Analysis of Existing Conditions

Modes of Transportation

The modes of transportation in Missouri have changed significantly over the last 500 years, but many of the roads that we use today follow routes which were established centuries ago. These trails were created by buffalo, deer and other animals, Native American tribes for trade and hunting, and European settlers. Many of these trails transitioned from roads to highways. Missouri Route 66 is one of those highways.

In the 1830's, settlers began making claims to land in the interior and southern portions of Missouri. As that land was developed, a road connecting St. Louis and Springfield became a necessity to people traveling by horse, buggy or stagecoach. In addition, this road played a key role in other important moments in history. During the Civil War, the road was used to move troops and the Federal Government installed telegraph lines along the road earning it the title of Old Wire Road. It was this road that later developed into Route 66.

From the 1870's to 1890's, railroad construction boomed. The development of railroads shifted the focus of the American public away from road building. Just as the early roads had followed the established animal and Indian trails, many of the routes for the new rail lines did the same. This is very evident by the close proximity of the railroads and Missouri Route 66. The construction of the railroad brought new areas of settlement.

With the dominance of the rail system, it would take new methods of transportation to rekindle the public's interest in road construction and road improvements. These new methods of transportation came in the form of the bicycle and the automobile. Prior to the development of these two modes of transportation, roads were primarily associated with trade and settlement. Because of these inventions, the Nation's roads became venues for sport and tourism.

Good Roads Initiative

The freedom that bicycle and automobile modes of transportation gave users, caught the attention of the Nation and gained support for better roads. There were those who foresaw the commercial opportunities that highway travel could provide. Numerous organizations took on the task of promoting "good roads". These efforts resulted in the early highway legislation bills including the Federal Aid Road Act of 1916 and the Federal Highways Act of 1921. To support these efforts, the Missouri Legislature passed the Hawes Law in 1917. The Hawes Law created a State Highway Board and revived the position of State Highway Engineer. In 1921, the Centennial Road Law shifted the construction and maintenance of state roads from the counties to the state. The passage of the Centennial Road Law marked the beginning of a new era in Missouri Road History. With this law, State Route 14 was designated in 1922, this road would later

"Route 66 holds many memories for me. I always have wonderful thoughts of family trips to California and to see relatives in Arizona. It was the road of dreams."

become U.S. Route 66 in 1926. The portion in Missouri was the second route to be designated Route 66. Five years later, on January 5, 1931, U.S. Highway 66 was fully paved and at the time, the third of the eight Route 66 states to be fully paved. Route 66 provided major challenges for Missouri's highway engineers and road construction crews. Route 66 saw several of the original sections rerouted, projects were undertaken to smooth out the curves and straighten the highway. The growth in the trucking industry and the increase in military operations in the late 1930's and early 1940's constituted an era of a boom in the trucking industry that contributed to these projects.

St. Louis County: Military Vehicles - Courtesy of Missouri State Archives

Due to the increasing traffic volume, speeds and diversity of types of vehicles, portions of Route 66 in St. Louis were rerouted. In 1932, the first cloverleaf interchange east of the Mississippi River was constructed on Route 66 in the St. Louis area.

In 1956, President Dwight D. Eisenhower signed the Federal Aid Interstate Highway Act and sealed the fate of Route 66. This legislation authorized the appropriation of funds for the construction of the Interstate Highway System. Missouri was the first state to award a contract using the Interstate construction funding. The contract was for the construction of the Interstate 44 bypass of Lebanon, Missouri. The construction of I-44 across the state of Missouri was not completed until 1980. As each new section of the Interstate was completed, one more section of U.S. 66 was decommissioned.

Nearly all of Missouri's Route 66 alignments still exist and are drivable. For many travelers, simply the experience of driving the road and witnessing the landscape is the attraction. For others, it is the charm and uniqueness of each of the communities along the route that bring them to Missouri Route 66.

