

Technical Memorandum

May 26, 2022

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Subject: Cahuilla Long-Range Transportation Plan – Needs Assessment Technical Memorandum (DRAFT)

Introduction

Michael Baker International (Michael Baker) has prepared this technical memorandum assessing the transportation needs within the Cahuilla Reservation (Reservation). In March 2022, Michael Baker and Fourth World Design Group conducted two half-day design charrettes to gain feedback from the tribal members, Casino employees, and surrounding community to better understand the transportation needs within the Reservation. In addition, a field review was conducted in March 2022 to understand the physical conditions and key issues along the roadways within the Reservation. These events in addition to the work previously conducted for the project resulted in a series of focus areas. Within each focus area, specific needs were identified, which were then paired with a series of tools to address those needs.

The purpose of this memorandum is to describe the transportation needs, solutions and prioritization of projects that will become the foundation of the long range transportation plan. This memorandum outlines the process followed to identify the transportation needs and specific projects to address those needs.

Focus Areas

Using input received from the community at Workshop 1 and data collected for the Existing Conditions report, Michael Baker identified key focus areas for the Reservation. Focus areas are high priority locations where transportation improvements will improve access, mobility, and circulation for one or more modes (walking, bicycling, driving, transit). Focus areas can be a single location or can be a grouping of projects or locations with a common theme or objective.

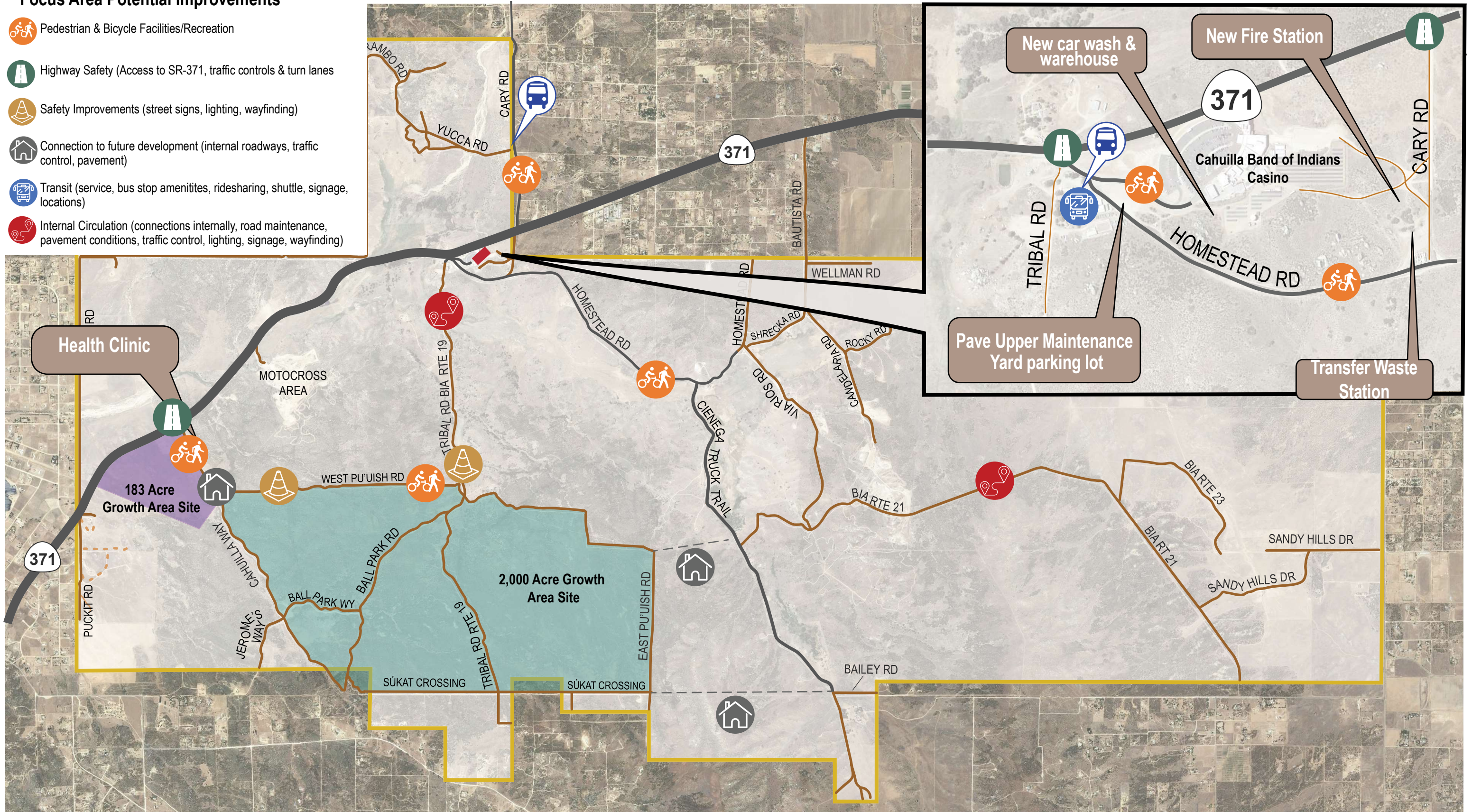
The following is a summary of the focus areas identified for the Reservation:



Figure 1 illustrates the focus areas presented to the tribe during the design charrettes.

Focus Area Potential Improvements

- Pedestrian & Bicycle Facilities/Recreation
- Highway Safety (Access to SR-371, traffic controls & turn lanes)
- Safety Improvements (street signs, lighting, wayfinding)
- Connection to future development (internal roadways, traffic control, pavement)
- Transit (service, bus stop amenities, ridesharing, shuttle, signage, locations)
- Internal Circulation (connections internally, road maintenance, pavement conditions, traffic control, lighting, signage, wayfinding)



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- LEGEND**
- Unpaved Road
 - Driveway
 - School Bus Stop
 - Near Term Development
 - Paved Road
 - Reservation Boundary

PROPOSED FOCUS AREAS
CAHUILLA LONG RANGE TRANSPORTATION PLAN

Field Survey


In addition to the half-day design charrettes, Michael Baker conducted a field survey on March 15, 2022 to review current roadway conditions, observe traffic operations, and identify potential improvements throughout the Reservation. Results of the field survey are summarized in the *Field Survey Technical Memorandum (April 21, 2022)*.

