4. Circulation

Goals

- Reduce dependency on single-occupancy vehicles.
- Provide for safe and smooth flow of traffic.
- Coordinate land use and transportation planning and systems.
- Make the most efficient use of the circulation system for long-term community benefit.
- Limit the building of new roads and streets and make strategic investments in other modes of travel.
- Create a more walkable and bike-able community.

Circulation Chapter:

What Changed Since 2002?

- Major reconstruction of SR 179.
- The Uptown Enhancement Project pedestrian improvements.
- The Sedona Roadrunner transit service operated from 2006 to 2011.
- The Verde Lynx commuter transit system has been in operation since 2009.
- Two new traffic signals added to SR 89A, at Andante Drive and Airport Road.
- Street lights added to SR 89A by the Arizona Department of Transportation.

What's New in This Plan?

- Recognition that improving traffic circulation will require a variety of methods beyond traditional road improvements.
- Support for mixed use, walkable districts.
- Recommendations to strategically invest in improvements for pedestrians and bicyclists.
- Recommendation for an improved transit system.

As a major destination for travelers worldwide, Sedona has long experienced traffic congestion that can seem out of proportion to the population. Although the majority of personal vehicle trips are local, the added visitor traffic, coupled with a lack of alternative street connections, is a major component of this congestion. The costs of owning a vehicle, a widening sensitivity to impacts on the environment, and social networking could reduce demand in the future; however, Americans have traditionally demanded the independence and convenience of their own cars.

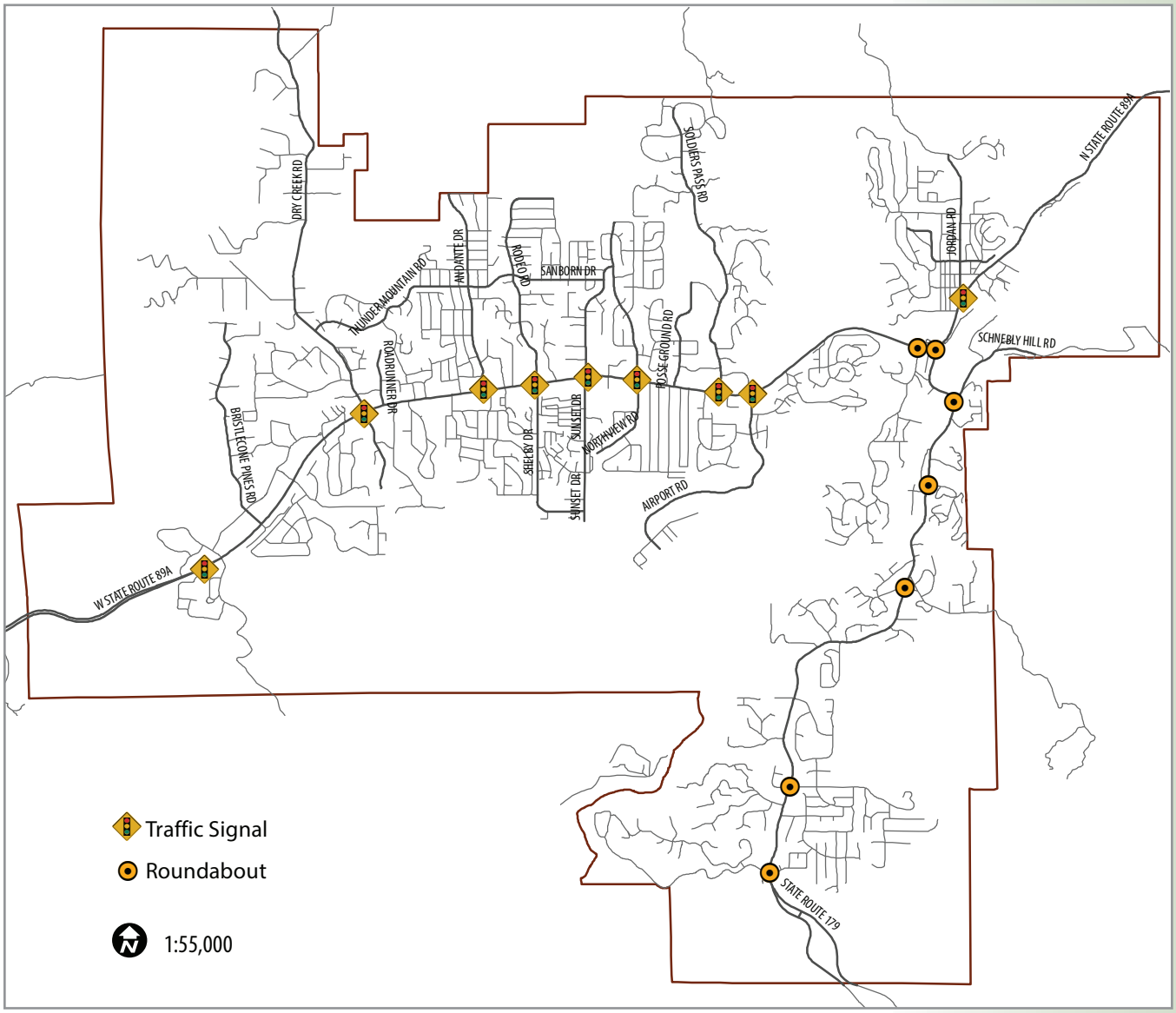
We want to create a more walkable and bike-able community with less dependence on cars, although we recognize that Sedona's circulation system must continue to accommodate personal vehicles. We also want to further the goal of creating a more sustainable community by reducing the use of fossil fuels and resulting air pollution. Walking and biking are healthy activities, and Sedona has an excellent climate and scenery to enhance the experience. Improving the safety, linkages, and amenities of a walking and biking network is important to encourage more people to leave their cars, which is critical for a walkable, mixed use environment.

