

Context

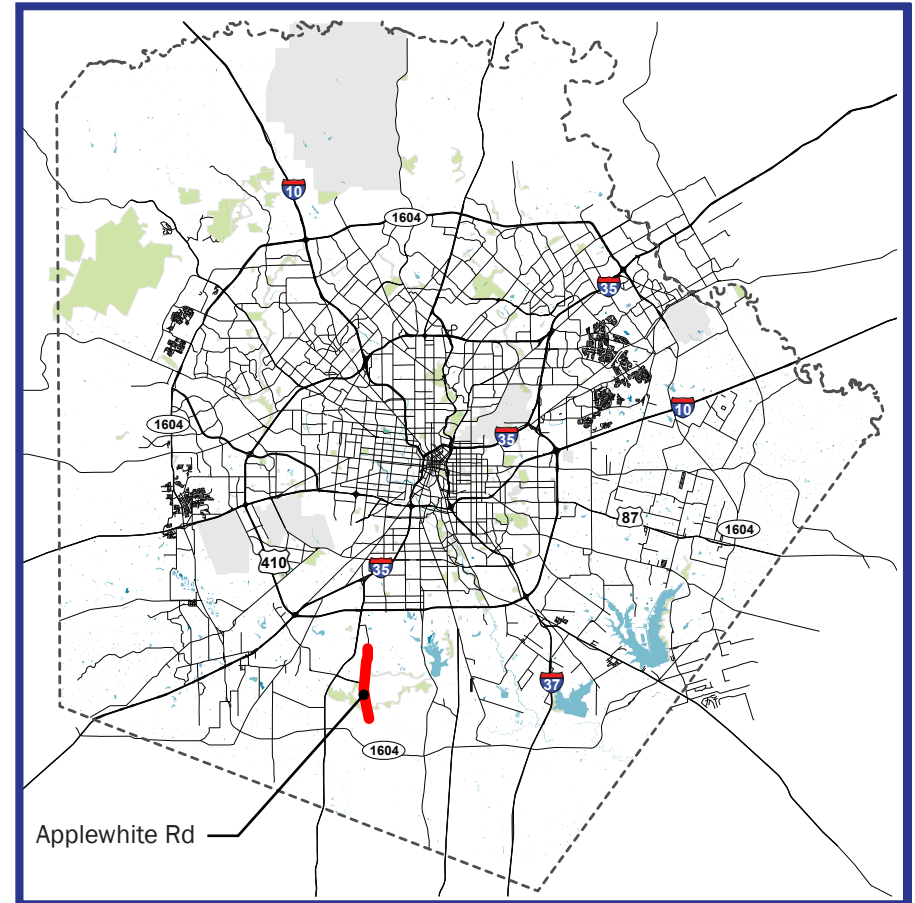
Applewhite Road is located in a predominantly rural area in south San Antonio. It provides the primary access for the Toyota Manufacturing Plant and the Texas A&M San Antonio campus, located just east of the corridor.

From Loop 1604 to Lonestar Pass, Applewhite is a five-lane road. It changes to a four-lane divided roadway north of Lonestar Pass. Sidewalks are virtually non-existent along the corridor. There are no marked bicycle facilities, but the corridor does provide direct access to the Medina River trail system just North of the Toyota Manufacturing Plant and bicyclists are known to use Applewhite Road.

Land uses are predominantly undeveloped farm land and rural residential. In addition to the Toyota plant, there are smaller residential, commercial, and industrial developments along Applewhite Road. Undeveloped land provides the opportunity to develop a multimodal corridor in advance of future development that will come with anticipated growth.

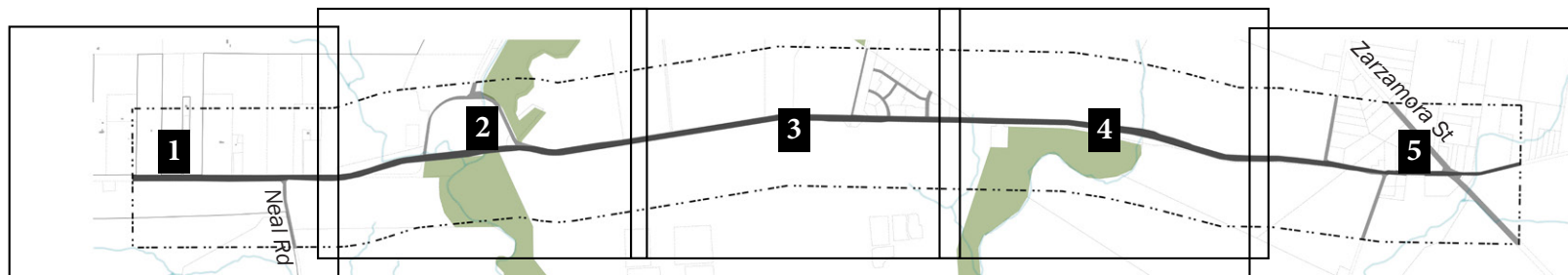
Applewhite's context as a primarily rural street with strong development potential is typical of many arterials in less developed areas of the City and Extra Territorial Jurisdiction (ETJ). These roads often become vehicle-centric corridors that are not designed to accommodate other modes. The construction of roads predominantly for vehicle traffic in the developing outer areas of the City requires a dependence on automobiles for people living and working in these new developments. This places further strain on the road network throughout the City as the number of vehicles on the roads increases.

Planning for streets that accommodate all modes in advance of development can help provide alternate travel options in newly developing areas. A street that has bicycle and pedestrian facilities is also more supportive of more dense, mixed use developments that can further support additional modes of travel. However, once a street has been built out to primarily accommodate vehicles, retrofitting bike and pedestrian accommodations can be problematic.



Applewhite Road Sheet Set Key

4.3 Miles



Vision

Applewhite Road can serve as template for other rural corridors in the City. Identifying the needs and space requirements to accommodate all users in advance of the land development can better facilitate the development of a fully multimodal corridor that meets future needs.

Future

2040 Volumes – Daily volumes on Applewhite Road will increase by 800% from 2015 to 2040. Daily volumes will increase from around 1,500 vehicles per day to 14,000.

Growth Rate – The annual growth rate along Applewhite Road is projected to be about 6% per year based on data in the Alamo Area MPO model. This higher than average growth rate is reflective of the area's current low level of development.

Future LOS – The results of the traffic analysis performed from Zarzamora to Lonestar Pass shows that the intersection at Zarzamora will function at LOS F during both peak hours in year 2040 and the intersection at Lonestar Pass will function at LOS F in the PM peak hour and LOS D in the AM peak hour. Today (2015) both intersections operate at LOS C or better during both peak hours.

Policy & Guidance

Cross Section & ROW – Develop right of way requirements and street sections that can accommodate all modes. Identifying the requirements prior to a corridor being developed allows the right of way to be acquired during the platting process. Current AM /PM Level of Services are level A throughout the corridor; additional trips from manufacturing uses can be accommodated within the current transportation infrastructure.

Access Management – Strive to minimize driveway density and median openings for future developments to provide better access management along the corridor.

Issues

Roadway – Applewhite experiences spikes in traffic during shift changes at the Toyota plant, creating some congestion at the major intersections. As the area develops the functionality of the roadway will diminish.

Transit – Currently, there are no bus routes along Applewhite. Increased development near the Toyota plant as well as a potential Lone Star Rail station near the A&M campus may make the corridor a candidate for a future transit route. In order for transit to be effective, sidewalks and crossings need to be incorporated.

Bicycles – There are no bike facilities along Applewhite. However, the eastern trailhead for the Medina River greenway trail is located on Applewhite Road. A lack of bike facilities on Applewhite reduces connectivity and the ability of the greenway trails to provide mobility options in the area.

Pedestrian – There are no sidewalks along most of Applewhite Road. Since the area is largely undeveloped, there is currently little pedestrian demand. However, pedestrian facilities will be necessary as the corridor develops. Even if new developments install sidewalk along their property, there will still be a large number of sidewalk gaps.

Land Use – The area is primarily rural agricultural with some large-lot residential uses. As the area develops, land uses that are compatible with other modes of transportation can help transition the corridor away from vehicle-dependence.

