CITY OF PAGE

GENERAL PLAN

2006-2026

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1.0 Introduction

1.1 Overview

The City of Page is located in northern Arizona near the shore of Lake Powell. The City is known as the Gateway to Lake Powell and provides a convenient location to stage trips to other destinations in the scenic county of northern Arizona and southern Utah. The incorporated area of the community consists of 16.56 square miles of land. The City is bounded by the Glen Canyon National Recreation Area to the north and west, and the Navajo Reservation to the east and south. The 2008 population of Page was estimated at 7,412 persons by the Department of Commerce.

The City of Page was established in 1956 by the U.S. Bureau of Reclamation to house construction workers building the Glen Canyon Dam and hydroelectric power project. Early in its history, the City experienced some “boom and bust” periods tied to large construction projects that included Glen Canyon Dam and the Navajo Generating Station.

In recent years, the City has focused its development efforts on diversifying the economy to include tourism, recreation and the hospitality industry. The City has constructed a sports complex, an 18-hole championship golf course and potions of a trail system around Manson Mesa. Other City improvements include expansions to the wastewater treatment plant and water treatment plant. Capacity in the wastewater treatment plant was doubled, and capacity in the water treatment plant was increased by 50 percent. The wastewater treatment plant expansion was funded with a one-cent sales tax that is targeted for capital facilities. Additional improvements that will be funded with the sales tax include a new fire station and a new library.

Recent educational improvements include the construction of a new elementary school, an new middle school, improvements to an existing elementary school and renovations to the high school. Coconino Community College will break ground in 1996 on a new college campus in Page that will provide Page residents access to a two year degree program. Northern Arizona University provides distance learning at a Page campus located at the Coconino Community College location which allows students to receive services, take classes and earn a degree.

The construction of capital projects, and other improvements reflect Page’s commitment to providing its residents and businesses with a quality environment for living and for conducting business. The City is recognized as a progressive, well managed community, and is positioned to continue quality growth over the next 20 years. Figure 1.1, *Study Area* illustrates the incorporated boundaries of Page.

1.2 Development of the General Plan

The citizens and leaders of Page played an active and important role in the

development of the General Plan Update. Citizen participation was accomplished through a series of community meetings conducted during the process. Input from the Page Town Hall regarding youth recreation and housing were also valuable in formulating recommendations in the General Plan Update. Regular meetings with the Planning and Zoning Commission and City Council also provided a forum for discussion of issues and recommendations during the process.

The General Plan Update included the preparation of a General Plan Database that provided information regarding socio-economics, the environment, existing land use, zoning, public services and facilities and parks and recreation facilities in the community. The General Plan Database also provides a listing of the major issues developed in the planning process. The General Plan Database includes the following information:

- Background and History of Page
- Natural Resources and Environmental Characteristics
- Existing General Planning, Land Use and Zoning
- Large Property Ownership
- Existing Circulation Characteristics
- Existing Public Facilities and Services
- Socioeconomic Conditions
- Summary of Previous Reports and Studies
- Summary of Development Efforts and Community Improvements
- Summary of Potential Projects of Regional Significance
- Summary of Key Issues

1.3 Intent of the General Plan Update

The intent of the Page General Plan Update is to guide intelligent and informed decisions about growth and development in the City of Page. The General Plan Update replaces the last plan for the City, prepared in 1989. The General Plan Update encompasses many recommendations that include the entire community, are long range in their effect and are often irreversible in a physical sense. For these reasons, day-to-day decisions regarding community growth as they apply to land use, economic development, circulation and public facilities and services must fit into a framework for the future.

1.4 Inclusion of Past Reports

The General Plan Update is the document that will be utilized by City staff, the Planning and Zoning Commission and City Council to guide planning decisions in the City of Page. Other reports prepared in the past have either been incorporated into the General Plan Update, or will remain in effect after the adoption of the General Plan Update. These reports are listed below:

- *Affordable Housing Study, City of Page, Arizona* (NACOG, September 1994), this

report will remain in effect as the City's guide to the development of affordable housing in the City of Page. All goals, objectives and policies in the Affordable Housing Study will be used in conjunction with recommendations in the General Plan Update to increase the supply of affordable housing in the City.

- *Page U.S. Highway 89 Gateway Area Specific Development Plan* (City of Page, January, 1992, as amended), this report was prepared to guide development within the Gateway Area in the City of Page. It was adopted as a Specific Plan pursuant to Arizona Revised Statutes (ARS, 9-461) to implement the General Plan for the General Plan for the Gateway Development Area of the City. The Gateway Specific Development Plan will remain in effect to guide planning and development decisions in the Gateway Area.

- *Small Area Transportation Study* (City of Page, October, 2007) this report was conducted in cooperation with other agencies including Northern Arizona Council of Governments (NACOG), the National Park Service, Navajo Department of Transportation, Coconino County, and was jointly funded by the City of Page and the Arizona Department of Transportation (ADOT). This report is the basis for the updated Circulation Element and is hereby incorporated by reference in this General Plan Update. The prior Circulation Element will become null and void upon the adoption of the Page General Plan Update.

1.5 Organization of the General Plan Update

The Page General Plan Update 2006-2026 consists of four plan elements, which together will guide growth in the community. Arizona Smart Growth Legislation requires the City of Page to update two required elements, (1) the Land Use Plan Element, and (2) the Circulation Element. The plan elements include: Land Use; Economic Development; Circulation; and, Public Facilities and Services.

The Land Use Plan Element designate the general location and intensity of land uses for residential, commercial, industrial, parks, open space and public facilities in the City. General guidelines for residential densities and non-residential intensities are also included.

The Economic Development Element recommends strategies to enhance the economy of the City, retain and expand existing businesses and identifies specific industries what should be targeted for the City.

The Circulation Element identifies the general location and function of existing and proposed streets and describes the need for, and accommodation of, alternative transportation modes in the City.

The Public Facilities and Services Element establishes guidelines for the location and provision of public facilities and services including: water supply and distribution; sewage collection and treatment; utilities; and other related infrastructure systems.

Each plan element of the General Plan Update 2006-2026 is organized in a standardized format to provide a consistent theme throughout the document. This organization is summarized as follows:

- ***Introduction,*** includes a description of the purpose of each plan element.
- ***Existing Setting***, includes a summary of the existing conditions and issues in the City of Page for each plan element.
- ***Vision Statement,*** includes a statement of the broad values that are addressed in each plan element.
- ***Goals and Objectives,*** includes a list of the various goals that the City desires to achieve for each plan element. Visions, goals and objectives are defined as:

  Vision, a statement of community values. A vision statement should express broad values that describe the community and suggest how those values are exemplified in the community.

  Goal, a concise statement which describes a condition to be achieved. A goal is generally not quantifiable, time-dependent or suggestive of specific actions for achievement. Goals are expressed as ends, conditions or aspirations.

  Objective, a specific action, situation, or decision that communicates how a goal is to be achieved. Objectives should be clear statements which guide decision-making and describe how the intangible terms of visions and goals are to be achieved.

The goals and objectives for each plan element are not listed in any prioritized order. The Implementation Program for each plan element, however establishes general timeframes when objectives and their supporting goals should be achieved.

- ***Implementation Program***, includes a chart illustrating the actions necessary to implement each plan element and the agencies responsible for implementation. The implementation program chart includes:

  Implementation Measure, provides a description of the action, program or strategy.
  Purpose, identifies the intent of accomplishing each implementation measure.
  Objective Reference, identifies the particular objective which the implementation measure addresses.
  Timeframe, establishes the target years, in two-year increments, for implementation for the first eight years of the planning horizon.
  Key Participants, identifies the appropriate public or private body, agency, group or individual responsible for the implementation measure.
  Resources, lists the potential sources of information, funding or planning that may be available to accomplish the implementation measure.

2.0 Land Use Element

2.1 Introduction

The Land Use Element is the framework for Page's General Plan. All other Elements are affected by the designation of activities that may be conducted at various locations in the Planning Area. The Land Use Element identifies the City's desired future land use patterns, intensity of land uses, and their interrelationships in the City. The purpose of the Land Use Element is to guide City decision making which:

- Identifies the general types, locations, and distribution of land uses desired in the City.
- Establishes standards for land uses relative to population growth and building intensity and density, and the character and compatibility of land uses.
- Indicated the generalized areas of land use on the land use map, and identifies guidelines for development in each land use category.
- Identifies the conceptual location of parks to serve the residential population of Page.
- Identifies desired courses of action and strategies which provide the means to implement the community's land use and parks/open space objectives.

Land Use considers Page's greater Planning Area, more than 16 square miles, with particular emphasis on the nearly 14 square miles owned by the City. This element also lays the foundation for zoning, subdivision regulations and other development standards established by the City.

The projected land uses, as indicated on the **Page General Plan 2026 Projected Land Use Map**, designate the proposed general distribution, location and extent of such uses of land as housing, business, industry, recreation, public uses, and open space. Densities and intensities of uses are also indicated on the map and are discussed within the *Land Use Element*.

The overall framework for the Plan Update is provided by the principles of smart growth and sustainability as outlined by the following Ten Guiding Principles of Growing Smarter.

1. Create Range of Housing Opportunities and Choices
2. Create Walkable Neighborhoods
3. Encourage Community and Stakeholder Collaboration
4. Foster Distinctive, Attractive Communities with a Strong Sense of Place
5. Make Development Decisions Predictable, Fair and Cost Effective
6. Mix Land Uses
7. Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas
8. Provide a Variety of Transportation Choices
9. Strengthen and Direct Development Towards Existing Communities
10. Take Advantage of Compact Building Design

Figure 1 Page and Vicinity Map

It is important to recognize the difference between the General Plan and the Zoning Ordinance regulations which permit certain uses and establish standards for developing, operating and maintaining these ordinances. The land use map and the *Land Use Element* both function as a guide for all implementation strategies for development including zoning. However, they do not have the effect of rezoning any property. The map gives an indication of the existing and possible future land uses within a given area. It indicates a range of residential densities, which already exist or may be possible in the future in a certain area. It also indicates the intensities of commercial and industrial uses, for both existing and future development. It is required under the Growing Smarter legislation that when rezoning a particular property the rezone must conform and not merely be consistent with the land use projections of the General Plan.

However, a particular land use projection by the land use map does not automatically guarantee a specific zoning will be approved on a specific site. The Planning and Zoning Commission and the City Council can consider timing of the rezoning request in terms of available infrastructure and access when determining the proper zoning. The land use map is also not static in that it may be amended by the City Council when it determines that conditions warrant. However, the land use map should not be viewed as a super-layer of zoning subject to monthly revisions and changes.

2.2 City of Page Zoning Ordinance

The City of Page's Zoning Ordinance establishes zones that provide for the compatible grouping of similar and interrelated land uses and apply uniform regulations to properties similarly situated within each zoning classification.

Zoning translates the long-term guiding principles, goals and policies of a General Plan into the guidelines used for everyday decisions. While the General Plan provides long–range and broad categories of land use, zoning provides specific development requirements, such as density, height, size, and development character. Similar to the General Plan, a map accompanies the ordinance, which is primarily text, to define the boundaries of each zoning district.

The Zoning Ordinance establishes the following four (4) categories of zoning districts and related sub-districts:

1. Residential Zoning Districts

RE	Residential-Estate
R1	One-Family Residential
RM	Multiple-Family Residential District
MHP	Mobile Home Park District

2. Commercial, Business and Industrial Zoning Districts

CBD	Central Business District
C-2	General Commercial District
SC	Service Commercial District
IP	Industrial Park
BP	Business Park District

3. Planned Development Districts and Gateway Overlay Districts

PDRS	Planned Development Single Family Residential
PDRM	Planned Development Multi Family Residential
PDC	Planned Development Commercial

PDI	Planned Development Industrial
PDBP	Planned Development Business Park
PDR	Planned Development Recreation
PDGC	Planned Development Golf Course

4. Special Zoning Districts

FD	Future Development
POS	Parks/Open Space
AP	Airport Property
AA	Airport Approach Zone
ACZ	Airport Clear Zone

2.3 Existing Setting

The existing land use pattern in the City of Page has been generally characterized by vast open spaces off Manson Mesa and a compact development pattern on Manson Mesa. This historic land use pattern is being challenged as the Mesa becomes almost fully urbanized. Estimates indicate that approximately 96% of Manson Mesa is currently developed. This traditional development pattern can be attributed to the fact that the City was initially planned by the Bureau of Reclamation to serve the workers of Glen Canyon Dam. The City of Page has tremendous influence on the location of growth based on the fact that the City is the major landowner. Development on-Mesa has also been influenced by the City's infrastructure system which was in place to accommodate development in this area. Development off-Mesa requires the infrastructure to be built to accommodate new development.

This compact urban form is being challenged by the pressure of new development. The City has intentionally avoided the leap frog sprawl development experienced in many other Arizona cities because of the influence the City has on land ownership, topographical constraints, characteristics of the infrastructure system and an intent to promote infill development. These influences have contributed to the fact that development has generally been contiguous and contained in a relatively small geographic area. At present the City is compelled to utilize other areas of the community to accommodate future development particularly to the south along the Highway 89 Corridor and southeast along the Highway 98 Corridor. Other long term consideration must be given to City owned land east of the existing airport with a view of Antelope Canyon but these areas are designated Future Development (FD), which is a tiered growth management process that identifies those areas of the community that should be reserved for development after the 2026 planning horizon.

2.4 Land Use Vision Statement

We envision the City of Page as a place integrated with its natural environment standing as the Gateway to Lake Powell. The City of Page desires to create a healthy, vibrant and prideful community that is planned for orderly, compatible development that protects citizens investments in their place to live, work and recreate. A place where land use practices reflect a strong commitment to preserve and enhance the natural setting of the City and where the built environment is integrated with the natural environment. A place where neighborhoods provide a mix of housing types and a safe and enjoyable environment for all residents. A place where there is a linked system of trails, parks and open spaces that are also connected neighborhoods and business areas.