Toolbox of Solutions

To address the issues identified in each of the focus areas and the observed conditions in the field, a toolbox of solutions was developed and presented to the tribe during Design Charrette Day 1. This section provides a brief summary of the tools identified for each of the focus areas.


Paved & Unpaved Roadways



	Application	Benefits
	<p>Paved and unpaved roadways connect assignments within the reservation to Highway 371. Pavement condition (paved vs. unpaved) should be selected based on the volume of traffic using the roads, types of vehicles using the roads, and other factors.</p>	<p>Paved Roadways: More suitable for higher volumes of traffic or primary routes into and out of the reservation. Easier for standard motor vehicles to navigate and provide opportunities for bike lanes and pedestrian paths.</p> <p>Unpaved or Earth Surface Roadways: Require ongoing maintenance to address erosion during rain storms and normal wear. Provides more natural condition, consistent with the landscape and natural conditions on the reservation.</p>


Roundabouts



	<p>Application</p>	<p>Benefits</p>
	<p>Roundabouts are a form of traffic control at an intersection. They require all traffic to move in one direction around a central island, which in turn improves safety and reduces conflicting movements. Roundabouts tend to cost more to construct and require more right of way but have lower maintenance costs than traditional signalized intersections.</p>	<p>Reduce frequency and severity of crashes, lower vehicle speeds, and improve overall operational performance.</p>


Traffic Signals



	<p>Application</p>	<p>Benefits</p>
	<p>Traffic signals are a form of traffic control at an intersection that uses red, yellow and green visual indications to assign vehicular right of way.</p>	<p>Cost less to build, require less roadway space, and are more familiar to the average driver.</p>


Turn Lanes



	<p>Application</p>	<p>Benefits</p>
	<p>Turn lanes are dedicated traffic lanes that allows a driver to make a right or left turn outside of the through lanes.</p>	<p>Reduce potential for rear-end accidents, reduce delay due to stopped or decelerating turning vehicles, and keep through traffic moving.</p>




Bicycle Lanes

	<p>Application</p>	<p>Benefits</p>
	<p>Bicycle lanes are a portion of the roadway dedicated to bicycles using striping. This can be a single stripe or can include a striped buffer.</p>	<p>Dedicated space for bicycles visually separates bicycle and vehicular traffic.</p>


Paved Side Path



	<p>Application</p>	<p>Benefits</p>
	<p>A sidepath is a two-way shared use path located next to a roadway. It is typically paved and is shared by bicycles, pedestrians and other non-motorized users.</p>	<p>High-quality walking and bicycling experience due to physical separation from vehicular traffic. Facilities are appropriate for users of all ages and abilities.</p>


Paved Shoulder



	<p>Application</p>	<p>Benefits</p>
	<p>Paved shoulders are located along the edge of roadways. They can serve as a functional space for bicyclists and pedestrians to travel in the absence of other facilities with more separation. These are most suitable for low speed, low volume roadways.</p>	<p>Path of travel in the absence of sidewalk or trails. Requires less right of way and is lower cost than trails, sidewalk and side paths. May double as a shoulder for vehicles.</p>


Sidewalk



	<p>Application</p> <p>Sidewalks are a paved surface – either concrete or asphalt - that provide dedicated space intended for use by pedestrians. These separated facilities provide a comfortable and accessible path of travel for users of all ages and abilities. Sidewalks are physically separated from the roadway by a curb or unpaved buffer space.</p>	<p>Benefits</p> <p>Dedicated place within the public right of way for pedestrians.</p> <p>Shade, benches, landscaping and other features increase pedestrian comfort.</p>
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Dirt Path / Earth Surface Trail



	<p>Application</p> <p>A dirt path or earth surface trail is an unpaved pathway that can be used for recreational purposes. It is most appropriate in areas with a higher rate of equestrian users and in more rural communities.</p>	<p>Benefits</p> <p>Consistent with rural character, provide access for equestrian use, and ideally suited for recreation uses.</p>
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Bicycle Boulevard



	<p>Application</p> <p>A bicycle boulevard is a low-stress shared roadway bicycle facility, designed to offer priority for bicyclists operating within a roadway shared with motor vehicle traffic.</p>	<p>Benefits</p> <p>Maintains slow vehicle speeds by designing the road to prioritize bicycle traffic. May include diverters or other features to reduce vehicular through traffic along a roadway.</p>
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High Visibility Crosswalk



	<p>Application</p> <p>High-visibility crosswalks use reflective, thick striping to increase visibility to both pedestrian and drivers. This treatment should be considered for all marked pedestrian crossings on paved roadways for both controlled and uncontrolled intersections.</p>	<p>Benefits</p> <p>Improves visibility and awareness of pedestrians at an intersection or crossing.</p>
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Pedestrian Signal



	<p>Application</p> <p>Pedestrian signals help to assign right-of-way at intersections using visual, audible, and/or tactile means.</p>	<p>Benefits</p> <p>Increases pedestrian safety by using traffic signal indication to require vehicles to stop while pedestrians cross the street.</p>
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ADA Curb Ramps



	<p>Application</p> <p>A curb ramp is a short ramp cutting through a curb or built up to it. It is designed to be accessible to all users, including those with disabilities.</p>	<p>Benefits</p> <p>Improves access for people with limited mobility (wheelchairs, strollers, etc.) by allowing a smooth transition from the street to the sidewalk. Truncated domes provide an indication for the visually impaired that they are entering an intersection.</p>
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Street Lighting / Pedestrian Scale Lighting

	<p>Application</p> <p>Lighting improves safety by improving nighttime visibility. Standard streetlights and pedestrian scale lighting are two options for streetlight installation. Streetlights should be considered near intersections and in areas where crash history indicates dark conditions could be a factor. Pedestrian scale lighting should be considered in areas with pedestrian and bicycle activity or crossings.</p>	<p>Benefits</p> <p>Improves visibility in dark sky conditions. Improves safety at intersections and along roadways.</p>
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Wayfinding Signage / Street Name Signs / Other Signs

	<p>Application</p> <p>Wayfinding signage help people navigate an unfamiliar roadway network. These can be particularly helpful along roadways with limited landmarks or other visual indicators.</p>	<p>Benefits</p> <p>Reduces wrong turns and potential for getting lost within the Reservation. Will assist emergency responders with identifying routes and roadways within the Reservation that may not be included in the responders GPS.</p>
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Shuttle Service / Local Circulator

