CHATS

CHARLESTON AREA TRANSPORTATION STUDY

2045 LONG-RANGE *TRANSPORTATION PLAN*

ACKNOWLEDGEMENTS

The CHATS 2045 LRTP was prepared by the Berkeley-Charleston-Dorchester Council of Governments with input from a steering committee representing the CHATS Study Team by:

- Berkeley County
- Charleston County
- Dorchester County
- City of Charleston
- City of Folly Beach
- City of Goose Creek
- City of Hanahan
- City of North Charleston
- Town of James Island
- Town of Kiawah Island
- Town of Mt. Pleasant
- Town of Summerville
- Joint Base Charleston
- SC State Ports Authority

BCDCOG
BERKELEY-CHARLESTON-DORCHESTER COUNCIL OF GOVERNMENTS
PLANNING, PARTNERSHIP & PROSPERITY

This plan was prepared by BCDCOG, in cooperation with the Charleston Area Regional Transit Authority (CARTA) and the South Carolina Department of Transportation (SCDOT). It was made possible through financial assistance from the U.S. Department of Transportation's (USDOT) Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) under the Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code. Notwithstanding the financial assistance provided, the contents of this plan do not necessarily reflect the official views or policies of FHWA or FTA.

Non-discrimination

BCDCOG operates its programs and services without regard to race, color, and national origin in accordance with Title VI of the Civil Rights Act. Any person who believes they have been aggrieved by any unlawful discriminatory practice under Title VI may file a complaint with BCDCOG. For more information, visit the Title VI Policy document at bcdcog.com/transportation. For more information on BCDCOG's Title VI Policy and the procedures to file a complaint, contact the Title VI coordinator by email, phone, or written letter.

If information is needed in another language, please contact (843) 529-0400.

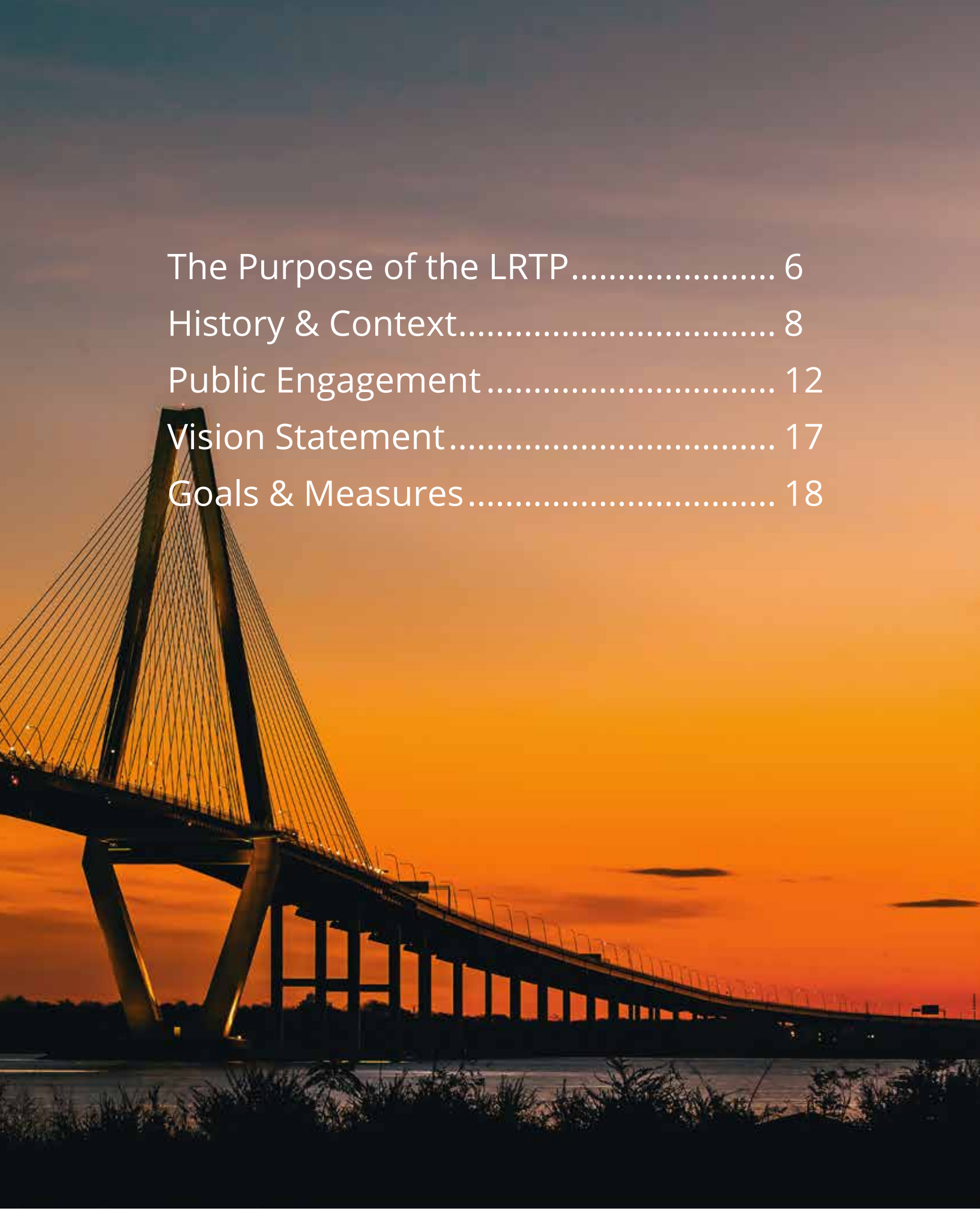
Para obtener más información sobre la Política del Título VI de BCDCOG y los procedimientos para presentar una queja, comuníquese con el coordinadora del Título VI al.

