

# Circulation

## Introduction

The vast geographic scale, topographic variation, and seasonal weather conditions in Coconino County make travel a challenge to visitors and local residents alike. These physical characteristics not only influence transportation planning, but they also impact our ability to construct and maintain an efficient, affordable **CIRCULATION SYSTEM**. **NORTHERN ARIZONA COUNCIL of GOVERNMENTS (NACOG)** and **FLAGSTAFF METROPOLITAN PLANNING ORGANIZATION (FMPO)** are charged with regional transportation planning responsibilities in Coconino County. The County's limited funding resources dictate a continuing emphasis on maintaining existing systems rather than pursuing new roadway construction and other improvements.

Within Coconino County, the airports, rail lines, highways and **TRAILS** move large volumes of materials and millions of people, including nearly 5 million visitors annually to Grand Canyon National Park: this infrastructure requires physical footprints. Without sound, conservation-based planning, this infrastructure can fragment or damage **HABITAT**, limit wildlife movement, introduce pollutants and non-native and invasive **SPECIES**, cause adverse hydrologic impacts, disrupt scenic viewsheds, and create excessive noise. Minimizing impacts to the **NATURAL ENVIRONMENT**, serving the needs of a diverse population, and connecting expansive rural areas require that the circulation system incorporate **MULTIMODALISM**.

This chapter provides guidelines for managing and improving the county's circulation system. The goals and policies strive to balance the need for providing safe and efficient travel opportunities, meeting the access and mobility needs of residents, improving transit service in unincorporated areas, providing infrastructure for alternatives to motorized vehicle travel, and supporting the development of **MULTIMODAL CORRIDORS** while preserving the county's rural and scenic character.

## Roadways

Coconino County features many types of roadways: federal and state highways, a variety of County roads, U.S. Forest Service roads, and private roads. Our primary, long-distance roadways include federal interstate highways, U.S. highways, and designated State Routes. Two major federal interstate highways serve crucial circulation roles for Coconino County; Interstate 17, which heads south to Phoenix, and Interstate 40, one of four east-west highways extending across the county from coast to coast. U.S. highways in Coconino County primarily serve north-south traffic (*see Transportation Map at the end of the Chapter*).

County-maintained roads range from local neighborhood roads to long-distance, inter-county roads. As of 2014, the Coconino County Public Works Department maintained and improved 962 miles of road within unincorporated areas. Of these, only 329 miles are asphalt; the remainder are gravel or cinder. In 2014, these roads included 22 miles of **MINOR ARTERIALS**, 15 miles of **MAJOR COLLECTOR** roadways, 194 miles of **COLLECTOR ROADWAYS**, and

41 746 miles of **LOCAL ROADWAYS**. The County's Public Works Department uses a project  
42 ranking system to schedule capital improvements and maintenance for County roads, and to plan  
43 neighborhood circulation patterns.

44 Other roadways and transportation infrastructure in the county are maintained by the **BUREAU**  
45 **of INDIAN AFFAIRS (BIA)**, the **BUREAU of LAND MANAGEMENT (BLM)**, the **U.S.**  
46 **FOREST SERVICE (USFS)**, the **NATIONAL PARK SERVICE (NPS)**, the **ARIZONA**  
47 **DEPARTMENT of TRANSPORTATION (ADOT)** and incorporated cities. Unincorporated  
48 county areas also contain hundreds of miles of **PRIVATE ROADWAYS** in residential areas  
49 where properties have been developed through the **LOT SPLIT** process. They also occur in  
50 platted **SUBDIVISIONS** where paving waivers have been approved, in subdivisions that do not  
51 desire County maintenance, and in older subdivisions where roadways were never improved to  
52 County standards and thus never accepted for County maintenance. By statute, the County  
53 cannot improve or maintain private roads except when agreements are formed such as in the case  
54 of **ROAD MAINTENANCE DISTRICTS**. Additionally, the formation of a **ROAD**  
55 **ASSOCIATION** is possible. This less formal approach allows property owners to join together  
56 in the formation of a collective, privately organized fund for road maintenance with no legal  
57 relationship to the County.

58 Northern Arizona Council of Governments (NACOG) and Flagstaff Metropolitan Planning  
59 Organization (FMPO) distribute federal transportation planning and construction funds to local  
60 agencies in their respective areas. Coconino County has membership in these transportation  
61 organizations as well as the Northern Arizona Intergovernmental Public Transportation  
62 Authority (NAIPTA). Map 25 from the Flagstaff Regional Plan illustrates the major road  
63 network in the Flagstaff Area. Policy decisions regarding circulation within the County's  
64 regional planning area around Flagstaff are influenced by both City and County provisions. In  
65 some areas, Coconino County enters into intergovernmental agreements with these agencies to  
66 maintain roadways. The County **BOARD of SUPERVISORS (BOS)** and staff participate in the  
67 planning efforts of partner organizations.