	<p>Application</p>	<p>Benefits</p>
	<p>Shuttles can help tribal members access local goods and services, including schools, medical facilities and employment areas. Due to the low population density on the Reservation, a shuttle would be most effective with an internal reservation system.</p>	<p>Decreases the number of car trips to/from the Reservation. May help bring students and employees to Temecula, Murrieta and Hemet. May help elderly or those without a vehicle access local goods and services.</p>



Bus Shelter

	<p>Application</p>	<p>Benefits</p>
	<p>Bus shelters could improve the waiting conditions at the existing school bus stops and at future shuttle stops. They protect people from the elements including rain, snow and sun.</p>	<p>Protects passengers from the elements. Lighting could be added to increase safety. Benches and other features improve the waiting experience by providing passengers a place to sit while waiting for the bus.</p>

Other Bus Stop Amenities



	<p>Application</p>	<p>Benefits</p>
	<p>Trash cans, signage, lighting, and benches are common amenities found at bus stops to improve the overall conditions of the waiting area. These amenities could be added to all existing and future bus stops to provide people a place to sit, reduce potential for littering and improve traveler information.</p>	<p>Improves the overall passenger experience, provides a sense of comfort and safety, and provides a dedicated waiting area along the sidewalk.</p>

Recommended Projects

With an understanding of the physical conditions on the Reservation and input from the tribe, specific projects were identified based on the tools available in the toolbox. **Figures 2 and 3** identifies the recommended projects in this list. The following describes the identified projects within each focus area.

Pedestrian and Bicycle Facilities / Recreation Focus Area

The Reservation is in need of pedestrian and bicycle facilities. There are no sidewalks, multi-use pathways, or trails designated for pedestrians to walk. The list below provides a summary of pedestrian and bicycle needs:

- 1.) Designated trail loop (8 to 10 feet wide) with wood posts and rails for trail barriers for tribal members only.
 - a. Loop Trail 1A: Homestead Trail (runs along Homestead Road, Cienega Truck Trail, West Pu'Uish Road, and Tribal Road BIA Route 19)
 - b. Loop Trail 1B: Ballpark Trail (runs along West Pu'Uish Road, Ball Park Road, Ball Park Way, and Cahuilla Way to SR-371)
- 2.) Designated publicly accessible trail (8 to 10 feet wide) with wood posts and rails for trail barriers connecting Casino and Hotel area to Tribal Administration Buildings.
- 3.) Designated publicly accessible trail (8 to 10 feet wide) with wood posts and rails for trail barriers connecting Homestead Road to Carey Road along SR-371 and SR-371 to Yucca Road along Carey Road.

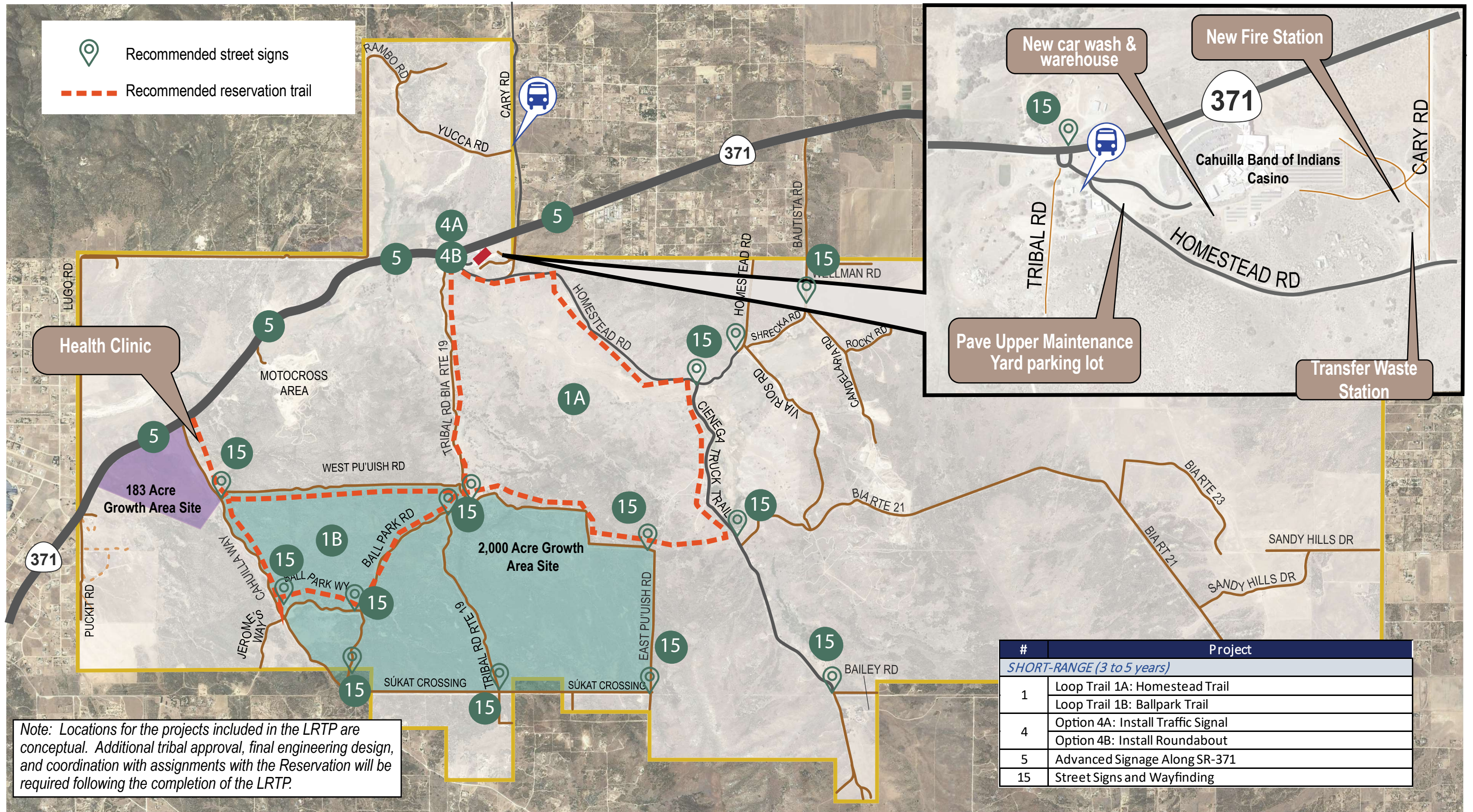
Highway Safety & Safety Focus Areas

The Reservation includes a variety of internal roadways that provide access to the casino, hotel, gas station, tribal hall and administration buildings, tribal member homes, ball field, health clinic, cemetery and future growth development areas. In addition, SR-371 is located on a portion of the Reservation providing access to the Motocross area and serves as the primary access to the Reservation. The list below provides a summary of roadway network needs:

- 4.) Traffic control at SR-371/Homestead Road.
 - a. Option 4A: Install Traffic Signal with dedicated turn lanes
 - b. Option 4B: Install Roundabout
- 5.) Advanced signage along SR-371 to identify Homestead Road and Cahuilla Way.
- 6.) Improve sight distance for vehicles entering SR-371 from Cary Road by removing the existing dirt mound on the southwest corner of the intersection.

Connection to Future Development Focus Area

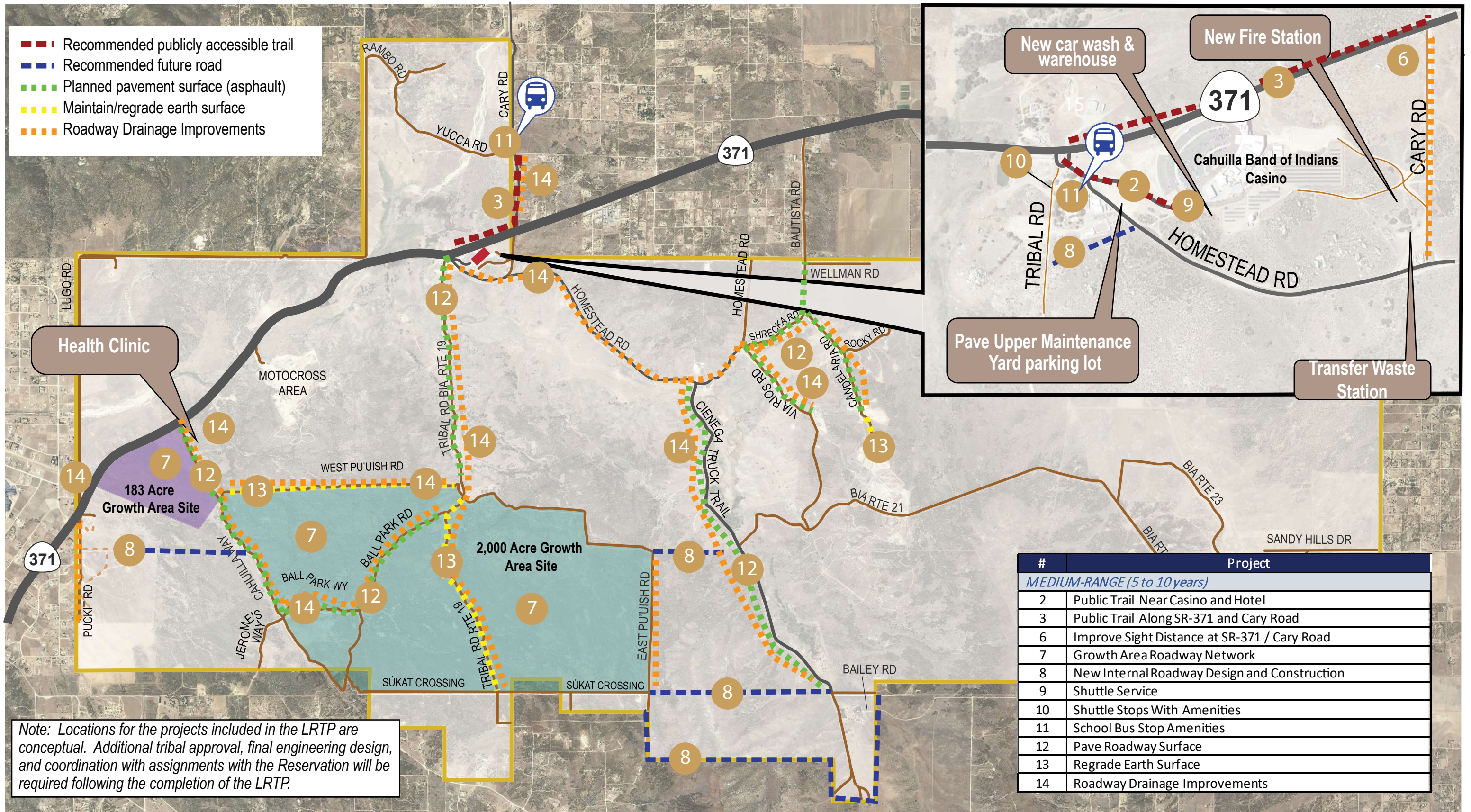
- 7.) Growth area roadway network (refer to **Figure 4**)
 - a. Construction of future roadways in 183-Acre Site
 - b. Traffic control at SR-371/ Road "A"
 - c. Traffic control at SR-371 / Road "D"



LEGEND

- Unpaved Road
- Paved Road
- Driveway
- Reservation Boundary
- School Bus Stop
- Near Term Development

Figure 2
Recommended Short-Range Projects
CAHUILLA LONG RANGE TRANSPORTATION PLAN