2.5 Land Use Goals and Objectives

Housing Goal and Objectives

Goal 1.0 **To enhance the existing residential sections of Page and to foster and maintain a variety of housing opportunities for all income levels and ages.**

Objective 1.1 *Review City zoning/subdivision regulations and amend as necessary to reflect current and desired future residential growth trends.*

Objective 1.2 *Target a variety of housing types to increase residents' choice in living accommodations.*

Objective 1.3 *Encourage construction of affordable housing including multi-family planned unit development, and special needs housing.*

Objective 1.4 *Work with homeowners and developers to raise neighborhood quality standards through efficient design, capital improvement programming and developer contributions to public costs.*

Objective 1.5 *Ensure the development of curbs, gutters, sidewalks, adequate street lighting in all areas and upgrade existing neighborhoods to be consistent with City Codes.*

Objective 1.6 *Establish appropriate areas for multi-family development on the Land Use Plan Map.*

Economic Development Goals and Objectives

Goal 2.0 **To enhance Page's character as the Gateway to Lake Powell with important commercial, retail, professional and government elements while accommodating reasonable growth.**

Objective 2.1 *Foster land use compatibility with the City's physical resources and cultural character.*

Objective 2.2 *Implement appropriate zoning measures, protecting existing land values from incompatible intrusions. Ensure variances meet the intent of building and zoning regulation.*

Objective 2.3 *To actively promote Page as an important tourism and commercial center in Northern Arizona.*

Objective 2.4 *Promote positive community attitudes toward growth, economic development, and preparing for the future.*

Objective 2.5 *Establish appropriate locations for commercial development on the Land Use Plan Map.*

Objective 2.6 *Properties should be encouraged to landscape with low water use plants and utilize water conservation methods.*

Goal 3.0 **To increase local employment opportunities, particularly well-paying jobs with career prospects.**

Objective 3.1 *Encourage the development of business retention and expansion programs.*

Objective 3.2 *Encourage the continual revitalization and upgrading of the Downtown Business District.*

Objective 3.3 *Enhance the historical visual character in new and existing commercial development in the historical Downtown area (Central Business District) through an integrated landscape, signage and architectural theme.*

Objective 3.4 *Continue to emphasize tourist attractions, day-trip opportunities, community events and the City's historic downtown.*

Objective 3.5 *Establish appropriate locations for industrial and business park development on the Land Use Plan Map.*

Goal 4.0 **Obtain maximum productivity from existing community land-use assets including land sales to create jobs and enhance sales tax revenue.**

Objective 4.1 *Expand potential employment base.*

Objective 4.2 *Continue to support private sector employers, public schools, churches, social services and recreation to retain and attract qualified workers.*

Objective 4.3 *Utilize Coconino Community College as a training center for employees.*

Objective 4.4 *Offer growth opportunities with appropriate mixes of land use with attention to compatibility standards.*

Objective 4.5 *Include the Page Airport prominently in all Page economic development plans.*

Objective 4.6 *Encourage commercial development along state highways to maximize transportation improvements and minimize impacts. All developments shall be constructed with attention to preserving Page's scenic vistas.*

Open Space and Recreation Goals and Objectives

Goal 5.0 **A comprehensive recreational trail system in the City of Page that is interconnected and accessible from various areas of the community.**

Objective 5.1 *Coordinate City trail development with National Park Service trail development efforts including the Glen Canyon Overlook Trail.*

Objective 5.2 *Establish and sustain public access to the Rim View Trail from various areas of the community.*

Objective 5.3 *Establish a classification system for existing and future parks and recreation facilities in the City of Page.*

Objective 5.4 *Participate with the National Park Service in the development of parking and trail facilities in the Horseshoe Bend area to make this area accessible to all members of the community.*

Objective 5.5 *Coordinate strategies to obtain dedication and marking of the trails and open space for the Rim View Trail, Glen Canyon Overlook Trail, Appaloosa Trail and the Lake View Nature Park.*

Objective 5.6 *Coordinate strategies to obtain dedication and development of an appropriate multiuse staging and track area. This area may be used for a variety of events to benefit the City of Page, including but not limited to:*

1. *Motocross and Quad events*
2. *Equestrian competitive and endurance events*

Objective 5.7 *Coordinate strategies to upgrade the existing equestrian facilities (corrals, rodeo arena, etc.).*

2.6 Community Growth and Land Use Needs

Community growth and land use needs include population, employment and parks and open space land use acreage projections. The population, employment and parks and open space land use acreage projections provide an estimate of how many people will live and work in the City of Page over the next 20 years. These population, employment and parks and open space projections are utilized to estimate how much land is expected to be utilized to accommodate this growth.

Population and Housing Unit Projections

The population of Page is projected to increase by approximately 748 residents over the next twenty years. The population growth in the City of Page is presented in Table 2.1, *Historic and Projected Population, 2006 to 2026.*

TABLE 2.1

Historic and Projected Population, 2006 to 2026

Place	2006	2011	2016	2026
City of Page	7,159	7,385	7,584	7,907
Coconino County	132,826	143,494	152,908	168,171
Arizona	6,239,482	7,186,070	8,093,110	9,744,463

Source: State of Arizona Department of Commerce

The number of housing units in the City will increase along with population. Table 2.2, *Historic and Projected Housing Unit Growth, 2006 to 2026* presents a summary of the number and type of housing units that are projected to be located in the City of Page over the next 20 years.

TABLE 2.2

Historic and Projected Housing Unit Growth, 2006 to 2026

Place	2006	2011	2016	2026
Single Family	1729	1938	2106	2581
Multi-Family	259	318	324	415
Manufactured Home	1095	1103	1166	1175
TOTAL HOUSING UNITS	3083	3359	3596	4171

Source: *City of Page Small Area Transportation Study*, October 2007, HDR and ADOT

Commercial and Industrial Employment Projections

Over the next 20 years, the employment base in the City of Page is forecast to increase substantially. It is forecast that approximately 907 new jobs will be created in the commercial / office sectors, and approximately 124 new jobs will be generated in the industrial sector. This increase in employment is presented in Table 2.3 *Projected Commercial and Industrial Employment Growth, 2006-2026.*

Table 2.3

Projected Commercial and Industrial Employment Growth 2006-2026

Type of Employment	2006	2011	2016	2021
Commercial Retail	1219	1384	1486	1688
Non-Retail/Service	212	213	227	260
Wahweap Marina	150	160	170	183
Office	1237	1288	1376	1594
Total Commercial/Office	**2818**	**3045**	**3529**	**3725**
Industrial-Manufacturing	344	372	400	443
Generating Station	500	500	510	525
Total Industrial	**844**	**872**	**910**	**968**
TOTALS	**3662**	**3917**	**4439**	**4693**

Source: *City of Page Small Area Transportation Study*, October 2007, HDR and ADOT

Residential Land Use Acreage Projections

In order to estimate the amount of land needed to accommodate population growth, the population forecast for the City of Page was converted into the number of dwelling units expected to house the population over the next 20 years. Using the number and type of housing units estimated previously, a residential density factor is multiplied by each housing unit to determine approximately how much land would be needed to accommodate the forecast population in the City. Table, 2.4, *Residential Land Use Projections, 2006 to 2026* presents a summary of the land use demand for anticipated residential land uses in the City of Page.

TABLE 2.4				
Residential Land Use Projections, 2006 to 2026				
Period				
Type of Unit	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Single Family	104.5 Acres	84.0 Acres	237.5 Acres	426 Acres
Multi-Family	14.75 Acres	1.5 Acres	22.75 Acres	39 Acres
Manufactured Home	7.5 Acres	7.5 Acres	15.0 Acres	30 Acres
TOTAL ACREAGE	**126.75 Acres**	**93 Acres**	**275.25 Acres**	**495 Acres**

Source: *City of Page Small Area Transportation Study*, October 2007, HDR and ADOT
Notes: (1) Residential acreage segregated by type of unit
(2) Total acreage represents twice the forecast demand

Table 2.4 indicates that approximately 495 acres of land would be required to accommodate the number of housing units projected in the City over the next 20 years including existing need. This is actually twice the amount of land forecast to be needed to accommodate residential growth. The actual demand is doubled in order to accommodate unforeseen changes in the economy, existing pent-up demand, and to provide a variety of locations for residential land uses.

Employment Land Use Acreage Projections

A similar forecast was prepared for commercial and industrial employment projections. The number of projected employees identified previously were converted to a square footage factor, and the total square footage was multiplied by an intensity factor to determine how much land would be needed to accommodate the total number of projected employees in the community.

Table 2.5 *Commercial and Industrial Land Use Projections, 2006 to 2026* presents the results of this acreage forecast. The forecasts in Table 2.5 are doubled in order to provide a variety of locations for non-residential development and to accommodate any unforeseen changes in the economy.

TABLE 2.5				
Commercial and Industrial Land Use Projections, 2006 to 2026				
Period				
Land Use	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Retail	46 Acres	30 Acres	56 Acres	132 Acres
Non Retail	7 Acres	15 Acres	28 Acres	50 Acres
Office	6 Acres	10 Acres	24 Acres	40 Acres
Industrial-Manufacturing	28	35	53	116
TOTAL ACREAGE	**87 Acres**	**90 Acres**	**161 Acres**	**338 Acres**

Source: *City of Page Small Area Transportation Study*, October 2007, HDR and ADOT
Notes: (1) Total acreage represents twice the forecast demand

Table 2.5 indicates that approximately 222 acres of land is required to support commercial development and approximately 116 acres of land is required to accommodate forecast industrial land uses in the City of Page by 2026.

Parks and Open Space Acreage Projections

Table 2.6, *Park Acreage Demands, 2006-2026* summarizes the amount of land needed to support an adequate level of parks and open spaces in the City for its residents. Even at the highest levels recommended by the National Recreation and Parks Association the City exceeds the standards in all types of parks, open space and trails. No additional acreage is required within this time period forecast.

TABLE 2.6						
Park Acreage Demands, 2006 to 2026						
Type of Park	**Existing Development**	**Development Standard**	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Mini-Park	5.07 ac.	0.25 to 0.50/ 1,000 population	3.579 ac.	3.692 ac.	3.792 ac.	3.953 ac.
Neighborhood Park	22.13 ac.	1.0 to 2.0 ac./ 1,000 population	14.318 ac.	14.77 ac.	15.168 ac.	15.814 ac.
Community Park	131.9 ac.	5.0 to 8.0 ac./ 1,000 population	57.272 ac.	59.080 ac.	60.672 ac.	63.256 ac.
Overall Park Standard	**159.1**	**6.25 to 10.5 ac. / population**	**75.169 ac.**	**77.542 ac.**	**79.632 ac.**	**83.023 ac.**
Passive/Natural Open Space	108 acres	NA	NA	NA	NA	NA
Trails/ Connections	22.278 ac. (18.38 miles)	NA	NA	NA	NA	NA

Based on Table 2.6 the City currently exceeds all park acreage requirements as recommended by the National Park and Recreation Association and will continue to do so based upon population projections for the period 2006-2026. Also notable is that in addition to meeting the highest recommended park standards Page residents utilize Lake Powell and the Glen Canyon National Recreation Area to satisfy their recreational needs.

The land use acreage projections indicate that the demand for land in Page over the next 20 years is relatively minor when compared to the amount of vacant land in the City. Significantly more land is designated with a specific use on the land use figure in order to provide a variety of potential sites for both residential and employment development and to ensure that developers, residents, businesses, City staff and elected and appointed officials have a clear understanding of the land use future in Page. Table 2.7, *Projected Land Use Acreage Demands 2006-2026,* summarizes the amount of acreage needed to satisfy development based on population and employment forecasts and actual land uses shown on the Land Use Plan Map.

TABLE 2.7

Projected Land Use Acreage Demands, 2006 to 2026

	Period			
Land Use	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Single Family	104.5 Acres	84.0 Acres	237.5 Acres	426 Acres
Multi-Family	14.75 Acres	1.5 Acres	22.75 Acres	39 Acres
Manufactured Home	7.5 Acres	7.5 Acres	15.0 Acres	30 Acres
SUBTOTAL	**126.75 Acres**	**93 Acres**	**275.25 Acres**	**495 Acres**
Retail	46 Acres	30 Acres	56 Acres	132 Acres
Non Retail	7 Acres	15 Acres	28 Acres	50 Acres
Office	6 Acres	10 Acres	24 Acres	40 Acres
Industrial-Manufacturing	28	35	53	116
SUBTOTAL	**87 Acres**	**90 Acres**	**161 Acres**	**338 Acres**
Parks/Open Space	0	0	0	0
Public/Semi-Public	20	20	20	60
SUBTOTAL	**20**	**20**	**20**	**60**
TOTALS	**233.75**	**203.0**	**456.25**	**893 Acres**

LAND USE PRINCIPALS AND GUIDELINES

The Land Use Element addresses highest and best use of properties located in the City and its surrounding Planning Area. It is intended to take advantage of existing infrastructure and to enhance the value of the developed community's homes, businesses and institutions. In addition, prospective new development and/or annexation should be promoted where there is evidence of positive cost-benefits from municipal expansion.

Categories of Land Use indicated on the General Plan Land Use Map are not intended to serve a specific zoning designation. Rather, the City development codes should reflect the desired type and intensity of activities that are generalized in the Plan.

RESIDENTIAL

A total of three residential land use categories provide a range of residential densities in the Page General Plan. Residential density is measured by dividing the number of dwelling units by the net acreage. Net acreage is determined by subtracting required streets right-of-way from the gross acreage.

Low Density Residential — *0.0 to 2.0 dwelling units per acre.*
This category is typified by detached, single-family homes on lots generally ranging from one to two acres. Land use might include accessory buildings such as barns, stables, fenced corrals, sheds and other related accessory structures. Suitability of residential developments is determined by location, topography, street access, existing land use, availability of utilities, patterns and natural or man made features. The dominant use is single-family homes away from major arterial streets.

Residential lots in this category may also be clustered in certain circumstances if the goal is to protect open space, natural features, steep slopes or other sensitive features. Appropriate locations for the LDR category generally include those areas of the community where existing public facilities and services offer existing or planned capacity to serve residences, in areas to transition from lower to higher density residential uses and in areas where similar types of housing currently exists.

Medium Density Residential — *2.0 to 12.0 dwelling units per acre.*
This category can be single-family homes on smaller lots, or patio homes, duplexes, and town homes. Landscaping is an integral part of the medium density neighborhood character. Recreational amenities such as parks, swimming pools, and clubhouses, should be included in developments. Land situated near or around schools and parks should be considered for medium-density detached housing so families could be within walking distance of these facilities.

Appropriate locations for MDR land uses include those areas of the community where public facilities have the capacity to serve residences and where similar types of

housing currently exist.

The MDR category also includes Manufactured Housing — Manufactured housing should be located in planned parks or subdivisions adjacent to a public street. A decorative wall or fence buffer should be installed along the perimeter of the park or any new mobile home park.

Tourists' recreational vehicles should be located in a park-like setting adjacent to collector streets. Each recreational vehicle should be provided with its own pad and utility hookups. A decorative buffer wall should be provided along the perimeter of the park.

High Density Residential — *Minimum of 12.0 dwelling units per acre.*
This category is intended to accommodate higher density multi-family apartment, condominium, resort, or townhouse developments. Single-family homes are also acceptable. Special emphasis should be placed on the quality of design to avoid negative impacts associated with higher density. High-density residential areas can, at times, act as a buffer between lower density residential and commercial areas. Quality, orientation, landscaping and other amenities will be a part of any new design or multi-family project.

Appropriate locations for HDR land uses generally include those areas of the community where planned public facilities such as water, sewer, parks and streets are appropriately sized to accommodate HDR land uses, and where planned or existing lands uses are compatible with high density residential land uses.

Variable Densities

The General Plan establishes guidelines for varying the density and the mix of housing units in some residential land use categories. The purpose of varying the density and mix of housing units is to provide flexibility in large projects. This flexibility is intended to allow the developer the ability to accommodate features on the site such as steep slopes, washes, rock outcrops, views and other unique features into the site plan.

LDR uses will be allowed to locate in areas designated for MDR and HDR uses providing:

- The LDR residential use is part of a mixed-use master planned community
- Utilities and circulation facilities for the project are designed for the use and density designated on the land use plan map.
- The LDR residential development will not create a deterrent to the development of future MDR or HDR land uses.
- The LDR areas are adequately buffered from adjacent existing or planned land uses.
- The overall density of the site does not exceed the density specified on the land use plan map.
- The proposed development is zoned for Planned Development.

