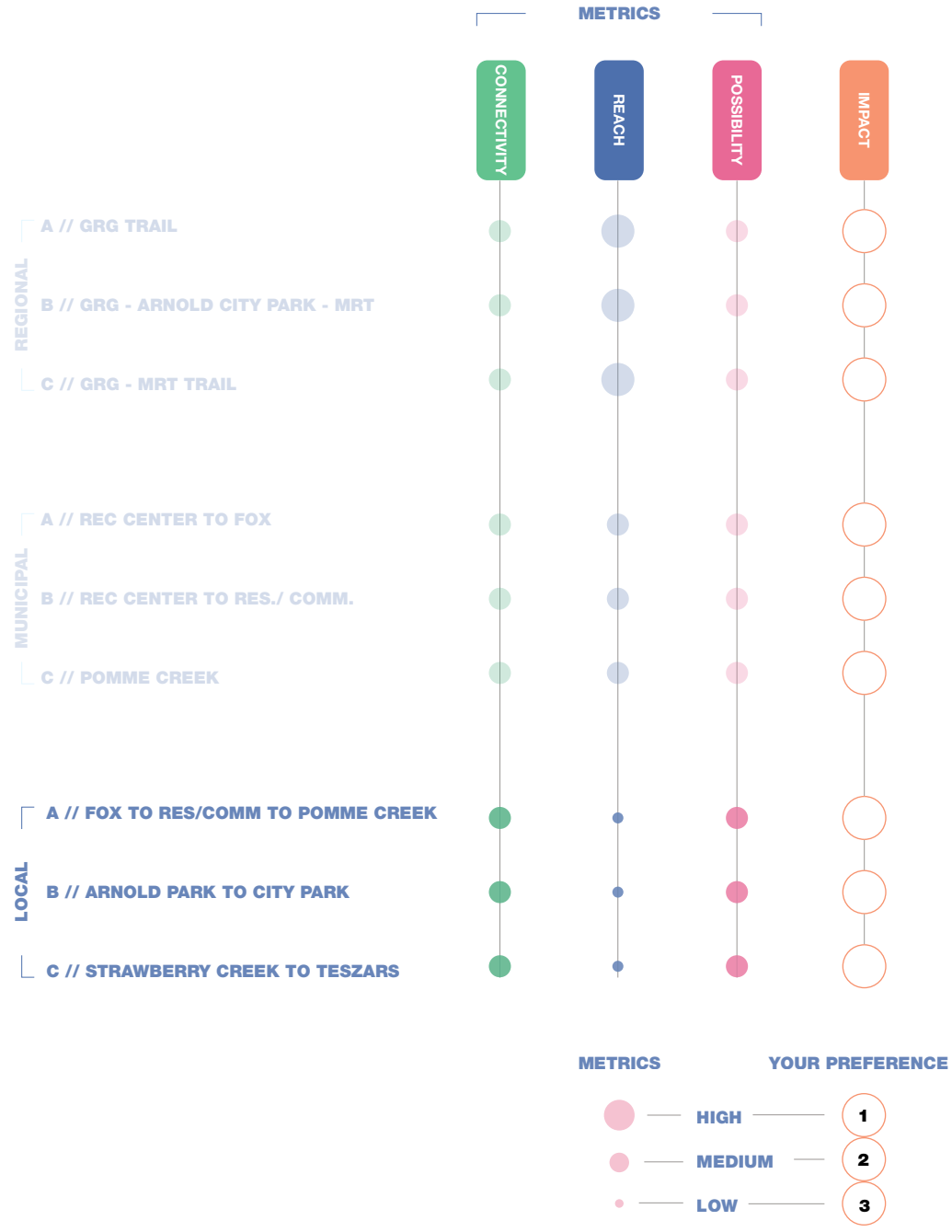
- REGIONAL
 - A // GRG TRAIL
 - B // GRG - ARNOLD CITY PARK - MRT
 - C // GRG - MRT TRAIL
- MUNICIPAL
 - A // REC CENTER TO FOX
 - B // REC CENTER TO RES./ COMM.
 - C // POMME CREEK



LOCAL
CONNECT INTO COMMUNITY



STRATEGY:
BETTER SERVICE RES.
NEIGHBORHOODS THROUGH
SAFELY CONNECTING TO
PARKS, EDUCATION AND JOB
CENTERS

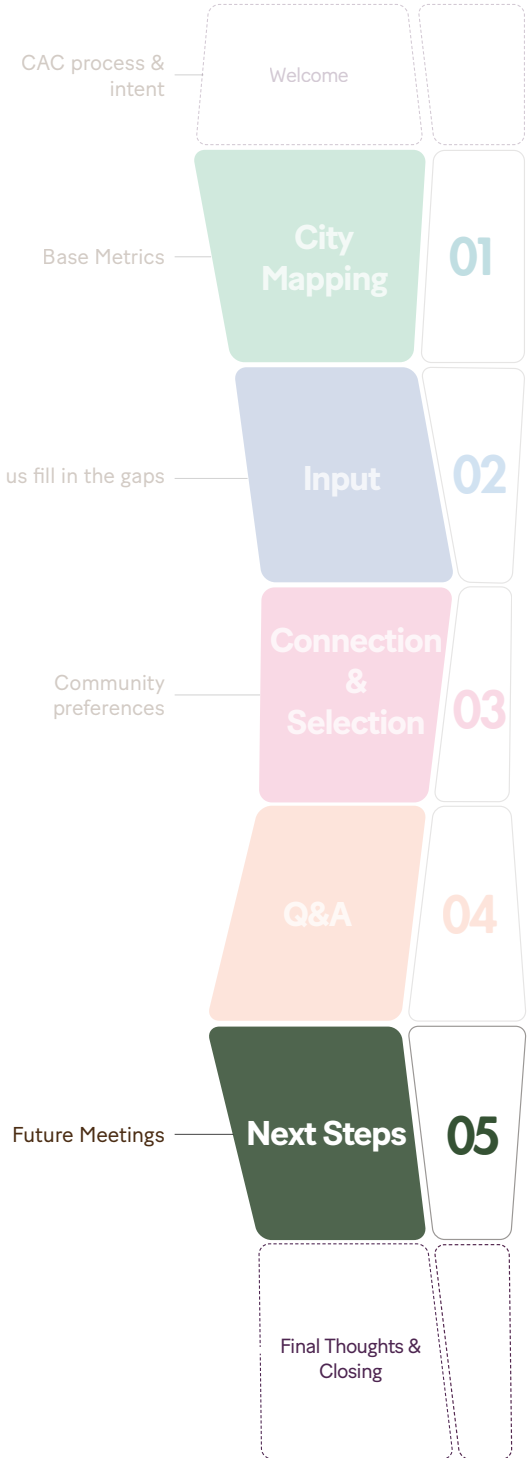


PEDESTRIAN ACCESSIBILITY

MISSING SIDEWALK AREAS



HAVE WE MISSED ANYTHING?



Appendix 2 - Community Advisory Committee Meeting # 2



ARNOLD

PUBLIC MEETING
2021.08.12

Bicycle/Pedestrian Plan

CITY OF ARNOLD, MISSOURI

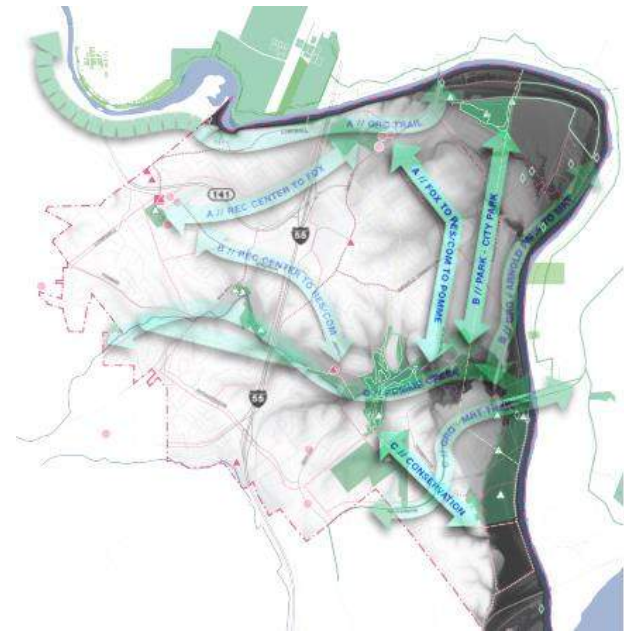
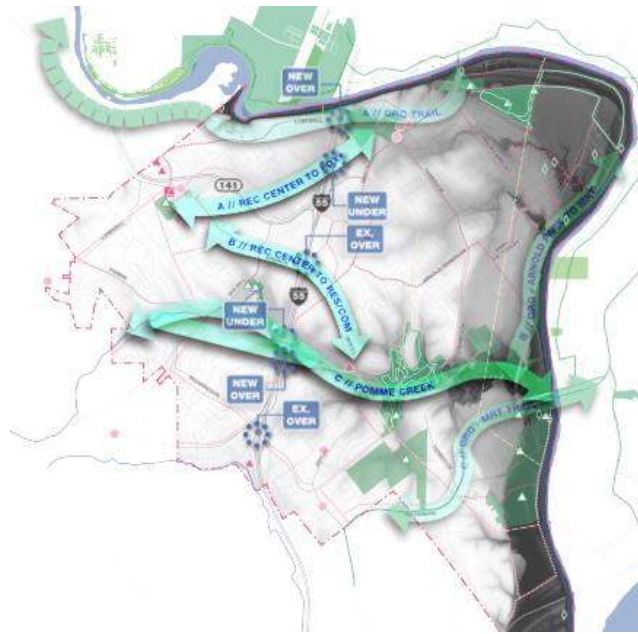
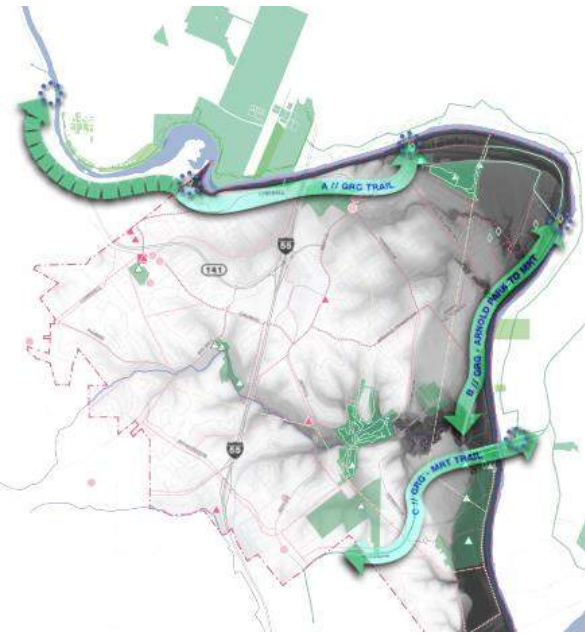


| Goals for Today

- Update committee on work completed to date
- Current prioritizations / MoDOT solicitation
- Committee input needed
- Outline next steps

Work to Date

- Identified 9 potential corridors

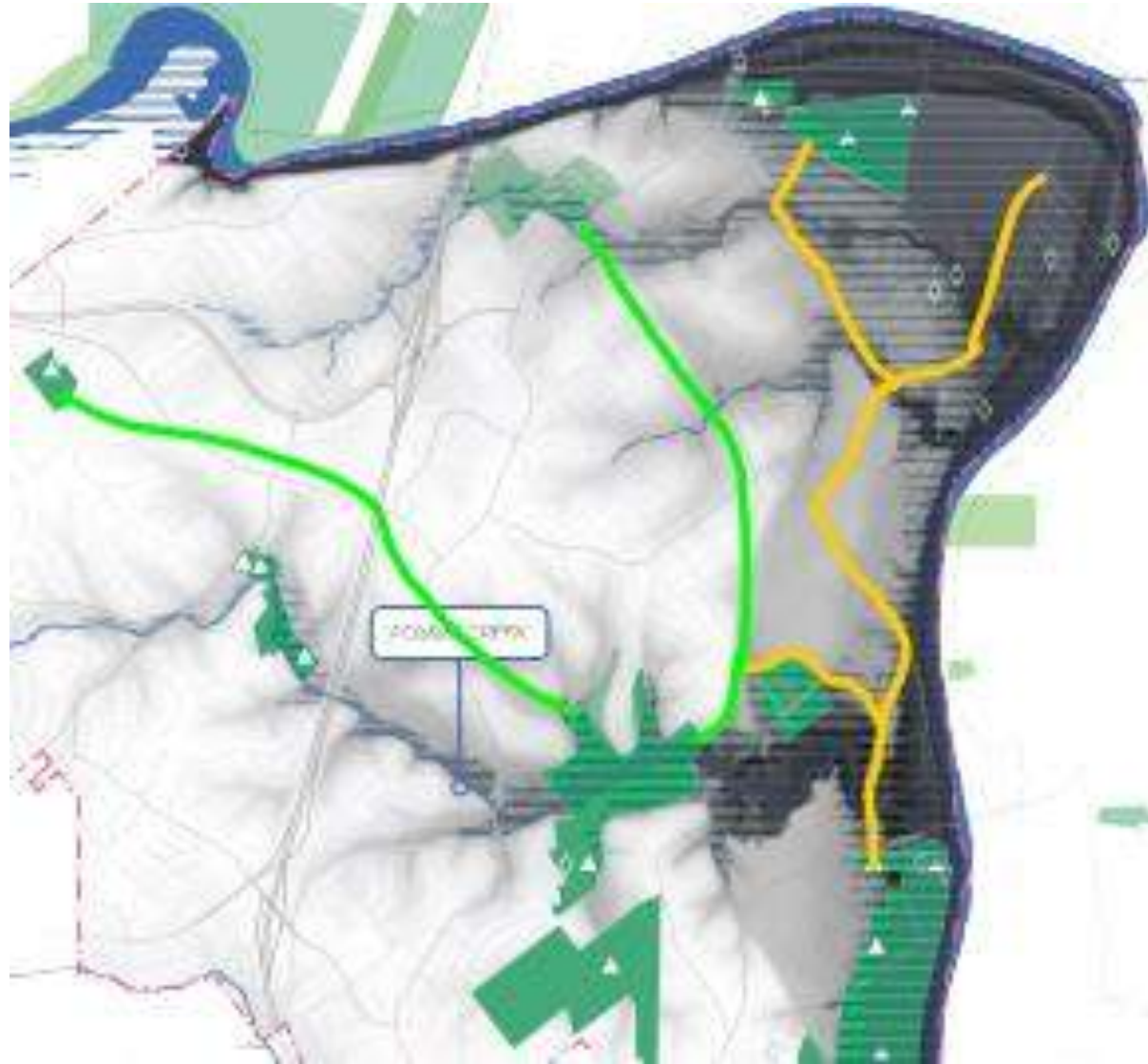


Work to Date

- Prioritized to 3 for additional study
 - Scoring matrix
 - Feasibility
 - Connectivity
 - Property impacts
 - Safety
 - Equity
 - Etc.
 - Committee feedback

Work to Date

- Rec Center to Pomme
- Fox to Pomme
- Arnold City Park to Flamm City
 - Create “Loop” – shared use path along roadway and off-road greenway