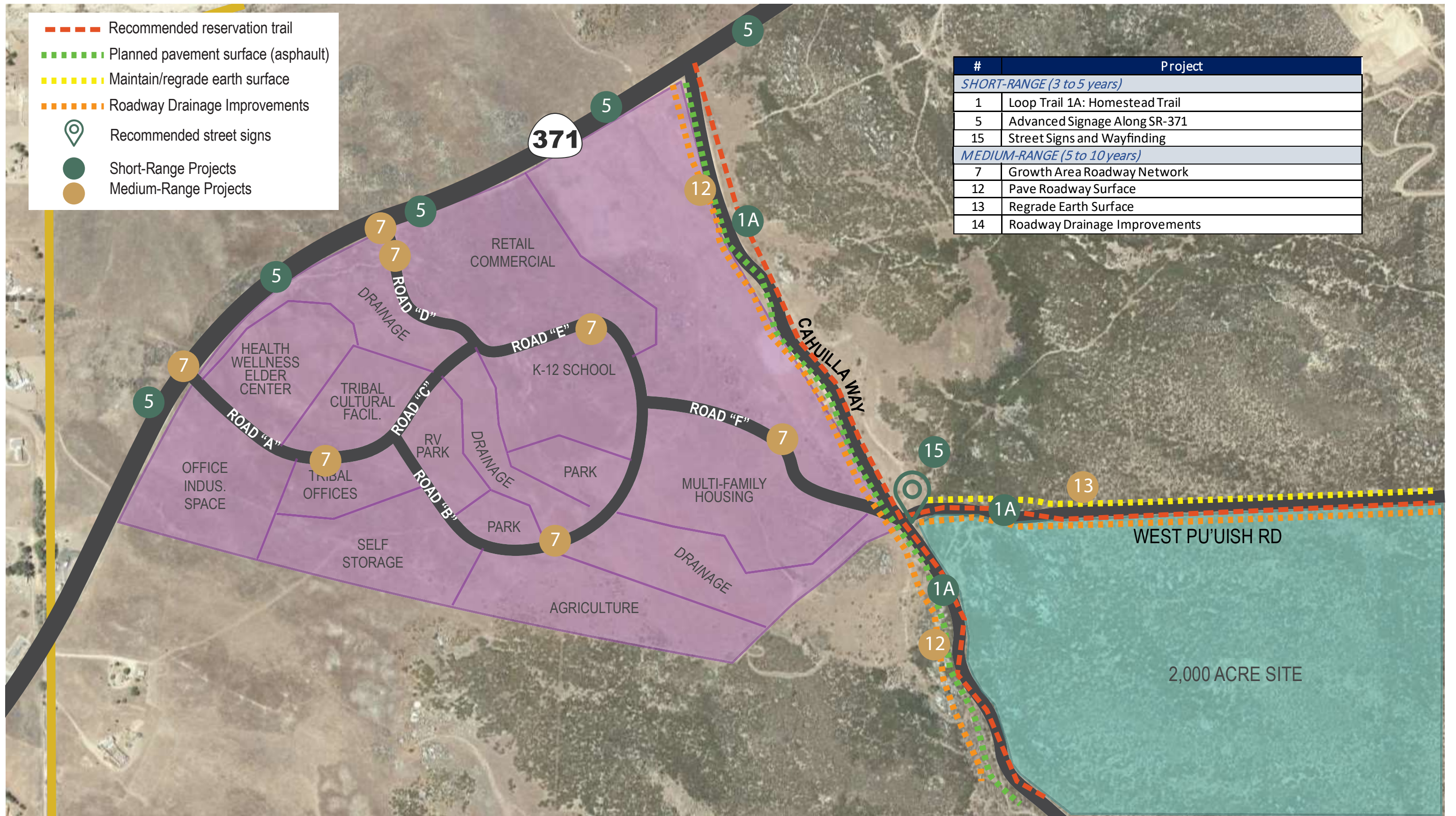
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LEGEND

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Figure 3
Recommended Medium-Range Projects

CAHUILLA LONG RANGE TRANSPORTATION PLAN



#	Project
<i>SHORT-RANGE (3 to 5 years)</i>	
1	Loop Trail 1A: Homestead Trail
5	Advanced Signage Along SR-371
15	Street Signs and Wayfinding
<i>MEDIUM-RANGE (5 to 10 years)</i>	
7	Growth Area Roadway Network
12	Pave Roadway Surface
13	Regrade Earth Surface
14	Roadway Drainage Improvements

LEGEND

- Roadway
- 2,000 Acre Growth Area Site
- 183 Acre Growth Area Site
- Reservation Boundary



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Figure 4
183-Acre Growth Area (Short- & Medium-Range) Projects
CAHUILLA LONG RANGE TRANSPORTATION PLAN

- 8.) New roadways need to be constructed to improve on-site circulation:
 - a. Road 8A: Sukat Crossing to Bailey Road/Cienega Truck Trail,
 - b. Road 8B: East Pu'Uish Road to Cienega Truck Trail,
 - c. Road 8C: Tribal Road to Homestead Road south of the Tribal Administration Buildings, and
 - d. Road 8D: Puckit Drive to Cahuilla Way.

Transit Focus Area

There is no scheduled transit service along SR-371 that provides public transportation to and from the Cahuilla Reservation. Today, there are two locations where school buses provide transportation services to children who attend schools in Anza. One school bus stop is located at the intersection of Yucca Road/Cary Road and the other bus stop is located along SR-371/Puckit Drive. The list below provides a summary of transit needs:

- 9.) Shuttle service to destinations off the Reservation such as Temecula, Murrieta, Hemet, medical centers, and retail centers.
- 10.) Designated shuttle stop locations with amenities such as bench, shelter, trash can, lighting, and signage on the Reservation.
- 11.) Bus stop amenities at the school bus drop-off/pick-up locations such as bench, shelter, trash can, lighting and signage.

Internal Circulation Focus Area

- 12.) Pave roadway surface with asphalt on Cahuilla Way, Ball Park Way, Ball Park Road, Tribal Road BIA Route 19, Cienega Truck Trail, Shrecka Road, Via Rios Road, and Candelaria Road.
- 13.) Regrade earth surface on West Pu'Uish Road, Tribal Road BIA Route 19 (south of West Pu'Uish Road), and Candelaria Road south of Via Rios Road.
- 14.) Construct stabilized roadside drainage ditches along existing roadways where needed.
- 15.) Add street signs and wayfinding throughout the Reservation.

Performance Measures

Performance measures were developed by Michael Baker in accordance with the Tribal Transportation Program¹ (TTP) in order to prioritize projects. The TTP is the largest program in the Office of Federal Lands Highway (FLH) that addresses the transportation needs of Tribal governments throughout the United States. The purpose of the TTP is “to provide safe and adequate transportation and public road access to and within Indian reservations, Indian lands, and Alaska Native Village communities.”¹ The following performance measures were utilized to prioritize projects for the Reservation:

- **Safety** – Does the project reduce fatal or severe crashes for all modes of travel and improve safety systemically?
- **Pavement Condition** – What is the pavement quality of the road?
- **Performance** – Does the project improve the levels of service for automobiles and improve walkability?
- **Congestion** – Will the project reduce traffic congestion at an intersection or roadway segment?
- **Emissions** – Will the project reduce greenhouse gas emissions?