MDR and HDR uses will be allowed in areas designated as LDR use providing:

- The MDR and HDR land uses are part of a mixed-use master planned development.
- Utilities and circulation facilities are designed to accommodate the MDR and HDR development.
- MDR and HDR uses are located to buffer lower density residential land uses from adjacent land uses, arterial or collector streets or other public facilities.
- The MDR and HDR uses are located in close proximity to parks and open space facilities, schools or commercial land uses. If the MDR and HDR uses are not located in close proximity to parks, sufficient open space will be required in the development to accommodate the recreational the needs of the development.
- The proposed development is zoned for Planned Development.

In addition to varying land use density, buffering between adjacent land uses may be required, particularly if there is reason to believe the two land uses may be incompatible. Buffering consists of the placement of neutral space between two incompatible land uses or providing a land use that is more compatible between the two land uses. Situations requiring buffering may include:

- Provision of a landscape buffer that visually screens the incompatible land use.
- Utilization of streets, transmission lines or landscape easements to separate uses.
- Utilization of walls, berms and landscaping where appropriate to screen uses.
- Any combination of the above.

The residential land use category standards are summarized in Table 2.8, *Residential Land Use Category Standards.*

TABLE 2.8

Residential Land Use Category Standards

Residential Category	**Development Standards**	**General Development Characteristics**
Low Density Residential (LDR)	0.0 to 2.0 DU/AC Maximum of 2.0 DU/AC	One or two story single family detached homes on medium to large sized lots.
Medium Density Residential (MDR)	2.0 to 12.0 DU/AC Maximum of 12.0 DU/AC	One or two story single family detached homes on small to medium sized lots. One or two story single family attached homes clustered in areas surrounded by open space. The MDR category also includes manufactured homes.
High Density Residential (HDR)	Minimum of 12.0 DU/AC	One, two or three story condominiums, town homes or apartments.

COMMERCIAL

Businesses are to be located according to the intensity of use, attraction of traffic and compatibility with adjacent uses. Typically, retail, restaurant and hospitality establishments would be most appropriate on major thoroughfares with good access and ample parking. Neighborhood serving businesses (including offices and services) could locate on minor arterials or major collectors convenient to nearby residences. Businesses in the downtown historic district should conform to those standards of appearance.

Heavier commercial uses, such as those involving outdoor boat storage or similar activities, preferably locate away from housing on traffic corridors or adjacent to industrial uses.

The General Plan utilizes floor area ratio (FAR) as the appropriate standard for measuring commercial and industrial land use intensity. FAR shall be defined as the gross floor area of a building divided by the net area of the parcel of land. Net area is the total area of the parcel minus the area dedicated for street rights-of-way.

There are two commercial land use categories designated on the land use plan map as described below:

General Business (GB)

This category is designated to accommodate a wide variety of businesses. The GB category may accommodate a mix of land uses including, but not limited to commercial, resorts, hotels, residential, museums and other uses. The intent of this category is to accommodate land uses which are appropriate based on natural constraints, transportation facilities, adjacent land uses and other site-specific constraints or opportunities.

Downtown Business (DB)

This category is designated to provide for the development of the downtown area as the center of the community. The DB category shall encourage year-round commercial, entertainment, cultural, recreational, office and civic activities. The DB category shall allow eating and drinking establishments, professional offices, government administration uses, specialty retail, galleries and tourism-related retail and lodging. Commercial services for adjacent residential neighborhoods shall also be permitted.

It is recommended that the City prepare a specific plan for the downtown area in the future. This plan should be prepared to establish an overall program for improvements in the downtown area. Such a plan may include: architectural theme, landscape theme, circulation, and other urban design improvements in the downtown area.

The development standards for commercial land uses are summarized in Table 2.9, *Commercial Land Use Category Standards.*

TABLE 2.9		
Commercial Land Use Category Standards		
Commercial Category	**Development Standards**	**General Development Characteristics**
General Business (GB)	Maximum FAR of 0.35. Maximum height as specified by the Zoning Code of the City of Page.	A variety of land uses that are appropriate for natural constraints, transportation facilities and adjacent land uses. May include residential, commercial, resort, hotel or other land uses.
Downtown Business (DB)	Maximum FAR of 0.30. Maximum building height of two stories.	Uses which create a unique, dynamic pedestrian-oriented center in downtown Page. May include specialty commercial, eating and drinking establishments, galleries, professional offices and neighborhood support uses.

INDUSTRIAL

Places of employment, ranging from general administrative offices to manufacturing or assembly, need special attention to accessibility and mitigation of potential environmental impacts.

Industrial operations require siting on ample acreage, well buffered from single-family homes. Transitional uses, such as commercial, offices or higher density residential may help to separate intense employment activities from neighborhoods.

There are two industrial land use categories designated on the land use plan map as described below:

Business Park (BP)

This category is designated to permit employment land uses that are a mix of light industrial land uses and office showrooms or office land uses. This category requires that a master plan be developed for the project that creates an overall design theme. The maximum FAR in the BP category is 0.35. The BP category may also include businesses that generally fabricate or assemble products from previously prepared materials.

Industrial (I)

The I category identifies areas of the community where businesses, because of the nature of their manufacturing or storage operations, appearance, traffic generation or other conditions, may not be compatible with residential land uses, or do not require visibility from arterial streets. Land uses in the I category are characterized by businesses that utilize raw materials to manufacture or fabricate goods on-site. These

businesses generally require outdoor storage or have manufacturing processes that may generate excessive noise, vibration or odors that incompatible with residential land uses. In addition, truck traffic or extended working hours are common. The maximum FAR in the I category shall be 0.35.

The development standards for industrial land uses is presented in Table 2.10, *Industrial Land Use Category Standards.*

TABLE 2.10

Industrial Land Use Category Standards

Industrial Category	Development Standards	General Development Characteristics
Business Park (BP)	Maximum FAR of 0.35. Maximum building height of 35 feet.	Large buildings with uses that assemble products in an enclosed area from parts manufactured off-site; are utilized as offices for the businesses; provide sales of assembled products; or provide a showroom to order manufactured products.
Industrial (I)	Maximum FAR of 0.30. Maximum building height of 35 feet.	Large buildings with uses that generally manufacture products from raw materials, within enclosed or partially enclosed areas or assemble products in an enclosed area from parts manufactured off-site. Buildings may include space for offices, showrooms, sales floor and related support uses. Outside storage of components, material and parts used in the manufacturing process is common. These industrial uses may produce noise, vibration or odors which prohibit adjacent residential development. Truck traffic, and extended working hours are typical.

INSTITUTIONAL

Schools, churches, health and social service facilities may be integrated into neighborhoods, depending on their scale. Page's schools, for example, fit with existing neighborhoods. Larger institutions (e.g., Coconino Community College) are better located where major street accessibility exists.

FUTURE DEVELOPMENT (FD)

The land use demand projections for the Page General Plan is established on the land use plan map to identify those areas of the community that should be reserved for development after 2026, or if land use demand projections are exceeded sometime

within the next 20 years. The categories and acreage projections provide more than twice the amount of land required to satisfy this demand, and provide numerous locations in the community from which to choose a site for development. With this in mind, the remaining area of the City should be reserved for additional development in the future if the land use demand projections are exceeded within the next 20 years.

Future Development (FD)

This category is established to identify those areas of the community that should be reserved for development after 2026, or if land use projections are exceeded within the next 20 years. The FD category identifies those areas of the community in which public services and facilities cannot accommodate growth economically within the goals of the General Plan. Some recreational uses may be permitted in the FD category if they do not require infrastructure extensions. The City of Page designates these areas as FD in order to promote orderly development emphasizing in-fill opportunities that preserve land while maximizing existing infrastructure investments in accordance with Arizona Growing Smarter statutes.

The City of Page recognizes that development in FD designated areas precedes the needs of the City to develop this land based on its land use demand projections. The cost of infrastructure extensions also exceeds the needs of the City to accommodate projected population and employment growth over the next 20 years. The FD designation does not imply that these lands are unplanned, but rather that population and employment projections do not warrant their specific land use designations within the timeframe of this plan.

PLANNED DEVELOPMENT OVERLAY DISTRICT

There are two overlay districts illustrated on the ***Land Use Plan Map.*** These overlay districts designate portions of the community where future development is required to comply with more extensive design guidelines. In general these areas designated as overlay districts are important entry ways into the City of Page and therefore present a visual impact to welcome visitors to the community. The overlay districts include:

Gateway Planned Development District

This overlay district includes portions of the community in the existing Gateway Development Area and future areas where Gateway Development criteria will be established.

Non-Gateway Planned Development District

This overlay district is designated in several areas of the community and new development in these areas will be subject to the provisions of the Planned Development Zone of the City of Page Zoning Code.

Parks/Open Space and Recreational Facilities

The City of Page recognizes that recreational opportunities for residents and visitors contributes to the quality of life in the community, and provides enjoyment and healthy activities for residents. Park facilities are designated on Figure 2.2, *Parks and Open Space Plan Map.* The parks, open space and recreational facilities include both existing and proposed facilities. A park classification system has been developed to assist the City in preparing guidelines for the location, size and function of parks, open space and recreational facilities in the community.

Mini-Park

Mini-Parks or pocket parks are open space areas designated with higher density areas designed for non-organized recreation. Mini-parks are specialized facilities that serve a concentrated or limited population or specific group such as children or seniors. These parks are designed as an urban get away for passive recreational purposes. A mini-park is generally one acre or less and the service area is approximately a 1/4 mile radius or less.

Neighborhood Parks

Neighborhood parks provide access to basic recreation opportunities for nearby residents, enhance neighborhood identity, and preserve neighborhood open space. Neighborhood parks provide intensive recreational activities such as field games, playgrounds, crafts and picnicking. Located within walking and bicycling distance of most users, these parks generally range from eight to fifteen acres in size and their service area ranges from a 1/4 to 1/2 mile radius.

Neighborhood parks often include amenities such as playgrounds, turf areas, pathways and trails, picnic tables, sports courts, and benches. Elementary school sites have been included under the neighborhood parkland classification, since they often have neighborhood park elements and serve some of the neighborhood park needs.

Community Parks

Community parks provide a focal point and gathering place for broad groups of users. Usually fifteen to twenty-five acres in size, community parks are used by all segments of the population and generally serve residents from a five to eight mile radius service area. Community parks often include recreation facilities for organized activities, such as sports fields, skate parks, and play courts. Community parks may also incorporate passive recreation space and community facilities, such as community or senior centers. Because of their large service area, community parks require more support facilities, such as parking and restrooms. Middle school sites are included in the community parkland inventory, since these facilities can serve some of the community park needs.

Regional Parks/Natural Open Space

Regional Parks/Natural Open Spaces are recreational areas that serve residents from throughout the City of Page and beyond. Regional parks are usually larger than 50 acres in size and provide opportunities for diverse recreational activities.

Lake View Nature Park is approximately 108 acres and located in the northern portion of the North Mesa with majestic views overlooking Lake Powell. This Regional park includes passive recreation space and unique features, such as significant natural areas which include a lush riparian area, several baby slot canyons and secluded cliff ecosystems. The Park is used for many types of outdoor activities including hiking and as a cross country running course by the local high school. This is strictly a non-motorized Regional Park.

Linear Parks/Trails & Connections

Linear Parks/Trails & Connections are designated and dedicated to providing pedestrian, bicycle and equestrian opportunities in an undeveloped, natural state within the City of Page. Linear parks can also be utilized to preserve linear open space features along washes or steep slopes. There are no defined standards for the number of miles of linear parks for the City of Page.

There are approximately 11 miles of trails system in the North Mesa Rim Trail and approximately 7.5 miles in the Glen Canyon Rim Trail. Both trail systems are interconnected with each other and interconnect with the 108 acres Lake View Nature Park located on the northern edge of the City of Page overlooking Lake Powell. Both trails have been coordinated with the National Park Service to provide a city wide linear park system for hiking, biking and equestrian enjoyment.

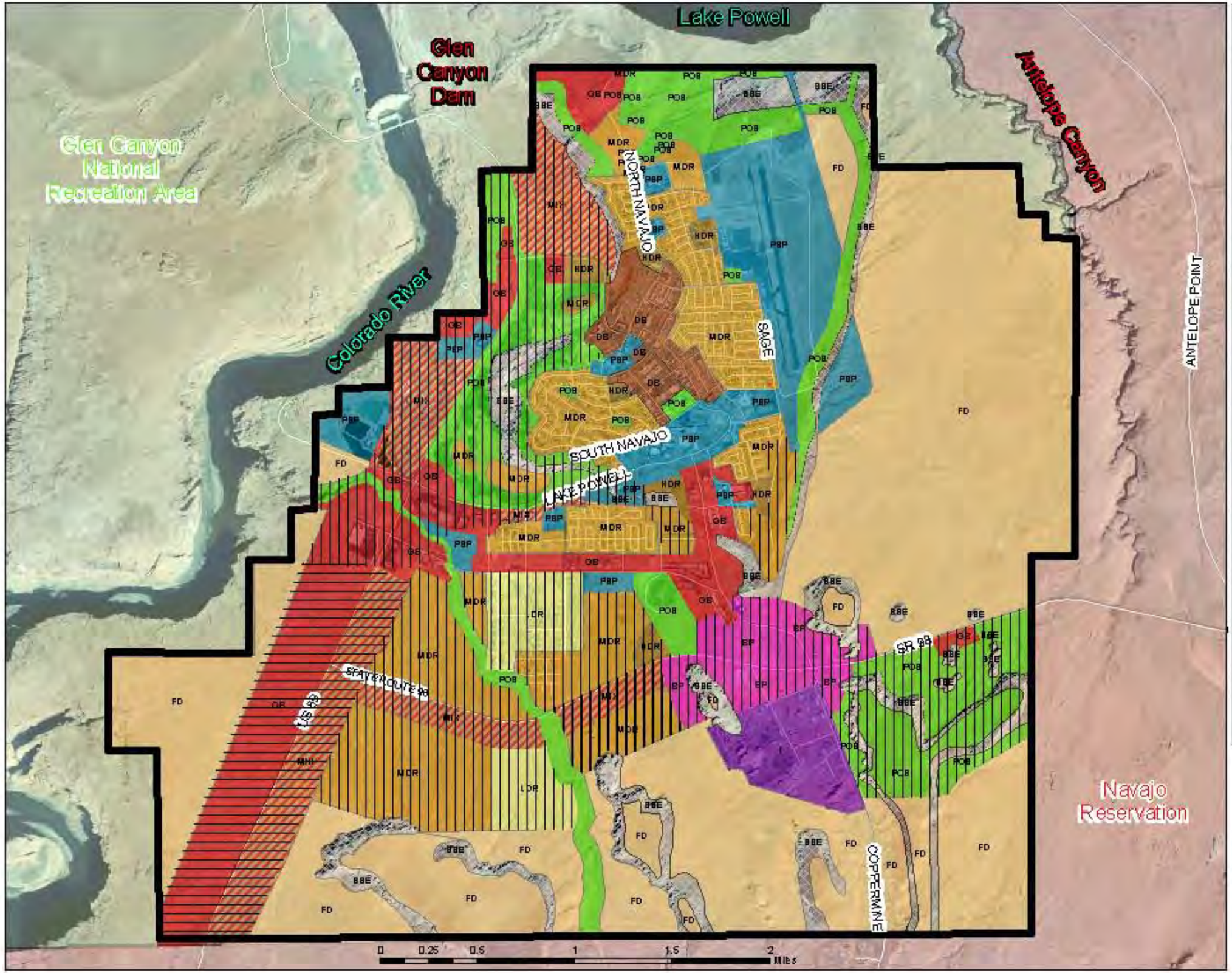
Special Use Facilities

Special use facilities may include equestrian arenas/rodeo grounds, motocross staging area and track, target/shooting ranges, amphitheaters or interpretive centers, among others. The number and location of these types of facilities is dependent on the need for such uses and resources in the community. It is felt in the community that there is a great need for a Motocross Staging Area and Track as several events are currently held in the City and could be expanded with a dedicated and developed area.