It is widely acknowledged by traffic engineers worldwide that land use patterns are the key to traffic solutions. Adding significant capacity by improving existing roads or building new roads to address congestion can create a cycle that ultimately leads to more congestion.

"In summary, it would appear that compact, mixed land use may be an effective tool in reducing vehicle dependency and, hence demand for extensive new road capacity and corresponding traffic congestion."

- Land Use and Traffic Congestion,
Arizona Department of Transportation, 2012

Existing Streets, Signals, Roundabouts



Traffic and Parking

Key Issues

- Lack of alternative routes to the highway.
- Lack of arterial routes.
- Lack of connecting streets between neighborhoods.
- Severe traffic congestion in Uptown Sedona and SR 179.
- Need to improve parking availability and wayfinding throughout Sedona.
- Safety concerns for vehicles, pedestrians, and bicycles on SR 89A in West Sedona.
- Lack of access control on SR 89A.
- A need for clearer solutions for balancing increased tourism with infrastructure improvements.

Traffic Volumes and Level of Service

The existing street system in Sedona is characterized by a combination of state highway and local roadways. As the City's only true arterial roadways, SR 89A and SR 179 bear the burden of nearly all local trips as well as visitor traffic. The highest traffic volumes in the City are on SR 89A in central West Sedona. The internal traffic volumes in this area are as much as two times higher than those at the western City limits and four times higher than the eastern City limits at the entrance to Oak Creek Canyon. On SR 179 at the SR 89A/179 intersection, traffic volumes are nearly twice as high as those at the southern City limits. Although visitors contribute substantially to the overall traffic load on SR 179 and in Uptown, past studies have shown that residential trips account for the majority of the traffic in West Sedona.

With the exception of the Uptown area, traffic volumes increased much more rapidly from 1989-1998 than in recent years (see table below). This corresponds with the rate of Sedona's growth during those time periods, as Sedona's year-round population did not grow between 2000 and 2010. Once the City is completely built out, based on the City's capacity for future growth, traffic volumes on SR 89A will be substantially higher than they are today, and the highways will be near or at capacity.

West Sedona

Since 1991, seven new traffic signals were installed, and several intersections were re-aligned in West Sedona. However, the Arizona Department of Transportation's spacing guidelines of one per 1/4 mile would not allow for future traffic signals to be installed on SR 89A at the exit point of each individual neighborhood.

The lack of access control is another significant contributor to congestion on the highway. In 2002, SR 89A was upgraded to a four-lane highway between Sedona and Cottonwood, with a raised median segment from Juniper Drive to west of Upper Red Rock Loop Road.