Route 66 is without a doubt the most famous road in America. It is important in the history of transportation in the United States, but its significance in American history is much more far-reaching than the link between Chicago and Los Angeles. Route 66 is symbolic of the major changes in American life during the first half of the twentieth century. These changes included the proliferation of automobiles, the development of roadside culture, and the westward migration of Americans. More than anything, Route 66 is the "Main Street of America", the "Mother Road", and an icon of American spirit, pride, hope and adventure.

Cross Sections

Route 66 was an experiment in road design and construction that worked. It served as the model for modern highway construction techniques and standards and as noted by Route 66 author, Tom Teague, "Route 66 became a victim of its own success." Today's interstate Highway System is rooted in Route 66.

Its interesting to reflect on the development of the typical cross-sections used by the Missouri Department of Transportation on Route 66 from 1926 to 1977 as the highway became progressively wider, stronger, and more complex.

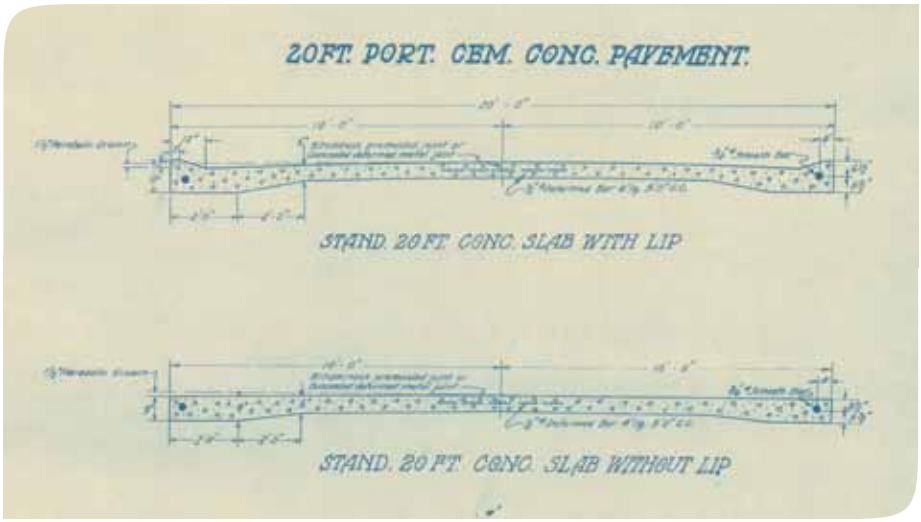
Following the 1960s, road construction on Route 66 was gearing up for compatibility and use with Interstate 44, which resulted in a significantly different cross section than those found on Route 66 in 1926.

Design Elements

Even as early as 1926, The American Association of State Highway Officials (AASHO) set minimum standards for highway design. The State of Missouri followed these guidelines in developing state highways. As the guidelines changed, so did the state's design practices.

The state highlighted these progressive alterations in the design of highways in its annual reports. These reports include a summary of changes to the highway's cross-section, horizontal alignment, vertical profile, bridge structures, traffic signing, and landscape plantings. The cross-section expanded from 18 feet in 1926 with two 9-foot lanes with no shoulders to a divided 4-lane with 12-foot lanes and 10-foot shoulders. The pavement changed from gravel in 1926 to concrete later. Steel reinforcing of the Road progressively improved, except for when there was a steel storage during World War II.

Horizontal and vertical curves became progressively flatter as the speed that vehicles could reach increased. The average speed of cars on the Nation's rural highways in 1945 was 42 mph and trucks averaged 38 mph according to AASHO. By 1962, the travel speed of cars had increased to an average of 55 mph and trucks to nearly 50. The percentage of cars exceeding 50 mph went from 17 percent in 1945 to 70 percent in 1962. Nearly a quarter of all cars on rural roads in 1962 exceeded 60 mph.