68 Land use and circulation are inextricably linked. Population growth increases traffic volumes  
69 and vehicle trip lengths; in rural Coconino County, considerable distances often separate  
70 residential areas from commercial areas and employment centers. In addition, land uses that  
71 generate relatively high traffic volumes, such as convenience stores and restaurants, affect the  
72 flow of traffic on adjacent roadways. In areas with low-density residential development,  
73 virtually every trip requires the use of an automobile.

74 In 2014, the voters of Coconino County passed Proposition 403, a three-tenths of one percent  
75 (.003) road maintenance sales tax, because despite cutting costs by \$2 million annually, the  
76 County faced a large deficit for funding projects. This road maintenance sales tax will expire  
77 December 31, 2034. The funding deficit comes partly from improved vehicle efficiency and the  
78 lack of a gas tax increase since the 1990s. Because of the cost of road maintenance and deficits,  
79 the County continues to evaluate and limit the amount of road maintenance it will take on. This  
80 will have an impact on developments as road maintenance plans will have to be planned by  
81 developers.

82

83 **Goal:** Maintain a circulation network that is safe, efficient and complementary to local  
84 communities and the environment.

### 85 **Policies:**

- 86 1. The County will coordinate land use and circulation planning activities to encourage  
87 comprehensive and efficient land development patterns that support adjacent land uses,  
88 complement the character of communities and adjacent neighborhoods, and minimize  
89 impacts to the natural environment.
- 90 2. The circulation system should facilitate the movement of goods, services, and people  
91 throughout Coconino County in support of existing and future economic activity and  
92 economic reinvestment.
- 93 3. The County shall fully implement Proposition 403 for improved roadway maintenance.
- 94 4. Encourage a collaborative working relationship with agencies and departments that have a  
95 hand in the planning, financing, construction or maintenance of roadways within Coconino  
96 County to ensure that County standards, community values, and needs are being considered.

Page | 3

### 97 **Public & Private Transit Systems**

99 Transit service is extremely limited within unincorporated Coconino County and outside the  
100 boundaries of the Flagstaff Metropolitan Planning Organization (FMPO). In 2001, Coconino  
101 County began to provide fixed-route service (“Mountain Line”) within the incorporated limits of  
102 the City of Flagstaff. It also initiated door-to-door **PARA-TRANSIT** service within the City of  
103 Flagstaff (“Mountain Lift”) for persons unable to use the fixed-route bus system due to a  
104 disability. The *Flagstaff Five-Year Transit Plan* was adopted by the Board of Supervisors in  
105 2005 specifying improvements to transit service within the FMPO boundary.

106 In 2006, the Northern Arizona Intergovernmental Transportation Authority (NAIPTA) was  
107 formed as a partnership between Coconino County, Yavapai County, the cities of Flagstaff,  
108 Sedona, and Cottonwood, and **NORTHERN ARIZONA UNIVERSITY (NAU)** in order to take  
109 both of these existing services (Mountain Lift and Mountain Line) and expand them in a more  
110 regional approach to circulation. Since NAIPTA’s formation, many of the goals of the *Flagstaff*  
111 *Five-Year Transit Plan* have been implemented within the City of Flagstaff boundaries and  
112 ridership there has greatly increased by 4.3% annual riders from fiscal years 2012 to 2014;  
113 considerably greater than the rate of population growth NAIPTA released the Final Report of  
114 their *2013 Flagstaff Regional Five-Year and Long Range Transit Plan*, which includes many  
115 recommendations for expansion of transit services to the unincorporated areas of Coconino  
116 County; but funding sources to implement those recommendations have not yet been identified  
117 or acquired. As Mountain Line expands into the suburban and rural areas, the need for park-and-  
118 ride locations will emerge. Sharing parking lots with existing facilities can support a park-and-  
119 ride system.

120 Fixed-route, intercity service is available on the Navajo Nation between Tuba City and Window  
 121 Rock; Tuba City and Kayenta; and Tuba City and Flagstaff <sup>1</sup>. The City of Page is served by  
 122 Helping Hands Agency, Inc., which operates the Page Express within the City of Page along  
 123 with regular service to LeChee and Grenehaven. The Hopi Senom Transit provides one transit  
 124 route between Flagstaff and Kykotsmovi. Private intercity transit service is available from  
 125 Flagstaff to destinations within and outside of the county. These private services include vans  
 126 from Flagstaff to Phoenix, from Flagstaff to the Grand Canyon National Park, and seasonal  
 127 service between the North Rim and South Rim of the Grand Canyon. The Greyhound bus  
 128 terminal in Flagstaff provides intercity service to other locations within the state and around the  
 129 country.