Traffic Volume Changes

	Maximum % Increase	
	1989-1998	1998-2013
SR 89A west city limits to Andante Dr.	90%	5%
SR 89A Shelby Dr. to the "Y"	49%	18%
SR 89A "Y" to Jordan Rd. (Uptown)	*	116%
SR 89A Art Barn Rd. to east city limits	48%	*
SR 179	50%	*

*No substantial increase during this time period

Access Control:
Methods providing for safe and effective entrance onto streets, which may include median placement, consolidation of driveways, interconnection of parking areas, traffic signals, or roundabouts.

The City currently implements access control measures in conjunction with new development and through coordination and approval from the Arizona Department of Transportation. However, an access control plan for the remainder of SR 89A has never been approved.

To provide alternative route choices to the highway, several off-highway connections have been made. Opportunities to connect residential areas are limited, particularly south of the highway where, prior to the City's incorporation, many subdivisions were approved with no interconnecting streets. There are very few parking interconnections between commercial properties on the highway corridor, which creates additional highway trips.

State Route 179 Corridor

In November 2002, the Arizona Department of Transportation committed to a "Needs-Based Implementation Plan" that reconsidered the 1996 4-lane design for SR 179. The planning process began in September 2003 and construction was completed in 2010. Within a new lane configuration that included two travel lanes, the upgraded highway added pedestrian and bicycle improvements, transit stops, roundabouts, and medians.

Following a thorough evaluation of several alternatives, in 1996, the City's adopted Highway Corridor Assessment also recommended an extension of Ranger Road as the best solution for reducing traffic at the SR 179/89A intersection. This extension would provide controlled access to SR 89A as an alternative to the Brewer Road intersection. The recent SR 179 improvements now include a roundabout at the Brewer Road/SR 89A intersection.

There have been no traffic studies or modeling since the SR 179 improvements were completed, and the last city-wide traffic study was completed in 1996. An updated city-wide study and traffic model would provide a better understanding of the effects of these improvements on traffic flow on SR 89A through West Sedona and Uptown. A traffic model would analyze current and projected traffic patterns, and a City-wide traffic study would evaluate the impacts shown in the model and propose potential solutions.

Uptown

The Uptown Enhancement Project was initiated in October 2003 and included a plan for pedestrian, streetscape, and transit improvements. Construction was completed in 2007. The street improvements included two travel lanes without medians.

In 2005, a comprehensive *Sedona Parking Management Study* was completed for the Uptown/SR 179 commercial area to address both on and off-street parking issues and to provide recommendations for parking needs associated with the City's first transit system. In 2012, an update to this study was completed. The demand for on-street parking spaces in Uptown is very high, impacting availability and traffic flow. There are also off-street spaces available (the City-owned parking lot provides one

of these areas) when on-street parking is full, but visitors have a difficult time finding them, as most are privately owned and not accessible. In 2013, the City in conjunction with a Parking Advisory Committee was pursuing additional off-street parking locations and agreements and analyzing the potential for installation of parking meters. In addition, the City is also working on installing new, consistent signage for restricted spaces, standardizing wayfinding signs, and enforcing time limits.

Although the number of vehicle trips has increased on 89A in Uptown, traffic volumes at the entrance to Oak Creek Canyon do not appear to have increased significantly. Nevertheless, weekend traffic backups from Uptown into Oak Creek Canyon are frequent occurrences and a key issue identified during the Plan's public outreach. These traffic backups may be due to a number of factors that affect traffic flow within Uptown, ranging from more opportunities for pedestrians to cross the roadway to greater difficulty for motorists to find parking spaces.

Air Traffic

The Sedona Airport consists of 230 acres on a prominent mesa at the center of the City. It is completely surrounded by National Forest and accessed by a narrow two-lane road. There is no commercial service from the airport, and since the runway cannot be expanded, there are limits on the size and type of aircraft that can use the airport both now and in the future. Although aircraft noise levels are diminished by the airport's mesa location above the City, aircraft noise has been an on-going issue.

The Sedona Airport Authority operates the airport under lease from Yavapai County. Although Yavapai County owns the land, the City has jurisdiction only over land uses that are not airport related. Non-aeronautical uses include a hotel, restaurant, scenic overlook, National Forest trail access, and parking. The area is also a venue for community events.