Route 66 Construction Plans - Courtesy of Missouri State Archives

Bridges

Bridges along Missouri Route 66 contribute to the allure of the roadway. In Missouri, these bridges occur in both rural and urban areas and are constructed with a variety of materials and by many different methods. Major bridge crossings are a key element of the roadway as Route 66 crossed over the Mississippi River in several locations. Aside from the Mississippi River, Missouri Route 66 crosses dozens of rivers and streams as it traverses the varied geography in the corridor. Most of these bridges were built according to standardized design plans that were commonly employed throughout the state at the time. The most common bridge types included: Parker and Warren trusses, concrete T-beams, and Open and Closed-Spandrel concrete arches. The type of bridge that was selected to span each waterway was chosen according to the length of the crossing. These bridges, unlike the more modern bridges, were distinct structures, aesthetically applealing, providing a crossing and a sense of place, which is a contrast to modern bridges which are nearly indis-

tinguishable from the rest of the road.

In 1943, with metal in short supply due to the war, reinforced concrete bridges were constructed with salvaged steel. By 1944, not only was steel in short supply but so was manpower. Consequently, several bridge projects were postponed.

Pulaski County: Big Piney Bridge - Courtesy of Missouri State Archives

Historic bridges are finding new uses throughout the corridor. As an example, the Old Chain of Rocks Bridge, closed to traffic following the opening of the "new" Chain of Rocks Bridge, has been restored and currently serves as the world's longest pedestrian and bicycle bridge. It is the 12th longest continuous span bridge in the world, and was infamous for the 30-degree bend in its middle span.

Signs

As early as 1926, route markers and traffic safety signs complied with AASHO standards. In 1931, reflective signs were introduced as an experiment for hazardous locations. Advances in the design of the signs continued through 1933, when steel signposts were installed. Warning signs, flashing signals, and gates were added to hazardous railroad crossings conforming to national standards in 1933. By 1936, the use of reflection signs was extended to additional types of signage.

Always the subject of experimentation, investigations were conducted into the visibility, permanency, and economy of various reflective chips used for striping traffic lanes on Route 66.

Roadside Development

Maintenance changed substantially from era to era. It was initially limited to cutting weeds, clearing right-of-way, and mowing shoulders. The federal public works programs of the Great Depression significantly altered the way roadsides were designed and maintained. By 1934, the federal Works Progress Administration (WPA) provided labor for planting native trees and shrubs. The St. Louis Bureau of Homeless men contracted with the Missouri Highway Department to provide labor for highway beautification projects. In the mid-1930s, roadsides were re-graded to provide a more natural appearance and to reduce erosion, and picnic areas were developed as roadside amenities

During the era of the Great Depression, President Franklin D. Roosevelt introduced his "New Deal" program to put America's unemployed masses back to work. The Works Progress Administration (WPA) provided Americans with jobs building parks, recreation areas, public utilities, and roads. As the Depression lifted, many WPA-built projects became stopping points for tourists as they traveled along Missouri Route 66.

During World War II, maintenance was reduced to only an erosion control program. By 1942, only landscape improvements and maintenance dealing with erosion control were allowed because the war commanded the necessary labor and materials.

Design Recommendations

This section is intended to provide guidance to design professionals who do work on or along the road segments of the Missouri Route 66 byway. In recommending design standards for the Missouri Route 66 it is wise to take a "context sensitive design" approach. The term is essentially self defining: consider the context or physical setting within which you are working and use design approaches and materials that are consistent with local conditions. For example, if typical guardrail along a roadway is timber, continue to utilize such materials when improvements are made; alternatively, when efforts to slow runoff in a drainage channel necessitate rip-rap, consider the use of native stone rather than stone from other geographic areas. Context sensitive design recognizes local community character and attempts to incorporate elements of such character into future construction projects.

Kaisa Barthuli, Progam Manager for the Natural Park Service's Route 66 Corridor Preservation Program states that "in many cases, the roadbed is a historic structure itself, and the historical appearance and/or National Register significance should be considered when doing maintenance and improvements such as repaving, guard rail replacement, widening curb lanes, traffic calming, etc. The goal, when feasible, is to maintain if not restore the historic appearance of the roadway while still meeting today's standards for driver/visitor safety."