Typical Facility Condition



Toyota Truck Manufacturing Plant



Fire Station On Corridor



Intersection

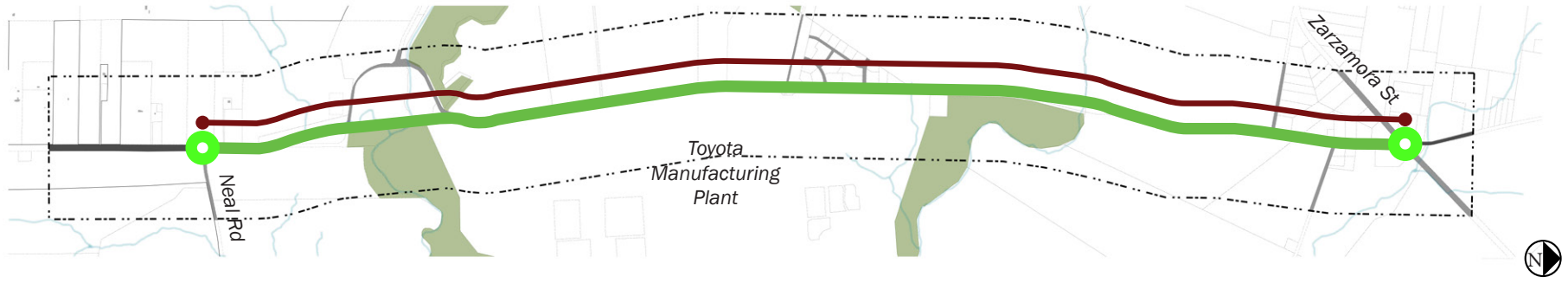


Generous Shoulders



Side Road Intersection with Merge

Future Phase 1: 4 Lanes + Cycle Tracks, Sidewalk with Buffer and Median



Strategies

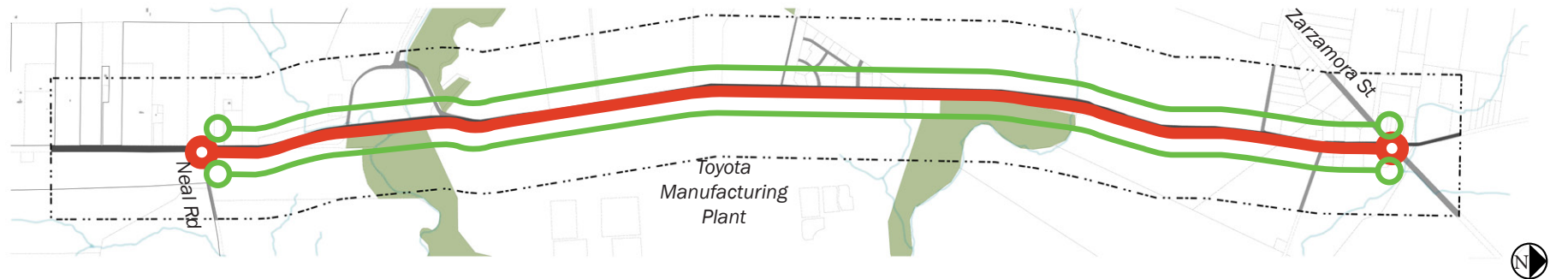


Widen to add cycle tracks, both sides.



Landscaped median with left-turns where needed.

Future Phase 2: 6 Lanes + Multiuse Path



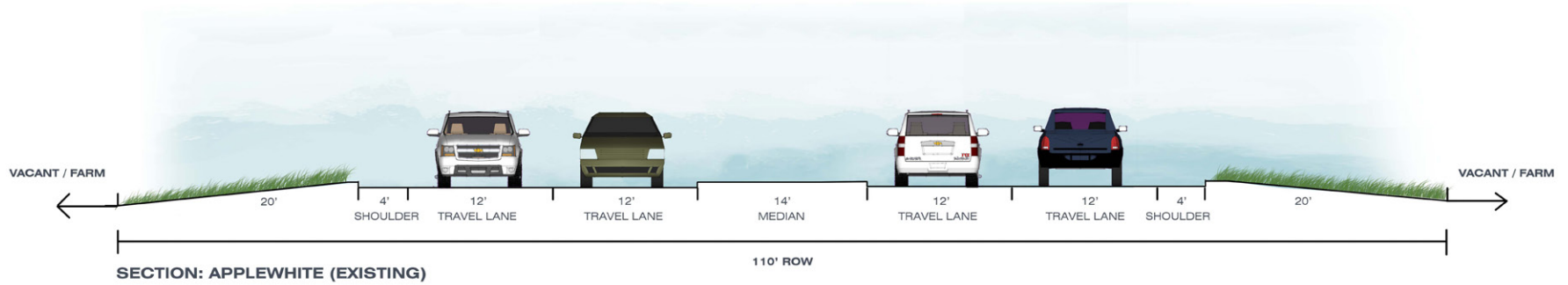
Strategies



Widen to 6-Lanes where traffic volumes necessitate. Maintain center medians with left turn bays and openings provided where needed.



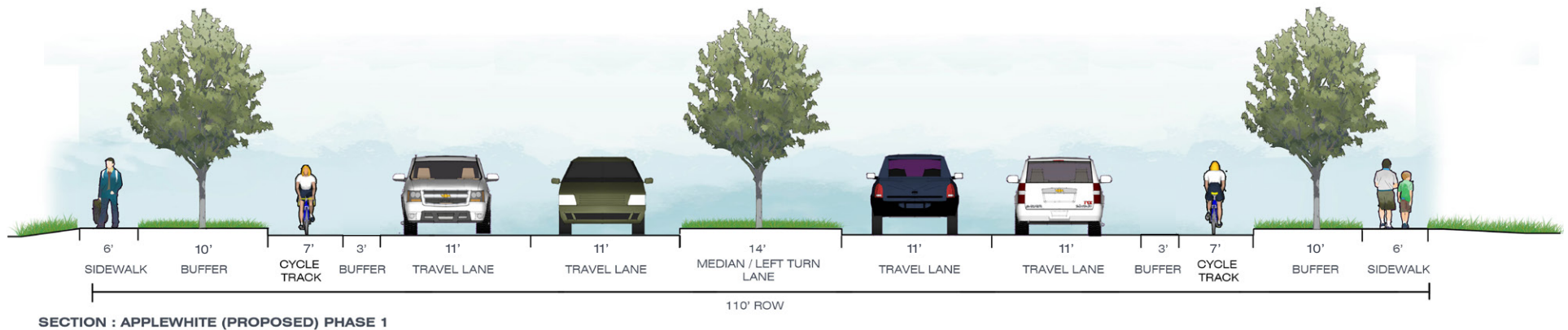
As traffic increases separate bike and vehicular traffic via multi-use path off roadway.



Multimodal Opportunities

The Applewhite Road concept demonstrates a potential phased approach to providing multimodal options. While Applewhite has a right of way width of 110 feet, many similar corridors may have less, and in order to provide multimodal facilities on these streets, it is important to identify desired widths that can accommodate multiple modes and acquire additional needed right of way as the corridor develops.

Future Phase 1: Cycle Tracks + Landscaped Median, Buffered Sidewalks



Description:

Phase 1 takes us from a rural character with minimal development along the roadway to one where development and growth are beginning to take place. The installation of a landscaped median will improve access management by controlling left turn and median openings as intersecting streets and driveways from developments are added. In Phase 1, the roadway is widened from 70 feet to 76 feet. Cycle tracks are installed on each side of the road, providing a physical barrier between bicyclists and traffic. Sidewalks are located at the outside of the available ROW, allowing for a generous landscaped buffer area.