Region

In 2008, the *Sedona Transportation Feasibility Study* evaluated five possible alternative road corridors as potential connections between SR 89A and SR 179. No action was taken on the 2008 study. Yavapai County completed the *Verde Valley Multi-modal Transportation Study* in 2009. The study included traffic modeling and recommendations for both incorporated and unincorporated areas of the Verde Valley. All of the traffic modeling was done prior to the completion of the SR 179 improvements, so the effect of those improvements was not evaluated. The 2009 study also evaluated a bypass route between SR 89A and SR 179 at Back-o-Beyond and Chavez Ranch Roads. While there would be a significant reduction in traffic on SR 179 south of the intersection with SR 89A (the "Y"), the bypass was not recommended due to the high cost of construction and potential environmental and aesthetic impacts.

Multi-modal:
A mix of transportation methods, such as walking, bicycling, transit, and personal vehicles.

Transit

In June 2004, the City Council adopted an implementation plan for the City's first transit system. The first phase of the service included a free uptown circulator on a 3.1-mile loop between Uptown Sedona and the southern end of the commercial area on SR 179, which ran continuously on an 8-10 minute frequency. Phase One also included commuter service between Cottonwood and Sedona during the morning and evening using the same vehicles. Subsequent phases were intended to expand commuter service to the Village of Oak Creek and provide regular service to West Sedona and Oak Creek Canyon. The Sedona Roadrunner system was launched in October 2006.

In response to demand, the Verde Lynx system was launched in 2009 to augment the Sedona Roadrunner service with additional trips between Sedona and Cottonwood. The Roadrunner circulator was discontinued by the City of Sedona in June 2011 due to concerns regarding cost and low ridership. The Verde Lynx continues to provide service between Cottonwood and Sedona. Future transit must be seen as a beneficial investment for the City and residents, and whether intended to primarily serve residents, visitors, or both, it must be seen as a practical alternative to the personal vehicle by a substantial number of those it is expected to serve.

In 2013, the Forest Service began a study of transportation alternatives to reduce traffic congestion mainly in Oak Creek Canyon. These alternatives may include a range of transit, bicycle, and pedestrian opportunities.