School Facilities

Generally school facilities are utilized by students, however some are shared with the City of Page. There are no standards for the number of school facilities, however, facilities that satisfy recreational demands in the community can reduce the number of other types of parks needed in the community. Some examples of shared school/city facilities include the refurbished and expanded tennis courts, Birch Circle ball fields, and the Page Sports Complex.

LAND USE MAP



N

Land Use Designation

- BUSINESS PARK
- DOWNTOWN BUSINESS
- FUTURE DEVELOPMENT
- GENERAL BUSINESS
- HIGH DENSITY RESIDENTIAL
- INDUSTRIAL
- LOW DENSITY RESIDENTIAL
- MEDIUM DENSITY RESIDENTIAL
- MIX-USE DEVELOPMENT
- PARK/OPEN SPACE
- PUBLIC/SEMI-PUBLIC
- STEEP SLOPE/ESCARPMENT
- PD OVERLAY - Non-Gateway
- PD OVERLAY - Gateway

General Plan Update
July, 2009
1 inch = 2,500 feet

ROSENBERG™ ASSOCIATES
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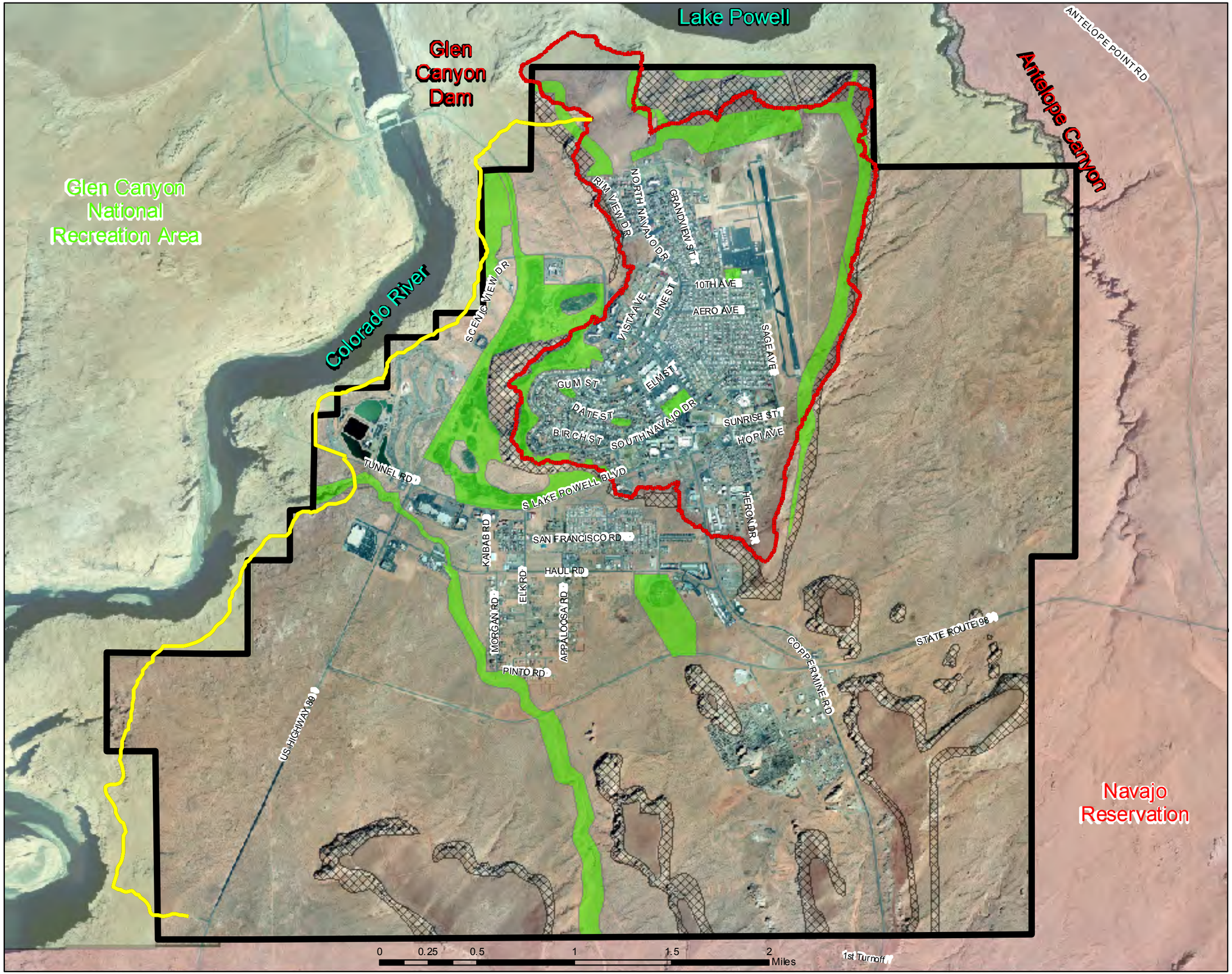
Page, AZ 86040
(888) 673-8586

OPEN SPACE



N

TRAILS

- Glen Canyon Rim Trail
- Rim View Trail

OPEN SPACE DESIGNATION

- STEEP SLOPE/ESCARPMENT
- PARK/OPEN SPACE

General Plan Update
May, 2009
1 inch = 2,500 feet

ROSENBERG ASSOCIATES

32 North 10th Street #7
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3.0 Economic Development Element

3.1 Introduction

The Economic Development Element of the ***Page General Plan Update*** provides a recommended economic development program for the City. Economic activity in the City plays a significant role with regard to the City's ability to ensure quality jobs for its residents, provide a tax base to fund an adequate level of municipal service and facilities, and identify opportunities for the City to realize its economic vision. The purpose of the Economic Development Element is to establish a plan which:

- Describes existing economic base conditions;
- Identifies a community economic development vision, with associated goals and objectives;
- Identifies industrial sectors that are promising targets of opportunity in efforts to attract new private investment;
- Describes the role of incentives in economic development;
- Suggest potential incentive guidelines for the City of Page;
- Provides a suggested target sector marketing strategy; and,
- Provides an implementation program.

3.2 Existing Setting

Page's existing economic base and economic development climate are summarized below:

Population and Housing Unit Growth, from April, 1980 to July, 1995, the City's population is estimated to have increased by 66.3 percent, rising from 4,907 residents to an estimated 8,162 residents; an increase of 3,255 people. During this period, Page's population has continued to account for a larger share of Coconino County's population; increasing from a 6.5 percent share in 1980 to a 6.8 percent share in 1990. The City is projected to capture a 7.4 percent share in 1995. During the 1980-1995 period, the City's housing stock increased by 51.3 percent; rising from1,758 to 2,659 units.

The analysis completed by the Project Team, and research gathered through community forums, and from the City's Affordable Housing Study indicates that there is a significant need for the development of affordable housing units in the City of Page. The analysis indicates that very strong market opportunities exist to develop multi8-family apartment units where recent occupancy estimates by the City indicate nearly 100 percent occupancy. In addition, occupancy rates for single family homes are also approaching 200 percent.

Retailing and Services/Tourism, Page is emerging as a regional retail/service center, serving not only Page residents, but those in the surrounding region including southern Utah. In addition, international tourism in the Glen Canyon National Recreation Area

and other scenic area attractions has invigorated the local retail and service industry. Consequently, the vast majority of Page's private sector employment (nearly 85 percent) is in retail trade and services. By comparison, just over 74 percent of total private sector employment is in retail and services in Coconino County and about 59 percent in Arizona.

Current opportunities in retailing and services have been identified in apparel and accessories retailing, miscellaneous retaining, business services, heath services, professional services, select social services, legal services and amusement and recreation.

Moreover, retaining and services employment growth in Arizona is projected by the U.S. Department of Commerce's Bureau of Economic Analysis to account for 66.6 percent of the net increase in private sector employment from1995-2005.
As noted, with two to three million visitors per year, providing tourists with a quality visitation experience is especially important to the local economy. The City and surrounding area have developed an impressive stock of hotel/motel rooms (1,518 rooms) in addition to many bed and breakfast rooms. Since 1985, an average of 92 rooms have been added each year to the hotel/motel room stock.

Manufacturing*,* presently, only 2.6 percent of the private employment in Page is in the manufacturing sector compared to 8.1 percent in Coconino County, and 13.7 percent in Arizona. It will be a very slow and intensive process to substantially increase Page's existing manufacturing base. From 1995-2005, manufacturing employment in Arizona is projected to add a very modest number of new jobs (21,700), with most of the new jobs in the higher technology industries. Conversely, of the net job growth in Arizona from 995-2005, manufacturing will only account for 6.9 percent of the new employment. Consequently, the competition will be very tough for the new jobs which are development in the State.

Other Industries*,* from 1995-2005, the five major industry groups identified below, excluding mining are projected to represent 26.2 percent of Arizona's employment growth.

- *Transportation, Communications, and Public Utilities (TCPU),* this industry accounts for 3.9 percent of the employment in Page, compared to 5.1 percent in Coconino County, and 6.5 percent in Arizona. Although the percentage of private sector employment in Page is lower than comparative areas, a substantial amount of Page employment is public sector. Nevertheless, industries in Page such as trucking and warehousing are under-represented compared with Coconino County and Arizona.

- *Wholesale Trade,* this industry accounts for 2.2 percent of the private workforce in Page, compared to 3.3 percent in Coconino County, and 5.6 percent in Arizona. Although non-durable/soft goods wholesaling appears to be well represented in Page, durable goods/hard goods wholesaling is under-represented when compared

to Coconino County and Arizona.

- Finance, Insurance, and Real Estate (FIRE), employment in this industry represents 2.4 percent of the private employment in Page 4.9 percent of the employment in Coconino county; and 7.4 percent of the employment in Arizona. In spite of the lower percentage of employment in this sector, the analysis indicates that the largest under represented sub-sector is in investment services and real estate. In the case of real estate, perhaps the existing limited housing market has reduced the number of employees in this industry.

- *Construction,* employment in this industry represents 2.9 percent of private sector employment in Page; four percent in Coconino County; and 6.7 percent in Arizona. Specialty trade contracting is the most under-represented employer in Page's construction industry.

- *Agriculture, Forestry, fisheries, and Mining,* these are very small employment sectors in Page, as well as in Coconino County and Arizona. In Page, 2.6 percent of the City's private sector employment is in these two industries, compared to 0.5 percent in Coconino County; and 1.2 percent in Arizona.

Implications of the Database Analysis and Public Input

In spite of the concentration of employment within the retail and services industry in Page, there are numerous opportunities for further strengthening of retail and service employment. The City should attempt to attract a factory outlet center or new outlet stores to the Downtown, or an alternative location in the City, as well as other retail and service businesses identified which the City wants to attract.

Additional opportunities to strengthen business development have been identified in non-retailing/service industries. These include: construction; wholesale trade; finance, insurance, and real estate; transportation, communications, and public utilities; and manufacturing. Moreover, although many fine amenities are available for tourists visiting Page, additional opportunities could be developed in the visual and graphic arts, and by providing a wider range of recreation and entertainment activities.

To help sustain and spur economic development and generate a wider variety of semi-skilled, skilled and professional job opportunities in the City:

- There is strong need for the development of a mix of affordable housing to support new population and business growth;

- There is a need to continue to improve and develop the educational system (college), the communications infrastructure, to plan for future transportation infrastructure in the community (roadways and airport), and to provide adequate sites for new industrial and commercial development;

- There is a need for a comprehensive and integrated (strategic) business and tourism development program;

- The vast array of existing business and financial programs available from the Federal, State, and City should be widely publicized; and,

- The City should determine if additional incentives should be established to attract targeted firms that meet specified criteria.

To further enhance the attractiveness of the City, there is potential for selective redevelopment within certain portions of the City.

The City, in the first few years of the economic development program, should give priority to the development of a recruitment program which emphasizes the provision of affordable housing, provision of additional higher education opportunities, redevelopment, filing retail trade and services niches, and other industrial opportunities; in preference to manufacturing industry recruiting.

3.3 Economic Development Vision Statement

We envision Page having capitalized on its location as the gateway to Lake Powell and its position as an emerging regional center in northern Arizona and southern Utah. The City has enhanced the attractiveness and diversity of its downtown and strengthened its role as a regional center for cultural activity, tourism, entertainment, and retail trade. The City has developed marketing and infrastructure systems to increase its exposure to travelers, businesses, and has enhanced its desirability as a place to host events and conferences. Additional diversification of quality employment opportunities in the City has been actively pursued with positive results.

3.4 Economic Development Goals and Objectives

Goal 1.0: **A strong foundation of economic development infrastructure and programs.**

Objective 1.1: Target specific industries and programs which can help to diversify the City's employment base by adding professional job opportunities.

Objective 1.2: Work with high school, Community College, Northern Arizona University (NAU) and local training providers to secure trained workers for firms committed to establishing or expanding operations in Page.

Goal 2.0: **A partnership to establish a local business retention and expansion program.**

Objective 2.1: Conduct a periodic survey of businesses in Page to identify those with specific operational problems as well as other issues, and gather information regarding planned employment expansion or reductions.

Objective 2.2: Identify an individual(s) within the City and the Chamber of Commerce, Main Street, and others responsible for distributing, processing, reporting, and coordinating the follow-up actions prompted by these periodic surveys.

Objective 2.3: Continue to maintain up-to-date growth and development statistics and socioeconomic data to assist in both local and non-local business marketing.

Goal 3.0: A strong business support system and resource network.

Objective 3.1: Ensure that the contact person(s) in the City, Chamber, Main Street and others are knowledgeable about specific small business assistance programs offered through the Arizona Department of Commerce, the U.S. Small Business Administration, and the Northern Arizona Council of Governments.

Objective 3.2: Designate an individual to catalog the range of specific programs available to small business at the regional, state, and national levels.

Objective 3.3: Assist the Coconino County Community College District (Flagstaff) in promoting and sponsoring frequent Small Business Development Center (SBDC) technical assistance programs in Page, and work to establish a permanent SBDC coordinator position in Page, or cost-share with the director of the Main Street Program.