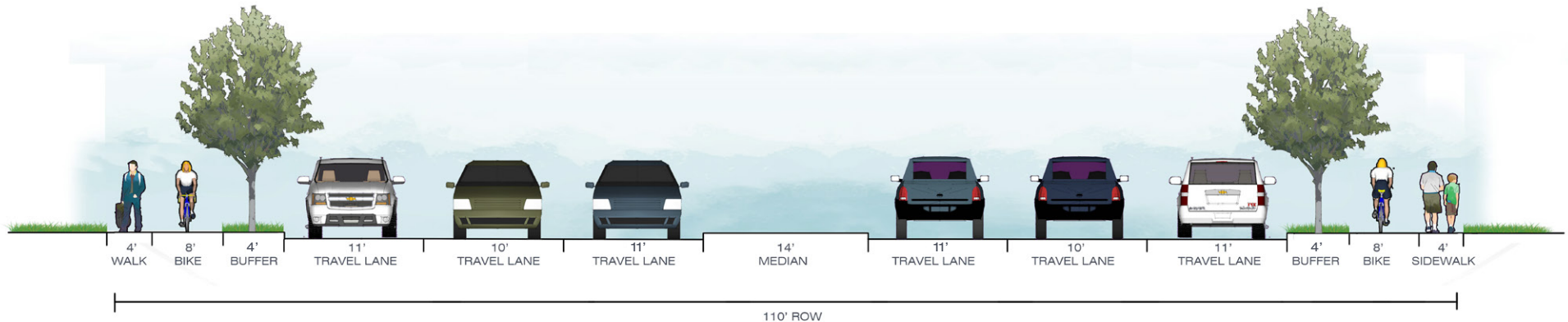
Opportunities:

Since we are starting with a blank slate on roadways with minimal development, the opportunities are endless. The objective is to plan early for the ultimate multimodal option that can be accommodated within the ROW and develop phasing plans that provide a roadmap for how to reach the ultimate solution.

Challenges:

- Implement features that calm traffic to reduce speeds as development takes place.
- Implement policy that will control access to and from developing parcels to limit median openings and left turn movements. Driveways should be kept to a minimum to reduce vehicle, pedestrian and bicycle conflicts.
- Coordinate with VIA and other agencies to maintain design vision as development occurs.

Future Phase 2: 6 Lanes + Shared Path + Landscaped Median



SECTION : APPLEWHITE (PROPOSED) PHASE 2

Note: The City's new standard for minimum sidewalk width is 6 feet for commercial areas and along arterials (effective January 2016). A landscape buffer separating sidewalks from traffic is desirable. However, what is shown is based on retrofitting an existing roadway within the available ROW

Description:

In Phase 2, Applewhite is experiencing increased development due to growth in the area. Properties along the frontage are being developed as well as areas beyond the corridor increasing the demand for pedestrian, bicycle and vehicular capacity. Phase 2 recognizes the increase in development and resulting traffic volumes along the roadway. As the corridor becomes more developed, the cycle tracks shown in Phase 1 can be removed to add an extra traffic lane in each direction without widening the roadway. The roadway is restriped to provide 3 lanes in each direction. The 2 inside lanes are 10 feet wide while the outside lane is 11 feet minimum in expectation that with growth, the area will see transit service. A multi-use path off the roadway is incorporated to physically separate the bikes from the travel lanes and the increased traffic on the road. Pedestrians are accommodated with a walkway adjacent to the bike facility. Both pedestrians and bicyclists are separated from traffic with a landscaped buffer. The median is retained to provide access management and control the proliferation of driveways along the corridor.






Opportunities:

Consider incorporating features that support multimodalism:

- Roundabouts as traffic control at intersections
- Pedestrian crossings at intersections and mid-block with warning measures and/or HAWK signals
- Lighting for pedestrian and bicyclists
- Treatments at intersections to promote safe crossings by bicyclists (bike boxes, bike signals, signs and pavement markings)
- Amenities at transit stops and nodes where modes connect

Challenges:

- Maintaining the policies that were put in place to control driveway access and median openings will be a challenge as development occurs.
- Coordination with VIA and other agencies will be needed to continue to maintain the design vision for the corridor as development occurs.

					Recommendations	Benefits
					Develop Phased Cross Sections that accommodate other modes of transportation	Allowing for other modes of transportation (active and motorized) will allow more people to safely use the facility. A phased approach will allow these changes to be made as growth begins to occur in the corridor.
					Reconfigure Intersection at Zarzamora	Realigning the roadway at the Zarzamora intersection will provide direct through movements from SB Zarzamora to Applewhite.
					Make Connections to Regional Trails	There are several trails near the Medina River that either intersect or come near the road. Connecting active transportation facilities on Applewhite to these trails will expand the active transportation network.
					Establish a transit connection to the Toyota Manufacturing Facility	As the primary employer along the corridor, the Toyota Manufacturing Facility is the largest traffic generator. Providing a regional or express transit line to the facility will help to alleviate some congestion.
					Encourage residential uses for those who work along the corridor	Another method to alleviate congestion is to promote residential uses near the Toyota Manufacturing Facility so people will have shorter commute to work.