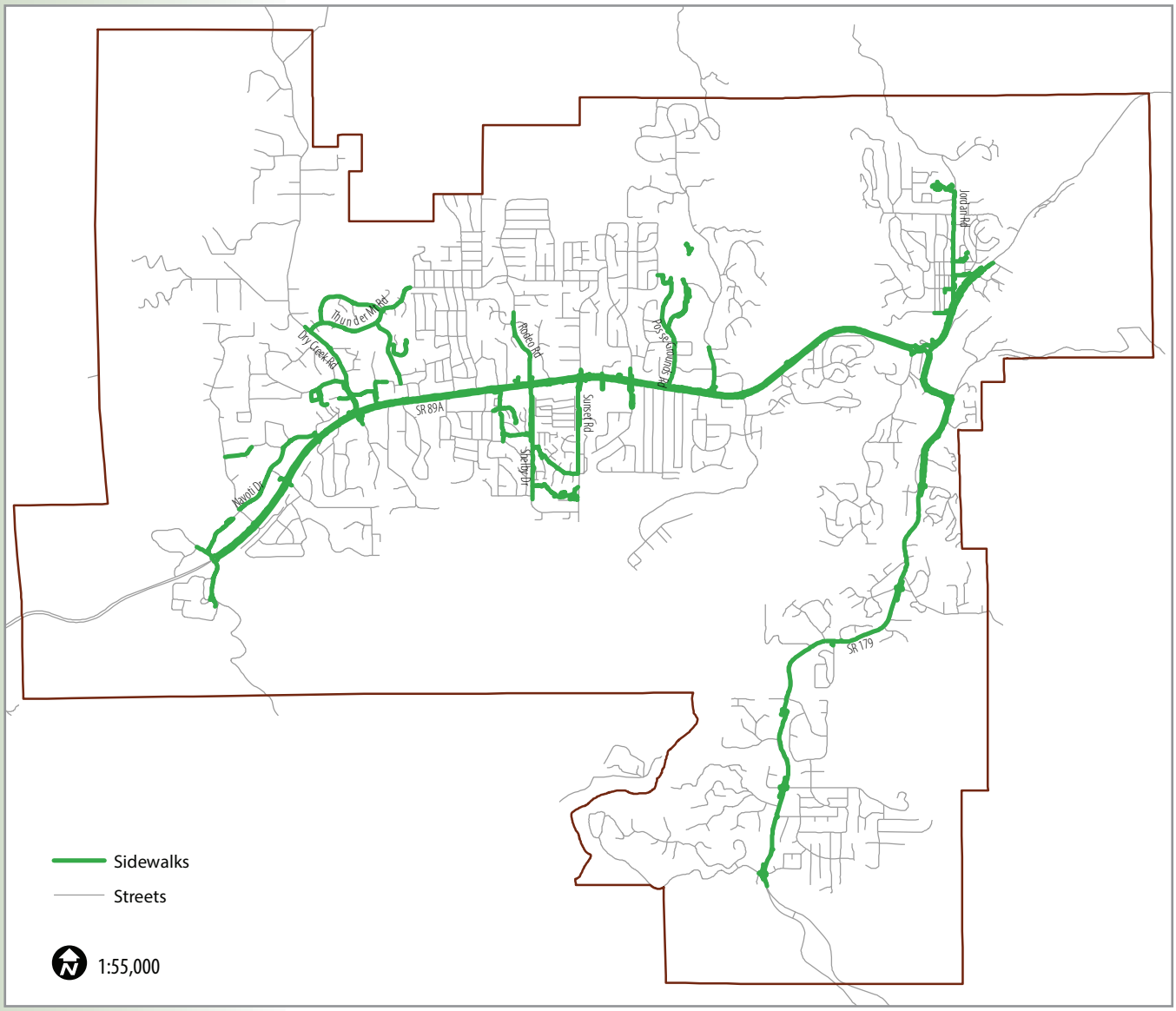
Key Issues

- Cost of expanding the transit system versus cost of major road improvements.
- The current transit service does not offer neighborhood routes.
- Lack of pedestrian improvements to sufficiently support the use of transit.
- Need for alternatives to driving for seniors, youth, and those unable to drive.

"While compact, mixed-use developments can be located virtually anywhere, they are given additional stimulus when located near a transit node because of the additional dimension of regional accessibility they provide the respective community. Linked in a system, they also provide an ensemble of varied destinations that residents can easily access if they can't find what they want in their own neighborhood. TOD [Transit Oriented Development] specialists like G.B. Arrington suggest that rates of household vehicle trip generation in TODs may be as much as 50 percent less than those in comparable conventional developments (Arrington 2007)."

- Land Use and Traffic Congestion, Arizona Department of Transportation, 2012

Existing Sidewalks In Sedona, 2013



Walking and Biking

Since incorporation, Sedona has become a more walkable and bike-able community with the addition of sidewalks and bike lanes on arterial routes. It is now possible to walk on sidewalks from one end of the community to the other. Bike lanes have also been added to SR 89A and SR 179.

In 2007, major pedestrian improvements were made in Uptown. In early 2013, the City began preparing a concept plan to consider additional pedestrian improvements in Uptown. These improvements could include new sidewalks, landscaping, pedestrian lighting, wayfinding signage, pavement rehabilitation and potential median placement on SR 89A to better manage pedestrian and vehicle movement. Past planning efforts between the City and the Forest Service have resulted in a network of recreational trails in the National Forest throughout the Sedona area. The City is also working on a system of signed bike routes.

Although sidewalks and bike lanes have been added over the years, there is no off-highway system linking residential areas, community facilities, parks, and commercial areas.

Key Issues

- Safety concerns of pedestrians and bicyclists.
- Lack of alternate routes for bicyclists and pedestrians other than the highways.
- Lack of sidewalks or shoulders on many neighborhood streets.
- Lack of public spaces within commercial areas that encourage pedestrian use.

"Mixing of land use at destinations and building at walkable densities also are shown to have travel benefits in making it more likely that workers or visitors will come to these areas by means other than private vehicle, or once there, be able to accomplish more than one purpose without requiring a vehicle for the other trips."

- Land Use and Traffic Congestion,
Arizona Department of Transportation, 2012

Walkability:
A measure of walking conditions, based on whether walking is safe, practical, comfortable, interesting, and convenient.