Objective 3.4: Evaluate the potential for utilizing the existing City fire station when vacated, or some other City-owned facility in the downtown as a small business and arts incubator facility. The existing facilities should be examined for soundness prior to any new operations being located in the buildings.

Objective 3.5: Develop and distribute a periodic newsletter to all businesses in Page with information on existing state and federal small assistance programs, and incentive programs which may ultimately be adopted to assist small businesses.

Goal 4.0: Maximum leverage of available federal program resources.

Objective 4.1: Ensure that the Overall Economic Development Plan (OEDP) and the Economic Development District provides a regional framework for the provision of economic development services an business technical assistance.

Regional Retail and Tourism Development Goals and Objectives

Goal 5.1: Provide additional businesses and attraction in Page which can help promote regional trade and tourism, as well as benefit local residents.

Objective 5.1: Provide additional businesses and attractions in Page which can help promote regional trade and tourism, as well as benefit local residents.

Objective 5.2: Encourage new specialty-niche retailers and fill existing retail/ services gaps.

Objective 5.3: Evaluate the possibility of designating key areas within the downtown as Redevelopment Areas under Arizona Revised Statutes (ARS 36-1471).

Goal 6.0: Capitalize on the economic and cultural benefits of promoting the arts.

Objective 6.1: Work to promote the arts in downtown Page as well as lend support to arts activities throughout the City.

Business Marketing/Advertising/Attraction Goals and Objectives

Goal 7.0: A comprehensive media advertising program.

Objective 7.1: Consolidate advertising dollars, develop unified marketing messages, and extend the reach of each advertising dollar by forming a public/private cooperative marketing effort.

Objective 7.2: Promote tourism, retirement living, and Page's desirability as a clean, scenic, and cost-effective business location.

Objective 7.3: Work with existing state organizations and contact personnel to help attract new business to Page.

Objective 7.4: Maintain and refine progressive business attraction efforts which focus on promotion, personal prospecting, handling on-site prospect visits, and effectively serve the contact and informational needs of prospects.

Objective 7.5: Explore the potential to attract modular home manufacturing to the regional area, as well as opportunities in the development of gypsum products in association with the Navajo Generating Station, and other manufacturing opportunities with immediate potential.

Objective 7.6: Target multi-family, conventional manufactured and modular home builders regarding the development of projects and/or facilities in Page.

Objective 7.7: Explore the feasibility of attracting a local trucking company to Page to reduce shipping costs.

Goal 8.0: An incentive program for economic development.

Objective 8.1: Evaluate the feasibility of adopting an incentives program to assist both local and non-local businesses locate or expand in the City.

Telecommunications Goal and Objectives

Goal 9.0: A high quality telecommunications network.

Objective 9.1: Work to establish/develop the latest telecommunications technologies in Page through active dialogue with industry providers.

3.5 Economic Development Strengths and Weaknesses

Economic Development Strengths

A list of Page's economic development strengths which support economic development efforts is presented below. The list is not prioritized.

1. A City government which is pro business:
2. The City's ownership of substantial fee acreage:
3. Significant acreage available for new development;
4. Control of the electric, water, and sanitation systems;
5. The expanded wastewater treatment plant;
6. No City property tax;
7. Proximity to Lake Powell;
8. Headquarters for the National Park Service's Glen Canyon National Recreation Area;
9. Substantial numbers of tourists'
10. Quality K-12 schools and facilities;

11. Planned completion of the new Coconino Community College facility in 1996;
12. The City's hospital;
13. Plans for an expanded airport;
14. Plans to develop a new fire station;
15. Plans to develop a new library;
16. Opportunities that will stem from construction of a Highway 98 bypass;
17. A proactive Main Street Program:
18. A State-designated Enterprise Zone;
19. Within a County designated EDA Redevelopment Area;
20. An industrial Development Authority;
21. A good mix-of-commercial retail and service firms;
22. The new Marriott Courtyard Inn and 300 seat conference center, as well as the Holiday Inn Express, and a number of additional hotel rooms;
23. Substantial commercial development during the past several years which has significantly reduced expenditure leakage from the community;
24. The City's emergence as a regional retail center;
25. The City sports complex and private health club facilities;
26. Significant new residential construction;
27. Page's Affordable Housing Study;
28. A rising sales tax base;
29. A highly educated population;
30. A high percentage of family households;
31. A stable household population base;
32. High median household income;
33. A high labor force participation rate;
34. Expanded economic development promotion and marketing;
35. The City's scenic beauty;
36. A responsible City Tourism and Special Events Committee and Museum organizations;
37. A number of annual events such as MMA Octoberfest/Bike Show/Rodeo, Native American Celebration Pow Wow, Cinco de Mayo, Page Rodeo, Mr. Burfels' Softball Tournament, Craze Daze, Shrine Pro-Am Golf Tournament, John Wesley Powell Days, etc;
38. Page's recognition in the recent past by Norman Crampton as the third best small city in the United States.
39. Retention of professional economic development marketing expertise; and,
40. The General Plan Update

Economic Development Weaknesses, and/or Areas Requiring Additional Focus

For many types of businesses and/or potential residents the points identified below are often viewed as weaknesses, or areas which should be addressed from an economic development perspective. However some of these economic development weaknesses identified below may be viewed by some as strengths.

1. Lack of affordable housing and executive housing;
2. Lack of alternative industrial or business park locations, and a need for specific development standards;
3. Distance/remoteness from major metropolitan market areas and suppliers;
4. Uncertainty regarding future water allocations to support additional residential and business growth;
5. Specific downtown properties should be considered for redevelopment.
6. There is a need for a funded focal group or entity to concentrate on a broad spectrum of economic development activities including marketing/advertising;
7. Need to broaden the economic base to generate more technology-oriented as well as professional jobs, and to continue to more aggressively support small business development;
8. A need to provide more assistance and emphasis on developing a strong visual and performing arts nucleus in the City;
9. A need to evaluate and potentially develop a formalized business incentive package for business development;
10. Need to tie into/network with program managers at the Arizona Department of Commerce, APS, and the Arizona Office of Tourism;
11. Need to take advantage of the range of housing assistance programs available through the State;
12. Lack of access to capital was the number one problem identified in the Northern Arizona Council of Government multi-county Overall Economic Development program; and,
13. A need for better trucking services.

3.6 Industry Employment Projections/Opportunities

Competition for new industry is intense, because what was previously viewed as national competition has now enlarged to international competition. Although Page is in an enviable position as an emerging regional retail trade and service center, and tourist center, it will require a long-term multi-faceted approach to attract a significant industrial/manufacturing base to the City. However, certain opportunities in this area of

employment growth do exist. Projected employment in the United States and Arizona is briefly summarized below in order to gauge potential for employment growth in Page.

Employment Projections by Major Industry Group

The projections identified below were prepared by the U.S. Department of Commerce's Bureau of Economic Analysis in June, 1990. These projections indicate that during the period from 1995-2005 the services industry, retail trade, FIRE, and wholesale trade industries will add the largest number of new jobs, respectively. Although not specifically discussed in these projections, smaller employers, home-based businesses and self-employment are projected to account for an increasing share of U.S. employment in the next decade. The 1995-2005 projections by industry group are summarized below:

- *Agricultural and Mining,* continued world-wide population growth will stimulate demand for agricultural products and natural resources. Although farming employment is projected to decline agricultural services, as well as the forestry and fisheries industries are projected to register a healthy increase in employment in the U.S. (333,500 jobs) as well as in Arizona (8,900). On the other hand, mining employment is projected to continue to decline in the U.S. as well as in Arizona.

- *Construction*, this industry is projected to increase in the U.S. (411,400 jobs), and in Arizona (12,600 jobs).

- *Manufacturing,* manufacturing employment and productivity in the U.S. have been severely impacted by international competition over the past several decades. Low-wage, low-technology industries have been most severely impacted. It is anticipated that low-wage manufacturing jobs will continue to decline over the next several years.

A net increase of 333,600 new manufacturing jobs will be generated in U.S. manufacturing sectors. Only a few sectors listed below by 2-digit Standard Industrial Classification (SIC) and job growth estimates are projected to add significant numbers of new jobs, while many industries will experience employment declines. The industries experiencing job growth include:

- SIC 27, printing and publishing (174,700);
- SIC 37, Transportation equipment excluding motor vehicles (128,600);
- SIC 24, lumber and wood products (69,700);
- SIC 30, rubber and miscellaneous plastics products (66,500);
- SIC 25, furniture and fixtures (41,100);
- SIC 38, scientific instruments (30,100);
- SIC 32, stone, clay, glass, and concrete products (11,400); and,

- SIC 28, chemical & allied products (8,200).

In Arizona, from 1995-2005, manufacturing industries are projected to add only 21,700 jobs. Those industries projected to contribute the greatest number of new jobs (16,400) include:

- SIC 37, transportation equipment excluding, motor vehicles *7,000);
- SIC 27, printing and publishing (3,900);
- SIC 38, scientific instruments (2,500);
- SIC 36, electronic equipment (1,500); and
- SIC 30, rubber and miscellaneous plastics products (1,400).

With the exception of SIC 34, primary metal products, and SIC 35, industrial machinery and equipment (which are projected to experience employment declines) all other 2-digit manufacturing sectors are anticipated to show no change in employment growth, or very modest increases.

Transportation, Communication and Public Utilities (TCPU), from 1995-2005, this industry is projected to add 497,200 jobs in the United States. Employment leaders for job growth include:

- SIC 42, trucking and warehousing (205,700):
- SIC 4512, transportation by air (108,100);
- SIC 49, electric, gas, sanitation (70,100);
- SIC 4513, 22, 81, transportation services (41,900); and
- SIC 48, communications (31,100).

In Arizona, the TCPU industry is projected to add 14,700 jobs.

- *Wholesale Trade,* in the U.S., wholesaling will add 493,300 jobs in the U.S., and 63,000 new jobs in Arizona.
- *Finance, Insurance and Real Estate (FIRE),* in the United States, this industry is projected to generate 950,100 jobs; and 36,000 of these will be located in Arizona.
- *Services,* by far the most significant share of industrial employment growth will occur in the service industry. In the U.S., 6,292,900 new jobs are projected in services; 146,000 of these will be in Arizona. Because of the magnitude of this employment growth, the specific subsectors which will experience the greatest amount of growth are identified below.
- SIC 73, and 76, business and miscellaneous repair services (3,117,200);
- SIC 80, health services (1,164,600);

- SIC 83, social services (330,000);
- SIC 87, miscellaneous professional services (312,000);
- SIC 70, hotels and other lodging places (301,600);
- SIC 72, personal services (295,000);
- SIC 81, legal services (248,900);
- SIC 75, auto repair services, garages (201,400);
- SIC 79, amusement and recreation services (198,900); and,
- SIC 82, private educational services (174,400).

In Arizona a similar pattern of growth is projected for the following employment sectors:

- SIC 73, business and miscellaneous repair services (61,600);\
- SIC 80, health care, (28,100);
- SIC 70, hotels and other lodging places (12,200);
- SIC 83, social services (82,00);
- SIC 87, miscellaneous professional services (8,100);
- SIC 72, personal services (8,000);
- SIC 75, auto repair services;
- SIC 81, legal services (5,600);
- SIC 79, amusement and recreation services (5,100); and,
- SIC 82, private educational services (2,900).

Government (Federal, State, and Local), finally, government employment is projected to rise by 646,500 jobs in the U.S. and by 25,000 jobs in Arizona.

3.7 Summary of Future Arizona Employment and Industry Growth

In order of importance, the employment sectors projected to add the largest number of new jobs in Arizona during the 1995-2005 period are: services (146,000 jobs); retail trade (63,000 jobs); FIRE (36,000 jobs); and manufacturing (21,900). Among these sectors, the business services subsector is projected to add nearly 62,000 jobs. Table 3.1, *Significant Private Sector Industry Growth in Arizona, 1995-2005,* identifies these industries by 2-digit industrial classification. Together, these industries are projected to account for over 93 percent of the 313,400 net increase in private sector job growth among all industries in Arizona over the ten year period.

TABLE 3.1
Significant Private Sector Industry Growth in Arizona, 1995-2005

Standard Industrial Classification	Job Growth	Industry Group
SIC 52-59	63,000	Retail Trade
SIC 73 & 76	61,600	Business And Miscellaneous Repair Services
SIC 80	28,100	Health Services
SIC 65	19,900	Real Estate
SIC 50-51	13,200	Wholesale Trade
SIC 15-17	12,600	Construction
SIC 70	12,200	Hotels And Lodging Places
SIC 07	8,900	Agricultural Services
SIC 82	8,200	Membership Organizations & Social Services
SIC 87	8,100	Miscellaneous Professional Services
SIC 72	8,000	Personal Services
SIC 63 & 64	7,600	Insurance
SIC 37	7,000	Transportation Equipment Manufacturing
SIC 60 & 61	6,200	Banking And Credit Institutions
SIC 75	5,800	Automobile Repair Services
SIC 81	5,600	Legal Services
SIC 79	5,100	Amusement & Recreational Services
SIC 45	3,900	Air Transportation
SIC 27	3,900	Printing And Publishing
SIC 82	2,900	Private Education Services
SIC 42	2,700	Trucking and Warehousing
SIC 62	2,300	Investment Services
SIC 38	2,600	Scientific Instruments
SIC 49	2,000	Electric, Gas and Sanitary Services
SIC 472	1,800	Transportation Services
SIC 48	1,700	Communications
SIC 36	1,500	Electronic Equipment
SIC 308	1,400	Miscellaneous Plastics Products

Source: U.S. Department of Commerce, Bureau of Economic Analysis; and Sunregion Associates, Inc. June, 1995

3.8 Target Industries of Opportunity

Table 3.2, *Non-Manufacturing Target Industries of Opportunity in the City of Page,* identifies target industries based on the criteria that: an industry in Page had a lower percentage of employment than the same industry in Coconino county and/or Arizona; and the industry in Page also had more residents per firm than in either of the latter

jurisdictions. Also, some additional industries were identified as having potential, based on research previously provided in the General Plan Database.

Specifically, these industries of opportunity included housing, lodging, and educational opportunities, as well as those based on community goals and objectives; such as arts/ cultural activities and additional tourism recreational activities. It should also be emphasized that the major industries identified in Table 3.2 are projected to be industry employment growth leaders in Arizona over the next decade as identified previously in Table 3.1

It should also be noted that certain industries or their subsectors may have very low pay scales, such as social services and various business services. Because of this, Page may not wish to target these lower-paying industries in their attraction efforts. Nevertheless, they are identified as targets because this analysis suggests that they are underrepresented in the City. It should also be emphasized that the information provided for each industry in Tables 3.1 and 3.2 is general information, and ***is not*** based on detailed economic feasibility analysis.