Robin Mitchum
(843) 529-0400
RobinM@BCDCOG.com

5790 Casper Padgett Way
North Charleston, SC 29406

CONTENTS

INTRODUCTION & HISTORY



THE LONG-RANGE *TRANSPORTATION PLAN*

The Long-Range Transportation Plan (LRTP) provides a look forward to the transportation future of the CHATS MPO planning area through 2045. This project workbook describes the process that led to the plan's development and the project recommendations stemming from that process.

CHATS PLANNING AREA

The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) serves as the Charleston Area Transportation Study (CHATS) Metropolitan Planning Organization (MPO) and is responsible for creating a long-range transportation plan for the CHATS planning area.

The 640,280-acre region includes cities, towns, suburban communities, and rural areas. It takes an hour to drive from the Isle of Palms to Seabrook Island; and another hour to drive from Folly Beach to Moncks Corner, towns that are near the periphery of the planning area.

THE LRTP PROCESS

The LRTP initially identified issues and concerns through meetings and outreach events as well as the analysis of system performance data such as crashes, congestion, and other data by the project team. This information, along with a review of the study area context and relevancy of past planning efforts, forms the crux of the opening sections of the project workbook.

ROLE OF THE REPORT

Once the issues were reviewed, a set of important directions were developed that the LRTP used to help focus the subsequent recommendations. These plan directions are similar to design criteria used in the development of projects, answering questions that help shape what success looks like for different kinds of transportation facilities, travelers, and impacted elements of the natural and human environments.

This report provides the background, identifies and addresses the issues, and sets the Plan's directions - subsequent chapters will fully evolve the project recommendations, financing, phasing, and other implementation ideas.

Isle of Palms
Both tourists and residents of the bedroom town are attracted to the charm and natural beauty of this barrier island.

Chucka Nc.

Seabrook Island
A private, welcoming gated community on a barrier island that celebrates and protects a rich and vibrant natural ecosystem.

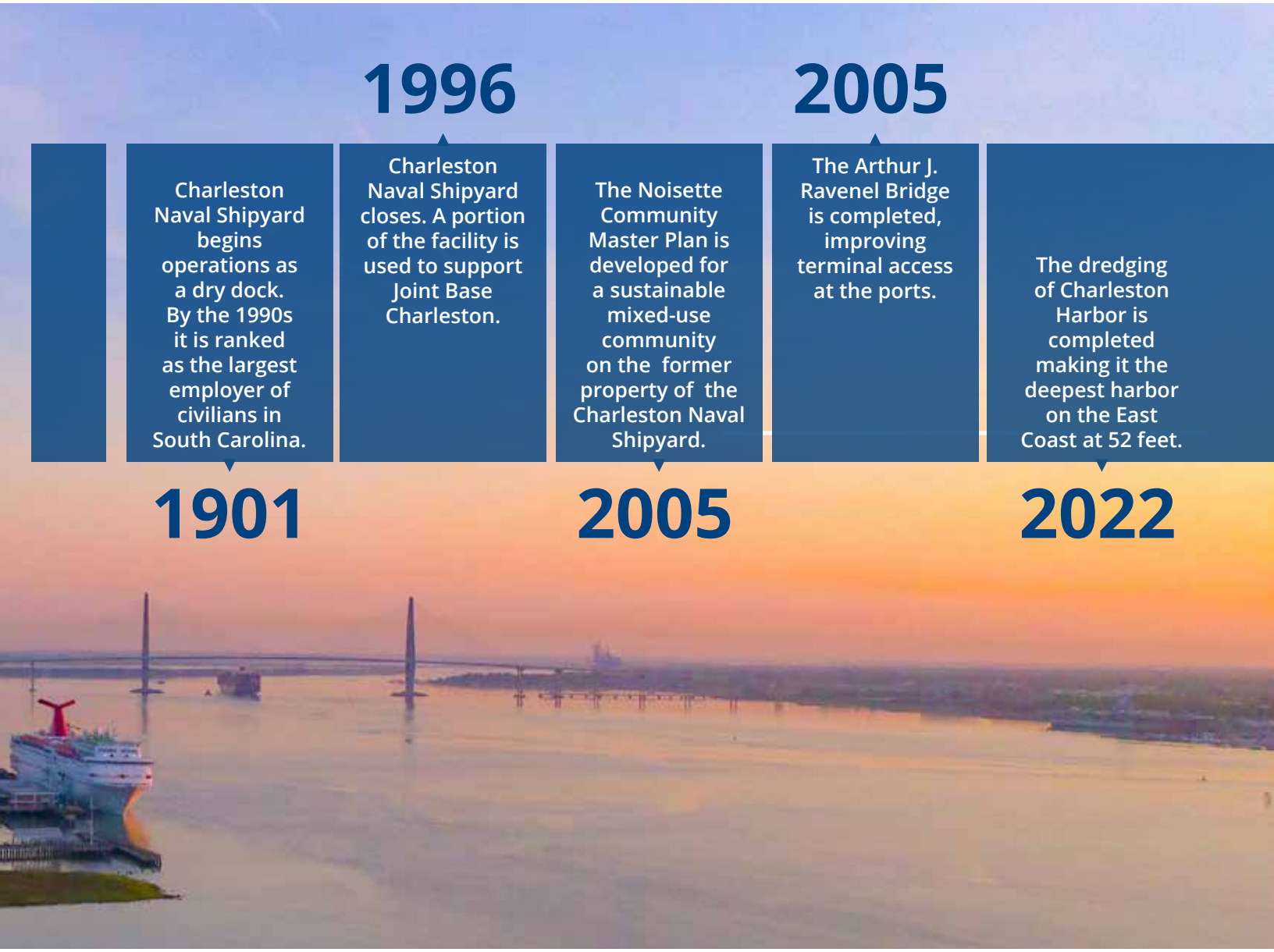
Ren Buford.