130 Amtrak passenger rail service is available in Flagstaff and Williams. Amtrak's Southwest Chief  
 131 leaves each city twice daily; once westbound, en route to Los Angeles, and once eastbound, en  
 132 route to Chicago. Service from Williams to Grand Canyon National Park is available on the  
 133 historic Grand Canyon Railway. This train makes one round-trip to Grand Canyon National  
 134 Park daily.

135 The share economy is playing a role in transportation across the county. Each year, innovative  
 136 new methods of transportation are emerging through the use of technology. As of 2015, ride-  
 137 sharing and vehicle rentals have emerged as new transportation methods in the shared economy.  
 138 These opportunities benefit residents by reducing costs and providing potential earnings.  
 139 Because of our tourist-based economy and limited public transit over the greater County area,  
 140 innovative transit resources can play a significant role in our transportation system.

141

142 **Goal:** Improve rural and regional transit service opportunities.

### 143 **Policies:**

144 5. The County supports opportunities to enhance and expand local, regional, and inter-  
 145 jurisdictional transit services.

146 6. Consideration should be given to providing public transit access or sites for future transit  
 147 infrastructure development in the review of major developments and subdivisions.

148 7. The County supports the implementation of the *2013 Flagstaff Regional Five-Year and*  
 149 *Long Range Transit Plan*.

150 8. Densities that support transit should be favored near incorporated areas and activity centers.

151

## 152 **Airports & Airspace**

153 The primary airport system in Coconino County includes commercial airports in Flagstaff, Grand  
 154 Canyon National Park, and Page. It also includes general aviation public-use airports in Tuba  
 155 City, Williams, and Valle (*see Transportation Map at the end of the Chapter*). A few smaller  
 156 airports fall under the FAA's secondary classification system; Marble Canyon, Cliff Dwellers,

<sup>1</sup> Navajo Transit System <http://www.navajotransit.com/routes.html>

157 and Leupp/Painted Desert. Pulliam Airport located five miles south of Flagstaff is the fourth  
 158 busiest airport in Arizona and its commercial air service connects the County to Phoenix Sky  
 159 Harbor Airport. Air cargo service at Pulliam also serves an important role in delivering freight  
 160 and goods that would otherwise travel by truck or rail. Coconino County has no jurisdictional  
 161 authority over the administration and planning of airport facilities.

162 Scenic flights over areas such as the Grand Canyon and Oak Creek Canyon are popular with  
 163 tourists and generate revenue for tour operators. Most scenic flights over the Grand Canyon  
 164 National Park originate from Grand Canyon National Park Airport, Page Municipal Airport, or  
 165 McCarran International Airport in Las Vegas. The National Park Service and park visitors have  
 166 expressed concerns about noise generated by flights over national parks, monuments and  
 167 **WILDERNESS AREAS**. Congress adopted the *National Parks Overflights Act* in 1987 to  
 168 provide for “substantial restoration of the natural quiet and experience of the park and protection  
 169 of public health and safety from adverse effects associated with air-craft overflights.” The  
 170 **FEDERAL AVIATION ADMINISTRATION (FAA)** implemented regulations on overflights in  
 171 1988 and strengthened those rules in 1994. These regulations limit hours of operation, specify  
 172 permissible flight corridors and minimum altitude requirements, and implement no-fly zones.  
 173 This issue continues to be the subject of debate among a variety of stakeholders.

174  
 175 **Goal:** Explore opportunities for increasing air service for residents, tourism and freight while  
 176 minimizing the impacts on surrounding communities and the natural environment.

#### 177 **Policies:**

- 178 9. The County supports improved air service at existing commercial airports as a means of  
 179 moving passengers and goods within the County, state and across the country.
- 180 10. To preserve the quality of visitor experiences, the County supports efforts to enforce  
 181 existing flight restrictions and no-fly zones over national parks.
- 182 11. As renovations or expansions are proposed for airport facilities (including private airstrips  
 183 and heliports), the following issues should be considered: compatibility with local land use  
 184 patterns, minimization of adverse impacts from air-craft noise, potential for other  
 185 environmental impacts, and impacts on scenic areas such as national monuments.