Transit Improvements



Pedestrian Improvements



Bicycle Improvements

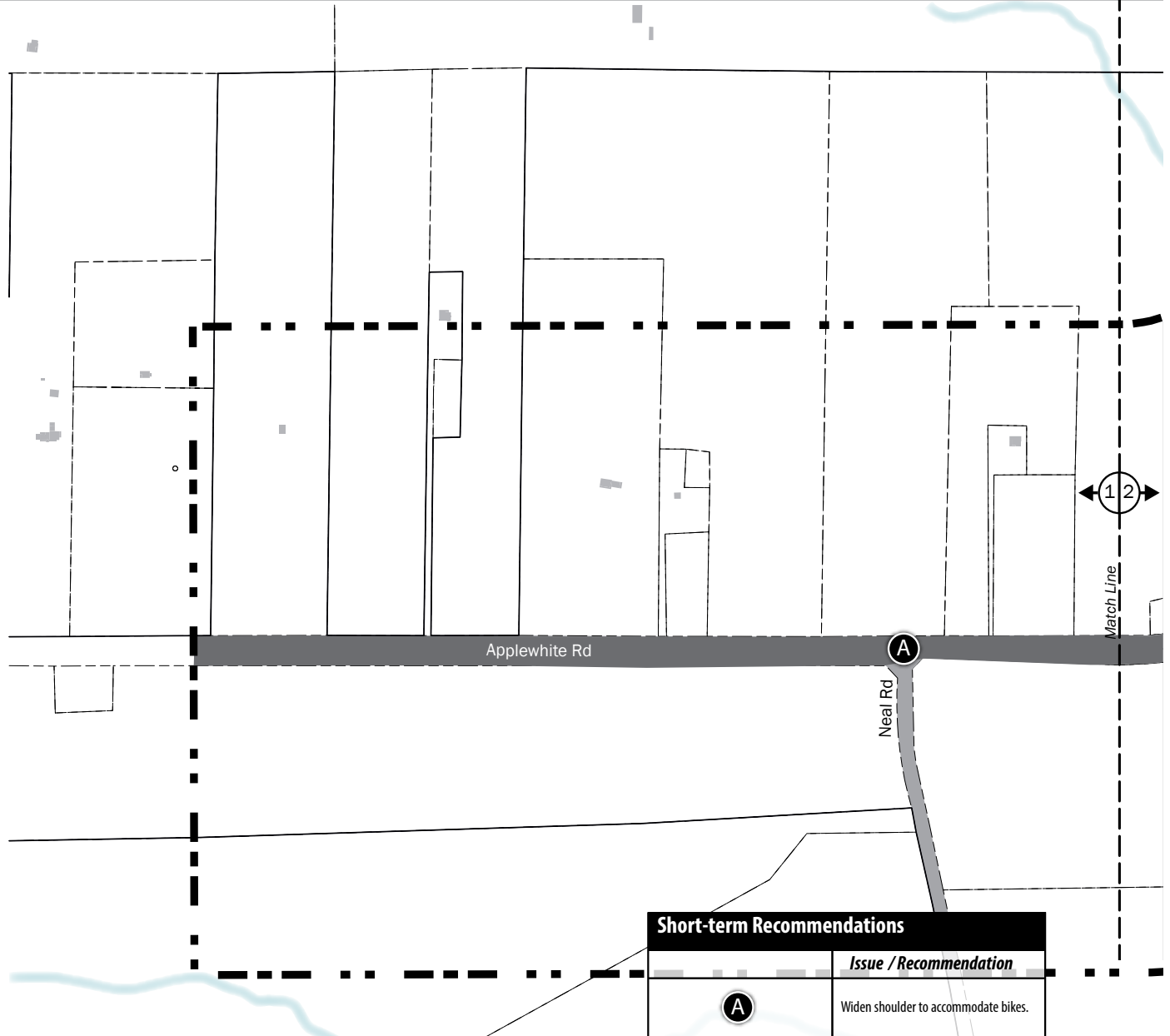


Vehicular Improvements



Land Use Improvements

#1



Applewhite Corridor Analysis: Sheet 1 Short Term Recommendations

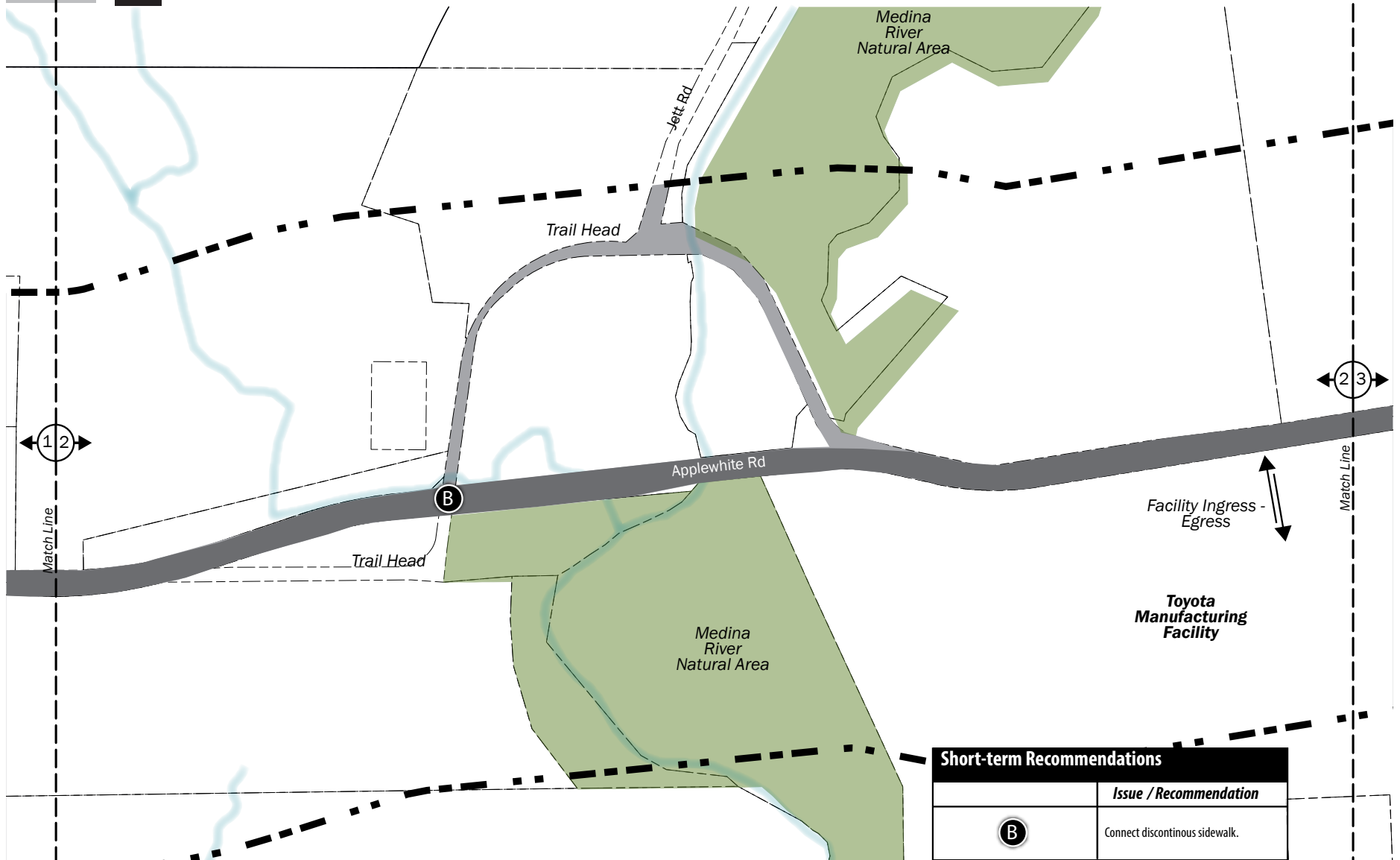
DRAFT IN-PROGRESS

04.12.2016

- Open Space
- Study Area



#2

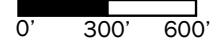


Short-term Recommendations	
	Issue / Recommendation
B	Connect discontinuous sidewalk.

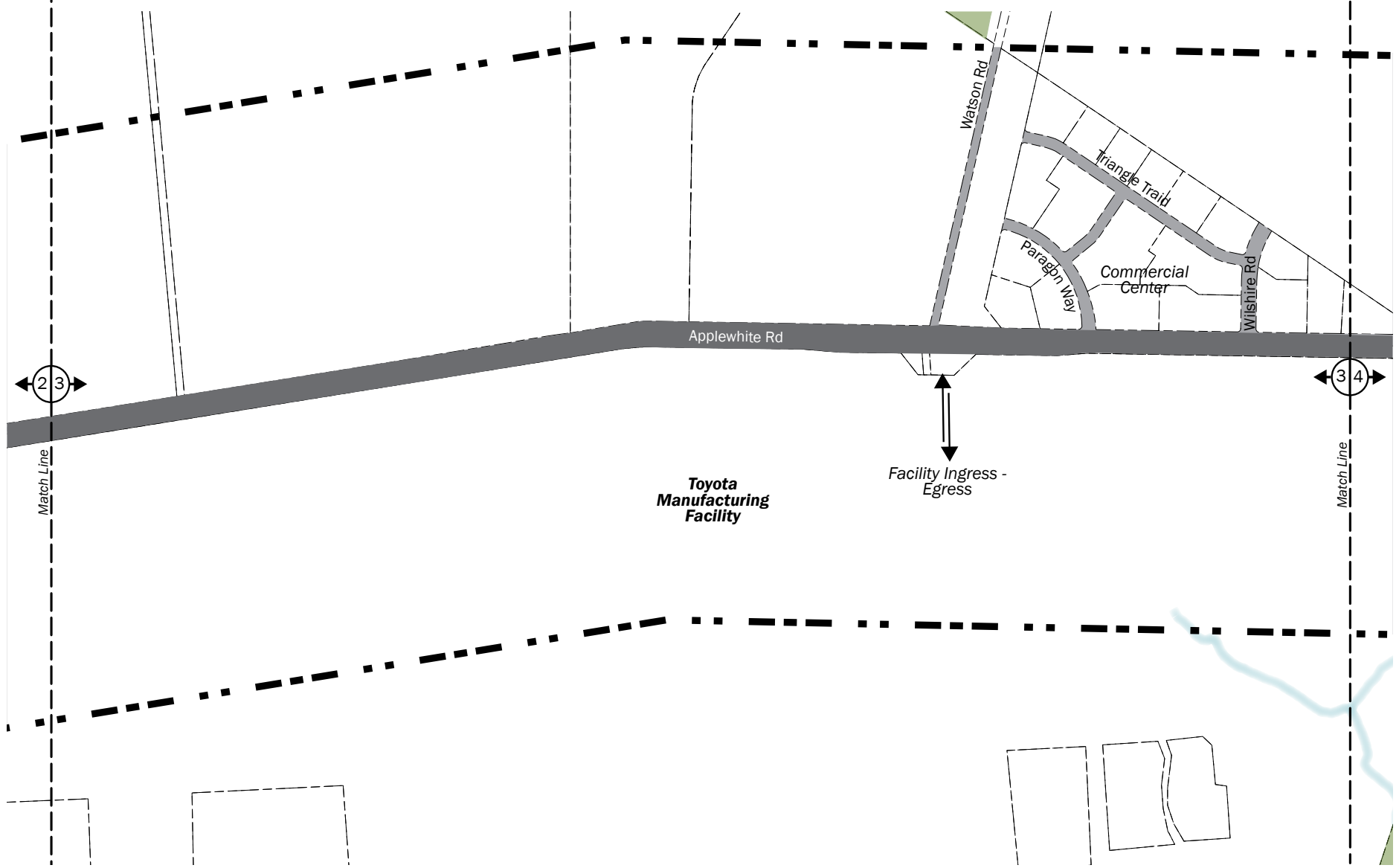
Applewhite Corridor Analysis: Sheet 2 Short Term Recommendations

Open Space
 Study Area

DRAFT IN-PROGRESS 04.12.2016



#3



Applewhite Corridor Analysis: Sheet 3 Short Term Recommendations

DRAFT IN-PROGRESS 04.12.2016

- Open Space
- Study Area

SR TOMORROW 0' 300' 600'