Folly Beach
Also known to locals as "the Edge of America," this beach town has become one of the more popular surf spots along the East Coast.

Map 1-1: Charleston Area Transportation Study (CHATS) Planning Area

history & context

Within 100 years of the founding of “Charles Town”, the port city had become the fourth largest in the nation and had an economy that was the largest and wealthiest of any city south of Philadelphia. The CHATS region continues to rely on the advantages provided by the harbor while also being recognized as a premier destination for travel and tourism.


1901
Charleston Naval Shipyard begins operations as a dry dock. By the 1990s it is ranked as the largest employer of civilians in South Carolina.
1996
Charleston Naval Shipyard closes. A portion of the facility is used to support Joint Base Charleston.
2005
The Noisette Community Master Plan is developed for a sustainable mixed-use community on the former property of the Charleston Naval Shipyard.
2005
The Arthur J. Ravenel Bridge is completed, improving terminal access at the ports.
2022
The dredging of Charleston Harbor is completed making it the deepest harbor on the East Coast at 52 feet.

History of the Charleston Planning Area

Charleston was the leading city in the colonial south due to its successful harbor servicing a wealth of agricultural exports (rice and cotton), and the many wealthy merchants and landowners who resided in the City. When the City's economy began to decline, due to lower cotton prices and increasing competition from other ports, business leaders and merchants turned to the railroad in 1830, though the rail would not be allowed to reach the docks until 1881.

The City lost its regional dominance after the destruction of the Civil War, but remained an important Atlantic port. Both statewide and local initiatives lead to vast improvements in the street system. In 1931, a zoning ordinance designated 23 blocks of the downtown area as "Old and Historic Charleston," making it one of the earliest models for historic districts in the country.

Charleston's stagnating economy was boosted by the establishment of a major naval base and conversion of the Charleston Municipal Airport to the now Joint Base Charleston, a Navy and an Air Force Base.

Prior to its announced closure in 1993, the Charleston Naval Base was ranked as one of the largest employers in South Carolina, with a regional economic impact of $1.4 billion. Following the closure of the Naval Base, community parks were built on the old base grounds, including the popular Riverfront Park in North Charleston, while many of the buildings were marketed to private industrial interests.

North Charleston has incorporated areas in Charleston and Dorchester counties. The city serves as one of South Carolina's major industrial centers, including Boeing which began operations in 2011, and is the state's leader in retail sales. North Charleston continues to expand its inventory of 4-star hotel accommodations in response to a booming tourism market.

Multiple areas in this region attract a wide variety of constant guests. Tourists began flocking to the area in the 1970s due to interest in historic landmarks and neighborhoods, beautifully planned commercial areas, a number of gorgeous beaches, golf courses, and naturally stunning landscapes.