186

#### 187 **Non-motorized Circulation**

188 The County features hundreds of pedestrian and bicycle trails. These trails are used almost  
 189 exclusively for recreational purposes as opportunities for non-motorized transportation in  
 190 Coconino County are limited. Most opportunities for pedestrian travel and bicycle commuting  
 191 are found within incorporated cities and towns, as well as within the boundaries of the Flagstaff  
 192 Metropolitan Planning Organization (FMPO). Although State and County highways feature no  
 193 designated bicycle lanes, state law allows bicycle **COMMUTERS** to use widened shoulders  
 194 unless otherwise posted. However, long distances between populated areas limit bicycling as a  
 195 viable choice for commuting.

196 A priority for the County is to improve the connectivity for non-motorized modes of travel.  
 197 Especially important is creating the connectivity between open space and natural areas, and  
 198 between areas within the FMPO, such as connecting Kachina Village and Flagstaff for  
 199 commuting purposes. In the FMPO area, the **FLAGSTAFF URBAN TRAIL SYSTEM (FUTS)**  
 200 (see Flagstaff Regional Plan Map 26) trails have been a huge success for not only recreation, but  
 201 also for commuting. Part of this success is due to the high quality of the trails, including a wide,  
 202 well-graded surface and buffer from roadways. Because many Flagstaff workers reside in the  
 203 unincorporated county communities within the FMPO, increased connection to these satellite  
 204 communities could encourage ridership, relieve traffic pressures and provide transportation  
 205 options. This would include an improved trails system buffered from roads and highways for  
 206 bike and pedestrian commuters from Mountainaire, Kachina Village, Doney  
 207 Park/Timberline/Fernwood, and Fort Valley, as well as potential trails between subdivisions in  
 208 close proximity to one another in more rural areas. Such improvements should also connect  
 209 developed areas with natural ones such as bike and pedestrian routes to trailheads and wildlife  
 210 viewing areas.

211 In 2010 and 2011 the *Kachina Village Multimodal Transportation Study* and the *Doney Park*  
 212 *Multimodal Transportation Study* were completed, respectively. Both studies were initiated  
 213 jointly by Arizona Department of Transportation (ADOT) and Coconino County through the  
 214 Planning Assistance for Rural Areas (PARA) program provided by ADOT in an effort to  
 215 improve bicycle, pedestrian, and public transit within the County. Though many improvements  
 216 were recommended in both studies, the County has not yet found a source of funding for  
 217 implementing those recommendations.

218  
 219 **Goal:** Improve non-motorized circulation networks and provide greater opportunity for  
 220 alternative modes of travel.

221 **Policies:**

- 222 12. The County encourages development projects to provide infrastructure for non-motorized  
 223 travel. When appropriate for new developments, the County shall promote, and when  
 224 feasible require, the installation of trails and bicycle lanes in coordination with ADOT.
- 225 13. The County promotes the connection of existing neighborhoods and communities (at both a  
 226 local and regional scale) with trails, pathways, and other multimodal facilities. The County  
 227 will coordinate with ADOT, the Forest Service, land managers, and property owners to  
 228 achieve this.
- 229 14. Multimodal and non-motorized travel facilities should be designed to complement and  
 230 enhance local community character, support accessible and low-cost recreation and provide  
 231 opportunities for interaction among residents.
- 232 15. Where pedestrian and bicycle routes exist on adjacent properties, major developments and  
 233 subdivisions must maintain connections and continue the cohesive development of the non-  
 234 motorized circulation network.

- 235 16. The County shall set an example of incorporating pedestrian and bicycle travel infrastructure  
 236 into the redevelopment or new construction of County collector and arterial roadways, and  
 237 support efforts to incorporate non-motorized facilities into local roads and state highway  
 238 redevelopment projects.
- 239 17. The County shall actively work to obtain funds to implement the recommendations of the  
 240 Kachina Village and Doney Park Multimodal Transportation Studies, as well as obtaining  
 241 more funds to conduct and to implement similar studies in other areas of the County.
- 242 18. The County encourages development of trails and infrastructure for non-motorized forms of  
 243 travel by local incorporated areas. The County encourages FUTS connections to Greater  
 244 Flagstaff Area satellite communities and new developments within the unincorporated areas  
 245 of Coconino County to support connectivity.

## 246 247 **Infrastructure Design & Development**

248 Economic influences such as logging, ranching, tourism, and recreation have played a role in  
 249 developing the county's circulation system. Historically, much of this system evolved to provide  
 250 access to rangelands, public lands, and residential lands; it was not developed in anticipation of  
 251 new growth areas. Today, the design of circulation infrastructure is based primarily on the  
 252 *Coconino County Engineering Design & Construction Criteria Manual*, adopted by the Board of  
 253 Supervisors in 1991. The manual contains guidelines for designing roadways and accompanying  
 254 pedestrian, equestrian, and bicycle facilities. Based on the County's Functional Classification  
 255 System, these guidelines specify engineering and **RIGHTS-of-WAY** requirements for roadways  
 256 built through the private development process as well as through capital improvement projects.