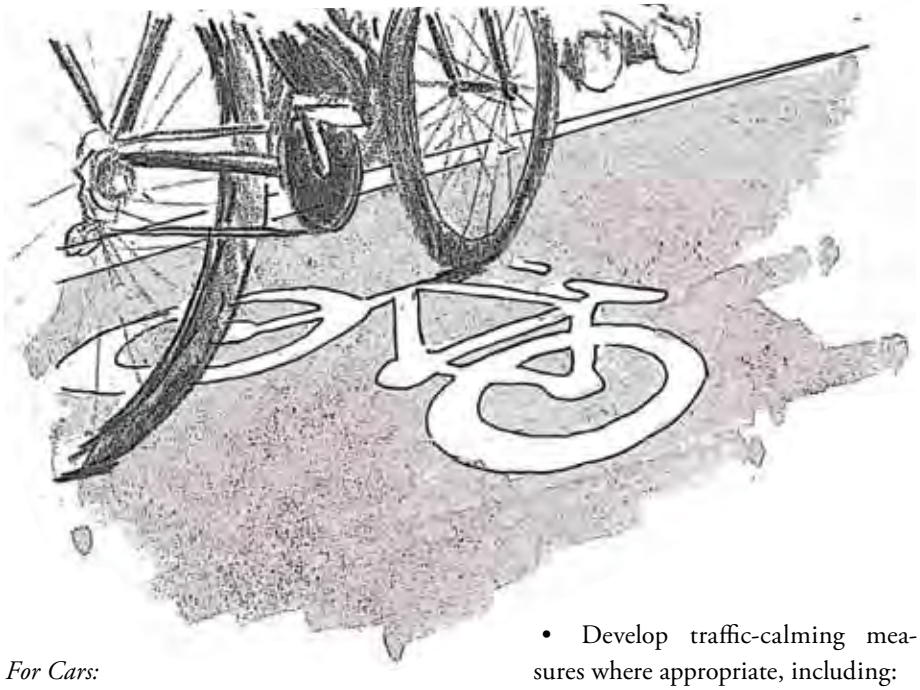
Franklin County: Gardenway Motel

An important aspect of Missouri Route 66 planning is making sure that as experiences for visitors are expanded and enhanced, the lifestyles and community settings are maintained and preserved, and impacts related to new road construction and increased tourism are minimized. This can be accomplished by directing visitors to the areas of the Missouri Route 66 designed to accommodate their needs.

The recommendations made here intend to both enhance the corridor and its many assets, and address current and potential conflicts with the Missouri Route 66.

Safety

Safe roadways are a primary concern for the CMP and need to be addressed fully. Road sections with critical ratios exceeding 1.0 are not uncommon along this Missouri Route 66. Measures need to be taken to ensure greater safety along these roadways as traffic volumes potentially increase and bicyclists are introduced to the corridor in greater numbers. This Plan seeks to introduce a number of safety features and studies that further identify and address these concerns:



For Cars:

- Provide nighttime lighting and/or reflective surfaces
- Provide gently sloping shoulders or widened curb lanes, where possible
- Provide well- and consistently-signed directional routing at intersections and area attractions (See Chapter 7 Wayfinding)
- Evaluate design speeds of roadways for consistency
- Develop recommendations for making design speeds more uniform along any given roadway
- Develop traffic-calming measures where appropriate, including:
- At entries to urban areas
- At entries/proximity to residential neighborhoods
- Where design speeds and/or Missouri Route 66 direction dramatically shift

For Bicyclists and Pedestrians, incorporate:

- Providing off-road or separated trails within the ROW, wherever possible
- Providing signed bike lanes, paved shoulders or widened curb lanes for bicycle commuters and faster cyclists
- Minimizing street crossings for bike/ped paths

In addition:

- Provide alternate signed for bicyclists, to lessen conflicts and make accessible greater scenic variety
- Establish a "Share the Road" campaign that educates residents, visitors, bus drivers and others about bicyclists using the roadway
- Provide signage with area maps and location finders

For Pedestrians:

- Provide sensible, accessible connections to area trails and sidewalks
- Provide direct and accessible connections to local destinations (schools, parks, retail)
- Provide smooth transitions from pedestrian trails to local sidewalks

Aside from existing indications of traffic accident rates, potential conflicts may arise as day travelers and area tourists mix in greater numbers with local traffic. Commercial traffic is less impacted for much of the Missouri Route 66, as travel occurs along the Missouri's state highways.