Summerville

The first town in the U.S. to pass a law against cutting down trees of certain sizes. Their official seal is "Sacra Pinus Esto (The Pine is Sacred)." (Herbert Jessen Boardwalk)

Goose Creek

Located in Berkeley County, the City of Goose Creek is the primary location for the Naval Weapons Station Charleston. (St. James Church)

Mount Pleasant

The third-largest city in the metropolitan area, it is well-known for its walkable and bikable neighborhoods, as well as several quality schools. (Coastal Houses)

Moncks Corner

This small town in Berkeley County has a rich and well-preserved heritage including the site of Mepkin Abbey and a historical Train Depot. (Santee Canal Park)

Hanahan

The City of Hanahan is a bedroom community that developed in a rural region and continues to experience rapid growth in Charleston County. (Hanahan Amphitheater)

James Island

Nestled in South Carolina's lowcountry along the Charleston harbor, the town has transitioned from a rural environment to a thriving residential community. (Live Oak)

The Port City

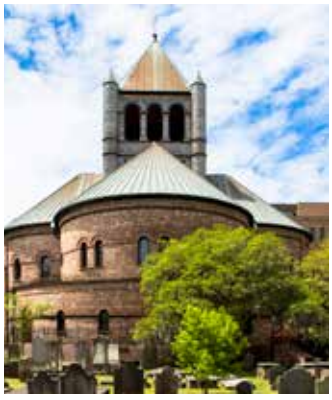
The iconic Arthur Ravenel Jr. cable-stayed bridge was finished in 2005. Since its completion, it is the third-longest in the Western Hemisphere. The bridge crosses the Cooper River, connecting Charleston to Mount Pleasant. It replaced two truss bridges that were unable to accommodate the height of modern shipping vessels, challenging access to port terminals.

The port's facilities are located within three municipalities, Charleston, North Charleston, and Mount Pleasant. A 2015 economic development study reported the Port of Charleston generates $53 billion in annual economic activity and supports over 185,000 jobs statewide. In 2017, federal funding was approved to dredge the harbor, an effort to accommodate the larger post-Panamax container ships.

The Holy City

Mother Emanuel AME Church

The Huguenot Church



Circular Congregation Church

Cathedral of St. John the Baptist

Due to a philosophy of religious tolerance, the area attracted a diverse range of faiths, becoming known as "The Holy City." These beautiful churches are one aspect of the rich architectural heritage that defines Charleston.

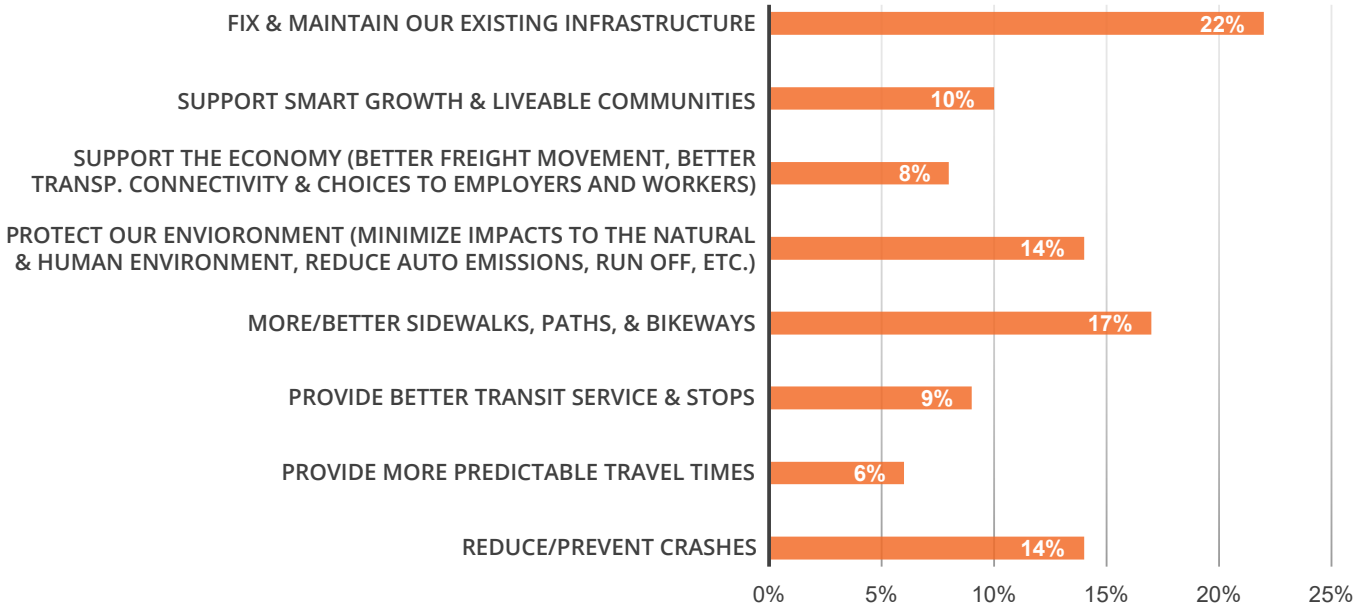
public engagement

Maximizing public participation throughout the CHATS planning area is vital to the success of the Long Range Transportation Plan development process. The study area is made up of a diverse population with many communities that are traditionally transportation challenged, yet under-represented in civic engagement activities. Outreach to these communities often requires more non-traditional techniques and methods for effective engagement.