257 The *Coconino County Subdivision Ordinance* contains minimum development standards for  
 258 circulation infrastructure in platted subdivisions. Requirements for roadway and non-motorized  
 259 transportation improvements depend on the minimum lot size of properties in the subdivision  
 260 and the functional classification of roadways. Paved roads are required for all new subdivisions,  
 261 although developers can apply for a paving waiver if lot sizes are 2½ acres or greater. Roadways  
 262 with paving waivers will not be accepted into the County maintenance system; they are classified  
 263 as private roadways and must be maintained by a homeowners association using the same criteria  
 264 as County-maintained roads.

265 Practically all circulation corridors in unincorporated areas of Coconino County provide  
 266 infrastructure for only one transportation mode: travel by motorized vehicle. There is a lack of  
 267 funding to design and acquire the necessary rights-of-way to accommodate non-motorized travel.  
 268 Efforts have been made within the Flagstaff Metropolitan Planning Organization (FMPO)  
 269 boundaries to plan for a more balanced circulation system that includes multimodal corridors.  
 270 Within more rural areas of the county, amenities such as bike lanes, pedestrian and equestrian  
 271 facilities, and bus turnouts may not be incorporated into roadway designs in the near future due  
 272 to a lack of funding. However, adding features such as wide shoulders into reconstruction  
 273 projects would accommodate these amenities at little or no additional cost.

274 Increasingly, research finds that decreasing impervious surfaces has multiple benefits and often  
 275 paving is not a necessary measure for quality design. These benefits include a better ability for

276 aquifers to recharge, less alteration of stormwater runoff, and less evaporation of water in  
 277 general. Utilizing the concept of **LOW IMPACT DEVELOPMENT (LID)** the County can  
 278 investigate these concepts to create a surface for vehicle travel that is feasible and works best for  
 279 specific areas within the County.

280 Easements and access are not always the same thing. Technically, an individual can satisfy legal  
 281 access requirements by providing a legal description and dedication for an access easement  
 282 where a road or driveway could never physically be built. For example, a person can create an  
 283 access easement over terrain too steep for vehicles to travel. The County's current *Subdivision*  
 284 *Ordinance* could be amended to require proof of physical access capabilities in addition to the  
 285 dedication of that access.

286  
 287 **Goal:** Ensure the quality design and development of circulation systems that include both  
 288 motorized and non-motorized modes of transportation.

289 **Policies:**

- 290 19. Before considering capacity improvements, the County encourages the preservation,  
 291 improvement, and (where appropriate) redevelopment or restoration of existing circulation  
 292 infrastructure.
- 293 20. Along highly traveled and congested travel corridors the County promotes the development  
 294 of multimodal and public transit opportunities as preferred alternatives to new roadway  
 295 capacity improvements.
- 296 21. Circulation infrastructure in major developments and subdivisions should be designed based  
 297 on the principles of integrated conservation design with multi-modal opportunities within  
 298 and outside of the development.
- 299 22. In consideration of federal, state, and local environmental requirements, circulation  
 300 infrastructure should be developed in a manner that promotes energy efficiency, protects air  
 301 quality, and preserves historic, scenic, cultural, and environmental resources.
- 302 23. To protect unique or significant natural areas and conserve wildlife habitat and movement  
 303 areas, the County encourages creative or best management practices in design of circulation  
 304 infrastructure improvement projects.
- 305 24. The County supports low impact design and decreases in impervious areas where dust,  
 306 safety, and maintenance impacts can be minimized.
- 307 25. The County supports the creation of road access easements that are both legal and  
 308 functional.
- 309 26. The County's Public Information Office will work with ADOT on methods to provide  
 310 notification to adjacent and affected residents and land owners during the design stage of all  
 311 roadway projects, so that citizens are better informed and are provided an opportunity to ask  
 312 questions and express concerns.

- 313 27. The County will work collaboratively with ADOT to establish roadway standards, access  
314 management standards, and multimodal standards that are appropriate for Coconino County.
- 315 28. The County will work with the BIA, BLM, NPS, ADOT, FMPO, NAIPTA, and individual  
316 road districts to evaluate the impacts of proposed roadway projects undertaken within the  
317 County to ensure that appropriate mitigation measures are taken to limit dust, noise, and  
318 light pollution and prevent habitat destruction.