TABLE 3.2

Non-Manufacturing Targets of Industrial Opportunity in the City of Page

Standard Industrial Classification	Industry
SIC 2452	Multifamily Housing
SIC 8059, 8052, 8051	Elderly Care Facilities/Housing
SIC 70	Hotels/Motels/Recreational Vehicle Park
SIC 82	Two-plus-two College
SIC 52-59	Outlet Mall Center/Stores
SIC 56	Retail Apparel and Accessories
SIC 59	Miscellaneous Retailing
SIC 73	Business Services
SIC 80	Health Services
SIC 81	Legal Services
SIC 83	Social Services
SIC 87	Professional Services
SIC 79	Amusements and Recreation
SIC 60-65	Finance, Insurance, and Real Estate
SIC 42	Trucking and Warehousing
SIC 50	Durable Goods Wholesaling
SIC 17	Specialty Trade Contractors

Source: City of Page General Plan Update Process, and Sunregion Associates, Inc., June, 1995.

- *Affordable and Executive Housing,* a critical ingredient to any economic development program is the availability of both quality affordable as well as executive housing for local residents and to the employees of firms which the community seeks to attract as part of the economic development program. Both affordable and executive housing are in short-supply in page. The lack of affordable housing in Page is clearly documented in the City's September, 1994 *Affordable Housing Study.*

- In addition, research by the Project Team provided in the General Plan Database indicates that as of July 1, 1995, only 9.7 percent of the housing stock in Page consisted of multi-family units, compared to 16.3 percent in Coconino County and 23.3 percent in Arizona. Research conducted by the City in late 1994, in conjunction with the preparation of the City's *Affordable Housing Study,* also showed that among rental multi-family housing units the occupancy rates were approaching 100 percent. The occupancy rates for conventional for-sale housing units were also 100 percent based on input provided in the at community meetings during the General Plan Update process. With respect to rental units, another indication of the shortage of such units in Page is that in 1990 only 24.4 percent of the housing units were renter-occupied, in comparison with 39.5 percent in Coconino county, and 35.8 percent in Arizona.

- *Elderly Care Facilities*, as reported in the General Plan Database and expressed by citizens at public forums regarding the General Plan Update process, there appears to be market potential for an elderly care facility in the City of Page.

- *College Two-Plus-Two Program*, many community leaders have indicated that Northern Arizona University (NAU) has an interest in developing a satellite campus in Page that would provide junior and senior year educational opportunities. The City will enhance its future opportunities for both growing its own businesses as well as attracting new business development if such a facility is established. This attraction effort should be accorded a high priority. If an agreement cannot be forged with Northern Arizona University to develop a satellite campus, the University of Arizona, Arizona State University, and the University of Phoenix should be approached.

- *Hotels/Motels,* based on historic absorption trends since 1985, over 90 hotel/motel rooms per year have been developed in page and its vicinity. It is anticipated that this growth will continue and consequently the City should contact major chains/ resorts with the character and quality desired to inform them of the market opportunities in Page.

- *Recreational Vehicle Parks,* although there are recreational vehicle park spaces within the Glen Canyon National Recreational Area, there are very few spaces in Page. With the large and growing visitor population, a well located, high quality recreational vehicle park with major highway visibility, full hook-ups, showers and laundry, mini-mart, a clubhouse, and other amenities has excellent market

potential.

- *Retail Opportunities,* although there are identified retail opportunities in SIC 56, apparel and accessories; and the specialty retailing category of SIC 59, miscellaneous retail; the City should place strong efforts on attracting an outlet mall developer to redevelop the vacant stores adjacent to the existing factory outlet store; or consider allowing a potential developer to construct such a facility at a new location along Highway 89. If an outlet mail developer cannot be attracted the market focus should be readjusted on attracting, individual outlet stores.In addition, SIC 56 and SIC 59 could also be targeted for location in the downtown; along with some of the office related types of entities identified elsewhere in this element. SIC 59 consists of entities such as art dealers, banner shops, cosmetics shops, picture frame stores, telephone stores, trophy shops, pet shops, optical goods stores, florists, ice cream and lunch wagons, catalog and mail order houses, luggage and leather goods stores, fabric shops, camera and photographic stores and hobby and toy stores.

- *Services Opportunities,* the service industries that will generate much of the future employment growth in the United States and Arizona are business services health services, legal services, social services, professional services, and amusements and recreational services.

  SIC 73, Business Services, this industry is projected to experience the greatest increase in employment during the next decade in the United States as well as in Arizona. Presently, Page is underrepresented in this broad industry category, which includes both high technology as well as more traditional labor intensive sectors. For example, SIC 73 includes computer programming services, computer processing and data preparation services, informational retrieval services, other computer services, prepackaged software design and development. More traditional industries include employment agencies and help supply services, equipment rental & leasing, detective and guard services, and security systems services.

  In 1992, the mean annual Arizona wage paid in this industry was $17,191. However, the variation within the industry is quite large. For example, the mean wage in advertising was $30,036; in equipment rental and leasing $22,148; in computer and data processing services; $37,369 and for services to buildings ranged as low as $10,190. The private sector industry mean annual wage in Arizona in 1992 was $21,925.

  SIC 80, Health Services, this industry is another sector which appears to be under-represented in Page, compared to Coconino County and Arizona. If the hospital is expanded in the near future, such an expansion, as well as the attraction of additional health care providers, could eliminate under representation in this industry. In 1992, the mean Arizona annual wage paid in this industry was $29,500.

Sic 81, Legal Services, this analysis illustrates the fact that in Page the professional may be underrepresented in relation to Coconino County and Arizona. In 1992, the mean Arizona annual wage paid in this industry was $44,156.

SIC 83, Social Services, this industry consists of individual and family social services, job training and vocational rehabilitation services, child day care services, residential care services, and other social services. In 1992, the mean Arizona annual wage paid in this industry was $13,034.

SIC 87, Professional Services, this industry consists of professions such as engineering, architecture, accounting and auditing, bookkeeping, testing laboratories, management services, public relations firms, and various consulting services. In 1992, the mean Arizona annual wage paid in this industry was $25,686.

SIC 79, Amusement and Recreational Services, employment in this industry in Page is not under represented compared to other industries, and will increase when staffing for the new golf course occurs. Input received fro citizens in the planning process has identified other potentially viable recreational opportunities including miniature golf, water slides, as well as amphitheater event possibilities. These facilities may have market feasibility, and consequently it is suggested that the City contact firms in these industries in Arizona and elsewhere to determine if an interest level exists to develop such facilities in the City. In 1992, the mean annual wage paid in this industry in Arizona was $14,170.

SIC 60-65, Finance, Insurance, and Real Estate, the evaluation of this industry suggests that there may be opportunities for additional financial consultants, as well as securities and commodities brokerage. In 1992, the mean annual wage in this industry in Arizona was $27,024.

SIC 72, Trucking Services, Input obtained at the community meetings indicated that trucking services were inadequate in the City, which is supported by the economic base analysis. Arizona firms should be contacted to determine their interest in locating in Page. In 1992, the mean annual wage in this industry in Arizona was $22,760.

Durable Goods Wholesaling, the analysis suggests that given the regional nature of the City's market, as well as the substantial tourism base, there may be opportunities to attract additional branch wholesaling operations. Durable goods wholesalers, (SIC 50), include such wholesalers as motor vehicle supplies and parts, tires, furniture and hoe furnishings, lumber and construction materials, professional commercial equipment and supplies, electrical goods, and hardware and plumbing and heating equipment. In 1992, the mean annual wage in this industry in Arizona was $28,428.

Specialty Trade Contractors, in 1992, the mean wage in this industry in Arizona was

$21,095. The specialty trade contractors industry, SIC 17, includes specialties such as plumbing, heating and air conditioning, painting, electrical work, masonry work, drywall and insulation, stonework, carpentry work, roofing and siding, concrete work, water well drilling, and similar specialties.

Relocating and Expanding the City's Airport, a recent study indicates that Page's Airport may reach capacity by 2010. Significant work needs to be done to plan for a new facility. A new facility could clearly create many professional, technical, and service oriented job opportunities and by a very important feature in Page's long-range economic development efforts. The City should continue to monitor annual enplanements and other measures of capacity of forecast when the existing airport will reach capacity. In 1992, the mean annual Arizona wage is SIC 45, Air Transportation Services, was $26,946.

Manufacturing, given limited resources, it is recommended that the greatest amount of effort should be directed to attracting the types of firms/industries described in the preceding sections of this element. It should be noted that there are only a few manufacturing industries in growth sectors that are located in non-metropolitan areas outside of Maricopa and Pima County. In addition, the primary impediment to attracting more rapid manufacturing growth in Page is its distance from freeways, major market areas, and proximity to a wide-range of suppliers and business and financial services. Nevertheless, opportunities exist, as shown in Table 3.3, *Potential Manufacturing Targets of Industrial Opportunity in the City of Page.* If a NAFTA-related interstate freeway were to be developed, this region would dramatically change.

SIC 271, newspaper printing and publishing, and SIC 275, commercial printing are the most common types of manufacturing industry in non-metropolitan counties in Arizona. In addition, (among the industries projected as future employment growth leaders) there is a modest industrial presence in some non-metropolitan counties in SIC 30, miscellaneous plastics products; SIC 36, electronic equipment; SIC 37, transportation equipment (excluding motor vehicle manufacturing); and SIC 38, scientific instruments. As would be expected, there are also a number of natural resource based firms in communities in non-metropolitan counties in Arizona.

In 1992, the three of four digit standard industrial classifications which have two or more establishments located in counties outside of Maricopa and Pima Counties were SIC 271, SIC 275, SIC 3089, SIC 361 and 362, SIC 364, SIC 369, SIC 3714, SIC 3721, SIC 3732, and SIC 3842. Of the latter SICs five have been identified for targeting consideration by Page (SIC 275, SIC 3089, SIC 3732, SIC 369, and SIC 3714). In addition, as a result of input of General Plan Update community meetings, two additional industries have been added to Table 3.3 (SIC 3275, gypsum products, and SICs 2451/2452, mobile and modular home manufacturing).

TABLE 3.3

Potential Manufacturing Targets of Industrial Opportunity in the City of Page

Standard Industrial Classification	Industry
SIC 3089	Miscellaneous Plastics Products
SIC 3732	Boat Building and Repairing
SIC 369	Miscellaneous Electrical Equipment & Supplies
SIC 3714	Motor Vehicle parts & Accessories
SIC 3275	Gypsum Products
SIC 2451 and 2452	Mobile/Modular Home Manufacturers
SIC 275	Commercial Printing and Publishing

Source: Sunregion Associates, Inc., June, 1995

SIC 3275, Gypsum Products, gypsum products are within the broad industrial classification (SIC 32) known as stone, clay glass, and concrete manufacturing. Gypsum products include acoustical plaster, gypsum board, orthopedic plaster, insulating plaster, gypsum panels, wallboard, gypsum blocks, and rock and tile, If a plant can be developed in conjunction with operations at the Navajo Generating Station, the only potential negative constraint may be air quality emissions. The extend of such emissions should be carefully evaluated before the City commits to assist in attracting or supporting the attraction of such an entity to the area. At this time, however SRP has no after-market plans for utilizing the gypsum by product.

SIC 2451 and 2452, Mobile/Modular Home Manufacturers, other than the more traditional resource-based gypsum potential associated with the Navajo Generating Station, the only other more traditional manufacturing activity identified by residents at General Plan Update community meetings was a mobile/modular home manufacturer. The latest information indicates that within Arizona a total of 20 mobile/modular home manufacturers exist. The 1992 database indicates that 14 of the 20 firms are located within Maricopa County, with only one located in Pinal County. The data does not indicated the presence of a mobile/modular home manufacturer in Coconino, Navajo, or Apache counties.

Although mobile/modular home manufacturers typically prefer to be located in proximity to major highway arterials, their component suppliers, largest markets, and a trained labor force, it nevertheless might provide useful to prepare basic housing data regarding the housing market in Page and surrounding area. The City could contact all manufacturers in Arizona, and/or their respective parent company home offices to determine their interest in establishing a facility to serve the Page region. Additional manufacturers not represented in Arizona could also be contacted as well.

The mean annual wage paid in Arizona in SIC 2451 in 1992 was $24,518, compared to the all industry private sector mean of $21,925. The mean annual wage in SIC 2452 in

Arizona in 1992 was $27,034. In terms of overall employment in Arizona in 1992, 1,312 individuals were employed in both industries.

SIC 3089 – Plastics Products, Not Elsewhere Classified, examples of these products include plastics fittings, fascia, flat panels, floor coverings, plastic hardware, kitchenware, and microwave plastics. The Arizona mean annual wage in this industry in 1992 was $21,862 compared to the all industry average of $21,925. In 1992, 5,630 individuals were employed in this industry in Arizona. Rural counties with employment in this industry include Mohave, Yavapai, Pinal, and Navajo Counties.

SIC 369 – Miscellaneous Electrical Machinery, Equipment, and Supplies, examples of manufactured products include engine electrical equipment such as harness wiring sets for automobiles, ignition cable sets ore wire assemblies, spark plugs, voltage regulators, breaker point sets, and various types of storage batteries, dry and wet call batteries. Firms in this industry outside of Maricopa and Pima Counties are located in Coconino and Yuma Counties. This mean annual wage in SIC 369 in 1992 in Arizona was $22,232, with industry employment around 1,450 jobs.

SIC 3714 – Motor Vehicle Parts and Accessories, firms in this industry are located primarily in Maricopa and Pima Counties. Coconino, Santa Cruz County, and Cochise Counties are the only rural counties with such employers. The mean annual wage in the industry in Arizona in 1992 was $23,213, and industry employment was about 2,230.

SIC 3732 – Boat Building and Repairing, Page already has firms engaged in this industry operating in the City. Additional firms could be recruited. The mean wage paid in Arizona in this industry in 1992 was $18,307, and industry employment was approximately 450.

SIC 275 – Commercial Printing and Publishing, although the printing industry is already established to some extend in Page, given the size of the regional market area more opportunities/firms could potentially be attracted to the City to serve the market. In 1992, the mean annual wage paid in SIC 275 was $22,700, and industry employment was nearly 6,390.

3.9 Potential Economic Development Incentives

In 1993, the national accounting firm of Deloitte & Touche conducted a business incentives survey of 658 economic development professionals, and 151 corporate executives. The purpose of the survey was to determine how important economic development professionals and corporate executives view incentives to be in the site selection/business expansion process. It should be noted that the corporate executives surveyed represented manufacturing, retailers, distribution and wholesaling, services companies, as well as other industries. Most of the executives surveyed represented larger firms.

Although the Deloitte & Touche survey focused on larger firms, based on the consultants experience with site selection and economic development, from both private-and public-sector perspectives, their survey is equally valid for smaller, rapidly growing firms. Table 3.4, *Business Locational Factor Ranking,* provides a list of the 17 most important locational factors as viewed by the business executives surveyed.

The executive survey indicated that incentives are not especially important in the pre-project locational/site selection competitive screen or in the initial screen. However, during the qualifying screen, 54 percent of the executives indicated that incentives become important to them, in that they reduce start-up costs and investment risk. The second largest group of survey respondents, with 53 percent (multiple responses allowed) of the responses, indicated that the most important role of incentives is to serve as a tie-breaker between finalist communities.