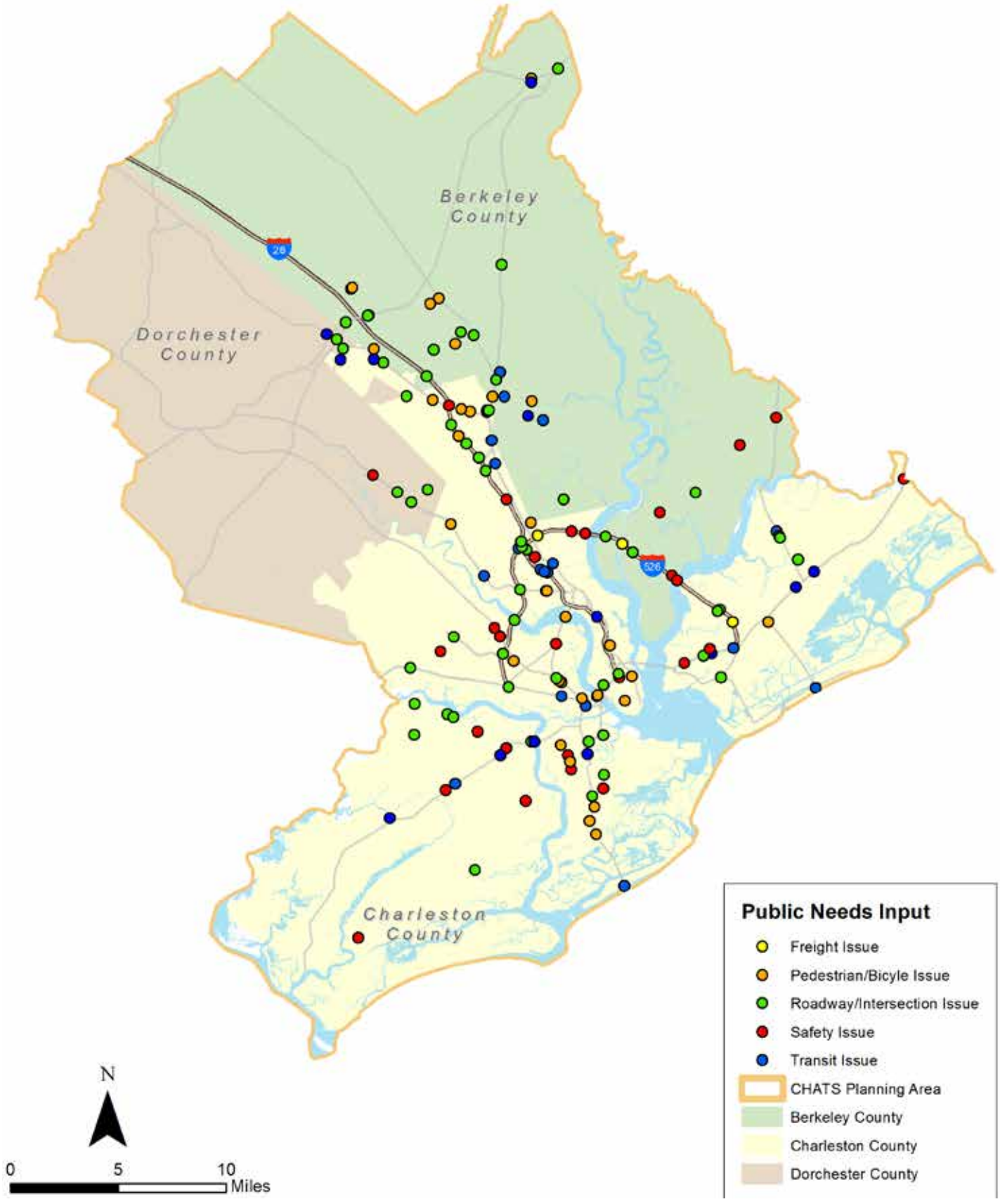
Rather than hosting the traditional public workshops or drop-ins, input on the 2045 Long Range Transportation Plan was sought from a diverse group of regional stakeholders and the general public by engaging them at multiple community events held throughout the region. LRTP information tables and conversations were hosted at the Mount Pleasant Blessing of the Fleet, Cajun Festival, Palmetto Park Jam, Yappy Hour, Black Expo, North Charleston Business Expo and Latin American Festival in addition to regularly scheduled farmer's and flea markets. By attending, and "tabling" these events, MPO staff was able to collect public input on a variety of pressing issues. Input from this outreach was used to shape the principles, goals, and projects of the 2045 CHATS LRTP.