Clearly signing the corridor with consistent, easily recognizable displays will help reduce confusion on the roadway and lessen potential conflicts.

Other measures that may be taken include:

- Highlighting and providing attractions accessible only on foot encouraging travelers to leave their cars in order to explore more congested areas
- Concentrating tourist attractions in select areas, rather than encouraging multiple stops within a short distance
- Providing roadside pullouts to view the surrounding landscape and special features, so that those wishing to linger may do so comfortably without obstructing thru traffic
- Providing clear directional and informational signage, in locations that allow for adequate reaction time (including multilingual where appropriate)
- Analyzing and advertising tour buses and schedules that link to Missouri Route 66, encouraging alternative transportation
- Providing easy and well-signed access to local tourism bureaus and visitor centers (including multilingual)

Preserving the Corridor

This travelway reveals a lot about the local culture and depicts much of the Missouri Route 66's history. It also accesses many recreational opportunities and outlets. These qualities, occurring or remaining largely by chance and without much planning along this corridor to-date, will be better protected, preserved and enhanced with the enactment of the corridor management plan.

Specific steps to preserve the intrinsic resources of the Missouri Route 66, may include:

- Implementing a review process to evaluate proposed roadway improvements along the corridor
- Designating view corridors and view cones to be protected from infringement, obstruction or anomalous features
- In forested areas, protecting/preserving existing mature trees in good health within and/or outside the ROW
- Preserving and protecting natural resources and terrain within wildlife corridors
- Preserving historic structures
- Providing incentives for private property owners to preserve remnant elements and landscapes
- Providing incentives for private property owners to preserve existing forested areas adjacent to roadway

Information Kiosk

- Coordinating efforts with local land trusts to acquire easements within and adjacent to the Missouri Route 66 corridor

St. Louis County: MetroLink

- In existing communities, coordinating design efforts with existing development and design standards

- Consolidating roadway signage where redundancy occurs

- Addressing changes to roadway signage where confusing or conflicting messages occur

Enhancing the Corridor

Multi-modal corridor

The Missouri Route 66 may be experienced and appreciated via a variety of transportation modes. Portions of the corridor may be traveled by foot, by bicycle, by canoe or kayak, or by public transit. Once on Missouri Route 66, visitors could use transit options to travel to various destinations along the Route. Encouraging multi-modal options would include commercial entities providing shuttles to and from their places of business.

Roadside Pull-offs

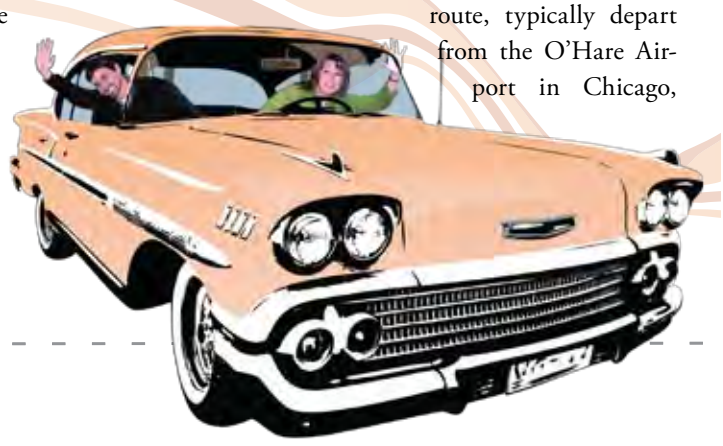
Creating pull-off areas or waysides along the Missouri Route 66 will allow visitors the opportunity to pause and enjoy the beauty of the Missouri Route 66 more fully. Pull-offs will also help disperse visitor traffic and provide resting opportunities for Missouri Route 66 travelers. Formalized pull-off areas create space for a small number of cars or a bus. Bus stops should be added to the pull-off areas when feasible. Signage along the Missouri Route 66 should be provided directing visitors to the pull-offs and each pull-off should have interpretive signage specific to that location. Pull-offs may be located near stream crossings to provide wildlife-viewing opportunities.