Overall, as seen in Table 3.4, available incentives placed 14th in terms of the 17 selection criteria. Nevertheless, it should be emphasized that Item 1, Real Estate Costs; Item 4, Real Estate Availability; Item 6, Regulatory Environment; Item 11, Utility Service Costs; and Item 15, Educational System/infrastructure are all frequently part of an incentive package. In additional many of these factors also are identified on the list of the most popular incentives among executives when considering a new site as noted in Table 3.5, *Ranking of Site Selection Incentives.*

Economic development professionals hold an even stronger view of the importance of incentives in the site location/expansion process than do corporate executives. The Deloitte and Touche survey indicated that 20 percent of the economic development professions rated incentives as critical to their economic development organization's success, 64 percent rated them as either very important or important, and 12 percent ranked incentives at least moderately important. The balance did not believe that incentives plated a role in their operations.

TABLE 3.4
Business Locational Factor Ranking

Ranking	Factor	Respondents
1	Real Estate Costs	108
2	Labor Force Issues	96
3	Transportation Access	95
4	Real Estate Availability	92
5	Market Access	91
6	Regulatory Environment	89
7	Labor Costs	82
8	Community Image	76
9	Tax Climate	76
10	Utility Services Quality	71
11	Utility Service Cost	63
12	Quality-of-Life in Area	61
13	Business Services & Technical Support Available	53
14	Incentives	50
15	Education System/Training Infrastructure	48
16	Proximity to Suppliers & Raw Materials	45
17	University Resources	20

Source: Deloitte & Touche, June, 1993

TABLE 3.5
Ranking of Site Selection Incentives

Ranking	Incentive	Responses
1	Infrastructure Improvements	72
2	Property Tax Abatement	71
3	Regulatory Flexibility	65
4	Tax Credits	55
5	Utility Rate Incentives	51
6	Land/Facilities/Cost Write-downs	50
7	Public Finance Grants	22
8	Enterprise Zone	21
9	Subsidized Training	20
10	Employee Relocation Assistance	12

Source: Deloitte & Touche, June, 1993

A number of incentives have been identified in Table 3.5, and some of those identified are already available in Page; such as various business financing tools, an enterprise zone, and access to various forms of subsidized training.

- *Retail Shopping Center/Retail/Service Establishment Incentives,* it is recommended that retail incentives should only be offered to developers or end users to fill the city's most pressing development needs, and only when the sales tax and employment generation impacts (revenue over costs) are substantial. Further, the cost of the incentives provided should not exceed a defined percentage of the projected sales tax revenue to be generated by the project. If incentives are provided they should not be provided unless the developer/end-user receiving the incentive meets pre-determined performance/ sales levels.

  The preferred approach regarding retail incentives is to provide such incentives for infrastructure improvements in the case of new development. The up-front costs are incurred by the developer/end-user. After project completion they receive a rebate of a percentage of the new sales tax revenue generated by their project over a defined number of years; not to exceed ten, or until their infrastructure costs are amortized.

  The incentives should apply to a "significant amount of retail space/service space" and this could be defined as a facility with a gross leasable area of 25,000 square feet or greater, provided that sales taxes per foot are $100 or more. Moreover, another requirement might be that the project generate at least 25 new jobs within a specified period of time. If new construction is not involved, tenant improvements could also be considered for incentive financing.

- *Housing Developers,* residential developers willing to construct quality housing projects meeting City design standards and defined rental or for-sale price standards could also be considered for incentive assistance. It is recommended that incentives in which the City does incur any direct out-of-pocket costs be utilized. For example, the City may assist the developer with any of the following: by awarding higher density bonuses than normal; or by writing down the appraised value of the subject property; or by offering a long-term, low-rate ground lease with respect to multi-family housing development; or, by assisting the developer in securing various state and federal housing development assistance incentives. The City should also encourage local residential lenders to access and advertise the availability of state revenue bond financing for first time home buyers as well as implement other actions identified in the *Affordable Housing Study.*

- *Other Non-Sales/Direct Sales Tax Generating Establishments,* assistance could also be provided to developers/end-users on the size of the building to be developed and the number of new employees which will be hired. Only new employees receiving a wage above the statewide mean in the sector would be

considered in the formula. Once again, assistance could be provided in the form of land write-downs, or perhaps a long-term land lease at a favorable rate.

3.10 Strategies for Employer Recruitment, Marketing, and Business Retention

- *Local Industrial Recruitment,* although the Project Team has targeted many potential economic development opportunities for Page, it is not uncommon for non-targeted firms, or firms not expected to locate in the community, These untargeted employers may begin operations simply because the owner likes the area or has some other personal reason, or determines that the area may have some competitive advantage not available elsewhere. Obviously, such prospects should be encouraged if their projects are compatible with community environmental standards, goals and objectives.

  Given the large number of tourists who visit Lake Powell from throughout the United States and numerous foreign countries, the City and/or chamber of Commerce should work very closely with all hospitality properties in the area to advertise Page's interest in attracting clean industry with employment growth potential. The development of simple handouts which could be placed in each hotel/motel room throughout the area and at other locations frequented by tourists could be a good way to market the City's intent.

  The flyer would contain basis information such as contacts within the City and Chamber of Commerce, a listing of existing incentives which are now available to assist a firm with their business expansion or relocation needs.

- *Economic Development Professional Services Contract,* the City has retained an experienced economic development professional very familiar with the industrial marketing in Arizona to assist in the City's continuing economic development efforts.

  This individual, as well as marketing staff at the Arizona Department of Commerce, should be informed of the list of targeted industries which the City determines are worthy of pursuing. They should be asked to offer advise and recommendations as well.

- *Networking,* other entities in addition to the Arizona Department of Commerce should also be pursued. For example, the Salt River Project and local realtors can also offer useful advice an recommendations.

- *Personal Contacts and Data Development,* in addition, the City may wish to directly contact representatives from the industries identified for targeting. The City should determine their interests in a Page location and provide timely, objective information that will assist in their decision-making process. For the industries identified, it is believed that the local starting point is to target Arizona-based firms. For example, in terms of outlet centers, SunCor and Park West

Development Company – the City is already very familiar with the latter company – recently developed the Widwam Outlet Stores at I-10 and Litchfield Road in the Phoenix Metropolitan Area.

With respect to multi-family housing development, there are also numerous multi-family home builders in Phoenix, Tucson, and elsewhere in the State who should be directly contacted.

- *Marketing Materials,* what marketing material should be developed to assist in recruiting the target industries identified? Basic information provided in the General Plan Database, Economic Development, and Land use Elements contains most of the information necessary to develop marketing materials and also to respond to prospect data requests. With respect to such requests, the City should secure the State Department of Commerce's newly released data base development software.

  The population and housing projections in the land Use Element, and information regarding existing and adopted incentives can serve as the basis for responding to prospects research questions. It would be most useful to prepare a brief marketing document for each specific type of industry target: (e.g., housing, elderly care facilities), which would address key features of the local market and market area.

- *City/Chamber of Commerce Economic Development Staff,* over the long-term it is also vitally important for in-house staff to be charged with the responsibility of responding to data and prospect research requests. Specifically, these responsibilities can include updating of marketing materials, serving as the coordinator for prospect visits, and continuously networking with non-local economic development professionals under contract to the City, the marketing professionals at the Arizona Department of Commerce, the Arizona Office of Tourism, the Salt River Project, and at various professional events/functions.

- *City of Page Tourism Marketing Campaign,* in addition to networking with the Department of Commerce and the Salt River Project, the City should stand behind the Page Tourism and Special Events Board concept for developing a unified public/private sector tourism marketing program. The program would not only develop unified marketing materials for the community but would also entail contracting with a professional advertising firm to prepare an on-going strategic media advertising program for the City. The motivating concept is to consolidate resources, develop a unified marketing theme, and gain more impact for the marketing dollars now expended or to be expended in the future.

- *Business Retention and Expansion Strategy,* individual(s) from the City and or Chamber of Commerce should be designated to conduct an annual business survey. The primary purposes of such as survey are to identify specific issues which a firm may be having with respect to operating their business in Page,

and assisting the business in addressing their issues to the extend possible. In addition, business finance programs such as the State's Uniform Limited Partnership Act, the potential for small issue industrial development bonds, the Northern Arizona Council of Governments new Intermediary Re-lending Program, as well as many of the other financing and business assistance programs available thorough the Federal Government (Small Business Administration micro loan program and other procurement and loan programs), Community Development Block Grand assistance potential, and the 504 loan program should all be publicized in the community.

3.11 Economic Development Implementation Program

Table 3.6, *Economic Development Implementation Program,* lists the economic development implementation measures which the City should take to implement the goals and objectives in the General Plan Update. The implementation program lists each implementation measure the purpose, objective reference, timeframe, key participants and the resources necessary to accomplish each implementation measure.

Table 3.6
Economic Development Implementation Program

Implementation Measure	Purpose	Objective / Reference	Timeframe (Years) 1-2	3-4	5-6	7-8	Key Participants	Resources
Job Opportunities, Business Development and Retention								
1.0 Establish the economic development infrastructure and programs necessary to attract additional professional jobs to Page	Provide more better paying employment opportunities for youths and other residents.	1.1, 1.2	•				City, Chamber, High School and Other Training Partners	City, Chamber, ADOC, & High School
2.0 Determine local business needs through periodic surveys; and maintain a current database annually to support local business expansion.	Help assure existing businesses that Page is business success oriented & it offers an attractive business climate for retaining and expanding businesses.	2.1, 2.2, 2.3	•	•	•	•	City and Chamber of Commerce	Same as Key Participants
3.0 Develop support systems to help establish small businesses and help them to grow and succeed. Improve the awareness of and delivery of financial and development services.	Capitalize on existing business and finance programs, and create innovative incentives which will help existing companies expand and new businesses incubate.	3.1, 3.2, 3.3, 3.4, 3.5	•	•			CCC's, SBDC, Chamber of Commerce; SBA; HUD; ADOC; City Planning, Engineering, & Building	AZ Multi-Bank, City IDA, City Enterprise Zone, NACOG, SBA, HUD, City Planning, Engineering, & Building.
4.0 If EDA designates the NACOG Development District, access Business & Technical Assistance Services.	Assist businesses with expansion plans through NACOG's free services	4.1	•				City/NACOG	NACOG
Regional Retail and Tourism Development								
1.0 Expand measures to attract new regional retail/ service and tourism businesses underrepresented in the City. Consider designating rundown areas as Redevelopment Areas under state law.	Strengthen the Downtown Area and Tourism, and Provide additional Selection & Services for Residents.	5.1, 5.2, 5.3	•	•				

Table 3.6 (continued)
Economic Development Implementation Program

Implementation Measure	Purpose	Objective / Reference	Timeframe (Years) 1-2 3-4 5-6 7-8	Key Participants	Resources
Job Opportunities, Business Development and Retention					
2.0 Capitalize on the economic development benefits of promoting the arts in Page.	Strengthen the Downtown Area and Tourism, and Provide additional Selection & Services for Residents.	6.1	• •	City, Chamber of Commerce, City Contracted Economic Development Professional	City, Chamber, Main St. Program, ADOC, ADOT, City Contracted Econ Dev Prof.
Business Marketing/Advertising/Attraction					
1.0 Support the City's Tourism and Special Events Board in developing a Comprehensive	Attract more tourists to and business development in Page.	7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7	• • • •	Tourism Board; Chamber; Private Business. ADOC, Contracted Econ. Dev. Professional	City; Private Sector, & AOT & ADOC
2.0 Consider adopting a total incentive package for use in a residential, commercial, and industrial attraction program.	Enhance the City's locational appeal and ability to attract key business and industry.	8.1	•	City and Chamber	A.S.U. Morrison Institute & ADOC
Telecommunications					
1.0 Ensure that the City of Page is Serviced by the most state of the art telecommunication services.	To assist in utilizing the most current telecommunications services available.	9.1	• •	City	City and US West Comm.

List of Abbreviations:

CCC	-	Coconino Community College
SBDC	-	U.S. Small Business Administration authorized Small Business Development Center
City	-	City of Page
Chamber	-	Page Chamber of Commerce
NACOG	-	Northern Arizona Council of Governments
SBA	-	U.S. Department of Commerce's Small Business Administration
HUD	-	The U.S. Department of Housing and Urban Development
CDBG	-	HUD Community Development Block Grant Funds
ADOC	-	Arizona Department of Commerce
AOT	-	Arizona Office of Tourism

4.0 Circulation Element

4.1 INTRODUCTION

4.1.1 Background

The Arizona Department of Transportation (ADOT) established a Small Area Transportation Study (SATS) process to assist communities in addressing transportation issues and identifying transportation improvements needed to accommodate future growth; identified transportation improvement projects would then be eligible for future funding. The program has provided an opportunity for many areas in the State to address transportation issues in their communities that would not have had the opportunity had the program not been in place.

The purpose of this report is to document existing roadway characteristics and operations, land use and socioeconomic conditions, and other existing transportation modes, and to craft a long-range transportation plan to meet the transportation needs of the City of Page. A travel demand model was prepared to forecast traffic volumes to assist in identifying the traffic impacts with the anticipated growth around the City.

Note that this study does not address recommendations for State facilities such as State Route 98 and US 89. Improvements for these routes will be achieved through another ongoing study conducted by ADOT; however, the impacts of any said recommendations will be considered in this study.

This study was conducted in cooperation with other agencies including Northern Arizona Council of Governments (NACOG), the National Park Service, Navajo Department of Transportation, Coconino County, and was jointly funded by the City of Page and ADOT. At the onset of the study, a technical advisory committee (TAC) was formed to guide the development of the SATS. Regular TAC meetings were held in addition to two open houses (held March 29, 2007 and August 7, 2007). TAC member input throughout the process was critical to the development of this Plan.

4.1.2 Study Area

The study area extends beyond the City of Page boundaries to take into consideration the effect of surrounding development (Greenhaven and Lechee) and regional attractions such as Lake Powell and the Glen Canyon National Recreation Area. The study area is generally bounded by the Utah/Arizona border on the north, the Navajo Nation on the east and to the south, and the Glen Canyon National Recreation area to the west. On the east the study area encompasses the Antelope Marina and the Navajo Generating Station to take into account their effect on the transportation system. The study area extends beyond the incorporated area to capture transportation influences beyond the City boundary; however, this should not be construed as an annexation of future planning area.

4.1.3 Key Issues

Through the input from ADOT, the City of Page staff, relevant studies and TAC meetings, it was determined that increasing growth (both population and employment) and tourism were major issues in the City of Page affecting the transportation infrastructure and planning needs.

Growth

Growth has remained relatively stable at less than one percent per year for the past decade. This growth has resulted in a greater demand on existing infrastructure and City resources. In addition, there are a number of planned and underway development projects that will affect circulation in the City.

Tourism

The City of Page is recognized as the gateway to Lake Powell. Page is the focal point of much activity in the region; offering services, accommodations, and recreation amenities not provided elsewhere in the area. The region is home to a number of attractions, most notably the Glen Canyon National Recreation Area, attracting over two million visitors annually.

Marina-Related Activities

A number of businesses in the City of Page provide services for houseboats and other large watercraft. These boats are transported to and from Antelope Point and Wahweap Marinas, primarily along the State Routes. In response to this, ADOT has proposed roundabouts to accommodate the clearance these craft require[1]. Discussions are ongoing between the City and ADOT on these facilities, the first of which is being designed for US 89 and Haul Road.