MoDOT Multimodal Request

- Generate “Projects” from “Corridors”
- Concept Plans and Estimates
- Quick turnaround

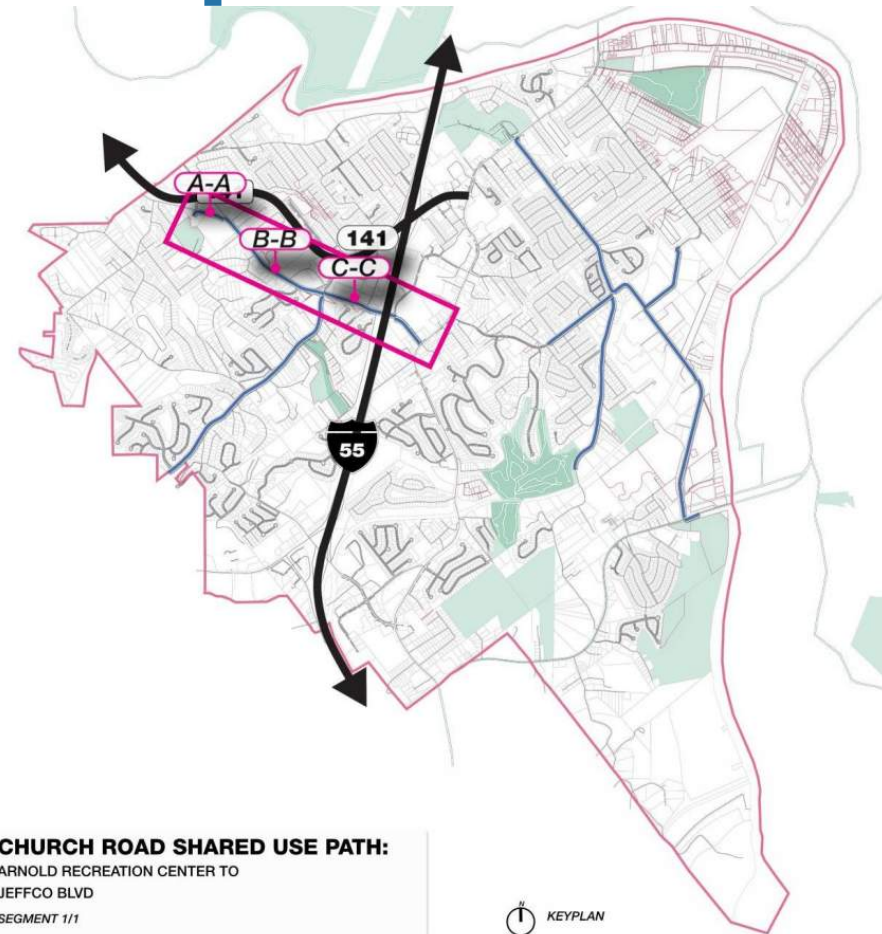
- Can we identify feasible projects?

MoDOT Multimodal Request

- 7 projects identified
 - Broken into achievable sections
 - 5 Bicycle & Pedestrian focused projects
 - 2 ADA & Sidewalk focused projects

MoDOT Multimodal Request

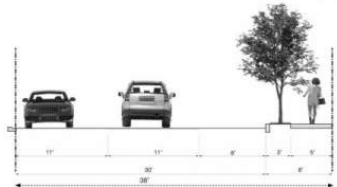
- Church Street Shared Use Path (SUP)



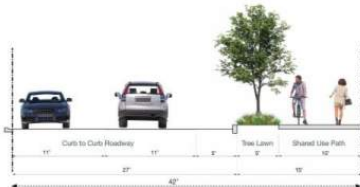
MoDOT Multimodal Request

- Church Street Shared Use Path (SUP)

MISSOURI STATE RD - SOUTH OF ASTRA WAY



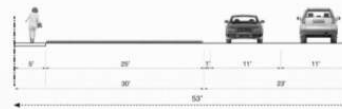
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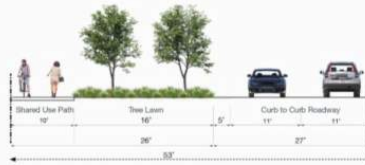
PROPOSED SECTION

SECTION A-A

MISSOURI STATE RD - SOUTH OF WOODLANDS



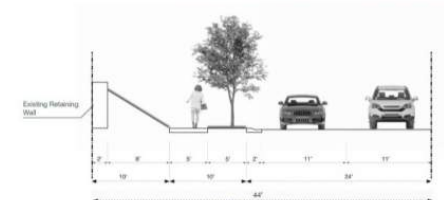
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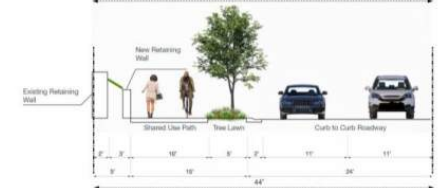
PROPOSED SECTION

SECTION B-B

CHURCH RD - SOUTH OF OLD LEMAY FERRY F



EXISTING SECTION



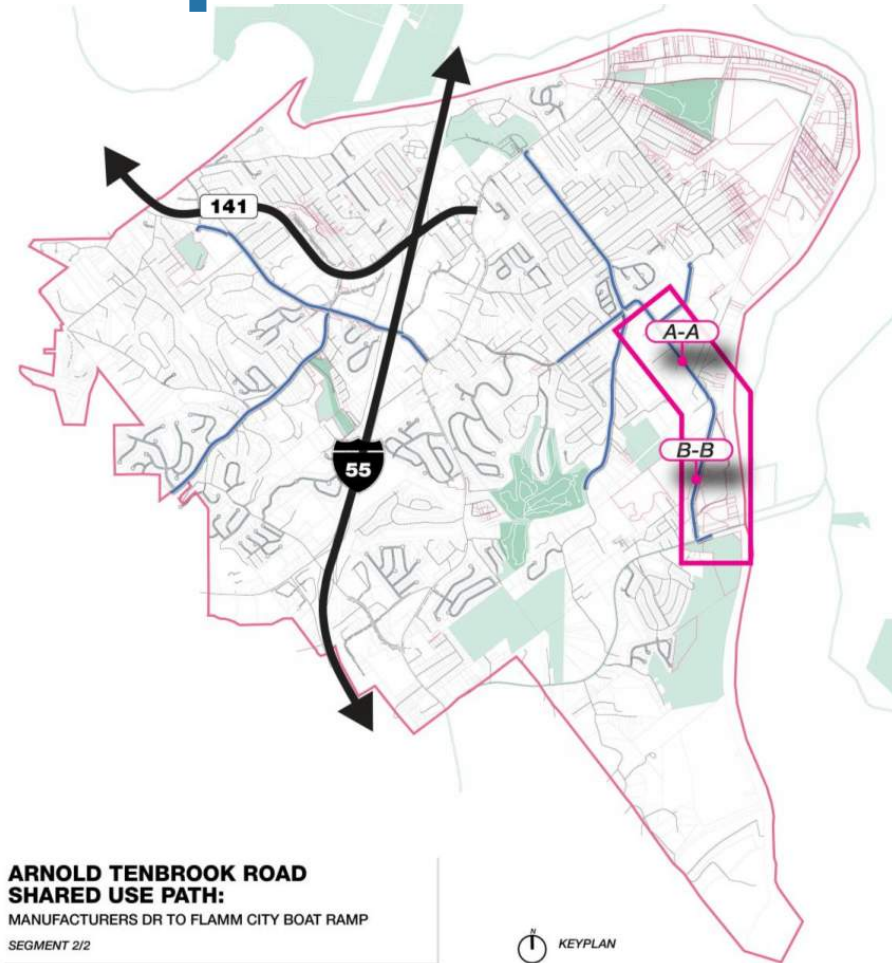
PROPOSED SECTION

SECTION C-C



MoDOT Multimodal Request

- Arnold Tenbrook SUP

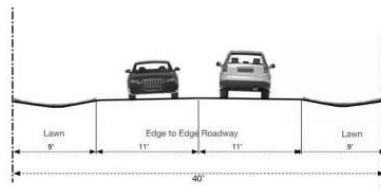


MoDOT Multimodal Request

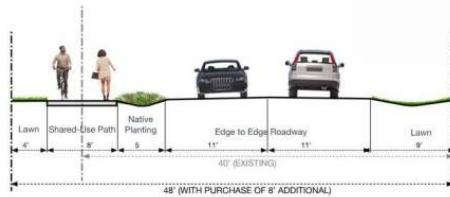
- Arnold Tenbrook SUP

ARNOLD TENBROOK RD - SOUTH OF MANUFACTURER'S DRIVE

EXISTING SECTION



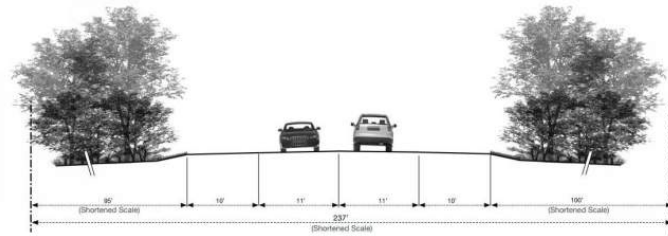
PROPOSED SECTION



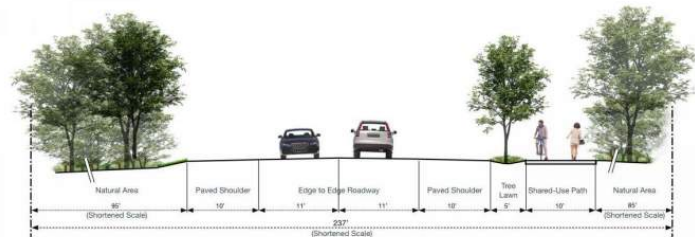
SECTION A-A

ARNOLD TENBROOK RD - SOUTH OF RIVERSIDE DR

EXISTING SECTION



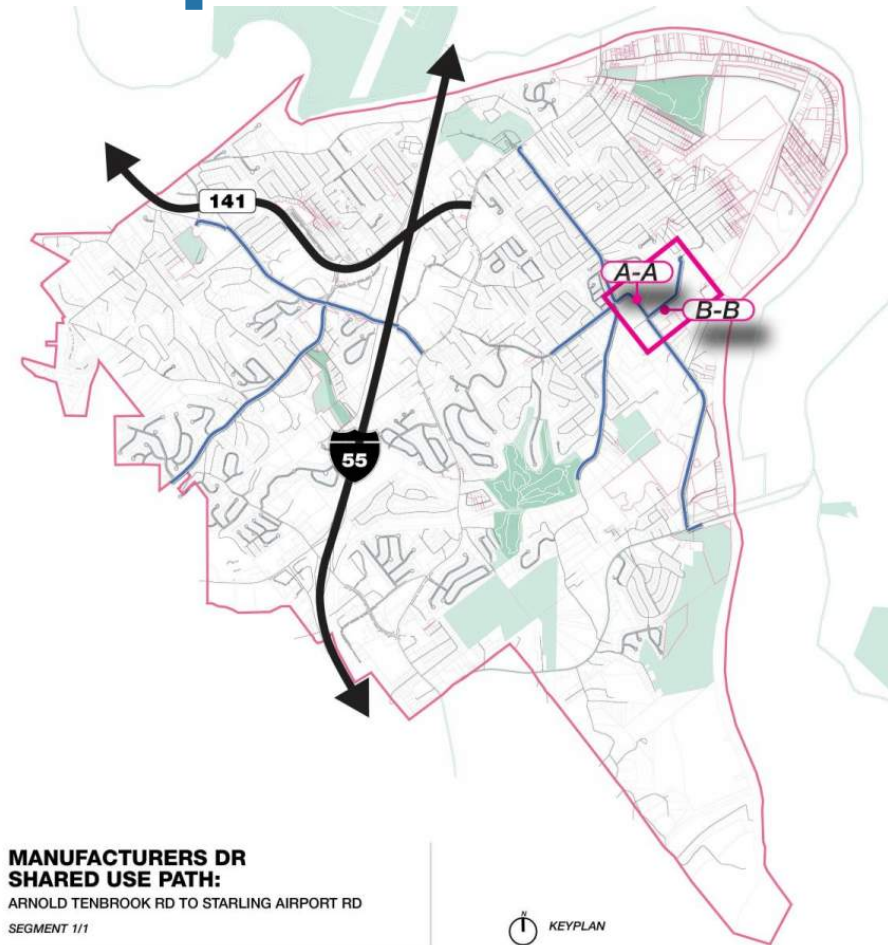
PROPOSED SECTION



SECTION B-B

MoDOT Multimodal Request

- Manufacturer's SUP

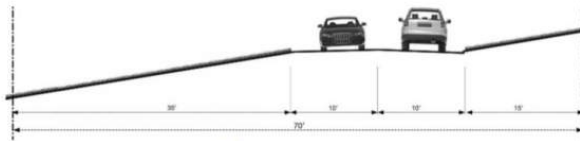


MoDOT Multimodal Request

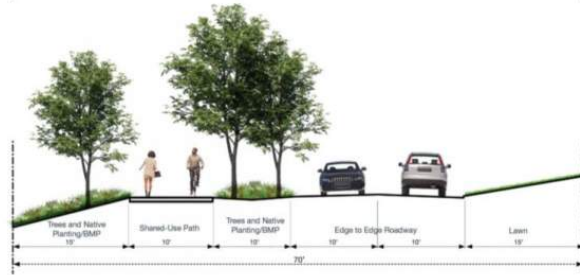
- Manufacturer's SUP

ARNOLD TENBROOK RD - AT INDUSTRIAL PARK

EXISTING SECTION



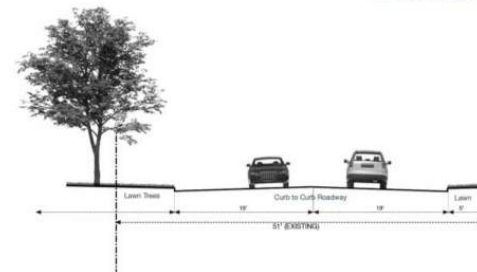
PROPOSED SECTION



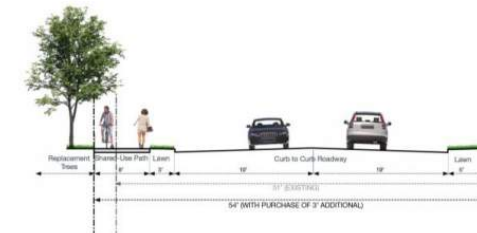
SECTION A-A

MANUFACTURERS DRIVE

EXISTING SECTION



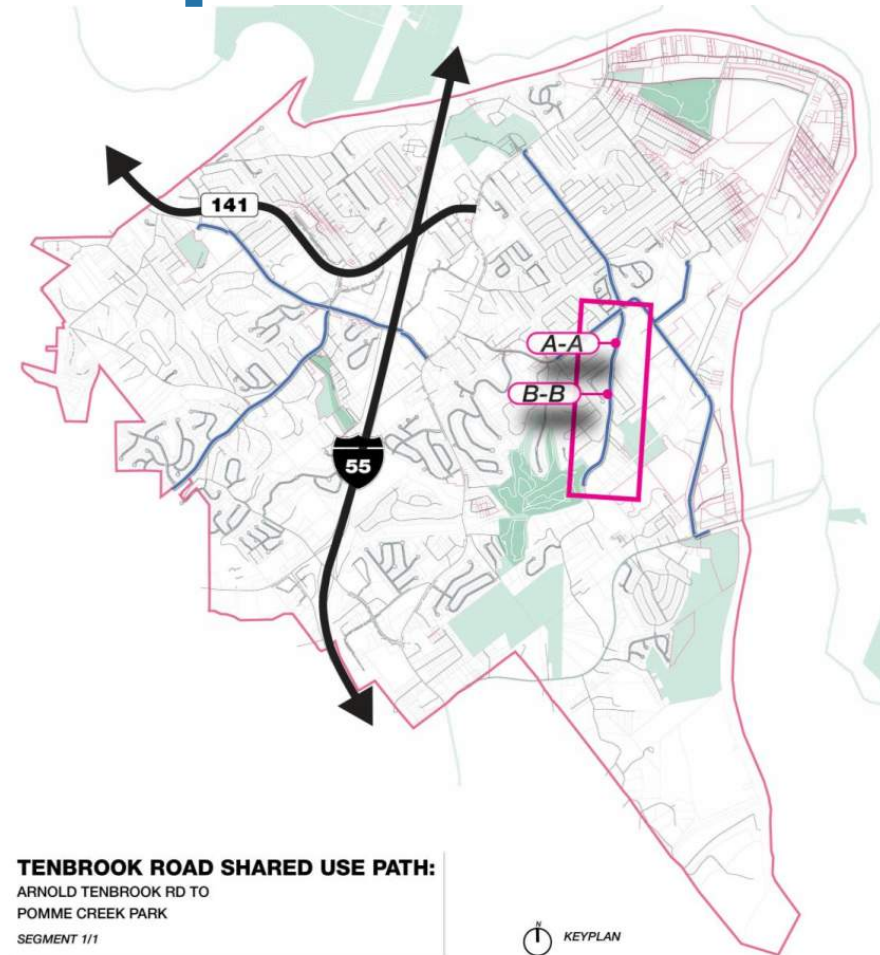
PROPOSED SECTION



SECTION B-B

MoDOT Multimodal Request

- Tenbrook SUP (south)