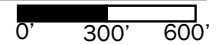
#4



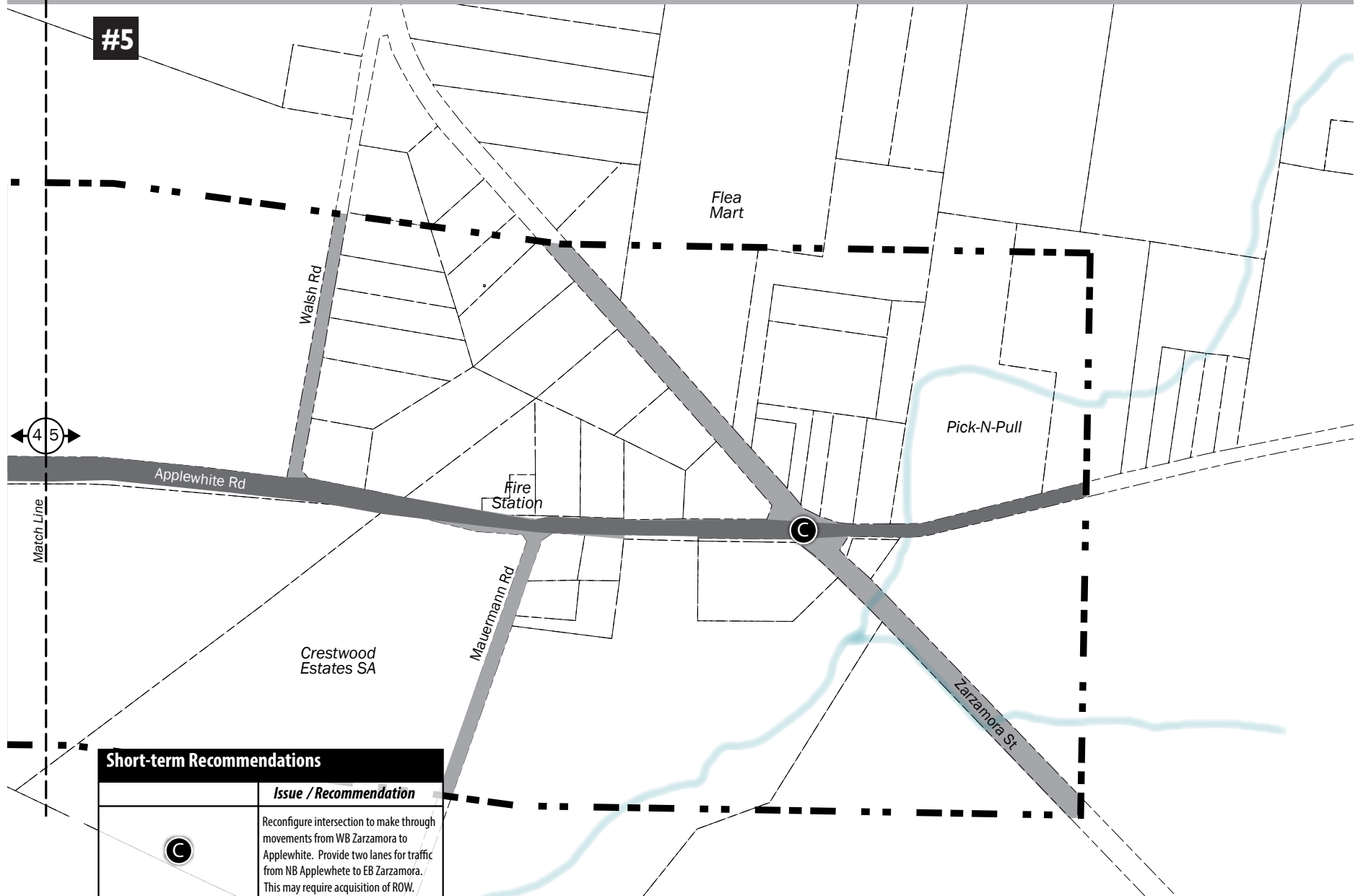
Applewhite Corridor Analysis: Sheet 4 Short Term Recommendations

- Open Space
- Study Area

DRAFT IN-PROGRESS 04.12.2016



#5



Short-term Recommendations	
	Issue / Recommendation
C	Reconfigure intersection to make through movements from WB Zaramora to Applewhite. Provide two lanes for traffic from NB Applewhite to EB Zaramora. This may require acquisition of ROW.

Applewhite Corridor Analysis: Sheet 5 Short Term Recommendations

DRAFT IN-PROGRESS 04.12.2016

- Open Space
- Study Area



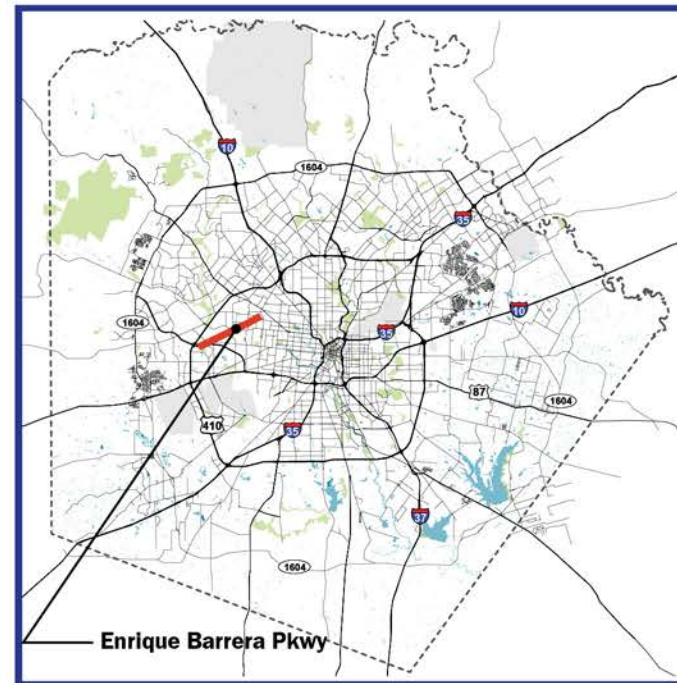
Context

This corridor is relatively undeveloped, has underused rights-of-way and provides a direct link into the San Antonio downtown from Lackland AFB and the Kel-Lac transit center.

The existing roadway is a four lane undivided roadway with unstructured and mostly uncontrolled property access. The segment under evaluation is a four-mile section that is primarily a business corridor (though employment density is low) with residential uses set back from the roadway and accessed from cross-streets and the local street network. The corridor boasts a wide right-of-way (generally over 100 feet) and much of the westernmost segment runs through vacant or minimally used properties. Current levels of service are good but will become more congested in the future as growth is accommodated. The diagonal configuration of the highway across the underlying street grid creates awkward crossings. Many of the intersections will need to be modified to avoid future conflicts as traffic volumes grow. There have been a number of fatal crashes in the corridor and all improvements should help improve corridor safety.

Buena Vista Streets, Routes 75 and 76 carry high ridership today and are forecast to continue to do so. As a result, Barrera Parkway is identified as a potential high capacity corridor by VIA. An extension to the park-and-ride and even to Lackland AFB, along with supporting land uses, would allow future residents and businesses to grow within the envelope of a high capacity service with the alternative to driving built into the context of their location.

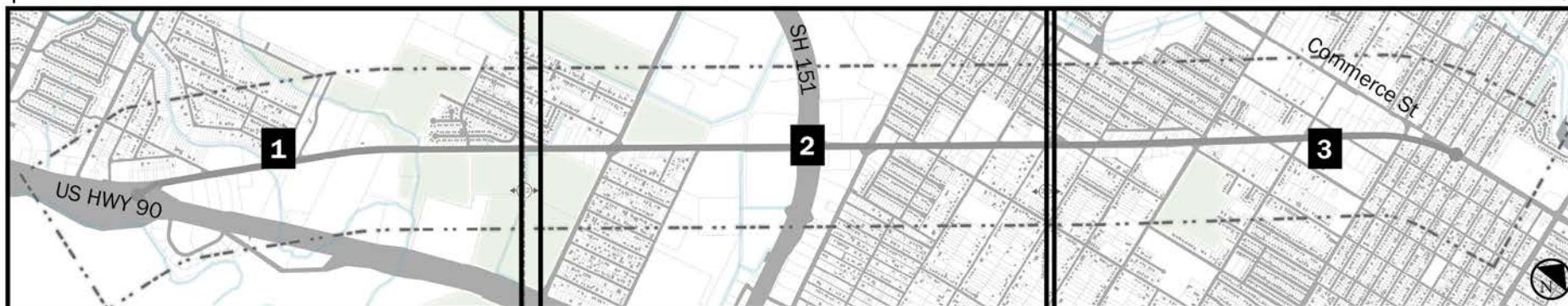
The short term improvements proposed for the roadway will benefit transit. The longer term proposed transit improvements include a dedicated BRT/LRT route as well as connecting and improving the pedestrian and bicycle facilities. The available right-of-way will accommodate these features without substantially impacting the existing travelway.