These design recommendations have been prepared to provide information that will give a consistent thought approach to the roadway and the corridor as it travels across Missouri. As each community develops their own design criteria, the motion can begin with a constant base

Multimodal transportation

Multimodal transportation refers to the major transportation facilities that accommodate aviation, railway, transport trucking, transit services, tour bus, recreational vehicle (RV), motorcycle, auto, bicycle, and pedestrian travel. Multimodal transportation provides for travel across the nation, across the state or across town. A key component to multimodal transportation in the Missouri Route 66 corridor is proximity and connectivity with the Route.

Although it is recognized that many of the visitors who choose to travel the entire route, typically depart from the O'Hare Airport in Chicago,



where the road begins, at the eastern end of Missouri Route 66, visitors can arrive via an international airport, St. Louis' Lambert Field. Another National airport exists in Springfield at the Springfield-Branson National Airport. In addition, numerous general aviation airports exist throughout the communities along Missouri Route 66.

The railroad parallels Missouri Route 66 across the entire state. Sometimes clearly visible, and sometimes disappearing from view in a winding alignment, this rail line serves the small community businesses and industries that line the Route. Once upon a time, the rail line served as passenger rail, carrying people from one side of the state to the other. Now, the only place that passenger train exists is in the St. Louis metropolitan area. Amtrak connects St. Louis to Kansas City and the west, and to Chicago and the north. St. Louis also has light rail transit available by MetroLink. MetroLink is the St. Louis metropolitan region's light rail system and is operated by Metro as part of a fully integrated regional transportation system. MetroLink has 37 stations and stretches 46 miles. It serves several municipalities in St. Louis County, Missouri, St. Clair and Monroe Counties in Illinois, and the City of St. Louis. There are 18 free park-ride lots adjacent to MetroLink stations, which can accommodate more than 8,900 vehicles. Many MetroBus routes connect to MetroLink stations providing convenient transfers between bus and rail. MetroLink light rail vehicles have a capacity of 72-seated passengers and more than 100 standing passengers. Many of the MetroLink stations, MetroBus stops, and park-ride facilities are on or near Missouri Route 66 primary route or alternate routes in the St. Louis area.

Transport trucking provides a link between manufacturers and consumers. Businesses contract with trucking and warehousing companies to pick up, transport, store, and deliver a variety of goods. The industry includes general freight trucking, specialized freight trucking, and warehousing and storage.

Many goods are carried using intermodal transportation to save time and money. Intermodal transportation encompasses any combination of transportation by aviation, train, or truck. Typically, trucks perform at least one leg of the trip, since they are the most flexible mode of transport. For example, a shipment of cars from an assembly plant begins its journey when they are loaded onto rail cars. Next, trains haul the cars across country to a depot, where the shipments are broken into smaller lots and loaded onto tractor-trailers, which drive them to dealerships. Each of these steps is carefully orchestrated and timed so that the cars arrive just in time to be shipped on their next leg of their journey. Though some perishable and time-sensitive goods may be transported by air, they are usually picked up and delivered by trucks. Over sixty communities in the Missouri Route 66 corridor rely on the intermodal connectivity of transport trucking.

Public transit services in the Missouri Route 66 corridor include train, bus, trolley, and park and ride facilities. These modes of transportation have developed in the larger municipalities of St. Louis metropolitan area, Rolla, Springfield, and Joplin. Transit services developed over time around community mobility needs, but can also serve the needs of travelers in the corridor. Schedules of the various types of transit are readily available online for easy itinerary planning.