MoDOT Multimodal Request

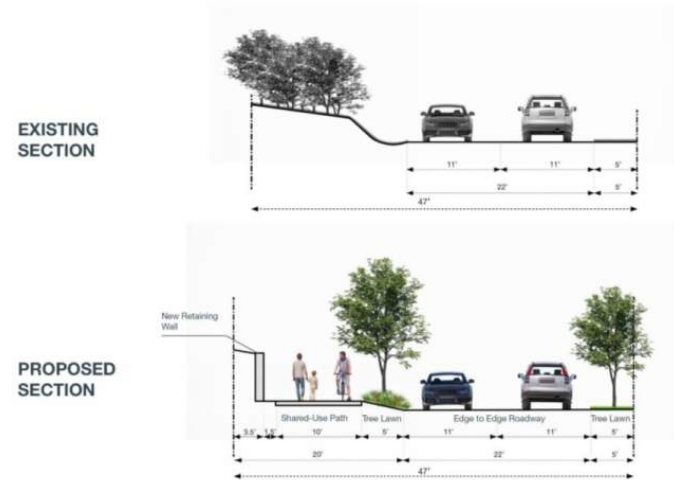
- Tenbrook SUP (south)

TENBROOK RD - SOUTH OF ARNOLD TENBROOK RD



SECTION A-A

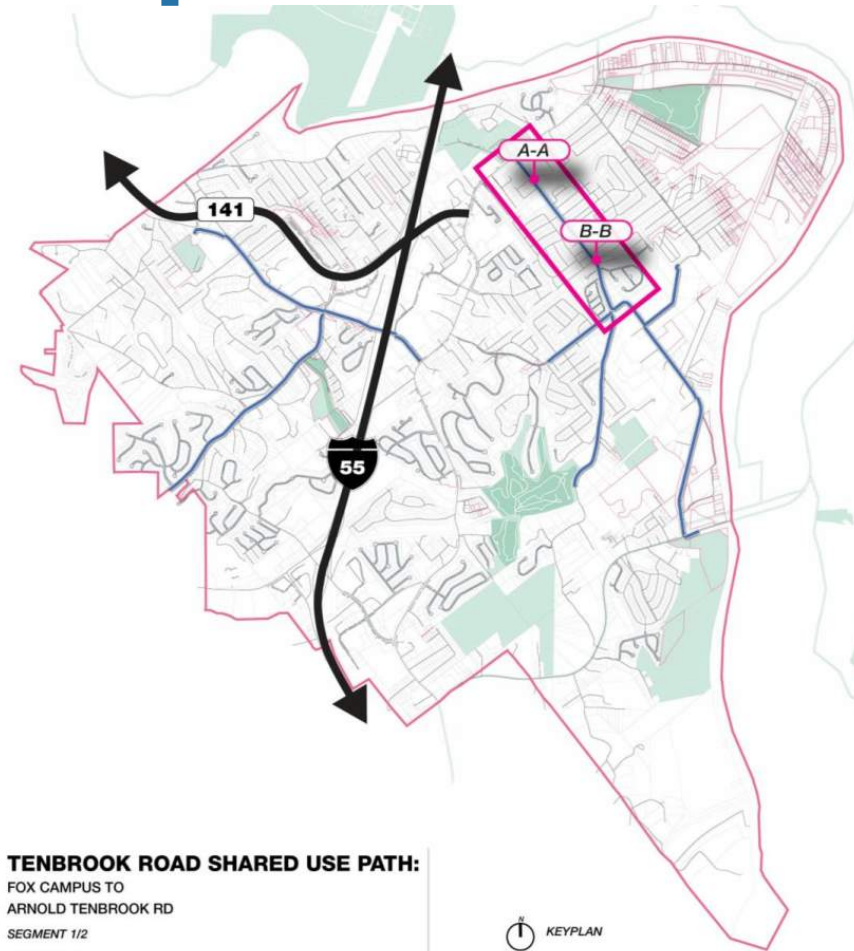
TENBROOK RD - SOUTH OF FOXWOODS ESTATE DR



SECTION B-B

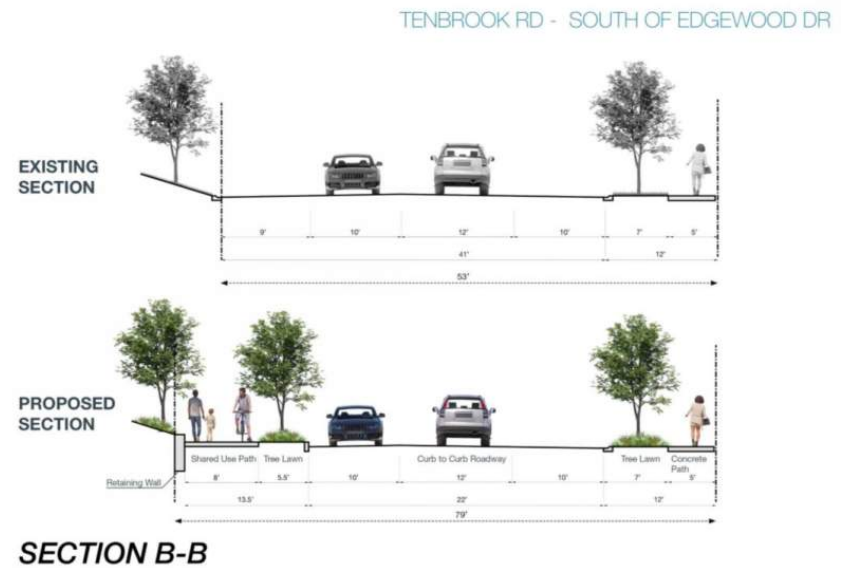
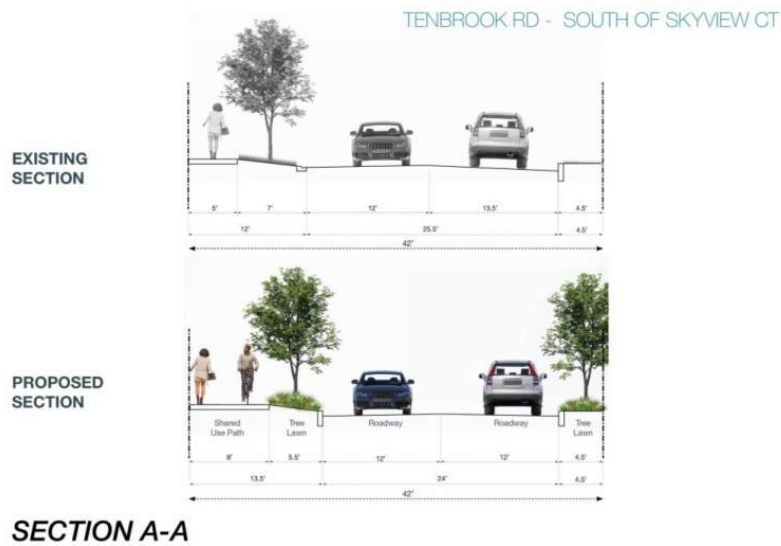
MoDOT Multimodal Request

- Tenbrook SUP (north)



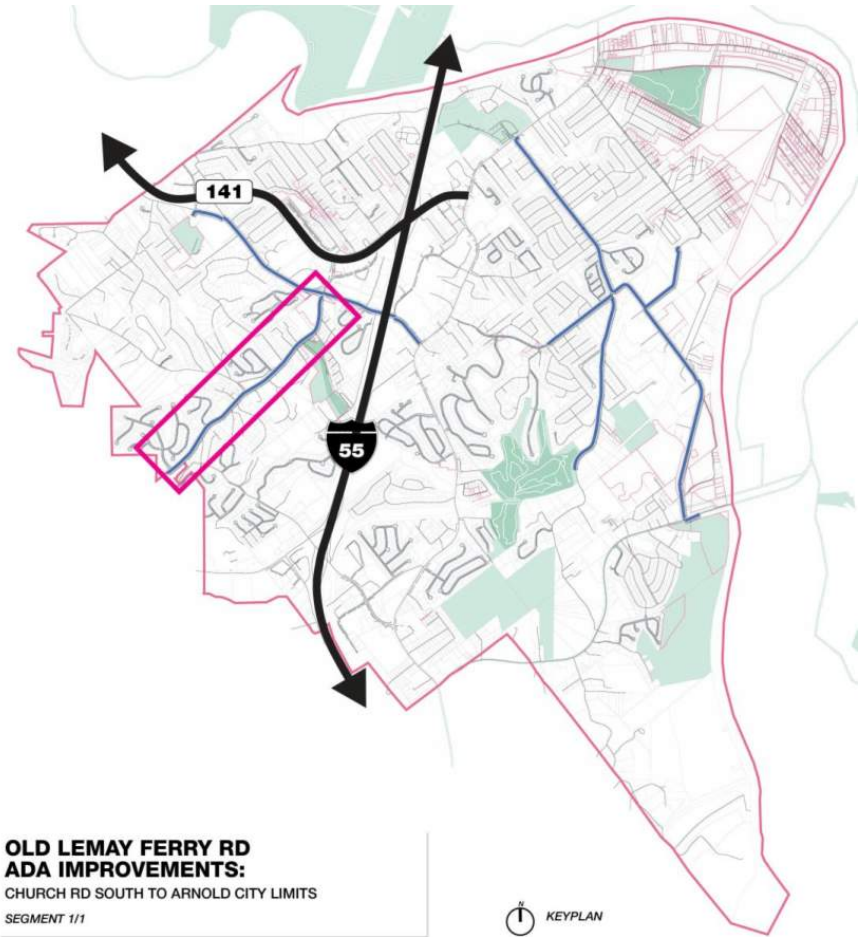
MoDOT Multimodal Request

- Tenbrook SUP (north)