Just east of the corridor, along Commerce and

Enrique Barrera Parkway Sheet Set Key

4.2 Miles



Vision

Enrique Barrera Pkwy Enrique Barrera Parkway will be a corridor that fosters land uses compatible with multimodal travel options, including high capacity services, and which builds on opportunities to link military and downtown activity areas at either end with growth throughout the corridor.

Future

- VIA shows Enrique Barrera as a potential high capacity corridor with Primo Plus service.
- Traffic volumes grow substantially but are still within the ability of the corridor to handle making introduction of an alternative transportation option an attractive possibility.
- Land uses in the future will be expected to support the modal configuration of the corridor, including high capacity transit such as Primo Plus
- Bicycle and pedestrian facilities will extend throughout the corridor and provide access to local activities and to the public transportation system.

Policy & Guidance

Access Control - this is primarily to organize the access along the corridor. Undefined or unstructured access points will need to be organized to reduce roadway friction as traffic in the area grows and allow a safe operating environment for cars, pedestrians, transit riders and bicycle users. The coordination of access will also set the stage for transit operations and service to adjacent neighborhoods.

Land Use Planning - Support zoning and investment and encourage redevelopment of underused parcels to create an attractive multimodal environment within the corridor that can help manage anticipated growth in the region and support modal options in the corridor.

Transit - Build provisions for future rapid transit guideway into corridor now when roadway improvements are made. Initial phase of service could be a dedicated BRT that can

Issues

General - The physical features of the roadway are not a limiting factor in the creation of a complete street, improving traffic flow or introducing multimodal choices. The effect of any major changes to access on existing businesses are a possible short-term challenge that will benefit existing and future uses.

Roadway - As the city grows, safety issues and congestion associated with the uncontrolled environment along Enrique Barrera Parkway can be avoided with a plan to manage the corridor operation and develop a comprehensive plan for modifying and expanding its configuration to handle anticipated demands. Adoption of a complete street approach that incorporates all modes, makes pedestrians a priority and accommodates multimodal options would also help organize the roadway appearance and operation.

Transit - VIA has identified Enrique Barrera Parkway as a potential LRT route. The limited development in some portions of the corridor suggest that LRT or BRT service will depend on how the corridor evolves from the present condition to a more multimodal-friendly environment. The success of high capacity transit service will depend upon compatible land use decisions within the corridor.

Pedestrians - Sidewalks along Enrique Barrera Parkway are intermittent and located mostly in front of newer developments. There are lengthy stretches without a safe pedestrian path.

Bicycle - There are no bike lanes or paths to protect cyclists from relatively high speed traffic and conditions discourage bicycle use. The current configuration of the roadway does not lend itself to bicycle use, but there is sufficient right-of-way to accommodate effective commuter and recreational bicycle use as part of the multimodal plan for the corridor.

Land Use - Almost all land uses adjacent to Enrique Barrera Parkway Corridor are commercial. Though some of the uses are relatively new, much of the corridor could benefit from redevelopment toward uses that would foster more efficient transportation operations on Enrique Barrera Parkway Corridor.



Pedestrians Crossing Enrique Barrera Pkwy



Bus Stop at Westfield



Mid-Corridor Street Condition



Levi Strauss Trail Head



Rural Area



Enrique Barrera Pkwy Commercial Area



Sidewalk at SH 151



Sidewalk Condition

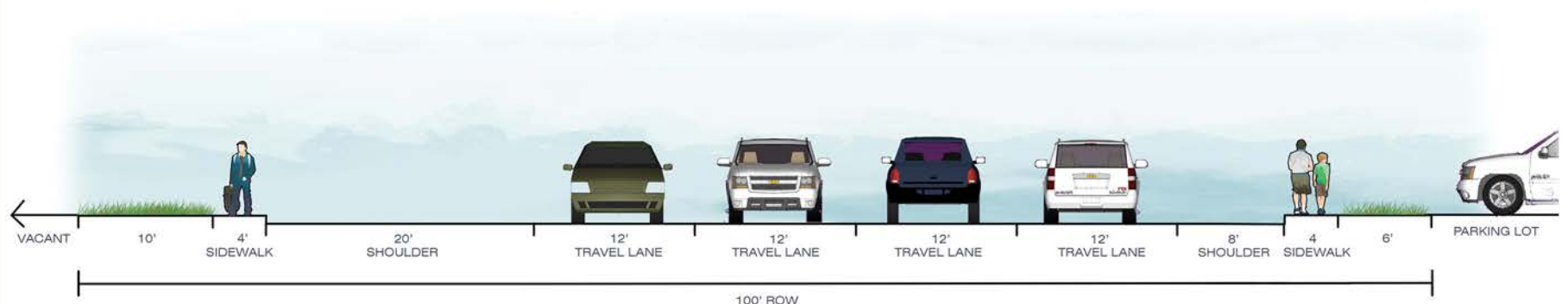
Future Option 1: Light Rail Transit



Strategies

- Improve neighborhood connections to the corridor via multiple modes*
- Develop a complementary land use plan for the corridor that can attract and support growth in the region that can complement on transit and other modes.*
- Develop a comprehensive LRT cross-section with the guideway located in the center of the street and two traffic lanes on either side. A comfortable pedestrian and cycling environment within the right-of-way will assist in improving the transit functionality of the corridor and provide another option for travelers.*
- Install bicycle path or track in the facility as part of local circulation plan and to foster complementary mobility options to transit.*
- Introduce high capacity service between downtown and Lackland AFB (or Kel-Lac Transit Center at a minimum)*

Existing Typical Section

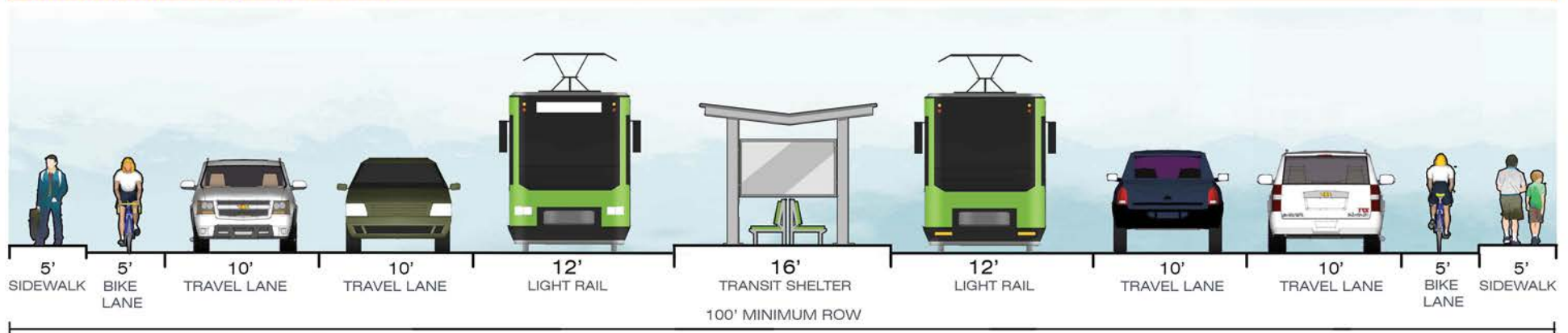


EXISTING SECTION: ENRIQUE BARRERA PKWY

Multimodal Opportunities

Since VIA has identified Enrique Barrera as a potential high capacity Primo Plus corridor, introduce high capacity service between downtown and Lackland AFB (or Kel-Lac Transit Center at least).