319

## 320 **Minimizing Environmental Impacts**

321 The location and design of transportation infrastructure can alter natural patterns of hydrology  
322 and wildlife movement. For example, roads built on steep slopes and/or with inadequate  
323 downslope drainage can cause significant erosion and watershed degradation. The disturbed soil  
324 that results from the construction of infrastructure such as roads can serve as a vector for  
325 invasive weeds. Because of this, best management practices should be applied in the design,  
326 construction, and management of transportation corridors. Similarly, roads that are closed  
327 should be rehabilitated to facilitate reversion to native vegetation.

328 Winter snow removal and maintenance has its particular environmental impacts. The mortality  
329 among roadside trees caused by salting roads is staggering and could cost the County and private  
330 citizens to safely remove them as they die become traffic hazards. There is also an impact on the  
331 loss of screening and viewsheds. The County is already experiencing the loss of trees along  
332 roadways due to the use of road salts. These trees will need to be proactively removed.  
333 Additional impacts cost citizens through increased vehicular maintenance.

334 Transportation corridors such as railroads and roads fragment habitat and can constitute  
335 significant barriers to wildlife movement. The risk to wildlife is partially due to the danger of  
336 being hit, but also due to associated fences (*see Wildlife section in the Natural Environment*  
337 *Chapter for more details*). The County encourages landowners to work with **ARIZONA GAME**  
338 **and FISH DEPARTMENT (AG&FD)** to establish wildlife-friendly fencing where fencing is  
339 necessary or required. When fencing is needed, the movements of small and large wildlife  
340 species can be accommodated in the construction and improvement of transportation corridors by  
341 following certain specifications, such as creating modest fence setbacks and providing crossing  
342 mechanisms at critical locations.

343

344 **Goal:** Use best practices in the design and management of transportation infrastructure to  
345 minimize impacts to soil, hydrology, and wildlife.

### 346 **Policies:**

- 347 29. Minimize the construction of new roads and encourage the construction of wildlife friendly  
348 fences where necessary.
- 349 30. Avoid environmentally sensitive features such as stream channels and steep slopes in the  
350 design of new roads.

- 351 31. Plan and allow for sufficient drainage across roads and infiltration mechanisms to capture  
352 runoff.
- 353 32. Require weed mitigation in the design, construction and maintenance of transportation  
354 corridors.
- 355 33. Work in conjunction with AG&FD on improvements to accommodate wildlife movement  
356 across transportation corridors in order to minimize wildlife collisions and facilitate  
357 population connectivity.
- 358 34. The County strongly supports the use of low level lighting, subdued illumination, and  
359 limited application in the use of outdoor lighting along roadways and encourages the  
360 conservation of the dark skies inherent in the natural outdoor setting.
- 361 35. To protect roadside trees, viewsheds and safety as well as managing long-term fiscal  
362 impacts, the County discourages the use of salt on roadways, unless salt technologies  
363 improve to reduce or mitigate these impacts.

364

## 365 Maintenance & Improvements

366 Coconino County is responsible for maintaining and/or improving three types of roadways. The  
367 first type “county roadways” include the roads it owns and, roads that have been built to County  
368 engineering standards, located on County rights-of-way, and accepted by the Board of  
369 Supervisors. The second type, “cooperative” roads, includes County roads located on or across  
370 properties that are owned by others (including incorporated cities, ADOT, the Forest Service,  
371 and the Navajo Nation) and the road is maintained by the County through intergovernmental  
372 agreements with those jurisdictions. The third type includes “primitive roadways” located on  
373 easements or rights-of-way that have not been accepted as official County roads, but have been  
374 open since June 13, 1975; the maintenance of these roadways has been “grandfathered” into the  
375 system by the Board of Supervisors.

376 Property owners are responsible for maintaining and improving private roads adjacent to or  
377 serving their land. Because these responsibilities are not enforced by the County, private road  
378 maintenance is generally haphazard or nonexistent and presents problems such as dust control,  
379 maintenance and snowplowing, as well as access by emergency vehicles, mail carriers, school  
380 buses, pedestrians, bicycles, and equestrians. Liability, due to lack of maintenance of private  
381 roads, falls on the private property owners who could face legal consequences if someone  
382 pursues civil action. Private roads are generally local, with low **AVERAGE DAILY TRAFFIC**  
383 **(ADT)** volumes. Nevertheless, local residents use them every day.