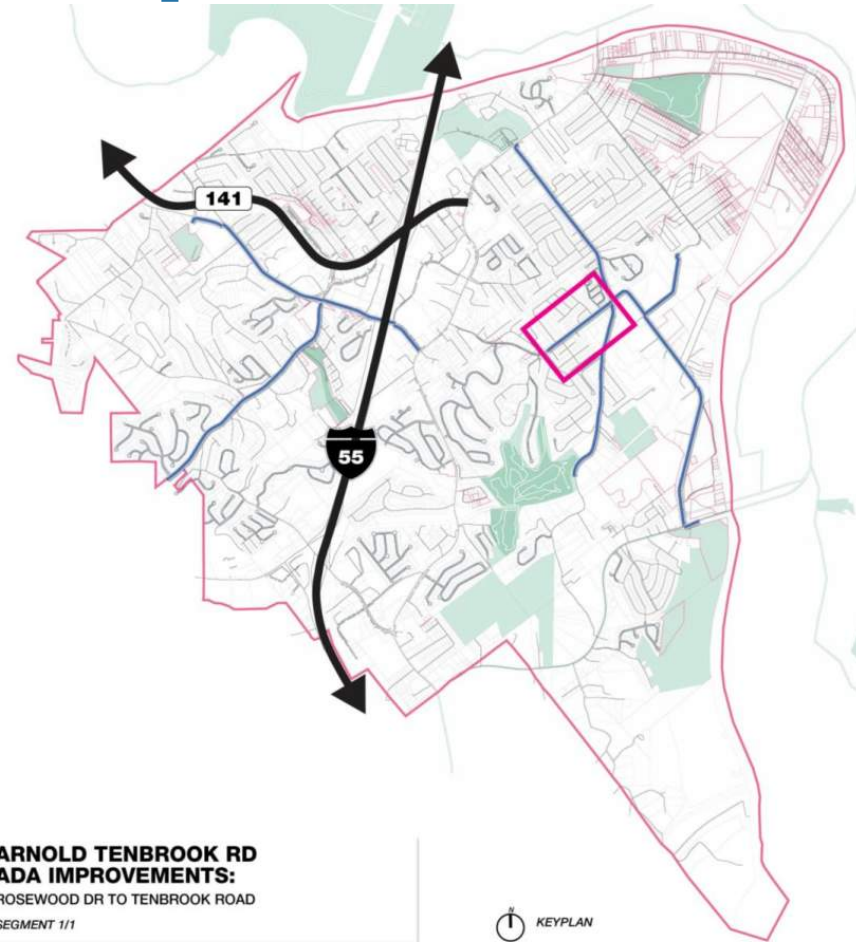
MoDOT Multimodal Request

- Old Lemay Ferry ADA



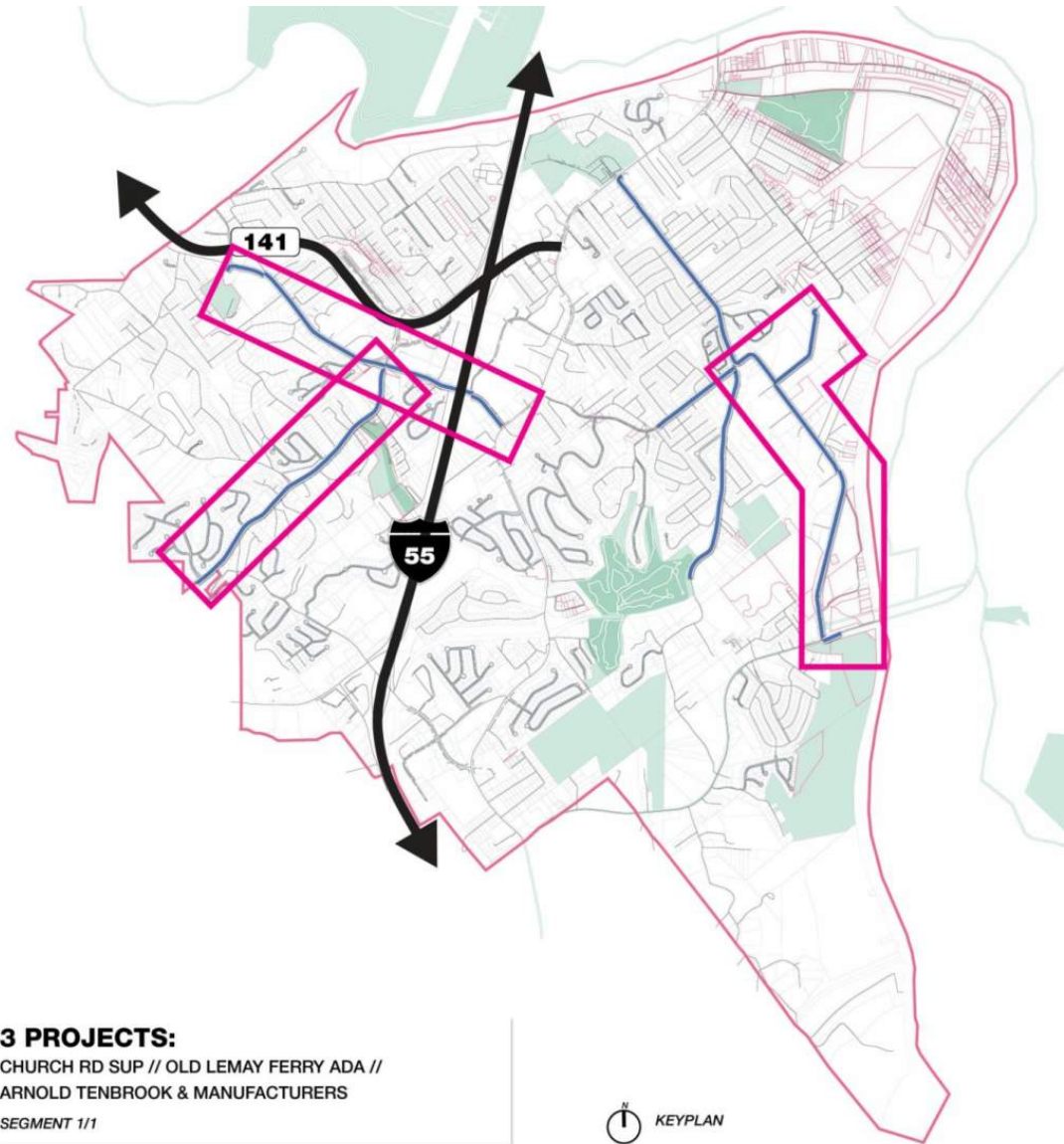
MoDOT Multimodal Request

- Arnold Tenbrook ADA



MoDOT Update

- Each Agency limited to 3 projects
 - Church Road SUP
 - Old Lemay Ferry ADA
 - Combine Arnold Tenbrook & Manufacturer's SUP

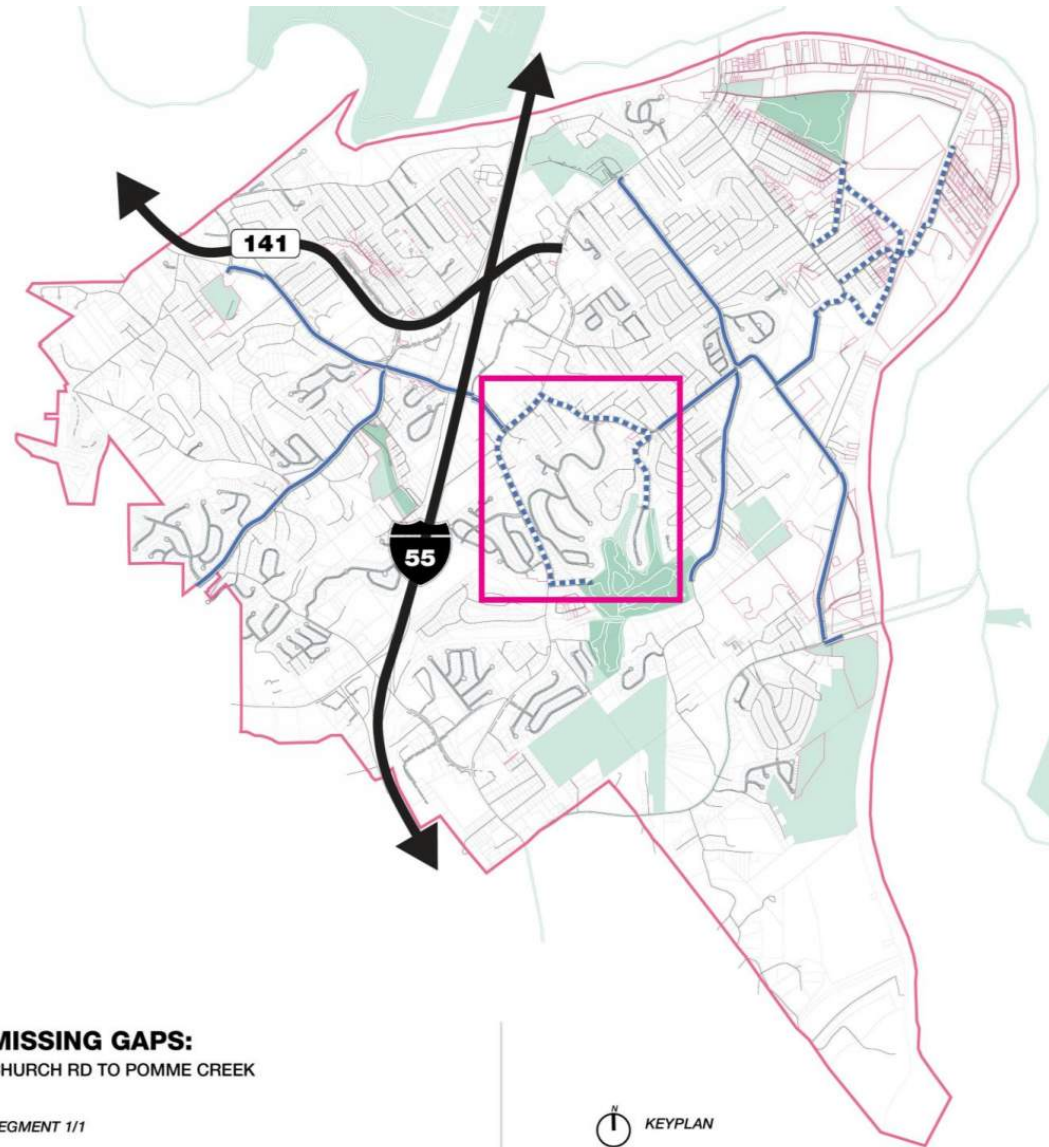


Back to Arnold Bike & Ped Plan

- 2 missing connections
 - Church Road SUP
 - Jeffco Blvd to Pomme Creek Park
 - Arnold Tenbrook SUP
 - Manufacturer's to Arnold City Park

Bike & Ped Plan

- Church Road SUP
 - SUP south along Jeffco Boulevard to Hazel/Pleasant Valley
 - SUP north to Arnold Tenbrook, then south to Pomme Meadows Drive



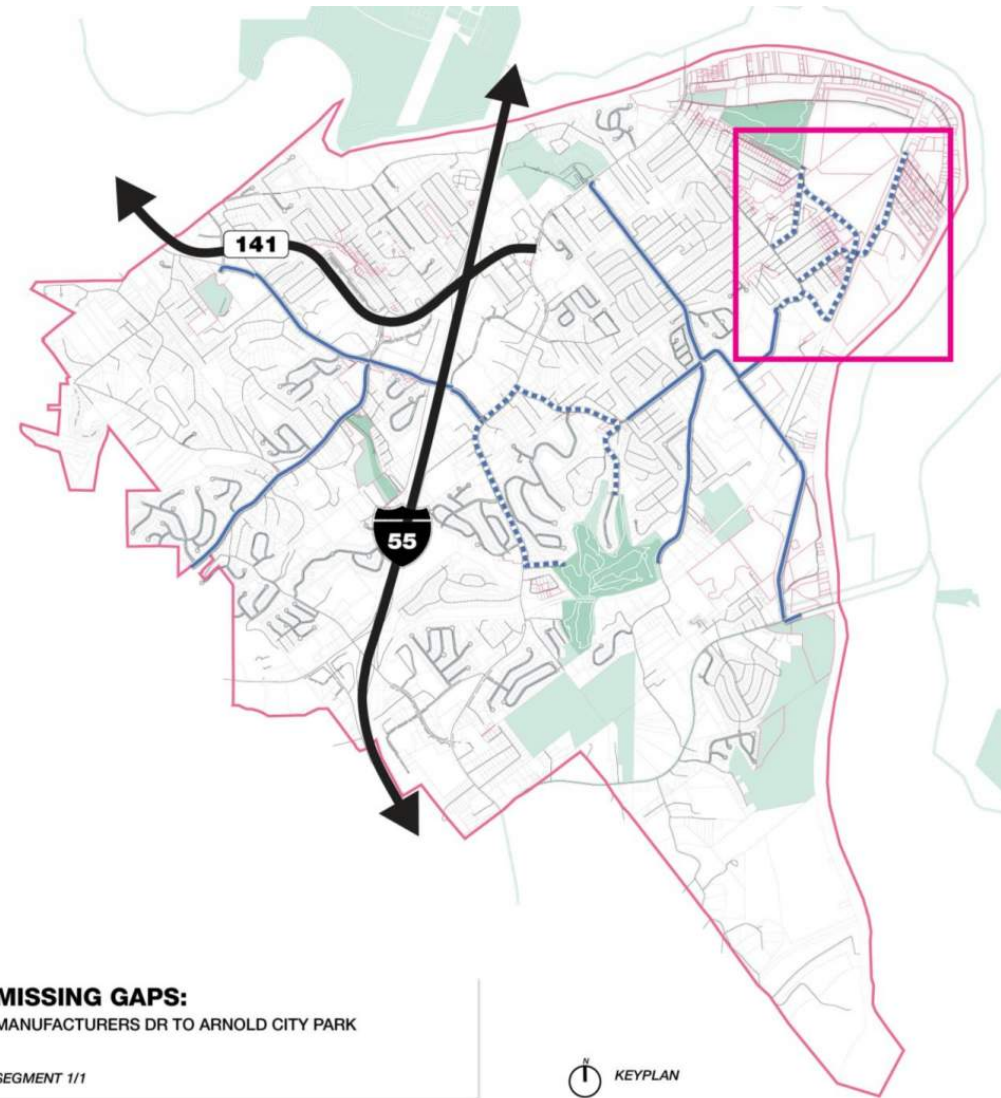
Bike & Ped Plan

- Church Road SUP



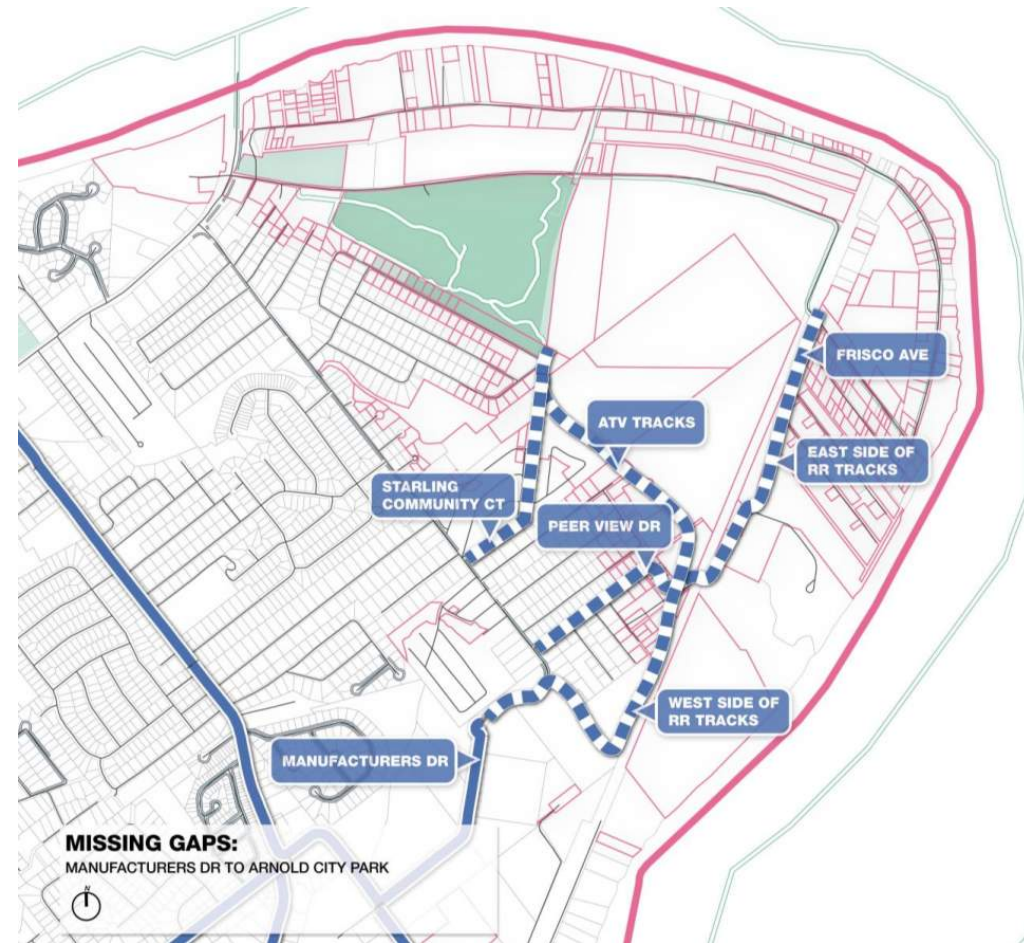
Bike & Ped Plan

- Arnold Tenbrook/
Manufacturer's SUP
 - SUP along Starling
Airport Road
 - Greenway via ATV paths
(west side of RR tracks)
 - Greenway via ATV paths
(east side of RR tracks)



Bike & Ped Plan

- Arnold Tenbrook/
Manufacturer's SUP



| Next Steps

- Committee feedback and provide meeting summary
- Public meeting – September/October

| Next Steps

- Draft Plan to City – with list of potential projects
- Complete ADA Transition Plan
- This completes the first phase of the planning process

| Next Steps

- Identify potential funding sources
- Plan for implementation of projects
- Plan for future meetings and coordination

| Open Discussion



Appendix 3 - Open House Documentation



ARNOLD

PUBLIC MEETING
2021.11.04



PUBLIC MEETING CITY OF ARNOLD

ADA TRANSITION PLAN & BICYCLE/PEDESTRIAN PLAN
NOVEMBER 4TH, 2021



- Developing a comprehensive bicycle and pedestrian plan
- Defining goals based on the community and the region
- Determining connection corridors through data discovery
- Deciphering the most viable routes for funding opportunities

What are we doing?