At these events, members of the public were asked ***"When planning for the future of transportation in our region, what should our highest priorities be?"***. A compilation of responses from all outreach is shown in the below Figure.

Figure 1-1: Priority Concerns of the Public



Map 1-2: LRTP Public Needs Input



Although fixing and maintaining our existing infrastructure was noted as a priority more than other concerns, in general, members of the public identified micromobility and safety as the most prevalent concerns with the region's transportation network. Several members also identified intersections prone to back-ups and/or accidents. Others noted how intersections and roadways in the region are ill-suited for modes of transportation other than automobiles. A record of input was created, documenting all input including potential reasons for these conditions such as missing traffic lights, insufficient turn-lanes, and lack of facilities for pedestrians or cyclists.

The public was also asked to note concerns for specific areas, intersections or segments of the transportation network. **Map 1-2** represents a compilation of the identified concerns.

Frequent comments

Highways and Roadways:

- Expand highways to help with congestion
- There needs to be better maintenance of the roads we have
- Interstate 26 Exits 209-213 are consistently congested, as is the I526/I26 interchange
- Folly Road/US78/Main Road/Dorchester Road is a congested corridor
- Ashley Phosphate desperately needs a corridor improvement
- Road maintenance downtown/old Navy Base/US 52 is an issue
- Fill potholes! And address poor drainage
- Getting on (and off) Johns Island is difficult because of too much development
- Too much freight on Interstate 526
- Better access management is needed to address conflicts
- Build smart infrastructure before building new developments
- Require sustainable development, prioritize electric vehicles and public transit
- Signal timing improvements are needed

Pedestrian and Biking Facilities:

- Need more and better bike facilities: St. James Ave./Myers Rd/, Ladson and Orleans Rd areas
- Walkable/bikeable paths are needed along Clements Ferry/Rifle Range and Folly Roads
- Communities need more paths/bikeways all over to connect neighborhoods
- Hard to cross busy roads on bikes
- An Ashley River bike/ped crossing is needed on the Northbridge
- Cannot bike of Johns or James Islands
- Pot holes are a safety issue for cyclists
- The region is not walkable

Transit:

- Current transit system has limited capacity and needs to be reliable
- Park and rides are needed from Ravenel area for commuters
- Need dedicated bus lanes
- Would like BRT to Folly Beach, Isle of Palms and I526 between Mt. Pleasant and Charleston
- Too many areas not served by transit
- Need improved transit options near schools for kids
- Would like transit options to avoid congested area during peak hours

Safety:

- Light is needed at Riverland/Central Park
- Cainhoy Road need improvement
- Old Towne/Sam Rittenburg lights need to be staggered for merging
- Poor pedestrian crossings, particularly Maybank and River roads
- Drivers don't stop at signs/lights, speed, look both ways or yield at crosswalks

Concerns by geographic areas

Summerville
Most of the roadway/intersection complaints in and around Summerville centered on the congestion of major corridors (such as I-26 and US 78) and on safety issues at major intersections.

Charleston/North Charleston
Corridors like I-26, I-526, and the Crosstown were frequently cited as by the public as bigger issues, oftentimes pertaining to congestion and the resulting safety issues. Other problems mentioned included unsatisfactory paving on the streets downtown and on I-526.

Mount Pleasant/Sullivan's Island
Most of the roadway issues noted around the Mount Pleasant area of the region dealt with dangerous intersections on US 17 and congestion/ safety issues along the I-526 corridor, especially near the Long Point Road interchange.

James Island/Folly Beach/Kiawah
Multiple corridors in this area of the region were commented on by the public, namely Folly Road, Riverland Drive, Maybank Highway, and River Road. These areas were marked by dangerous intersections and general congestion, especially with beach traffic.

Overarching Themes
Some of the most notable themes shared by members of the public about the roadways and intersections in the CHATS region pertained to the unbearable congestion that is especially prevalent in some corridors, and the safety issues that oftentimes accompany such traffic concerns.

Based on public input, three needs for the region's transportation system were highlighted:

- Increased roadway capacity
- Multi-modal integrations
- Critical assessment of major intersections

Distinct "hot spots" frequently identified by the public were not surprising, named as:

- River Road & Maybank Highway intersection
- US 78 & Berlin G. Myers Parkway intersection
- Ladson & College Park Road intersection
- Central Park Road & Riverland Drive intersection
- I526 interchanges at Clements Ferry Road, Longpoint Road, and I26

Corridors noted for frequent congestion were:

- I526
- I26
- US 17
- River Road
- Folly Road and
- US 78

vision statement

The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG), serving as the CHATS Metropolitan Planning Organization (MPO), envisions:

"A healthy, livable and economically vibrant region supported by a transportation system that is safe, reliable, provides more balanced transportation options and better access to all system users, supports greater mobility of people and goods, and preserves our communities' natural and cultural resources"

goals & performance **measures**

Input from a diverse group of regional stakeholders and the general public helped to shape the vision and associated goals of the CHATS 2045 LRTP. To ensure consistency with and the collective advancement of national goals, the goals developed in the CHATS LRTP 2045 align with the national goal areas established under federal transportation authorization bills (MAP-21, the FAST Act and BIL), and also reflected in the State Multi-modal Transportation Plan (MTP). The goals identified under each and the performance measures developed for the LRTP are summarized below:

the plan's guiding **principles**

Four overarching principles have guided the development and evaluation of proposed projects, programs, and policies discussed in this plan. These principles express our region's preferred approaches to managing limited resources and cut across the regional transportation goals.

Affordability

Land use, travel behavior, and the cost of living are tightly linked together. Often, people move further from their work or school to find affordable housing. But, as you live further from work or school, you spend more on transportation to get there.

Our region will break from this dynamic by intentionally crafting land use and transportation policies together so that they complement each other and help residents decrease the burden they face in paying housing and transportation expenses.

Supply

Due to limited land and even more limited transportation budgets, our region cannot widen its way out of traffic congestion.

Our region will manage the capacity of the regional transportation network by first exhausting lower-cost, technology- or operations-based strategies before considering higher-cost roadway construction.

Complete Streets

Transportation corridors have multiple, competing needs that can pull the design of the corridor in different directions.

Our region will systematically identify a hierarchy of user needs for a given corridor and will encode into law context-specific requirements for developers so that they can contribute to a community's sense of place.

Demand

Traffic is impacted by the time that people choose to start their trips and what routes they take.

Through long-proven programs and new technologies, our region will actively manage demand at the corridor level by distributing trips across modes, routes, and times of day or by discouraging new trips through greater flexibility in how we conduct work and access essential services.

Table 1-1: Goals

<table>
<tr><th>National Goal Areas</th><th>Statewide MTP Goals</th><th>CHATS 2045 LRTP Goals</th></tr>
<tr><td>SAFETY

To achieve a significant reduction in traffic fatalities and serious injuries on all public roads</td><td>SAFETY AND SECURITY

Improve the safety and security of the transportation system by implementing transportation improvements that reduce fatalities and serious injuries as well as enabling effective emergency management operations</td><td rowspan="4">HEALTH

• Safety: Save lives through slower, safer road design
• Security: Protect vulnerable road users and infrastructure from intentional harm
• Physical Activity: Make the active travel option, the easy option
• Air Quality: Cut diesel emissions near neighborhoods at risk of respiratory disease
• Noise: Block or mitigate excess noise near airports, interstates, and railroads</td></tr>
<tr><td>INFRASTRUCTURE CONDITION

To maintain the highway infra-structure asset system in a state of good repair</td><td>INFRASTRUCTURE CONDITION

Maintain surface transportation infrastructure assets in a state of good repair</td></tr>
<tr><td>CONGESTION RELIEF

To achieve a significant reduction in congestion on the National Highway System</td><td rowspan="2">MOBILITY & SYSTEM RELIABILITY

Provide surface transportation infrastructure and services that will advance the efficient and reliable movement of people and goods throughout the state</td></tr>
<tr><td>SYSTEM RELIABILITY

To improve the efficiency of the surface transportation system</td></tr>
<tr><td>ENVIRONMENT

To enhance the performance of the transportation system while protecting and enhancing the natural environment</td><td>ENVIRONMENT

Partner to sustain South Carolina natural and cultural resources by minimizing and mitigating the impacts of state transportation improvements</td><td rowspan="3">NETWORK

• Connectivity: Close gaps in access to jobs, services, goods, and information
• Choice: Expand the number of viable, low-cost travel options for a given trip
• Comfort: Use amenities to make non-auto trips more convenient
• Reliability: Make travel times more predictable
• Management: Proactively manage curb space and cuts at high-demand activity centers</td></tr>
<tr><td>FREIGHT MOVEMENT & ECONOMIC VITALITY

To improve the National Highway Freight Network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development</td><td>ECONOMIC & COMMUNITY VITALITY

Provide an efficient and effective interconnected transportation system that is coordinated with state and local planning efforts to support thriving communities and South Carolina's economic competitiveness in global markets</td></tr>
<tr><td></td><td>EQUITY

Manage a transportation system that recognizes the diversity of the state and strives to accommodate the mobility needs of all of South Carolina's citizens</td></tr>
<tr><td colspan="3">MITIGATION

• Placemaking: Reinforce the region's unique sense of place
• Resiliency: More quickly recover from unanticipated disruptions
• Hazards: Anticipate the need for emergency response within road design
• Decarbonization: Cap surface transportation-related CO2e emissions
• Cumulative Impacts: Measure environmental impacts of combined projects</td></tr>
</table>