Table 1 describes the categories and objectives used in the prioritization criteria.

TABLE 1 – PRIORITIZATION CRITERIA

#	Category	Objective
1	Safety	Improves systemwide safety
2	Crash History	Reduces potential for severe or fatal crashes
3	Community Support	Demonstrated community need based on community input
4	Multimodal Access	Provides transportation options within the Reservation
5	Environmental Benefits	Reduces delay, greenhouse gas emissions or reliance on autos
6	Economic Vitality	Connects residents with growth areas
7	Ease of Implementation	Right of way or easement is readily available
8	Funding Opportunities	BIA, FLH or other funding sources available for construction

BIA = Bureau of Indian Affairs; FLH = Federal Lands Highways

¹ <https://highways.dot.gov/federal-lands/programs-tribal>

Michael Baker developed a point system for each criterion outlined in **Table 2**. The point system was based on the level of importance. For example, safety is valued at 20 points (High) whereas Economic Vitality is valued at 10 points (High). The highest number of points a project can receive is 100 points and the lowest is 32 points.

TABLE 2 – POINT SYSTEM

Criteria	Low	Medium	High
Safety	7	13	20
Crash History	3	7	10
Community Support	3	7	10
Multimodal Access	3	7	10
Environmental Benefits	3	7	10
Economic Vitality	3	7	10
Ease of Implementation	5	10	15
Funding Opportunities	5	10	15
TOTAL POINTS	32	68	100

The point system established a prioritized list of do-able and fundable projects that can be implemented in the short-range, medium-range, or long-range as shown in **Table 3**.

TABLE 3 – PROJECT PHASING

PHASING	RANGE OF POINTS
Short-Range (3-5 Years)	> 70 Points
Medium-Range (5-10 Years)	Between 46 and 70 Points
Long-Range (10-20 Years)	< 46 Points

Recommended Projects

The following list of projects address the transportation needs of the Reservation. Each project includes a brief discussion of the needs, benefits and project description. A planning level cost estimate is provided along with the prioritization criteria, ranking and score. The total number of points corresponds to the recommended phasing of the project. A total of fifteen (15) transportation projects have been identified based on the Reservation’s needs.

Project 1:		Reservation Trail Loop		
Project Need:	Pedestrians and bicyclists currently share the road with vehicles which can be a safety concern for non-motorized users. There are no designated sidewalks, bicycle lanes, multi-use paths, or trails for tribal members.			
Project Description / Benefits:	<p>Construct a designated trail loop (8 to 10 feet wide) with wood posts and rails for trail barriers for tribal members only.</p> <ul style="list-style-type: none"> Trail Loop 1A: Homestead Trail (runs along Homestead Road, Cienega Truck Trail, West Pu’Uish Road, and Tribal Road BIA Route 19) Trail Loop 1B: Ballpark Trail (runs along West Pu’Uish Road, Ball Park Road, Ball Park Way, and Cahuilla Way to SR-371) <p>A trail would encourage walking and bicycling which reduces the risk of heart disease, reduces stress, and improves overall health.</p>			
Estimated Cost:	LOW			
Prioritization	Criteria	Ranking	Score	
	Safety	High	20	
	Crash History	High	10	
	Community Support	High	10	
	Multimodal Access	High	10	
	Environmental Benefits	High	10	
	Economic Vitality	High	10	
	Ease of Implementation	High	15	
	Funding Opportunities	Medium	10	
Total Points			95	
Recommended Phasing	Short-Range			

Project 2: Public Trail Near Casino and Hotel			
Project Need:	The road providing access to the Casino, Hotel and gas station does not include any pedestrian or bicycle facilities. As such, pedestrians and bicyclists are required to share the road with vehicles which increases the risk of pedestrian-vehicle collisions.		
Project Description / Benefits:	Construct a designated trail (8 to 10 feet wide) that is accessible to the public near the Casino and Hotel. The trail will include wood posts and rails for trail barriers. A trail would encourage walking and bicycling which reduces the risk of heart disease, reduces stress, and improves overall health.		
Estimated Cost:	LOW		
Prioritization	Criteria	Ranking	Score
	Safety	Medium	13
	Crash History	Medium	7
	Community Support	Medium	7
	Multimodal Access	High	10
	Environmental Benefits	Medium	7
	Economic Vitality	Low	3
	Ease of Implementation	Medium	10
	Funding Opportunities	Medium	10
Total Points		67	
Recommended Phasing	Medium-Range		

Project 3: Public Trail Along SR-371 and Cary Road			
Project Need:	There are no pedestrian or bicycle facilities along SR-371 from Homestead Road to Cary Road and from SR-371 to Yucca Road. As such, pedestrians and bicyclists are required to share the road with vehicles which increases the risk of pedestrian-vehicle collisions.		
Project Description / Benefits:	Construct a designated publicly accessible trail (8 to 10 feet wide) with wood posts and rails for trail barriers connecting Homestead Road to Cary Road along SR-371 and SR-371 to Yucca Road along Cary Road. A trail would encourage walking and bicycling which reduces the risk of heart disease, reduces stress, and improves overall health.		
Estimated Cost:	LOW		
Prioritization	Criteria	Ranking	Score
	Safety	Medium	13
	Crash History	Medium	7
	Community Support	Medium	7
	Multimodal Access	High	10
	Environmental Benefits	Medium	7
	Economic Vitality	Low	3
	Ease of Implementation	Medium	10
	Funding Opportunities	Medium	10
	Total Points		67
Recommended Phasing	Medium-Range		

Project 4: Traffic Control at SR-371 / Homestead Road			
Project Need:	Traffic control is needed to manage the volume of traffic entering and exiting the Reservation and Casino at SR-371/Homestead Road intersection as efficiently and safely as possible.		
Project Description / Benefits:	<p>Option 4A: Design and construct a traffic signal at SR-371/Homestead Road. Widen SR-371 to provide a dedicated westbound left-turn lane and dedicated eastbound right-turn lane at the intersection. This improvement should reduce the number of fatal and severe injury crashes at this location. A traffic signal will improve traffic flow at this location and reduce vehicle delays for motorists entering and exiting Homestead Road.</p> <p>OR</p> <p>Option 4B: Design and construct a one-lane yield controlled roundabout at the intersection. This improvement should reduce the number of fatal and severe injury crashes at this location. In addition, traffic delays, speeds approaching/departing the intersection, and greenhouse gas emissions should be reduced with the installation of a roundabout.</p>		
Estimated Cost:	HIGH		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	High	10
	Community Support	High	10
	Multimodal Access	Medium	7
	Environmental Benefits	Medium	7
	Economic Vitality	Low	3
	Ease of Implementation	Medium	10
	Funding Opportunities	Medium	10
	Total Points		77
Recommended Phasing	Short-Range		