- Enhance pedestrian access to the most utilized city amenities
- Compliment Arnold's Age Friendly planning efforts
- Connect citizens to regional trail opportunities
- Increase opportunities for state and federal grant funding

What will this accomplish?

- Its already started! The projects have been placed in a tiered system for consideration for funding through various sources.
- The City will begin applying for grant opportunities upon adoption of the plan.
- The Master Plan framework will be geared toward a multi-year development plan with new results planned consistently each year.

What's next?



PEDESTRIAN PLAN



BICYCLE PLAN

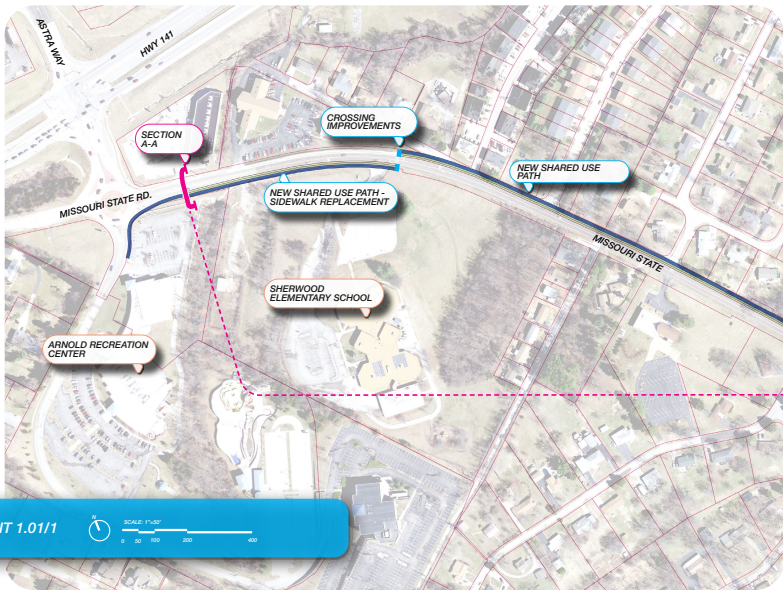
The City of Arnold, MO is excited to present their Bicycle and Pedestrian Master Planning work to the community! For the last several months we have been diving into the “data” that makes up your community. Today, we can’t wait to introduce these initial concepts to you and spend time hearing your ideas. “Data” helps us make logical determinations, but meeting you helps guide us to the right plan for the people who will use it most.

Thank you for the opportunity to introduce the work to you and thank you for your valuable feedback and support!



PUBLIC MEETING CITY OF ARNOLD

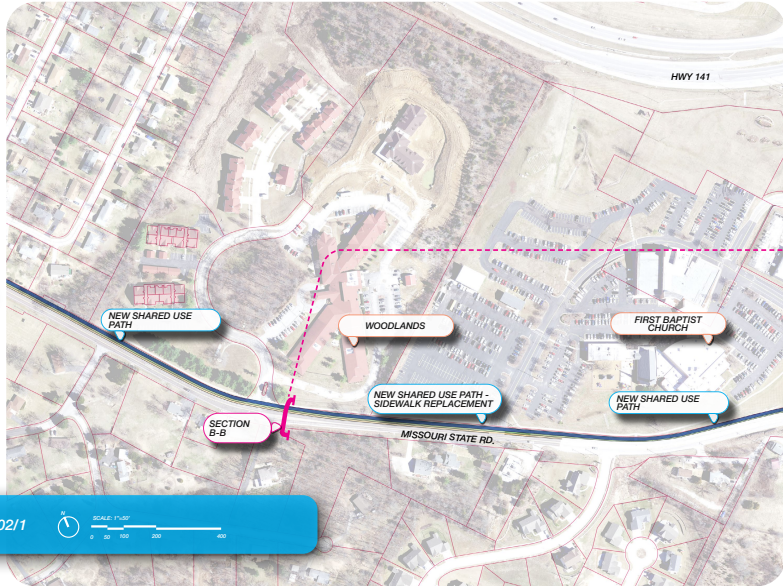
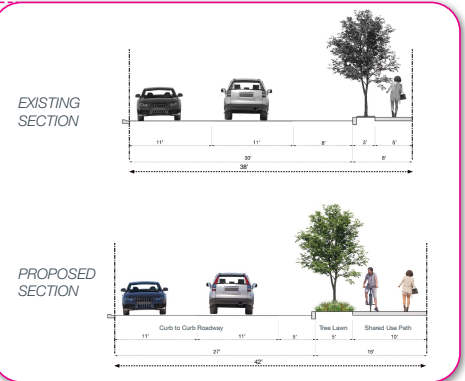
ADA TRANSITION PLAN & BICYCLE/PEDESTRIAN PLAN
NOVEMBER 4TH, 2021



SEGMENT 1.01/1



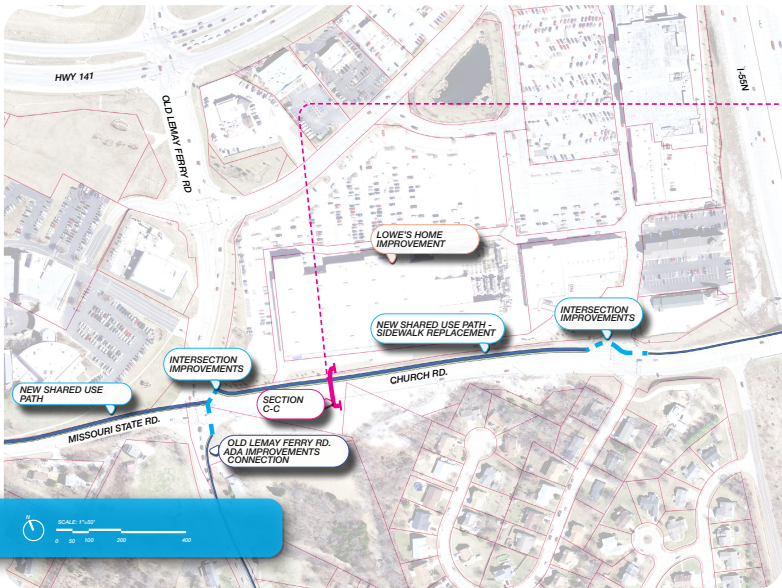
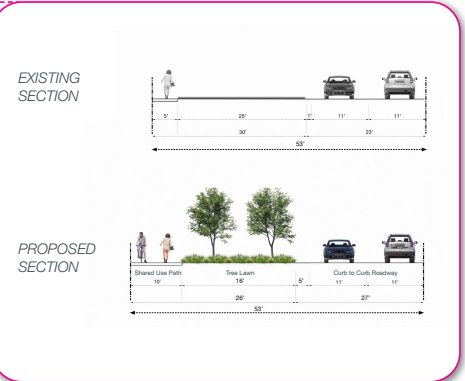
MISSOURI STATE RD - SOUTH OF ASTRA WAY



SEGMENT 1.02/1



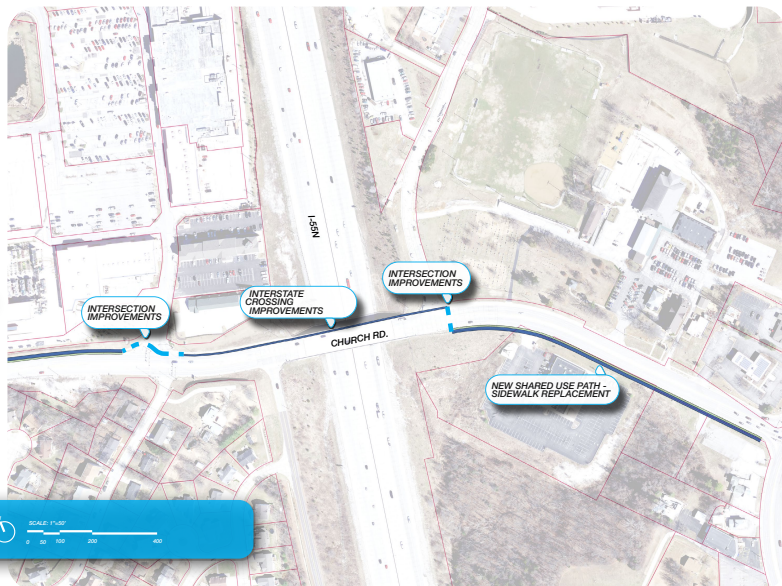
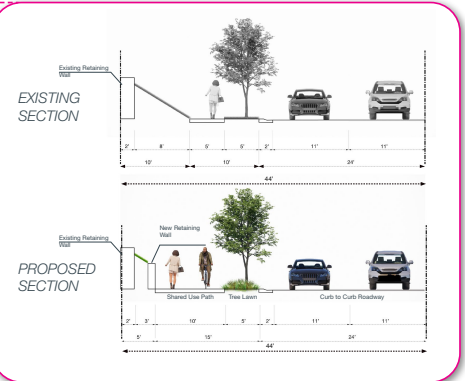
MISSOURI STATE RD - SOUTH OF WOODLANDS