Future Option 1: Light Rail Transit



ENRIQUE BARRERA PKWY

Description:






Enrique Barrera Parkway (Old Highway 90) is a holdover from a regional radial roadway system before the north-south, east-west grid was built in the region. As such, it offers both opportunities and challenges. It provides a kind of “shortcut” option that links Lackland AFB and downtown San Antonio and because of its location in the region is not yet overwhelmed by traffic. It also forces some awkward intersection configurations that complicate traffic management. As the region gains population and jobs, congestion will grow and it is reasonable to plan for that change with the best possible combination of transportation and land use policies to encourage a broad range of mobility opportunities. These will help manage congestion and create a viable multimodal system built on effective land use planning that reduces demand for travel and offers a choice in how to travel.

Opportunities:

- Directional high capacity corridor (dedicated curbside BRT or LRT) east of 22nd on Commerce and Buena Vista to the West Side Transit Center to reduce impact on neighborhoods along the narrow streets and encourage ridership with higher level of service.
- Make provisions for center-running BRT west of 22nd Street and possible transition to LRT in the future (VIA Plan). ROW can accommodate more generous cross-section with four vehicle lanes, bike lanes, sidewalks in addition to BRT/LRT.
- Include bicycle path or track in corridor cross-section as part of local circulation plan and to foster good complement to transit.
- Improve neighborhood connections to the street via multiple modes.
- This is one of the closest things to a “blank canvass” for urban systems planning in the San Antonio area. Making supporting land use decisions that will encourage multimodal travel choices will help maintain a functional and effective corridor as the region grows.

Challenges:

- A major challenge is the relationship of Enrique Barrera Parkway to the underlying roadway grid. The diagonal configuration creates issues that make the corridor less efficient and more prone to conflicts.
- Managing access to businesses will require establishing guidelines that will constrain present practices in the corridor.

					Recommendations	Benefits
					Establish a corridor configuration within the ROW that will accommodate future light rail	Provides identity, a sense of place and physical definition for Enrique Barrera as well as providing reliable transit service.
					Reserve space for future high capacity transit. Service can initially be dedicated BRT that can ultimately accommodate LRT. The Transit Route should continue to Downtown along Commerce	Reserving space for future transit improvements will reinforce a future vision and allow for the corridor to be flexible and adaptable to future mobility strategies.
					Consolidate Driveways	Minimizing access points will improve the capacity and safety of the roadway. It will also provide more continuous pedestrian and bike facilities.
					Provide continuous sidewalk on both sides of the street	A continuous sidewalk will encourage pedestrian movements, encourage growth-accommodating future land uses and add to the visual appeal of the corridor.
					Improve bus stops to include seating and shelter	Functional and attractive transit stops encourage people to use transit while also reducing vehicular volumes. Reduction in volumes creates space for the incorporation of multimodal modes.
					Provide a bicycle track or lane on the corridor	Bike facilities allow for safe bicycle movements and encourages alternative transportation modes.
					Provide safe crossing at intersections	Define safe pedestrian crossings to minimize jaywalking, increase pedestrian safety and encourage walking.
					Simplify Intersections	Where possible, reduce the excessive skew between Barrera Parkway and cross-streets and eliminate the most complex intersections to maintain a high level of traffic flow in the corridor.
					Improve neighborhood connections to the corridor via multiple modes	Improving connections to the corridor from surrounding neighborhoods will encourage multimodal travel, benefit local business and provide mobility options for local residents
					Develop a land use plan for the corridor	A strategic and complementary land use plan along the corridor could propel the ridership forecast to even higher levels by offering an effective alternative to automobile travel.
					Provide ADA compliant sidewalks	Ensure sidewalks meet or exceed standards for ADA in order to foster a good walking environment for all users.



Transit Improvements



Pedestrian Improvements



Bicycle Improvements

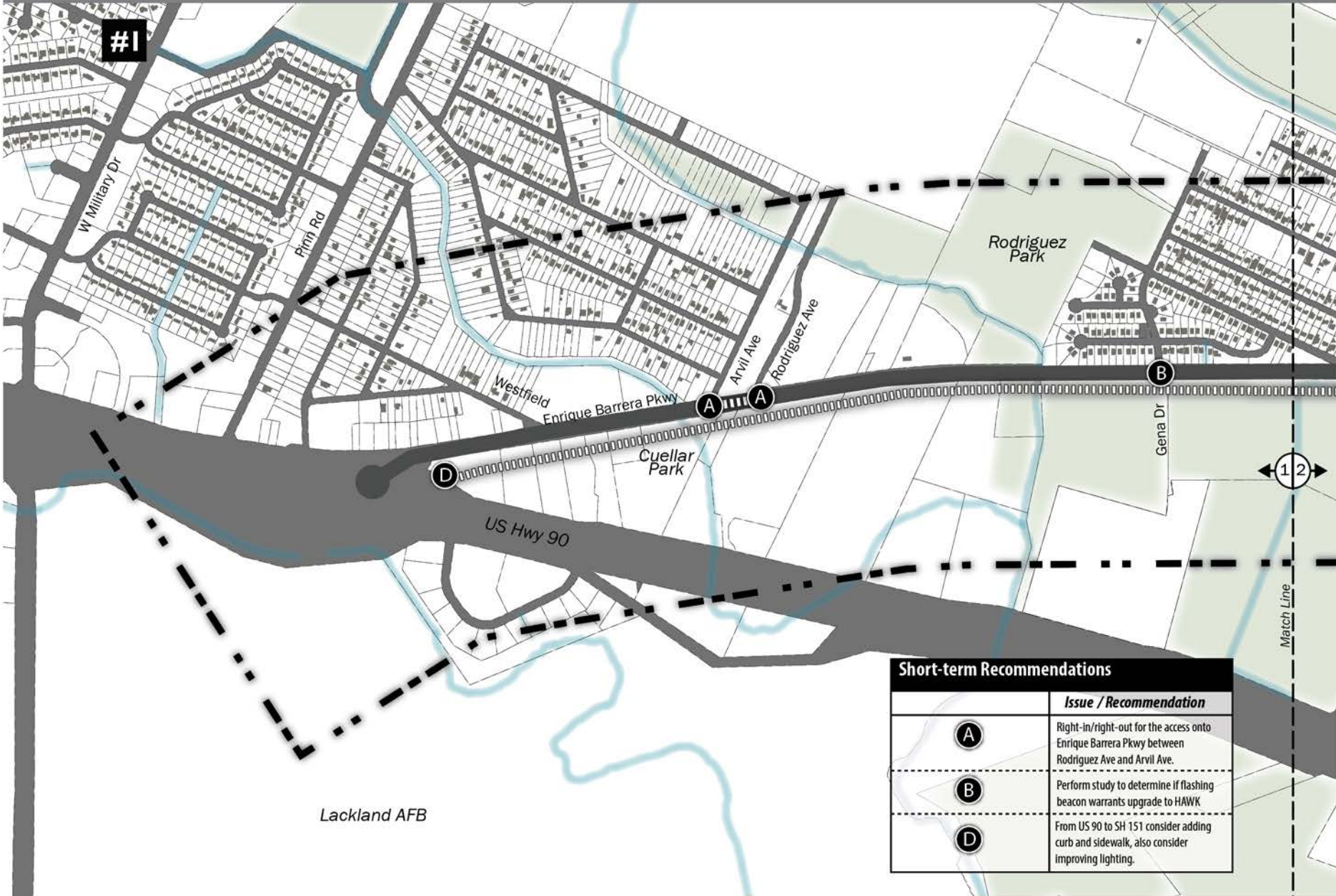


Vehicular Improvements



Land Use Improvements

SUBURBAN



Short-term Recommendations	
	Issue / Recommendation
A	Right-in/right-out for the access onto Enrique Barrera Pkwy between Rodriguez Ave and Arvil Ave.
B	Perform study to determine if flashing beacon warrants upgrade to HAWK
D	From US 90 to SH 151 consider adding curb and sidewalk, also consider improving lighting.