Project 5: Advanced Signage Along SR-371			
Project Need:	Advanced signage along SR-371 prior to Homestead Road, Cahuilla Way, and Cary Road is needed to help maintain safe driving conditions.		
Project Description / Benefits:	Install advanced signage along SR-371 prior to Homestead Road, Cahuilla Way, and Cary Road in accordance with Caltrans Highway Design Manual and the California Manual on Uniform Traffic Control Devices (CA MUTCD). Advanced signage alerts drivers of what to expect ahead and prevent crashes.		
Estimated Cost:	LOW		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	High	10
	Community Support	Medium	7
	Multimodal Access	Low	3
	Environmental Benefits	Low	3
	Economic Vitality	Medium	7
	Ease of Implementation	High	15
	Funding Opportunities	High	15
Total Points		80	
Recommended Phasing	Short-Range		

Project 6: Improve Sight Distance at SR-371/Cary Road			
Project Need:	Sight distance is limited for motorists entering SR-371 from Cary Road due to a large mound of dirt on the southwest corner of the two-way stop-controlled intersection. Poor sight distance can lead to broadside crashes and other safety concerns.		
Project Description / Benefits:	Develop a traffic control plan in coordination with Caltrans to manage traffic on SR-371 during the removal of the dirt mound. Excavate the material on the southwest corner of the intersection at SR-371/Cary Road needed to provide adequate sight distance.		
Estimated Cost:	MEDIUM		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	High	10
	Community Support	Medium	7
	Multimodal Access	Low	3
	Environmental Benefits	Medium	7
	Economic Vitality	Low	3
	Ease of Implementation	Medium	10
	Funding Opportunities	Low	5
Total Points		65	
Recommended Phasing	Medium-Range		

Project 7: Growth Area Roadway Network			
Project Need:	New internal roadways are needed to improve on-site circulation within the 183-acre growth area planned within the Reservation. In addition, traffic control will be needed along SR-371 to improve vehicular access to the growth area.		
Project Description / Benefits:	<p>Roadway improvements would include:</p> <ul style="list-style-type: none"> A) Construction of future roadways within the 183-acre site, B) Traffic control at SR-371 / Road "A", and C) Traffic control at SR-371 / Road "D". <p>The installation of traffic control along SR-371 to the future roadways within the 183-acre site would improve vehicular access and circulation to/from the Reservation.</p>		
Estimated Cost:	HIGH		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	High	10
	Community Support	Low	3
	Multimodal Access	Low	3
	Environmental Benefits	Low	3
	Economic Vitality	High	10
	Ease of Implementation	Low	5
	Funding Opportunities	Medium	10
Total Points			64
Recommended Phasing	Medium-Range		

Project 8:		New Internal Roadway Design and Construction		
Project Need:	New internal roadways are needed to improve the circulation within the Reservation. Residents who live on the east side of the Reservation currently use Homestead Road and Bautista Road to access SR-371 and then travel west to access Cahuilla Way where the future growth area sites are located.			
Project Description / Benefits:	Design and construct new two-lane roads within the Reservation at the following locations: <ul style="list-style-type: none"> • Road 8A: Sukat Crossing to Bailey Road/Cienega Truck Trail, • Road 8B: East Pu’Uish Road to Cienega Truck Trail, • Road 8C: Tribal Road to Homestead Road south of the Tribal Administration Buildings, and • Road 8D: Puckit Drive to Cahuilla Way. 			
Estimated Cost:	HIGH			
Prioritization	Criteria		Ranking	Score
	Safety		Medium	13
	Crash History		Low	3
	Community Support		Medium	7
	Multimodal Access		Medium	7
	Environmental Benefits		Low	3
	Economic Vitality		High	10
	Ease of Implementation		High	15
	Funding Opportunities		Low	5
	Total Points			63
Recommended Phasing	Medium-Range			

Project 9:		Shuttle Service		
Project Need:	There is currently no public transit service provided by Riverside Transit Agency (RTA) along SR-371 that serves the Reservation. A shuttle would provide an alternative mode of transportation to visitors, employees, and tribal members of the Reservation.			
Project Description / Benefits:	Purchase a 10 to 12 passenger van or shuttle and implement a shuttle service to/from the Reservation. A shuttle would help reduce single-occupant vehicles on SR-371 and roadways within the Reservation, reduce congestion and greenhouse gas emissions.			
Estimated Cost:	MEDIUM			
Prioritization	Criteria		Ranking	Score
	Safety		High	20
	Crash History		Medium	7
	Community Support		Medium	7
	Multimodal Access		High	10
	Environmental Benefits		Medium	7
	Economic Vitality		Low	3
	Ease of Implementation		Medium	10
	Funding Opportunities		Low	5
Total Points			69	
Recommended Phasing	Medium-Range			

Project 10:		Shuttle Stops With Amenities		
Project Need:	Designated shuttle stops within the Reservation would be needed to identify the pick-up and drop-off areas. Amenities at each shuttle stop would be needed to improve the overall passenger experience and provide a sense of comfort and safety.			
Project Description / Benefits:	The shuttle stop should include amenities such as a shelter, bench, trash can, lighting and signage. These common amenities improve the overall conditions of the waiting area.			
Estimated Cost:	LOW			
Prioritization	Criteria	Ranking	Score	
	Safety	High	20	
	Crash History	Low	3	
	Community Support	Medium	7	
	Multimodal Access	Medium	7	
	Environmental Benefits	Low	3	
	Economic Vitality	Low	3	
	Ease of Implementation	High	15	
	Funding Opportunities	Low	5	
	Total Points		63	
Recommended Phasing	Medium-Range			