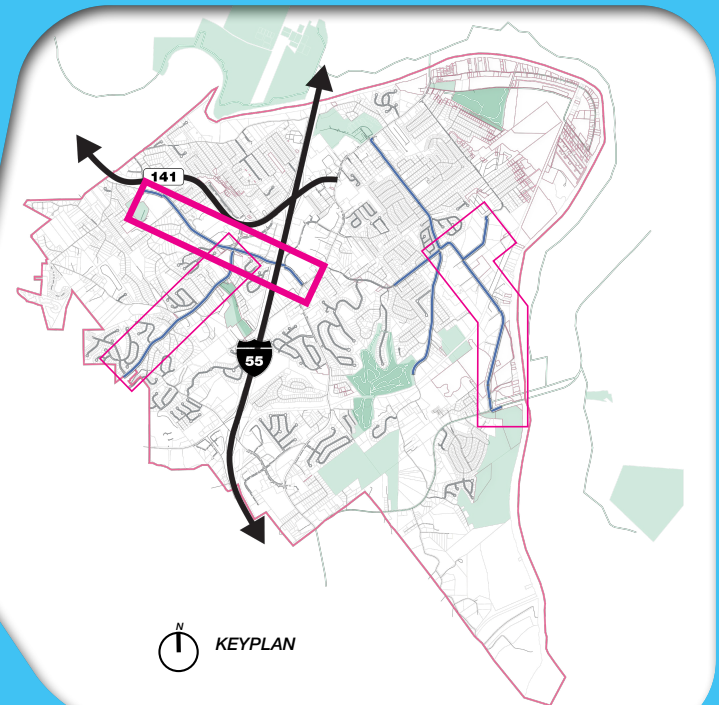
SEGMENT 1.03/1



CHURCH RD - SOUTH OF OLD LEMAY FERRY RD



SEGMENT 1.04/1

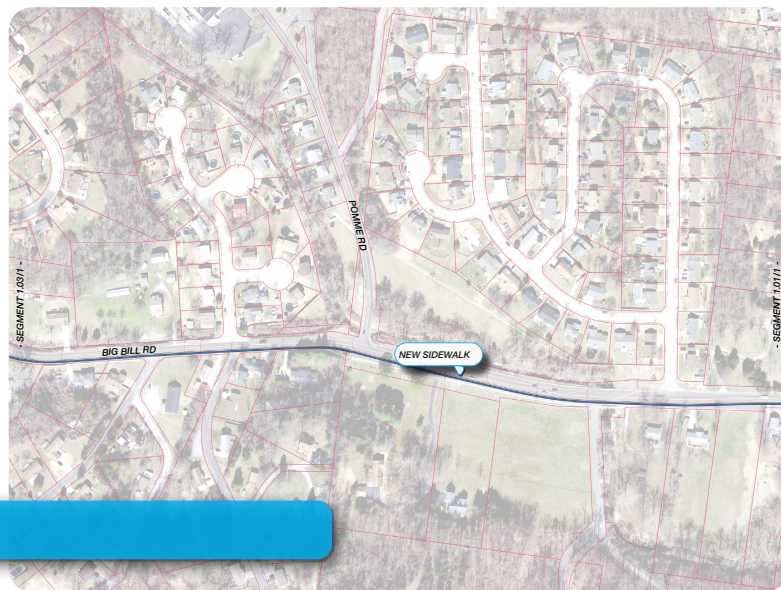


PROPOSED

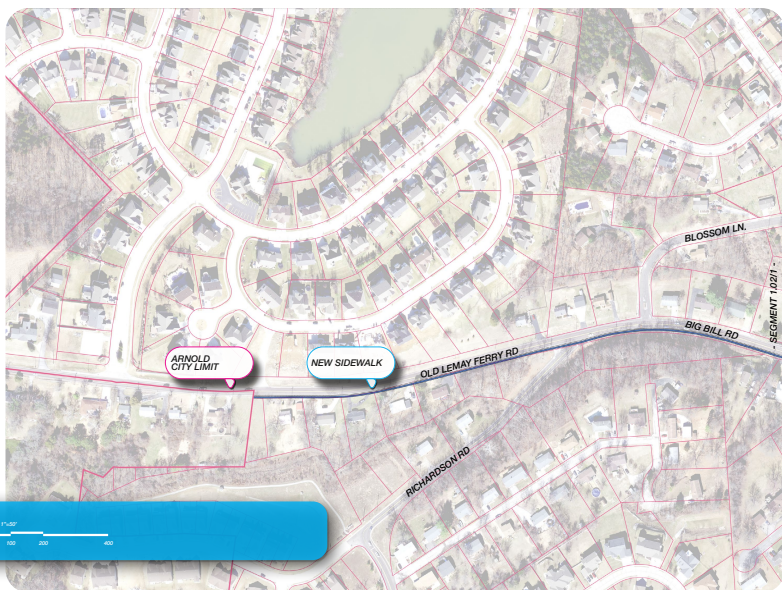
CHURCH ROAD SHARED USE PATH: ARNOLD RECREATION CENTER TO JEFFCO BLVD



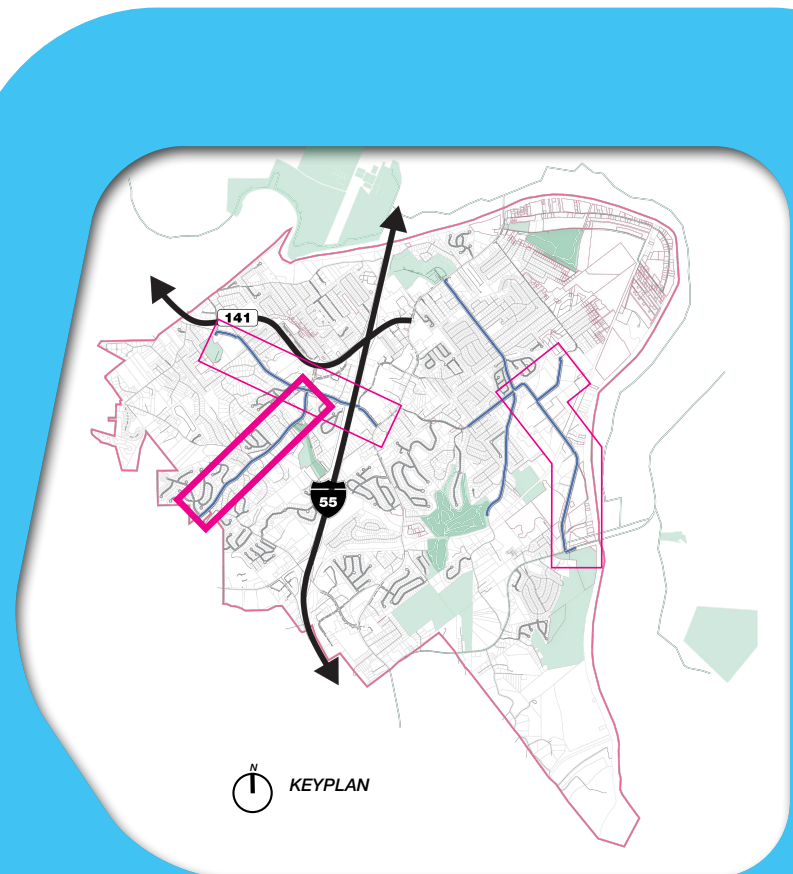
SEGMENT 1.01/1



SEGMENT 1.02/1



SEGMENT 1.03/1



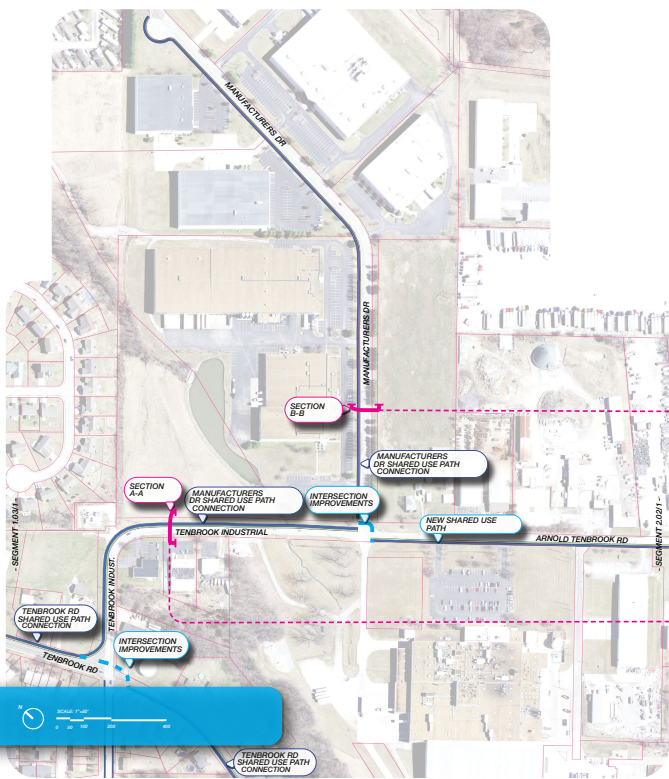
PROPOSED

OLD LEMAY FERRY RD ADA IMPROVEMENTS: CHURCH RD SOUTH TO ARNOLD CITY LIMITS

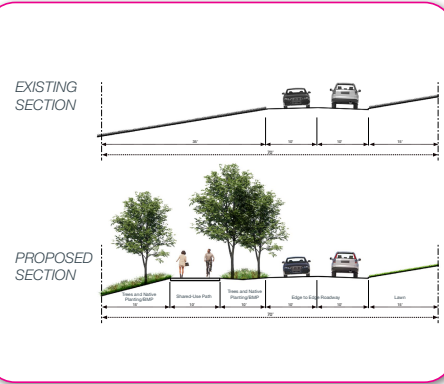


PUBLIC MEETING CITY OF ARNOLD

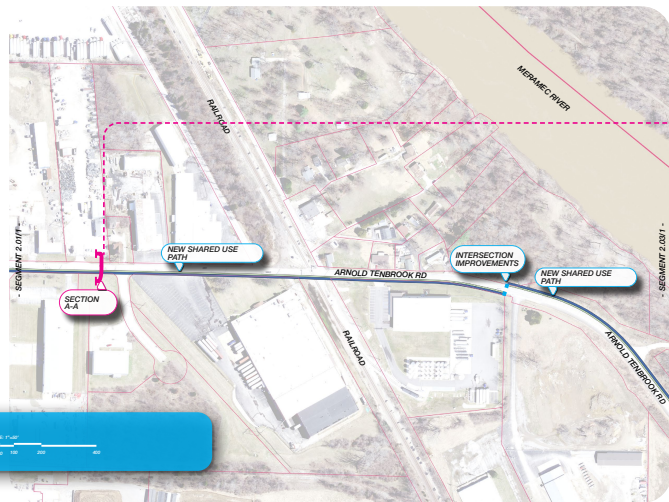
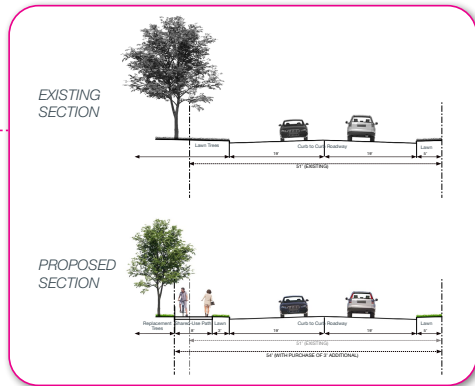
ADA TRANSITION PLAN & BICYCLE/PEDESTRIAN PLAN
NOVEMBER 4TH, 2021



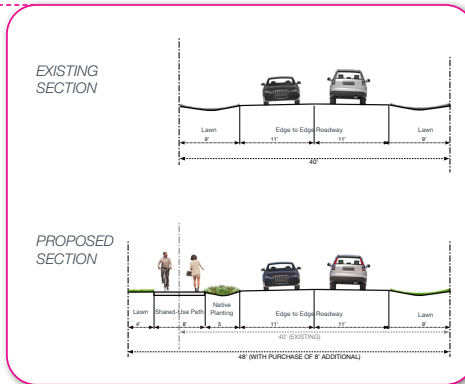
ARNOLD TENBROOK RD - AT INDUSTRIAL PARK



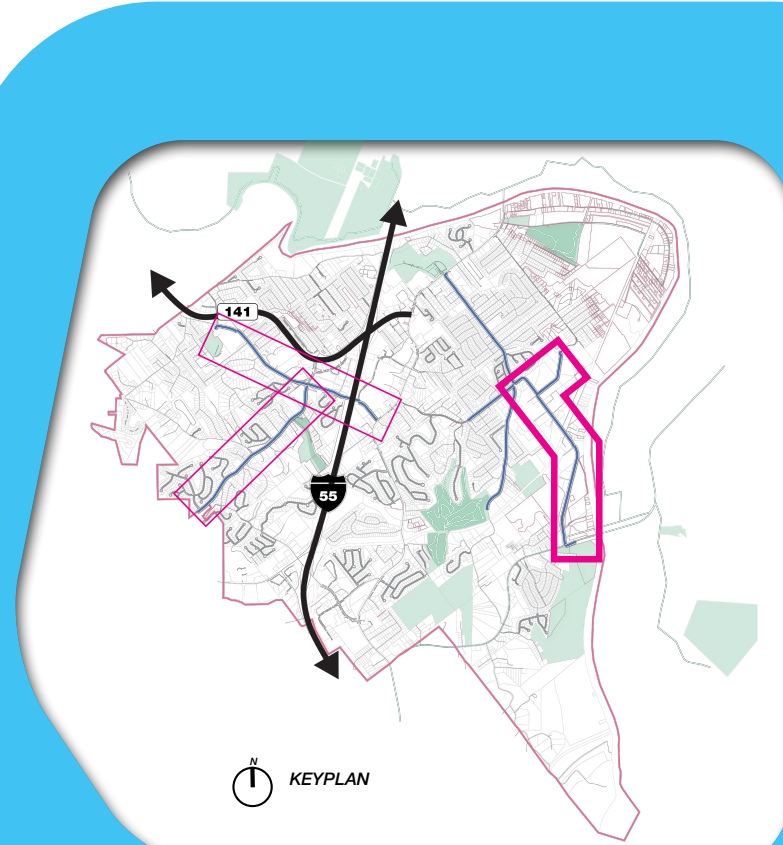
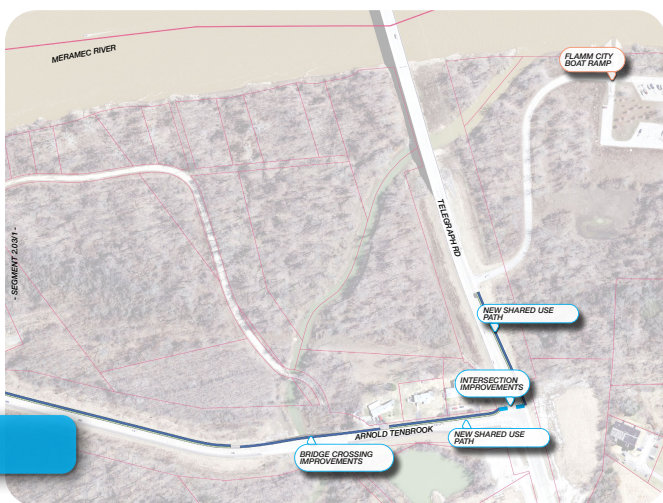
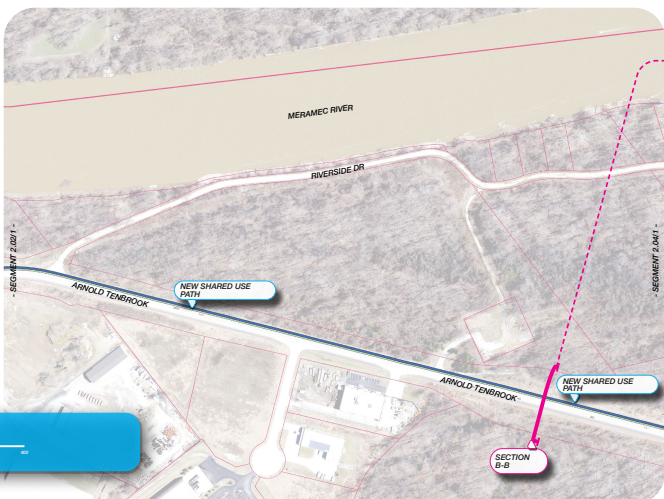
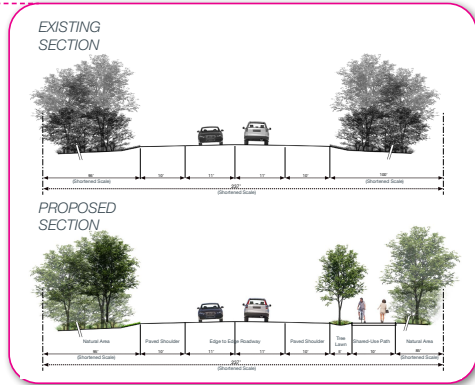
MANUFACTURERS DRIVE



ARNOLD TENBROOK RD - SOUTH OF MANUFACTURERS DRIVE



ARNOLD TENBROOK RD - SOUTH OF RIVERSIDE DR



PROPOSED

ARNOLD TENBROOK + MANUFACTURERS SHARED USE PATH: MANUFACTURERS DR SOUTH TO FLAMM CITY BOAT RAMP

Appendix 4 - East-West Gateway Presentation



ARNOLD

PUBLIC MEETING
2021.11.10

City of Arnold, MO

Bicycle/Pedestrian Plan ADA Transition Plan

Bicycle and Pedestrian Advisory Committee
East West Gateway

Nov. 10, 2021



Project Introduction

- Bicycle/Pedestrian Plan
- ADA Transition Plan

Judy Wagner

City of Arnold

Director of Public Works

Project Objectives

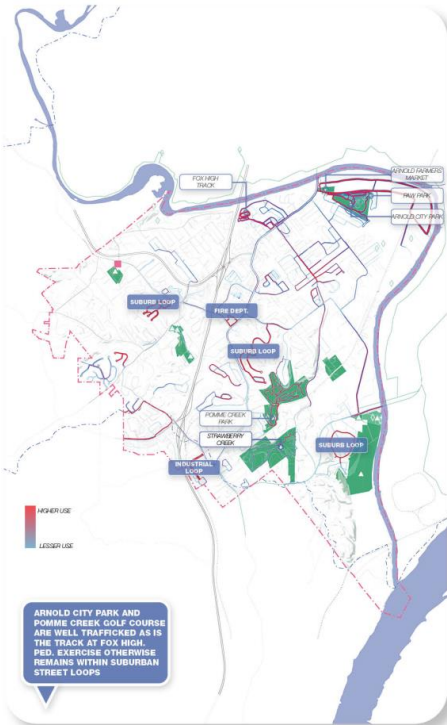
- Focus on how plans will be used
- Incorporate existing efforts
- Update regularly to reflect progress
- 2 Plans with 1 consistent vision

Team Members

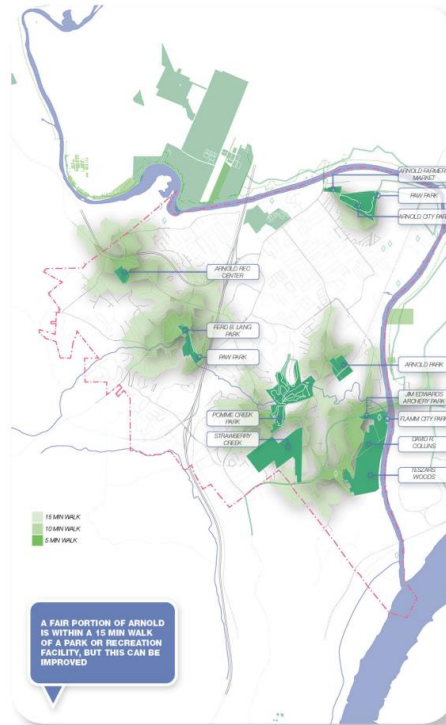


**Lamar Johnson
Collaborative ↗**

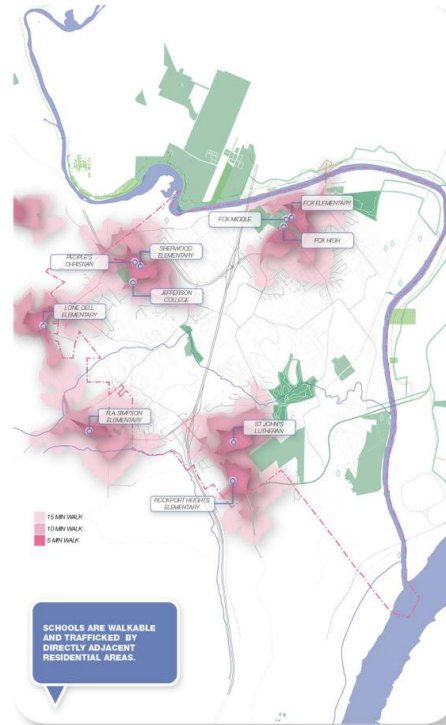
Bike/Pedestrian Plan



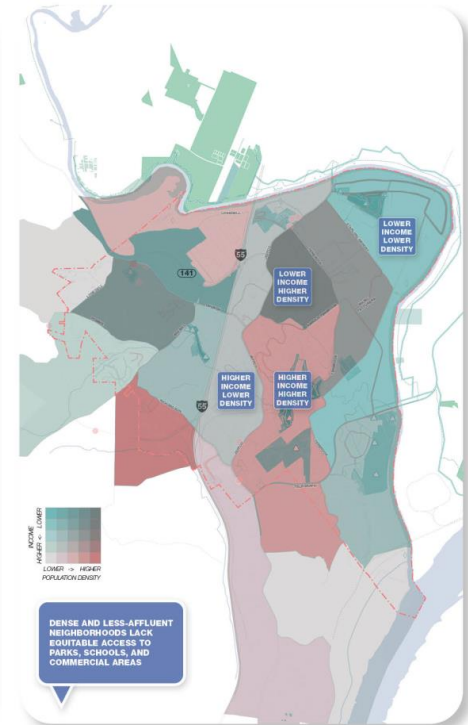
RECREATION + EXERCISE
STRAVA PED + BIKE USAGE