Enrique Barrera Pkwy: Sheet 1 Short Term Recommendations

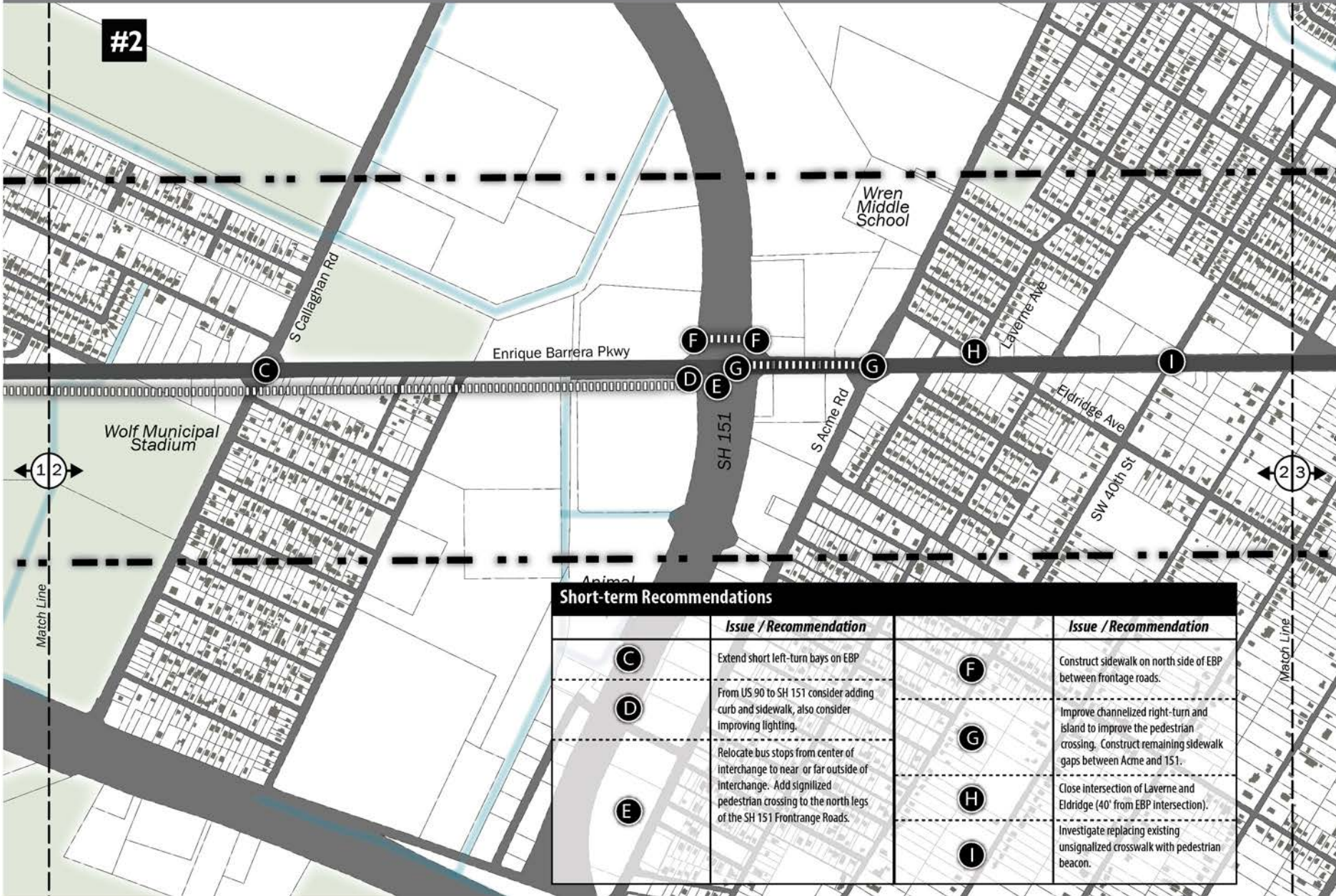
Open Space
 Study Area

DRAFT IN-PROGRESS 04.13.2016

0' 600'

SUBURBAN

#2



Short-term Recommendations			
	Issue / Recommendation		Issue / Recommendation
C	Extend short left-turn bays on EBP	F	Construct sidewalk on north side of EBP between frontage roads.
D	From US 90 to SH 151 consider adding curb and sidewalk, also consider improving lighting.	G	Improve channelized right-turn and island to improve the pedestrian crossing. Construct remaining sidewalk gaps between Acme and 151.
E	Relocate bus stops from center of interchange to near or far outside of interchange. Add signalized pedestrian crossing to the north legs of the SH 151 Frontrange Roads.	H	Close intersection of Laverne and Eldridge (40' from EBP intersection).
		I	Investigate replacing existing unsignalized crosswalk with pedestrian beacon.

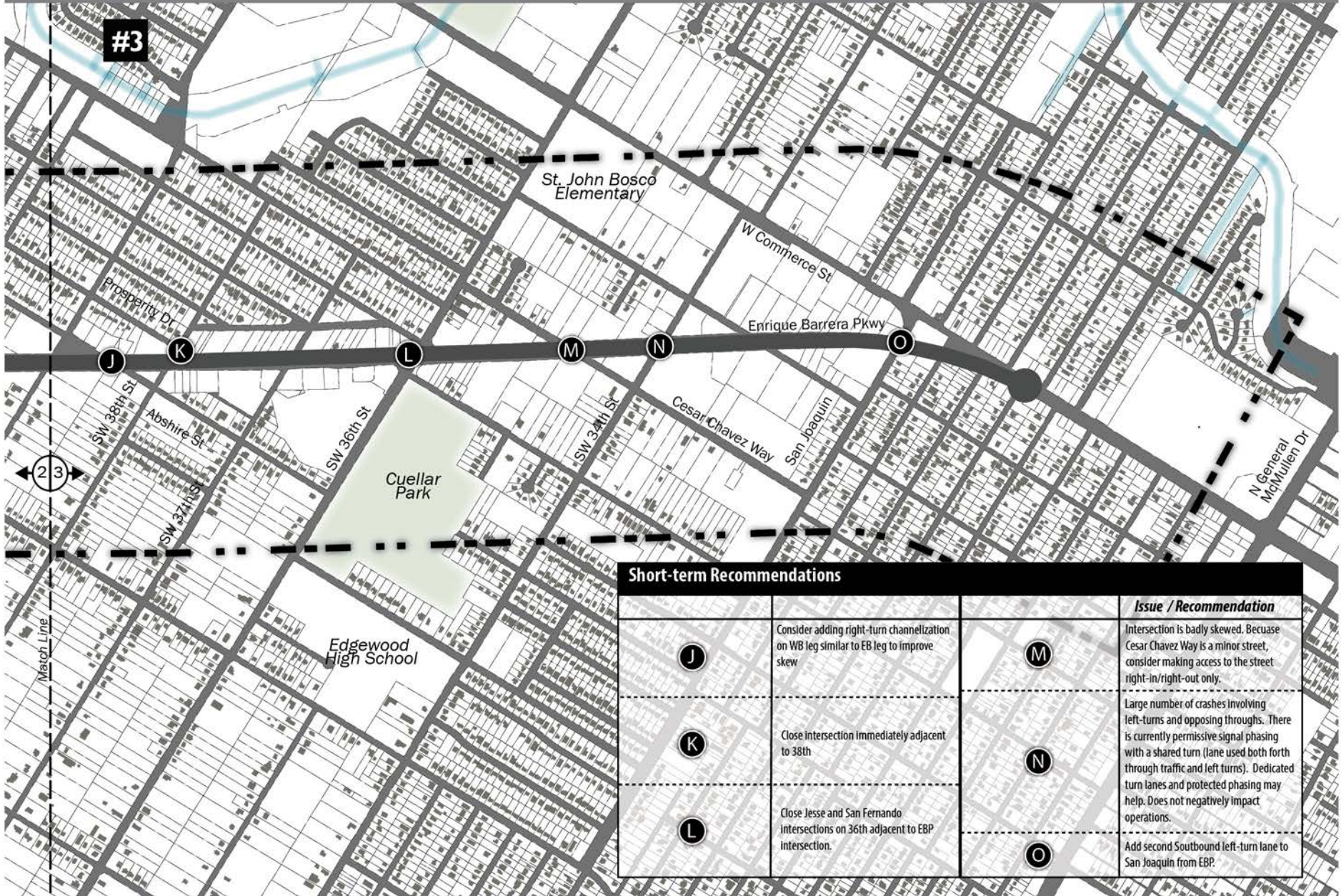
Enrique Barrera Pkwy: Sheet 2 Short Term Recommendations

DRAFT IN-PROGRESS 04.13.2016

Open Space
Study Area



SUBURBAN



Enrique Barrera Pkwy: Sheet 3 Short Term Recommendations

DRAFT IN-PROGRESS 04.13.2016

Open Space
Study Area