384 Coconino County has insufficient financial resources to pave all existing unpaved roadways.  
385 Funds allocated to Coconino County for transportation improvement projects come from two  
386 sources: Highway User Revenue Funds (HURF) and Payments in Lieu of Taxes (PILT), also  
387 known as “Forest Fee” funds. ADOT allocates HURF money using a statutory formula based on  
388 the County’s population and lane mileage. HURF funds include all revenues from motor-fuel  
389 taxes and other fees required to register motor vehicles and operate them on public highways;  
390 they are the primary funding source for highway construction, improvements, and other

391 expenses. The federal government distributes Forest Fee money to compensate for loss of tax  
 392 revenues because of the County's vast acreages of public land; this money can be used only for  
 393 roads or schools. This funding source is derived from commercial activities on federal lands  
 394 including oil and gas leasing, livestock grazing, and timber harvesting: funds are distributed to  
 395 local governments for roads and/or schools. The County can also apply for federal transportation  
 396 grants, such as TEA-21, to supplement funding. However, **IMPROVEMENT DISTRICTS**  
 397 provide a mechanism for property owners to pave, grade, maintain, or otherwise improve all or  
 398 part of a street. Three different kinds of Improvement Districts are utilized in the County:  
 399 County Road Improvement Districts, Road Improvement and Maintenance Districts and Road  
 400 Enhancement Improvement Districts (see the glossary for the specifics of each district).  
 401 Improvements must adhere to minimum County standards and *Arizona Fire Code* access road  
 402 standards. In addition, those owning property fronting the roadway must deed the necessary  
 403 right-of-way to the County. In most cases, improvement districts provide the only way for  
 404 residents to get County and private roads paved. Another option that residents can use to  
 405 establish a road maintenance program is forming a type of improvement district known as a  
 406 Road Maintenance District. To be eligible, residents must improve roads to a minimum, County-  
 407 defined condition rather than to County road standards. Maintenance is performed by a private  
 408 contractor under the administration of County staff. Residents pay for this maintenance annually  
 409 as long as the district exists. As mentioned previously, property owners can also create a Road  
 410 Association. The County has no role in these mechanisms that function similarly to an HOA.

411  
 412 **Goal:** Improve circulation infrastructure while protecting the environment and community  
 413 character.

414 **Policies:**

- 415 36. To support local improvement initiatives, the County encourages the formation of  
 416 improvement districts for previously developed areas.
- 417 37. The County will program roadway improvements to minimize air, water, and noise pollution  
 418 and the disruption of natural surface water drainage in compliance with provisions and  
 419 requirements of applicable federal, state, and local environmental regulations.
- 420 38. The County promotes safety improvement and maintenance projects for circulation  
 421 infrastructure (including snow and ice removal) which are consistent with conservation and  
 422 ecosystem protection.
- 423 39. *Road maintenance costs will be considered during review of projects that generate*  
 424 *increased traffic or impacts to County maintained roads.*
- 425 40. *The County will explore innovative public/private partnerships that enhance maintenance*  
 426 *and infrastructure improvements.*

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 429

## 430 **Access Management & Safety**

431 Protecting the traveling public's safety is a primary objective that the Public Works Department  
 432 achieves by programming projects for the **CAPITAL IMPROVEMENT PLAN (CIP)**, regularly  
 433 maintaining roadways, and establishing design requirements for new improvements. Both the  
 434 Sheriff's Office and the Public Works Department maintain vehicle accident data for County  
 435 roads to help prioritize programming, adjust maintenance schedules, or otherwise improve  
 436 potentially unsafe situations. Bridge facilities are regularly inspected and maintained by the  
 437 Arizona Department of Transportation (ADOT) to ensure safety.

438 **TRANSPORTATION SYSTEM MANAGEMENT (TSM)** is a process that facilitates minor  
 439 efficiency improvements to enhance the safety and operation of roadways without making major  
 440 capital investments. One TSM technique, **ACCESS MANAGEMENT**, improves roadway  
 441 capacity and increases safety by regulating vehicular access to public roadways from adjoining  
 442 properties. The types of land uses that can thrive along transportation corridors depend on  
 443 vehicle access. Adding access points to a corridor decreases through-trip mobility because  
 444 vehicles must turn into traffic, creating possible conflicts. Access management techniques can  
 445 mitigate these conflicts. Common ones include adding medians, frontage roads, common  
 446 driveways and parking lots, as well as controlling driveway spacing and improving the  
 447 circulation patterns within developments adjacent to the roadway. Access management  
 448 techniques should consider average daily traffic (ADT) volumes and functional classification of  
 449 the roadway. Additionally, the County can regulate visual obstructions near access points.