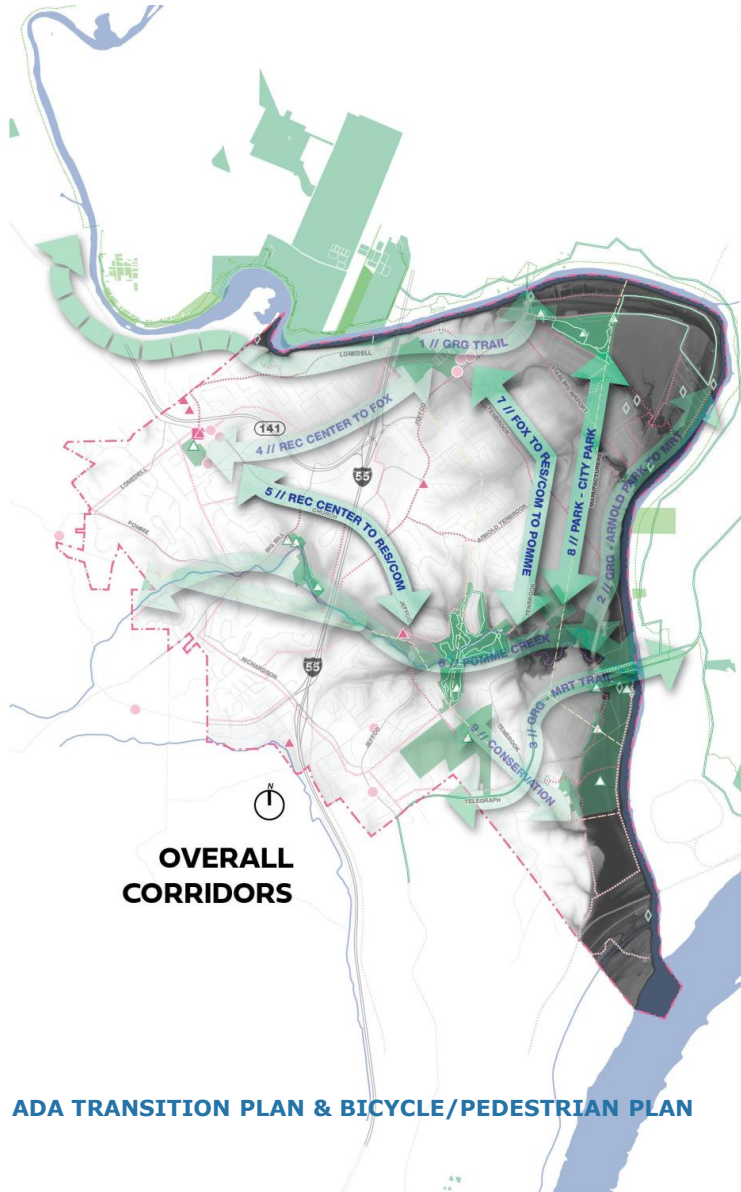
PARK CONNECTIVITY
WALKING NETWORK ANALYSIS



SCHOOL CONNECTIVITY
WALKING NETWORK ANALYSIS



SOCIO-ECONOMICS
ECONOMIC CONNECTIVITY + SERVICE



ADA TRANSITION PLAN & BICYCLE/PEDESTRIAN PLAN

METRICS



SCALE

CITIZEN ADVISORY COMMITTEE

- Age Friendly Community Committee representative
- Public Works representative or two
- Parks and Recreation representative
- Leaders in youth sports
- Leaders in high school sports and activities
- Local homeschool community representative
- Local "Moms" groups representative
- Retirement community representatives
- Church leaders
- Local biking community representatives
- Local development leaders
- Activities director or representative at the Rec Complex
- School Board member
- Socio or Economically disadvantage groups in Arnold – representatives.

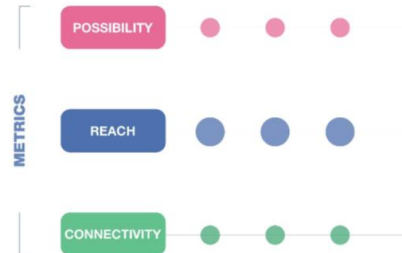


Evaluating the Connections

- CAC Response Results

| Regional | | Average Score | Member Rankings | | | | | | | | | | |
|-----------|--|---------------|-----------------|---|---|---|---|---|---|---|---|---|---|
| 1 | GRG Trail | 1.91 | 2 | 2 | 1 | 3 | 2 | 1 | 2 | 1 | 1 | 3 | 3 |
| 2 | GRG - Arnold City Park (MRT) | 2.09 | 1 | 1 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 1 | 1 |
| 3 | GRG - MRT Trail | 2.00 | 3 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 3 | 2 | 2 |
| Municipal | | Average Score | Member Rankings | | | | | | | | | | |
| 4 | Rec Center to Fox | 2.18 | 3 | 2 | 1 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 3 |
| 5 | Rec Center to Residential / Commercial | 1.55 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 |
| 6 | Pomme Creek | 2.27 | 1 | 3 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 1 | 1 |
| Local | | Average Score | Member Rankings | | | | | | | | | | |
| 7 | Fox to Res / Comm to Pomme Creek | 1.82 | 1 | 3 | 1 | 3 | 2 | 3 | 1 | 1 | 1 | 2 | 2 |
| 8 | Arnold Park to City Park | 1.64 | 2 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 1 |
| 9 | Strawberry Creek to Teszars | 2.55 | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 3 | 3 | 1 | 3 |

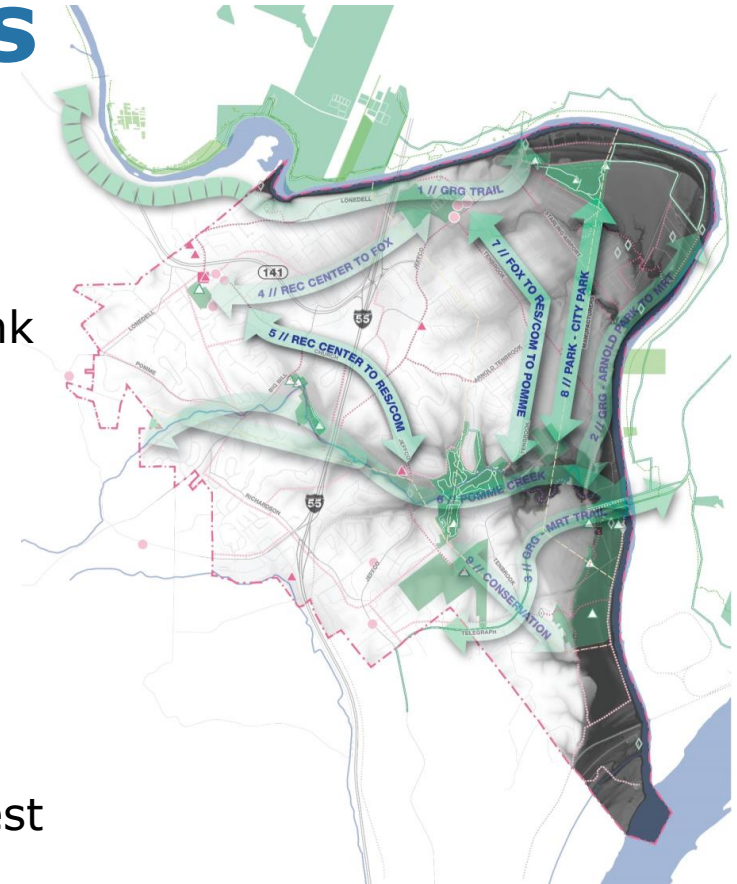
- Evaluation Matrix



| | Regional Connections | | | Municipal Connections | | | Local Connections | | |
|---|----------------------|--------------|--------------|-----------------------|--------------|--------------|-------------------|--------------|--------------|
| | Connection 1 | Connection 2 | Connection 3 | Connection 4 | Connection 5 | Connection 6 | Connection 7 | Connection 8 | Connection 9 |
| School Connectivity | 6 | 1 | 4 | 9 | 8 | 5 | 7 | 2 | 3 |
| Parks and Natural Resources Connectivity | 7 | 9 | 2 | 4 | 3 | 6 | 1 | 5 | 8 |
| Regional Connection | 7 | 8 | 9 | 2 | 1 | 4 | 3 | 6 | 5 |
| Transit Connectivity | 3 | 1 | 6 | 9 | 7 | 4 | 5 | 8 | 2 |
| Commercial, Cultural and Civic Connectivity | 5 | 1 | 2 | 8 | 9 | 6 | 7 | 3 | 4 |
| Existing Trails Connectivity | 5 | 9 | 6 | 1 | 2 | 3 | 4 | 8 | 7 |
| Provides a New Connection | 4 | 7 | 6 | 2 | 3 | 1 | 8 | 9 | 5 |
| Arnold Connector | 3 | 4 | 1 | 8 | 9 | 7 | 6 | 5 | 2 |
| Population | 4 | 1 | 5 | 8 | 7 | 3 | 9 | 6 | 2 |
| Heat Rating | 3 | 6 | 7 | 1 | 5 | 2 | 8 | 9 | 4 |
| Safety | 2 | 3 | 6 | 9 | 8 | 1 | 7 | 5 | 4 |
| Equity | 1 | 6 | 3 | 2 | 9 | 4 | 8 | 7 | 5 |
| Property Impacts | 3 | 9 | 5 | 1 | 4 | 8 | 2 | 6 | 7 |
| Terrain and Natural Barriers | 2 | 5 | 3 | 9 | 8 | 6 | 4 | 7 | 1 |
| Infrastructure Needs | 2 | 5 | 8 | 3 | 9 | 1 | 7 | 6 | 4 |
| Total | 57 | 75 | 73 | 76 | 92 | 61 | 86 | 92 | 63 |

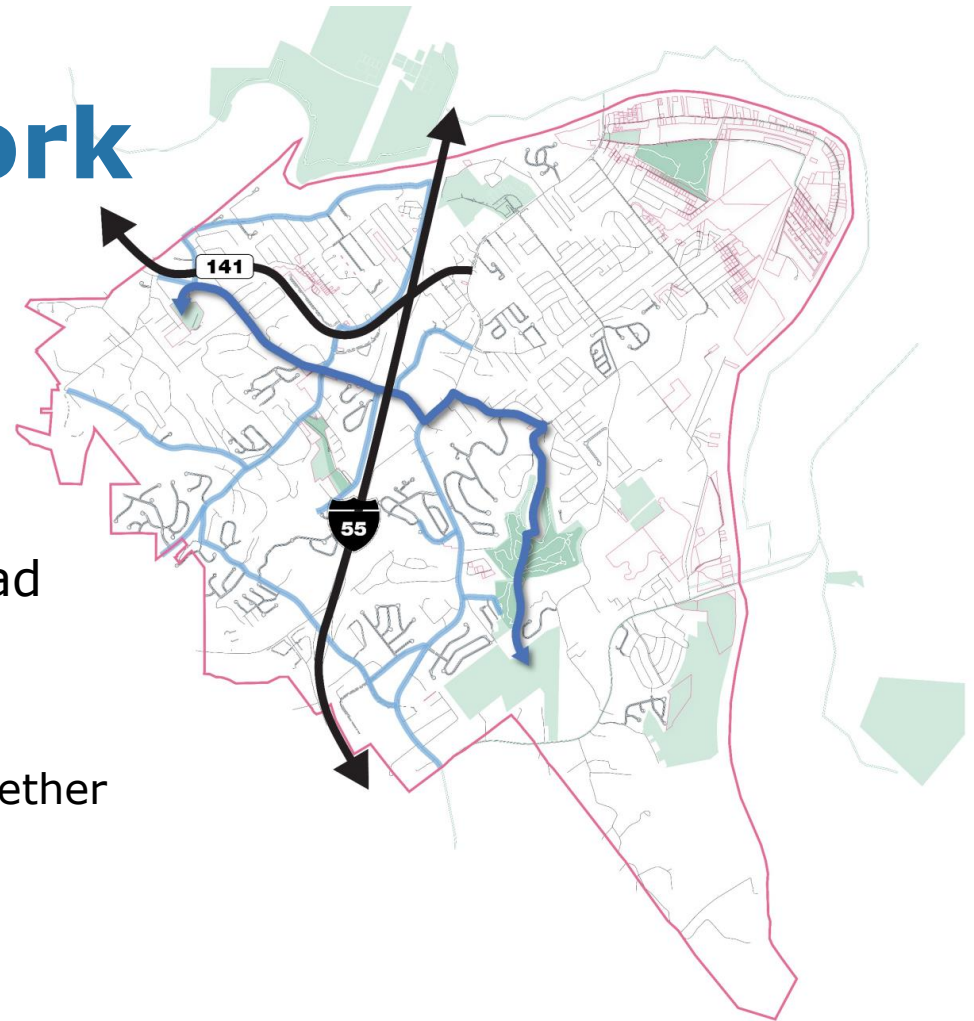
Defining the Corridors

- Connection 5
 - New Recreation Complex on the west to the natural amenities on the east
 - Scoring – 1st choice by the CAC and highest rank in the matrix
- Connection 8
 - Connecting two primary public amenities
 - Scoring – 2nd choice by the CAC and second highest rank in the matrix
- Connection 7
 - Connecting the Fox School Complex to the City Parks and nature trails.
 - Scoring – 3rd choice by the CAC and third highest rank in the matrix