Project 11: School Bus Stop Amenities			
Project Need:	Currently, there are two school bus stops that transport children to/from locals schools in Anza. However, there are no amenities such as a shelter, bench, lighting or trash can for the students.		
Project Description / Benefits:	Install a shelter, bench, lighting and trash can at school bus drop-off/pick-up location at Cary Road/Yucca Road and SR-371/Homestead Road (near the Tribal Administration Buildings). These transit amenities would provide shelter, shade, safety and comfort to the children.		
Estimated Cost:	LOW		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	Low	3
	Community Support	Medium	7
	Multimodal Access	Medium	7
	Environmental Benefits	Low	3
	Economic Vitality	Low	3
	Ease of Implementation	High	15
	Funding Opportunities	Low	5
Total Points		63	
Recommended Phasing	Medium-Range		

Project 12: Pave Roadway Surface			
Project Need:	<p>Within the Reservation, there are approximately 28.5 miles of earth roadways traveled by tribal residents with low traffic volumes (less than 200 vehicles) and low loads. During storm events, the roads become muddy, and stormwater runoff channelizes and damages the roads. Roadways tend to lose a significant amount of fine sand which creates potholes, ruts, and other surface deformations during a storm. Therefore, roadway surface treatments such as asphalt is needed to improve the durability and ride quality of the roads.</p>		
Project Description / Benefits:	<p>Overlay the following roadways with asphalt millings in accordance with Federal Highway Administration (FHWA) and American Association of State Highway Officials (AASHTO) requirements: Cahuilla Way, Ball Park Way, Ball Park Road, Tribal Road BIA Route 19, Cienega Truck Trail, Shrecka Road, Via Rios Road, and Candelaria Road.</p>		
Estimated Cost:	HIGH		
Prioritization	Criteria	Ranking	Score
	Safety	Low	7
	Crash History	Low	3
	Community Support	High	10
	Multimodal Access	Medium	7
	Environmental Benefits	Low	3
	Economic Vitality	High	10
	Ease of Implementation	Medium	10
	Funding Opportunities	Medium	10
	Total Points		60
Recommended Phasing	Medium-Range		

Project 13: Regrade Roadway Surface			
Project Need:	During storm events, the roads become muddy, and stormwater runoff channelizes and damages the earth roads. Roadways tend to lose a significant amount of fine sand which creates potholes, ruts, and other surface deformations during a storm. Therefore, regrading the earth surface is needed to improve the durability and ride quality of the roads.		
Project Description / Benefits:	Regrade the earth surface for the following roads: West Pu'Uish Road, Tribal Road BIA Route 19 (south of West Pu'Uish Road), and Candelaria Road south of Via Rios Road.		
Estimated Cost:	HIGH		
Prioritization	Criteria	Ranking	Score
	Safety	Low	7
	Crash History	Low	3
	Community Support	High	10
	Multimodal Access	Medium	7
	Environmental Benefits	Low	3
	Economic Vitality	High	10
	Ease of Implementation	Medium	10
	Funding Opportunities	Medium	10
Total Points		60	
Recommended Phasing	Medium-Range		

Project 14: Roadway Drainage Improvements			
Project Need:	During storm events, roads become muddy, stormwater runoff channelizes on the roads, and runoff drains into resident's driveways. Without proper drainage, flooding occurs and damages the roadways creating maintenance issues for the Tribe's Public Works Department.		
Project Description / Benefits:	Constructing critical drainage features on the roadways will preserve the integrity of the road surface, minimize stormwater washout, and reduce the frequency of reshaping the roads. The following roadways should include drainage improvements: Homestead Road, Cahuilla Way, Cary Road, Ball Park Way, Ball Park Road, Tribal Road BIA Route 19, Cienega Truck Trail, Shrecka Road, Via Rios Road, West Pu'Uish Road, East Pu'Uish Road, Puckit Road, Yucca Road, and Candelaria Road.		
Estimated Cost:	MEDIUM		
Prioritization	Criteria	Ranking	Score
	Safety	Low	7
	Crash History	Low	3
	Community Support	High	10
	Multimodal Access	Low	3
	Environmental Benefits	Low	3
	Economic Vitality	Medium	7
	Ease of Implementation	High	15
	Funding Opportunities	Medium	10
Total Points		58	
Recommended Phasing	Medium-Range		

Project 15: Street Signs & Wayfinding			
Project Need:	Street signs are limited and challenging to read at intersections throughout the Reservation. Wayfinding is needed at the main access (SR-371/Homestead Road) to direct motorists to the Casino, Gas Station, Tribal Administration Building, or entrance to the Reservation. Wayfinding and street signs are also essential for emergency responders to help orient them in navigating the Reservation.		
Project Description / Benefits:	Design and install approximately fifteen (15) new street signs at intersections throughout the Reservation. Design and install a wayfinding sign at the main entrance (SR-371/Homestead Road) to orient visitors. Proper signage and wayfinding would improve circulation and provide potentially reduce emergency response times to homes within the Reservation.		
Estimated Cost:	LOW		
Prioritization	Criteria	Ranking	Score
	Safety	High	20
	Crash History	Medium	7
	Community Support	High	10
	Multimodal Access	Low	3
	Environmental Benefits	Low	3
	Economic Vitality	High	10
	Ease of Implementation	High	15
	Funding Opportunities	Low	5
Total Points		73	
Recommended Phasing	Short-Range		

Recommendations

Based on the scoring criteria, recommended phasing for each project is presented below in **Table 4**. Project listed in the Short-Range are anticipated to be funded and constructed within three to five years of the final Long-Range Transportation Plan (LRTP). Medium-Range projects would be funded and constructed within five to ten years.

TABLE 4 – RECOMMENDED PROJECT PHASING

#	Project
<i>SHORT-RANGE (3 to 5 years)</i>	
1	Loop Trail 1A: Homestead Trail
	Loop Trail 1B: Ballpark Trail
4	Option 4A: Install Traffic Signal
	Option 4B: Install Roundabout
5	Advanced Signage Along SR-371
15	Street Signs and Wayfinding
<i>MEDIUM-RANGE (5 to 10 years)</i>	
2	Public Trail Near Casino and Hotel
3	Public Trail Along SR-371 and Cary Road
6	Improve Sight Distance at SR-371 / Cary Road
7	Growth Area Roadway Network
8	New Internal Roadway Design and Construction
9	Shuttle Service
10	Shuttle Stops With Amenities
11	School Bus Stop Amenities
12	Pave Roadway Surface
13	Regrade Earth Surface
14	Roadway Drainage Improvements