Circulation Policies

1. Pursue a range of multi-modal options to reduce traffic to safe and convenient levels, including but not limited to: park and walk/ride, access control, parking interconnections, street connections, transit, and incentives for reducing vehicle trips.

2. Create a network of pedestrian and bicycle improvements and connections linking neighborhoods, activity centers, and popular destinations, and promote walkable, bike-able connections to transit stops.

3. Support improvements to SR 89A in West Sedona that will improve vehicle, pedestrian, and bicycle safety, traffic circulation, access, and appearance.

4. Help alleviate traffic congestion in Uptown by transforming Uptown into a "park once" district through improved wayfinding and parking availability.

5. Provide street connections as low-speed alternatives to the highways that will maintain neighborhood safety and integrity.

6. Plan future transportation improvements and land use development at the same time and support a diversity of land uses within walking and biking distance of residential and lodging areas.

7. Support a future transit system that is a clear benefit to Sedona residents and a beneficial investment for the City.

8. Provide transportation alternatives that meet the needs of seniors and those unable to drive.

9. Support and advocate changes to the current Arizona Department of Transportation policy that would communicate the use of SR 260 as an alternate route to Sedona from Interstate 17 to better disperse traffic coming into the community.

10. Support improved wayfinding signs at the SR 89A and SR 179 intersection to better direct visitors and residents to services in West Sedona and Uptown.

11. Develop information about alternate modes of travel (e.g., signage, maps, and websites) to encourage visitors and residents to walk and bike.

12. Focus on making the most efficient use of existing parking facilities before creating new facilities and investigate the creation of additional public parking through lease, purchase, or development.

13. Support increased coordination and integration of land use and transportation planning and implementation to reduce traffic congestion and protect the natural environment.

14. Make pedestrian and bicycle facilities and improvements to existing infrastructure a high priority for circulation-related capital funding.

15. Ensure that SR 179 is maintained as a scenic corridor of uncommon beauty and that future improvements are an enhancement to this corridor.

16. Support efforts to limit aircraft noise.

17. Support efforts to evaluate regional airport options.

Complete Streets:
A federal program with policies that look at how a street system serves all users: vehicles, pedestrians, bicycles, transit, rather than the traditional "level of service" which is a measure of automobile congestion.

Circulation Action Plan

	Action	Lead	Partners
Priority 1 (0-5 years):			
1	Implement parking recommendations for Uptown from the 2012 update to the 2005 Parking Management Study and the Parking Advisory Committee.	City Manager's Office, Public Works	Police, Community Development
2	Prepare a traffic study and city-wide traffic model (corridor and access control planning for the West Sedona commercial corridor and traffic mitigation for Uptown, including evaluation of "Complete Street" standards to promote multi-modal circulation—see Land Use, Growth, and Housing Chapter 3).	Public Works, Community Development	Property/business owners, Arizona Department of Transportation, Sedona Fire District, City Manager's Office, Planning and Zoning Commission, City Council
3	Develop and implement a pedestrian and bicycle master plan to develop a network of safe and connected routes for walking and biking. The plan will identify potential linkages, barriers and gaps, bike lanes and routes, sidewalks, separated pathways, and implementation strategies.	Public Works, Community Development	Property and business owners, Arizona Department of Transportation, Sedona Fire District, City Manager's Office, Planning and Zoning Commission, City Council
4	Prepare a transit feasibility plan that addresses commuter, visitor and residential needs, park and ride locations, new technologies, and Forest Service goals and options for reducing traffic in Oak Creek Canyon.	City Manager's Office	Public Works, Community Development, Forest Service, Planning and Zoning Commission, City Council, Arizona Department of Transportation

Action	Lead	Partners
Priority 2 (6-10 years):		
5 Implement SR 89A traffic mitigation improvements in Uptown based on traffic study recommendations.	Public Works	Public Works, property/ business owners
6 Evaluate the extension of Ranger Road as a replacement for the Brewer Road/SR 89A intersection.	Public Works	Community Development, Planning and Zoning Commission, Arizona Department of Transportation
7 Work with the Sedona Airport Administration to coordinate future airport planning goals and non-aeronautical uses, Airport Road traffic mitigation and pedestrian safety, and Forest Service trailhead locations.	Community Development	Public Works, Sedona Airport Administration, Forest Service