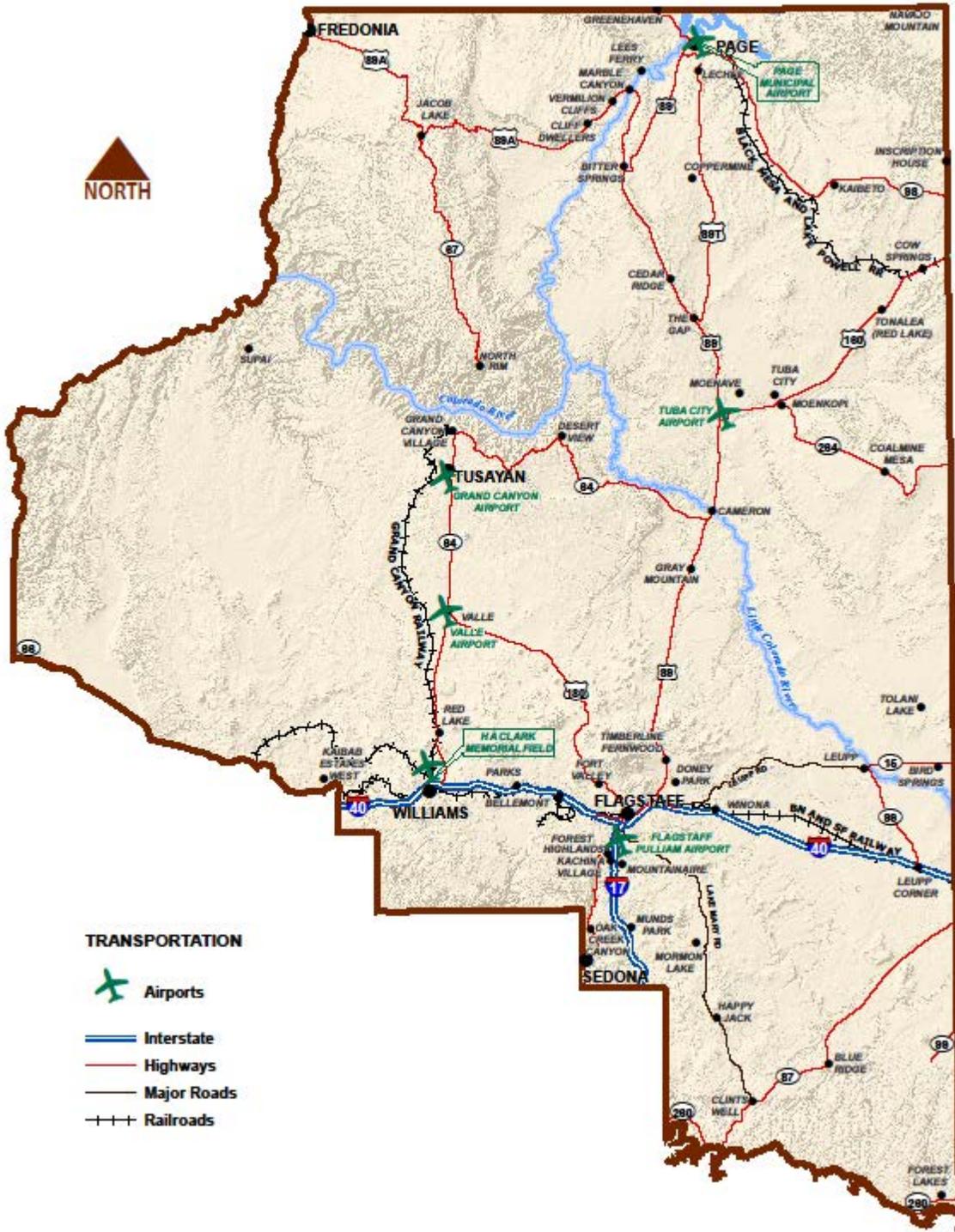
450

451 **Goal:** Provide for safe travel and access to property.

### 452 **Policies:**

- 453 41. To ensure the safe and efficient flow of traffic, the County encourages the use of access  
 454 management techniques to increase safety.
- 455 42. Where not addressed through the Capital Improvement Plan (CIP), developers for major  
 456 developments and subdivisions shall pay for necessary circulation improvements to support  
 457 access to and within the site.
- 458 43. To provide adequate access for emergency service vehicles, circulation infrastructure in  
 459 major developments, subdivisions, and other residential neighborhoods the developer must  
 460 provide connectivity to adjacent existing and potential future infrastructure.
- 461 44. The County will work with developers to improve safety and circulation efficiency for non-  
 462 motorized or multi-modal travel when roadway improvement or property development  
 463 occurs.

464



Maps in this Comprehensive Plan are for reference and general planning purposes only. Coconino County does not provide any warranty of accuracy nor is any given or implied. Data sources are listed in the Appendix.