National Goal Areas	Statewide MTP Goals	CHATS 2045 LRTP Goals
REDUCE PROJECT DELAY To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices		**DECISION-MAKING** • **Equity:** Reduce distributional disparities related to geography, income, race, and disability • **Engagement:** Meaningfully involve communities in decisions that will impact them • **Collaboration:** Partner across jurisdictions and disciplines to deliver projects • **Performance:** Track the impact of investments to inform future decisions • **Maintenance:** Select options that reduce lifecycle costs if likely health outcomes are equal

Table 1-2: Performance Measures

GOALS	OBJECTIVES	PERFORMANCE MEASURES
SAFETY – Improve the safety of the transportation system for all users	a. Reduce the number and rate of crashes, fatalities, and serious injuries across all modes of travel	■ Number of crashes ■ Number and rate of fatalities per VMT ■ Number and rate of serious injuries per VMT ■ Number of non-motorized fatalities and serious injuries ■ Number and rate of preventable (transit related) accidents per 100,000 vehicle miles ■ Average miles between road-calls (fixed route transit service)
	b. Provide a safe environment for transportation users through engineering, enforcement, and education activities	■ Provide funding to at least one education, enforcement, or encouragement program to improve safety, bicycling and walking skills, and/or the number of non-motorized travelers
SYSTEM PRESERVATION - Maintain the region's transportation infrastructure and public transportation assets in a state of good repair	a. Allocate resources to maintain or improve the system's pavement conditions	■ Percent of pavements on Interstate system in good condition ■ Percent of pavement on Interstate system in poor condition ■ Percent of pavement on non-Interstate NHS in good condition ■ Percent of pavement on non-Interstate NHS system in poor condition
	b. Allocate resources to maintain or improve bridge conditions	■ Percent of NHS bridges classified as in good condition ■ Percent of NHS bridges classified as in poor condition
	c. Maintain or improve transit assets in a state of good repair	■ Average age of transit fleet

GOALS	OBJECTIVES	PERFORMANCE MEASURES
MOBILITY – Improve travel mobility for all users, regardless of mode	a. Reduce congestion in primary commuter corridors	■ Travel Time Index ■ Proportion of primary corridor roadway miles operating at or below LOS "D" ■ Ratio of transit-to-auto travel times in priority transit corridors ■ Vehicular delay along auto and transit priority corridors
	b. Increase transit services, and provide enhanced transit amenities and facilities	■ Passenger trips per vehicle revenue mile ■ Passenger trips per vehicle revenue hour
	c. Support/promote ride-sharing, such as vanpool, carpool, and park-and-ride	■ Number of participants in ride-share programs
	d. Adopt and apply access management policies and controls along congested corridors to improve safety and increase capacity	■ Miles of major roadways/corridors designed to employ access management strategies
RELIABILITY – Improve reliability of the movement of people and goods across the region	a. Increase travel time reliability for highway and transit corridors	■ Travel delay per peak period ■ Buffer Time Index
	b. Improve the reliability of transit	■ Transit on-time performance
ENVIRONMENT – Provide a transportation system that minimizes or mitigates impacts to the region's natural, cultural and historic resources	a. Minimize or mitigate project impacts on the natural environment	■ Maintain the percent change in VMT at or below population growth rate
COMMUNITY – Develop transportation projects that provide a range of benefits to the community, especially traditionally disadvantaged populations, support healthy and livable communities and strengthens the economic vitality of the region	a. Support equity of active transportation investment and expand mode choice	■ Commute mode share ■ System miles of new pedestrian, bike, or multi-use trails completed ■ Number of transit trips per vehicle revenue hour ■ Number of transit trips per vehicle revenue mile ■ Number of park-and-ride facilities or spaces available
	b. Improve network connectivity	■ Roadway connectivity index
	c. Adopt and apply Complete Streets policy that specifies steps to identify community context, needs, and recommended design criteria for each transportation projects, potential users, and every mode of travel	■ Proportion of system miles improved in accordance with adopted Complete Streets policy
	d. Improve transit access to jobs/employment centers	■ Number of population and jobs within ½ mile of transit services
	e. Improve transit access to traditionally disadvantaged populations	■ Number of low income or minority populations within ¼ mile of transit services
	f. Support the efficient movement of goods by addressing freight specific bottlenecks and providing efficient and reliable freight corridors	■ Truck travel time reliability index ■ Delay on freight corridors ■ Miles of primary freight facilities operating at or below LOS "D"
COORDINATION/BEST PRACTICES – Ensure that the transportation planning process contemplates local land use plans, engages partner agencies, and employs best practices where possible	a. Engage typically under-engaged groups such as emergency response and freight movement stakeholders during development of the LRTP and other planning processes	
	b. Plan for and address transportation system impacts when considering new developments	