Charter bus or motor coach service is available for travel across the state of Missouri on Route 66. A Route 66 road trip can make for a low-cost vacation because of the stays in inexpensive motels and meals in roadside diners across the state, through the hearts of some of the smallest towns in America. Bus and large recreational (RV) vehicle travel can be accommodated on all but a few bridge crossings on the Missouri Route 66 corridor. Comfortably navigable lanes, ample parking, and services for large groups are available all along Missouri Route 66. Tourism organizations and independent tour operators design and market Missouri Route 66 bus tours on a regular basis.

By far, the road itself remains the single most popular method of experiencing Route 66. Missouri Route 66 is a driving

experience and motor vehicles, and motorcycles remain among the most popular way to cruise 66. In an automobile or on motorcycle, travelers get a taste of what the real Route 66 was like. When Route

Greene County: RV On Route 66

66 was in its prime, businesses sprang up in the corridor because they knew this was an opportunity to make a living selling all sorts of sundries, offering hospitality and lodging to weary travelers, and filling traveler's cars thirsty gas tanks every few hours. Many savvy businesses came up with all sorts of interesting ways to grab attention and get folks to stop and spend a little money while filling up. Though it is necessary to follow directional signs, drivers can still travel on over 340 miles of primary driving route in Missouri. Only 3 to 4 miles of the original Route shares the same alignment as today's Interstate 44.

Provisions for Bikes and Pedestrians

All of the Missouri Route 66 Byway corridor is accessible by bicycle. Bicycle groups, both domestic and international, tour the corridor each year and rely on organizations like the League of American Bicyclists and the Missouri Bicycle Federation to offer suggested routes and itineraries for traveling Missouri 66 by bike. According to Dr. Brent Hugh, Executive Director of the Missouri Bicycle and Pedestrian Federation, Missouri Route 66 is completely navigable by bicycle with only four miles requiring a ride on Interstate 44's shoulder. Moreover, that section can be detoured if so desired.

Because of the overwhelming interest in bicycling Route 66, the American Association of State Highway and Transportation Officials (AASHTO), has named U.S. Route 66 a U.S. Bicycle Route. The purpose of the U.S. Bicycle Route System (USBRS) is to facilitate bicycle travel on appropriate roads, paths and highways over routes that are desirable for interstate bicyclists. A route should form continuity of available roads through two or more states connecting and traversing areas of scenic, cultural, and recreational interest. U.S. Route 66 fits this criteria well. Not to mention Missouri Route 66 accommodates cross-country bicycle travel very well.

Because Missouri Route 66 is a roadway, specific attention was given to on-street routes that establish and complete the transportation network for bicyclists and pedestrians. These routes provide enhanced connectivity to alternative travel experiences, and promote and enhance community health. Bicycle and pedestrian routes also enhance the sense of community through better connectivity and random social interaction. It should be noted that a number of communities have trail systems that connect or intersect Route 66 as well. Some of the trail systems occur within or near the right of way, some are adjacent and still yet some intersect with Route 66 helping to provide yet another way to connect users to multimodal transportation.

While good multimodal transpor-

tation exists in the corridor currently, improvements can be made by utilizing smart growth principals and focusing on developing connected, multimodal transportation networks that further enhance access for the cities and counties in the corridor. We can increase travel efficiency in how we integrate future land uses along these multimodal transportation corridors. In the future, these corridors will facilitate linking different modes together (i.e., bike racks on buses or being able to park once and walk to multiple destinations), giving people workable choices to travel.

Visitor Amenities

Numerous opportunities for basic visitor amenities existing along the Missouri Route 66. These basic amenities are defined as food, lodging and gas. These services are abundant and include gas stations, convenience stores, restaurant, dinners, motels, hotels, and cottages. Supplementary visitor amenities also exist in the form of shopping, recreational opportunities and scenic and historic sites. Examples of these are the Union Station in St. Louis, Vineyards in St. James, historic courthouse in Pulaski County, muesuem in Lebanon, the Hubble Telescope on the square in Marshfield, Fantastic Caverns in Springfield and the Carthage Municipal Golf Course. All of these provide the amenities that traveler's need and expect. These amenities are found consistently along the Missouri Route 66 corridor.

Phelps County: Stonehenge