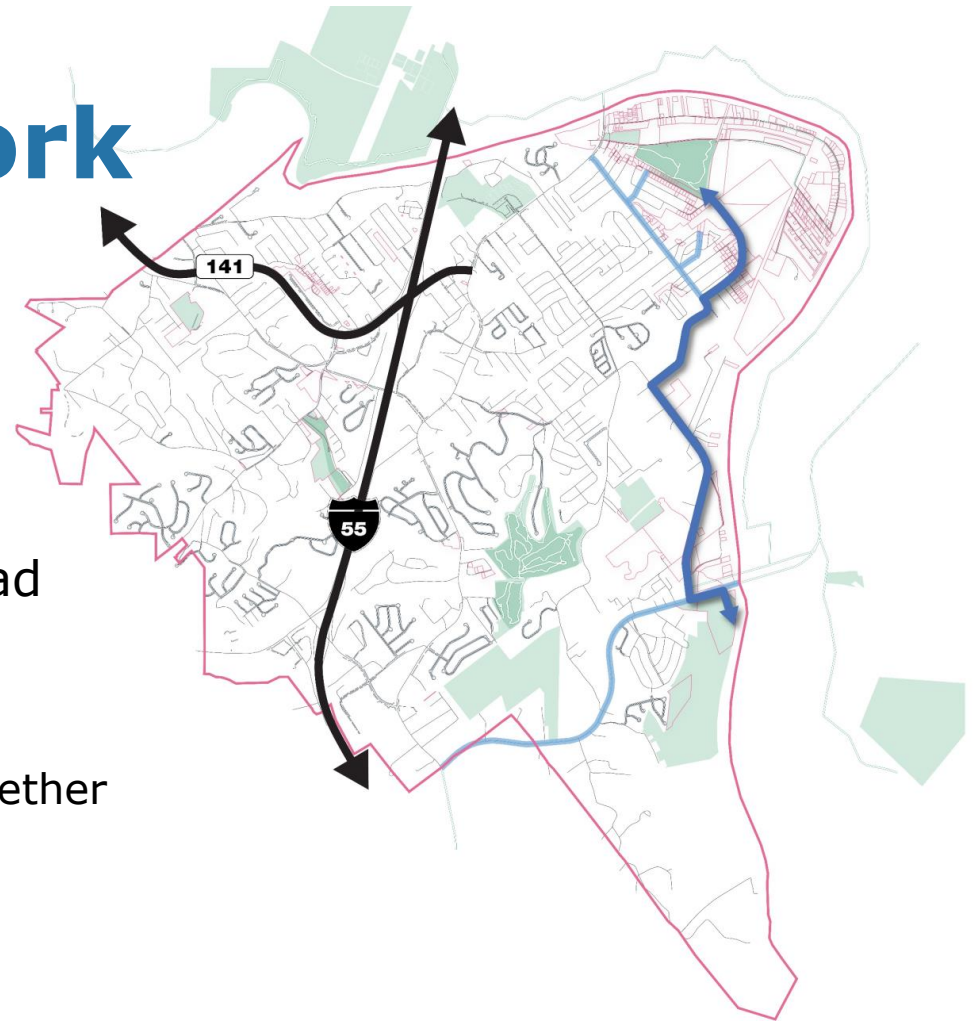
Creating a Network

- Trunks
 - Missouri State/Church Road to Strawberry Creek Nature Area Corridor
 - Connecting Arnold
 - Arnold City Park to Telegraph Road Corridor
 - Connecting Amenities
 - Fox School Campus Corridor
 - Providing the Glue to join it all together
- Branches
 - Bicycle Connections
 - Pedestrian Connections



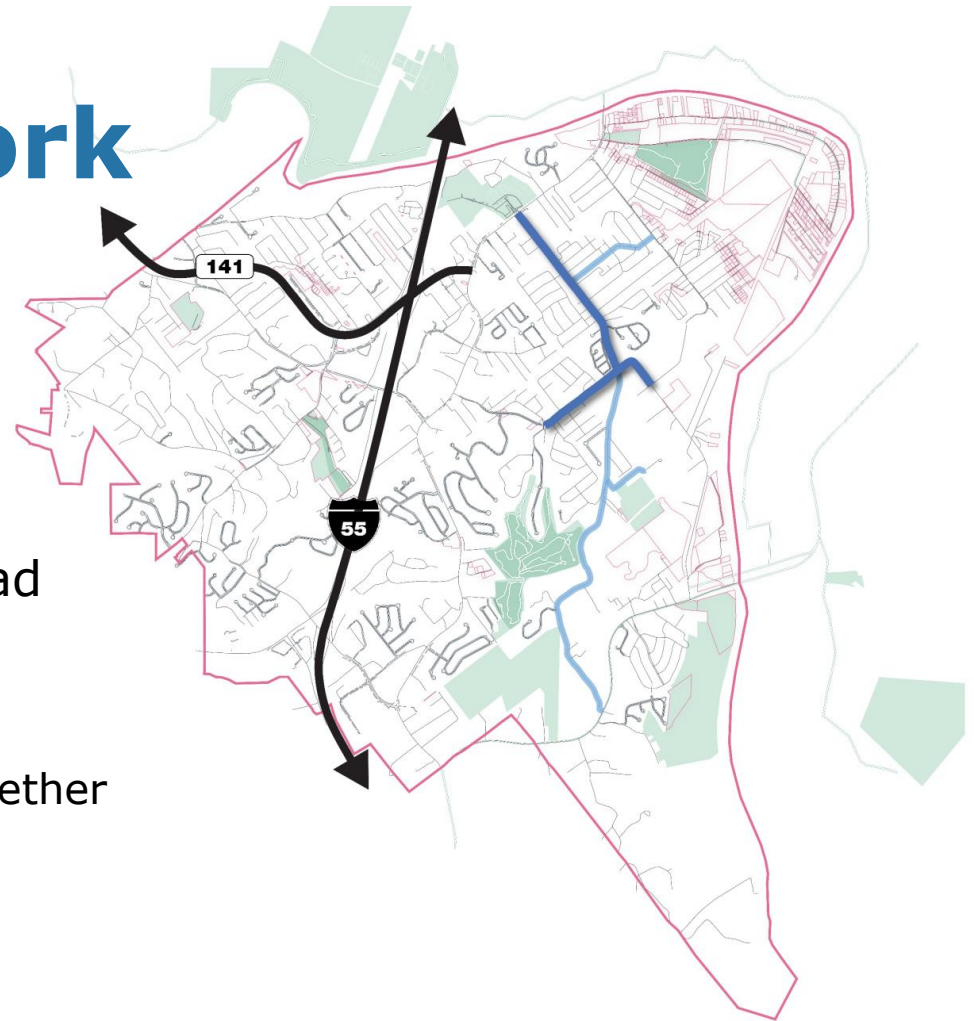
Creating a Network

- Trunks
 - Missouri State/Church Road to Strawberry Creek Nature Area Corridor
 - Connecting Arnold
 - Arnold City Park to Telegraph Road Corridor
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 - Fox School Campus Corridor
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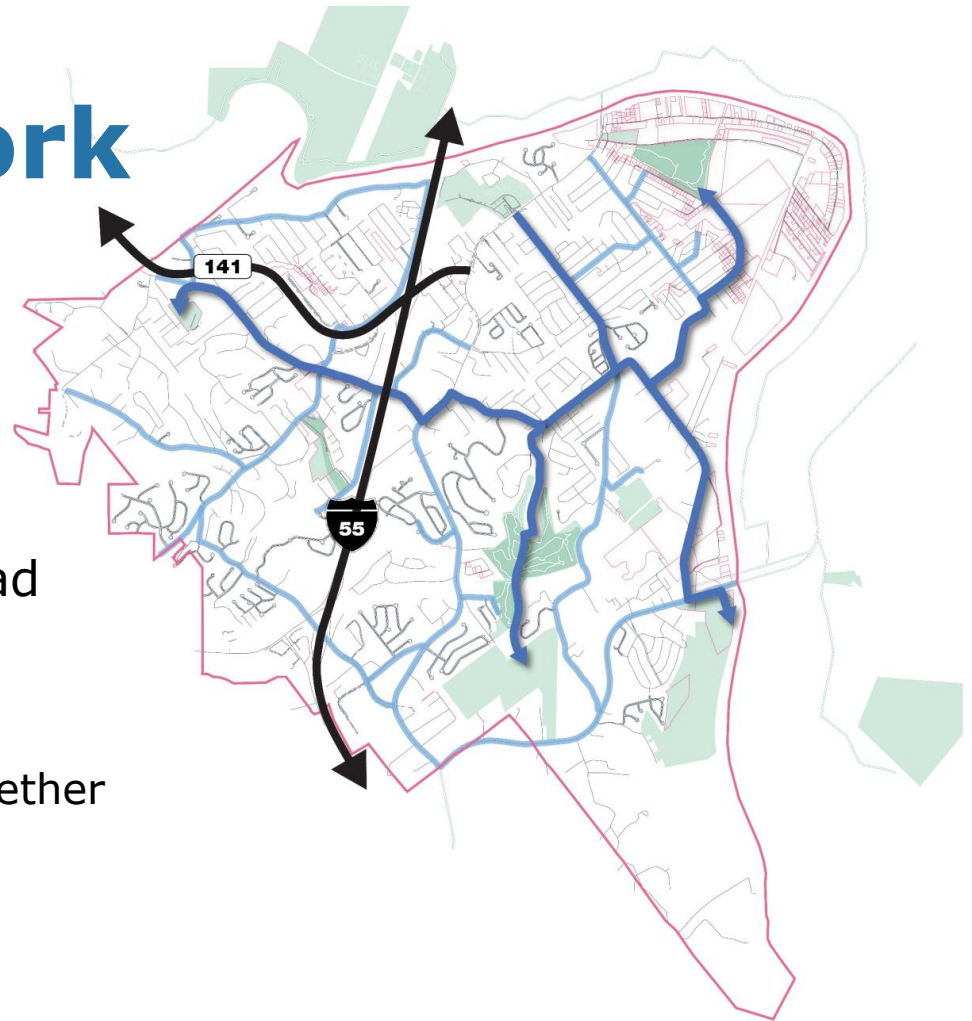
Creating a Network

- Trunks
 - Missouri State/Church Road to Strawberry Creek Nature Area Corridor
 - Connecting Arnold
 - Arnold City Park to Telegraph Road Corridor
 - Connecting Amenities
 - Fox School Campus Corridor
 - Providing the Glue to join it all together
- Branches
 - Bicycle Connections
 - Pedestrian Connections



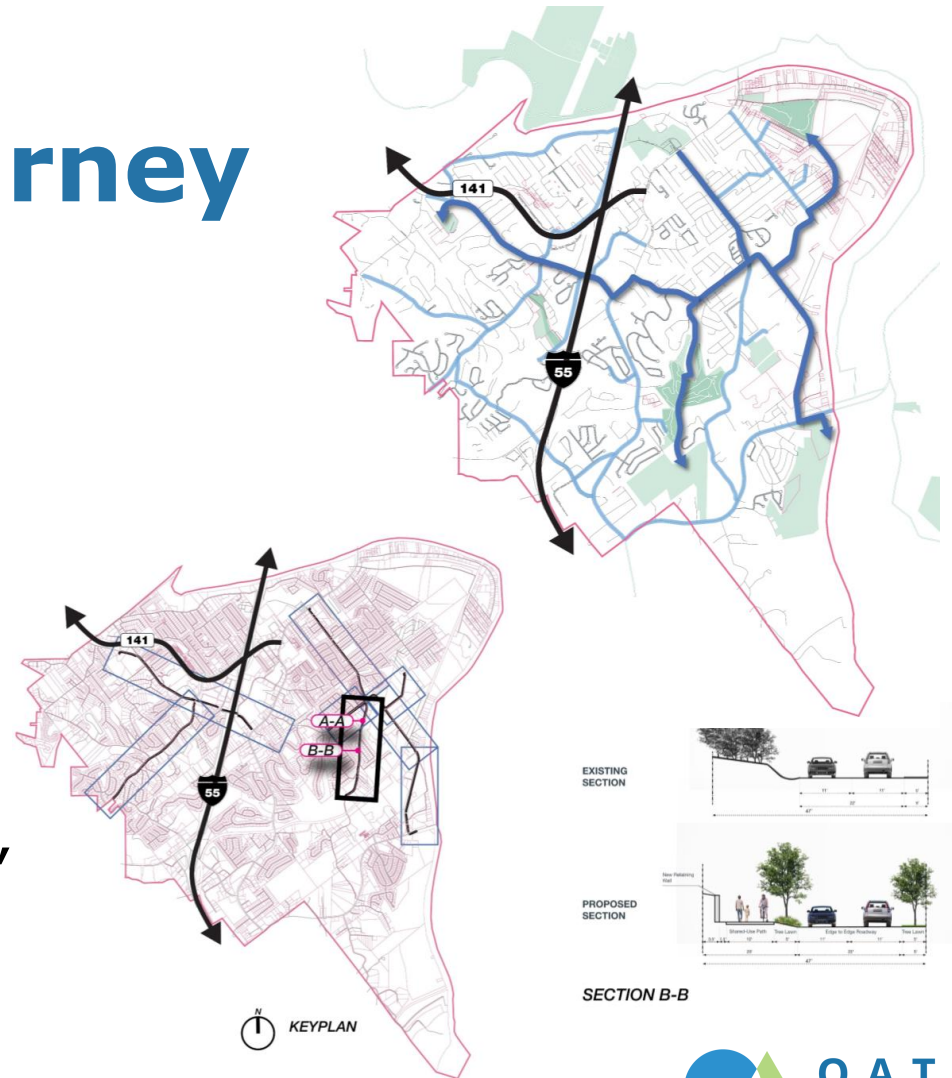
Creating a Network

- Trunks
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 - Connecting Amenities
 - Fox School Campus Corridor
 - Providing the Glue to join it all together
- Branches
 - Bicycle Connections
 - Pedestrian Connections



Starting the Journey

- Finalizing the Master Plan
 - Opportunities and Challenges
- Establishing the Development Framework
- Introducing the “First Mile”



ADA Transition Plan

Steps to a Successful Plan

- Designate an ADA Coordinator
- Provide notice to the public about ADA requirements
- Establish a grievance procedure
- Develop internal design standards, specifications and details

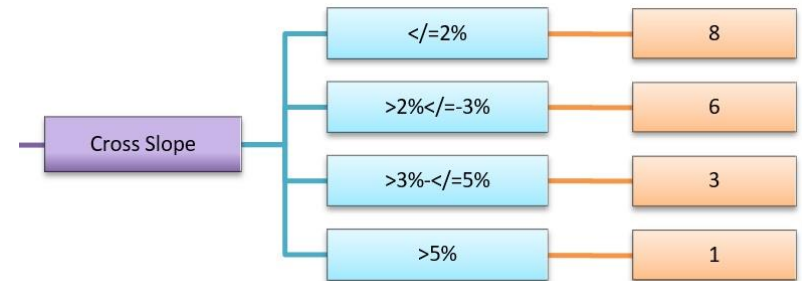


Establish Framework

- Meet ADA standards
- Consistent data collection
- Tiered system of priorities
- Prioritize:
 - Accessibility
 - Connections
 - Safety
 - Heavy pedestrian traffic
 - Wayfinding
- Flexible, adaptable and executable

Prioritizing Pedestrian Facilities

- Scoring the criteria
 - Data scored based on a two-part system:
 - Accessibility score
 - Activity score
- Accessibility Score
 - Assign a value for each deficiency
 - Quantify impact of deficiency to pedestrians
- Activity Score
 - Based on proximity to community assets



Elements of Activity Score

- Based on proximity to community assets:
 - Schools
 - Bus stops
 - Street classification
 - Parks
 - Government buildings
 - Commercial districts



Next Steps

- Identify list of high priority projects
- Identify potential funding sources
- Plan for implementation of projects
- Regularly update database to reflect progress

2021



2022



Thank You!

Judy Wagner

City of Arnold

Director of Public Works

jwagner@arnoldmo.org

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Oates Associates

Project Manager

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Neil Eisenberger

Lamar Johnson Collaborative

Planner/Landscape Architect

eisenbergern@theljc.com