4.2. TRANSPORTATION GOALS, OBJECTIVES, AND POLICIES

The primary objective of this Small Area Transportation Plan is to develop a long term vision that will guide multi-modal planning and programming on local roads over a 20-year timeframe. The following key goals, objectives, and policies were adapted from the City of Page 1996 General Plan.

4.2.1 Circulation Element Vision Statement

"We envision the circulation system in the City of Page providing a variety of transportation modes to move people and goods within and through the community. The circulation system will be safe, provide adequate traffic flow and will accommodate growth in the community. The City of Page will support alternative transportation modes such as bicycling and walking to transport residents, visitors and employees in the community. A regional transportation network will provide needed access to other cities in the region."

4.2.2 Goals, Objectives, and Policies

GOAL: Develop a system of arterial and collector roadways that accommodates the movement of people and goods within and through the City.

Objective: Plan arterial and collector roadways to serve existing and future development without adversely impacting residential neighborhoods.

Objective: Develop and adopt street standards for all street classifications throughout the City.

Policy: Categorize proposed streets and improvements with standards set forth in the City's current or future General Plan street standard guidelines and priorities set forth by the City Council.

Objective: Designate and ensure the dedication of the necessary streets right-of-way to coordinate with the City's minimum right-of-way dedication standards.

Objective: Require the construction of streets through new developments that adhere to the City standards.

Objective: Develop a truck route plan for the City.

Policy: Maintain a system of truck routes that enables efficient deliveries with minimum disturbance of residential neighborhoods. Develop a truck route map that identifies these routes.

Policy: Limit gross vehicle weight on some local streets.

GOAL: Update the City's General Plan with a revised Circulation Element.

Objective: Develop an updated Circulation Element with this Study forming the basis for the Updated Circulation Element and hereby adopted by reference.

Policy: Incorporate Small Area Transportation Study recommendations in General Plan update process.

GOAL: A public transportation system to serve residents and visitors alike.

Objective: Encourage existing and new private bus companies to continue to implement a public transportation system.

Policy: Work with regional employers and other entities to assist in funding public transportation services.

Objective: Coordinate regularly scheduled service between LeChee and Page.

Policy: Work with the Navajo Nation in obtaining funding for transit service serving Navajo Nation communities.

Objective: Establish a City and/or employer sponsored ridesharing program for workers at the Navajo Generating Station, industrial park area, and other outlying employment locations.

GOAL: Continue to seek regional bus service for the City of Page.

Objective: Encourage national carriers to establish routes between the City of Page and Flagstaff, Fredonia, Kanab, and Phoenix.

GOAL: An integrated bicycle and pedestrian circulation network.

Objective: Identify a system of sidewalks, bicycle facilities and pedestrian paths as a viable alternative transportation system.

Policy: Develop a trails master plan that identifies and specifies a system of on and off-street trails that circumnavigate the City and connect to local destinations (such as schools and parks) and regional open space amenities.

Policy: Continue to improve the Rim View Trail for equestrian, bicycle and pedestrian travel.

Objective: Establish a bicycle system that includes bike paths, bike lanes, and bike routes in the community.

Objective: Support the development of crosswalks and pedestrian activated crosswalk on Lake Powell Boulevard in downtown Page.

Objective: Identify equestrian trails and linkages in the on and off-street trail system.

Policy: Ensure that there are equestrian trail linkages throughout the planning area adjacent to compatible developments and neighborhoods.

Policy: Encourage equestrian trails in recreational areas and discourage equestrian trails from major and collector streets to prevent conflict

between horses and motorized vehicles, bicyclists and pedestrians.

GOAL: A comprehensive recreational trail system in the City of Page that is interconnected and accessible from various areas of the community.

Objective: Coordinate City trail development with National Park Service trail development efforts.

Policy: Work with the National Park Service on developing a Glen Canyon Rim Trail along Page's western boundary.

Objective: Establish and sustain public access to the Rim View Trail from various areas of the community.

4.3. YEAR 2006 EXISTING TRANSPORTATION SYSTEM CONDITIONS

4.3.1 Previous and Current Studies

City of Page General Plan

The previous *City of Page General Plan Update* (City of Page, 1996) was developed to guide decisions about growth and development in the City. The City has focused its development efforts on diversifying the economy to include tourism, recreation and the hospitality industry. That plan was adopted in March 1996. The City is currently in the process of updating the 1996 General Plan and this Circulation Element is derived from the Small Area Transportation Study (HDR, October 2007) and will form the basis for the Circulation Element and adopted herein by reference.

A goal of the City's is to create opportunities for developing additional quality accommodations for visitors along the U.S. Highway 89 corridor. In order to guide this development, the *Gateway Area Specific Development Plan* was prepared by the City's Planning Department and adopted August 1989, and amended in January 1992.

Coconino County Comprehensive Plan

The *Coconino County Comprehensive Plan* (2003) guides land use decisions and serves as a reference for community programs. The plan addresses conservation, the natural environment, circulation, community character, land use and growth. The circulation element of the Comprehensive Plan envisioned sufficient transportation infrastructure in rural areas to facilitate safe access for all modes of travel, while minimizing environmental impact. Policies focus on improving transit service in unincorporated areas, providing infrastructure for alternatives to motorized vehicle travel, and supporting the development of multimodal transportation corridors.

Navajo Route 20 Feasibility Assessment

A feasibility assessment for a 44-mile long corridor of Navajo Route (N-20) documented that the N-20 Route Concept is not feasible due to the unresolved issues associated with route transfer, alternative N-20 roadway alignments, and easements (ADOT, 2005). The cost of constructing N20 improvements were estimated at approximately $180 million in 2005 dollars but did not include expenses for studies, possible easement acquisition costs, and environmental impact mitigation.

4.3.2 Existing Roadway Characteristics and Conditions

This section presents the key physical and operating characteristics of major roadway network within the study area under existing conditions. Major roadway networks include US 89, SR 98, Lake Powell Boulevard, Coppermine Road, Indian Route 20 (N20), and Navajo Drive, besides various local streets linking important City nodes. The major existing roadways are summarized below.

US 89

US 89 is a major two-lane north-south roadway traversing the City on the west, providing regional connectivity to adjacent cities and recreational facilities associated with Lake Powell. The posted speed limit on US 89 is 65 miles per hour (MPH) outside the City. Within the City it reduces to 45 MPH within the city limits with the exception of the stretch between Haul Road and Lake Powell Boulevard where it is 35 mph. US 89 has free flow with side-street stop control to adjacent streets. Few major commercial activity locations (Wal-Mart, Lake Powell National Golf Course Club House, the National Park Service headquarters, etc.) are established along US 89 within the City limits.

SR 98

Two lane SR 98 traverses east-west direction connecting US 89 to Navajo Indian Reservation and proceeds further east beyond the study area to US-160. the posted speed limit on SR 98 is 55 MPH, however, reduces to 45 MPH at intersections with US 89 and Coppermine Road. The intersection of SR 98 at Coppermine Road is signalized.

Lake Powell Boulevard

Lake Powell Boulevard is a major business loop bisecting US 89. This corridor is signalized at the intersections with Coppermine Road, North and South Navajo Drive and Elm Street. Lake Powell Boulevard has two thru-lanes in each direction with a center turn-lane having a posted speed limit of 30 MPH within the city downtown area. However, this roadway has two eastbound lane and one westbound lane with posted speed limit of 40 MPH east of US 89.

Coppermine Road

Coppermine Road is a north-south two-lane roadway having one lane in each direction. Coppermine Road is signalized at Lake Powell Boulevard and SR 98. Posted speed limit along this roadway is 40MPH between Lake Powell Boulevard and SR 98, however, the speed limit reduces to 35 MPH south of SR 98. This roadway is providing a link between the City of Page and the LeChee Chapter of the Navajo Nation. South of the City boundary this facility immediately turns into N20.

Navajo Drive

Navajo Drive is another major loop within the City bisecting Lake Powell Boulevard. It has one lane in each direction with an additional center turn-lane with a speed limit of 25 MPH within the City. As mentioned earlier, North and South Navajo Drive are signalized at Lake Powell Boulevard.

Indian Route 20

Navajo Route 20 (N20) is a 44-mile roadway on the Navajo Nation between US 89 at The Gap (US 89 at Milepost 498.02) and the intersection of SR 98 and Coppermine Road in the City of Page. N20 is part of the Navajo Nation Indian Reservation Road (IRR) system and is under the jurisdiction of the Navajo Nation and the Bureau of Indian Affairs (BIA). N20 is located within four Navajo Nation Chapters including the Bodaway/Gap, Coppermine, LeChee, and Tuba City Chapters. Within the study area, this is a two-lane route with a posted speed limit of 35 MPH.

4.3.3 Functional Classification

Functional classification is the grouping of highways, roads and streets into classes with respect to their service and purposes. It also serves as a basis for establishing speed limits, parking restrictions, design standards and access controls. Existing roadway system is categorized into the following functional classes:

- Arterial Streets (Principal and Minor)
- Collectors (Major & Urban)
- Local Roads

Figure 1 shows the existing roadway functional classification for the study area roadways. Roadway characteristics are described and defined below.

Principal Arterial

Principal arterial serves the majority of the trips entering and leaving the City of Page. It also includes the majority of the through traffic intending to bypass the central city area. State facilities such as US 89 and SR 98 are functionally classified as a Principal Arterial.

Minor Arterial

Minor arterial roadway system provides access to areas smaller than those served by principal arterials, while providing intra-community continuity without penetrating identifiable neighbors. Lake Powell Boulevard and Coppermine Road fall under Minor Arterial.

Major Collector

The major collector roadway system collects traffic from local streets and channels it into the arterial system. They also provide land access and traffic circulation within residential neighbors, commercial and industrial areas. Haul Road is classified as a major collector.

Urban Collector

Urban collectors also collect traffic from local roads and carry traffic into the arterial system; providing service to the smaller communities; and links the locally important traffic generators. Major streets within the City limit are classified as an urban collector under prevailing conditions.

Local Road

The local road system serves primarily to provide access locally and discourages through traffic. They provide service to travel over relatively short distances as compared to collectors or other higher systems.

4.3.4. Roadway Characteristics

Existing roadway characteristics information was collected on the existing roadway system through site visits. All study roadways are paved under existing conditions. Roadway characteristics are briefly described below.

Roadway Lanes, Intersection Control and Speed Limits

The number of travel lanes, and the type of intersection control are illustrated in ***Figure 2.*** Roadways serving within the central area typically have two-lanes. Lake Powell Boulevard has two-thru lanes in each direction with a center turn-lane within the downtown area. North and South Navajo Drive are two-lane roadways with a center turn-lane. US 89 and SR 98 consist of two-lanes. ***Figure 2*** also documents the signalized intersections within the City. A total of five signalized intersections are found within the study area. The majority of the intersections are side-street stop controlled with several all-way stop controlled.

Lane configurations at major intersections within the study area are shown in ***Figure 3***. Thru, shared, and exclusive turning lanes at all approaches for major signalized and unsignalized intersections are documented.

Figure 4 shows the posted speed. Posted speeds along US 89 within the urban area are primarily 45 MPH (with the exception of 35 MPH between Haul Road and South

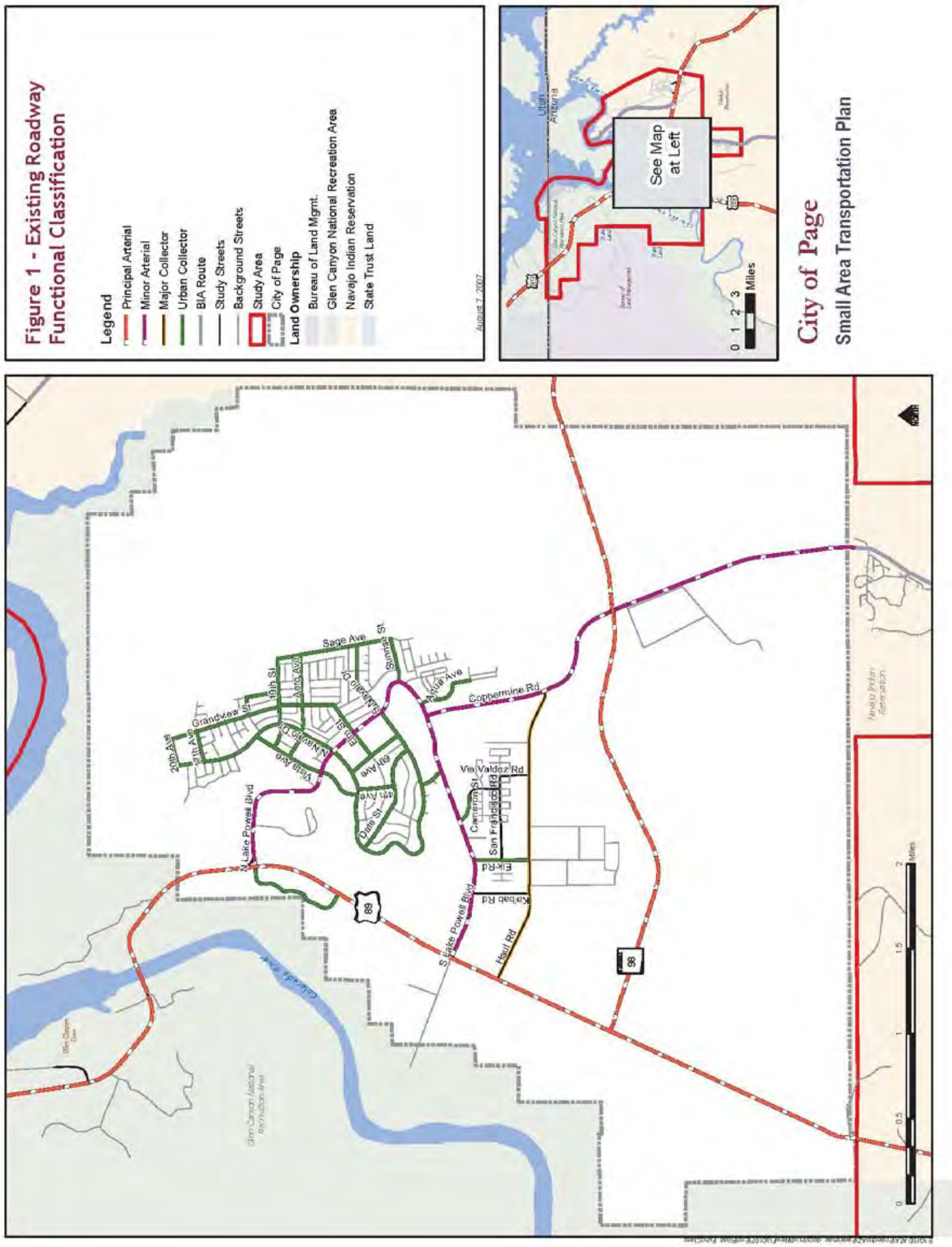


Figure 1 - Existing Roadway Functional Classification
Legend
Principal Arterial
Minor Arterial
Major Collector
Urban Collector
BIA Route
Study Streets
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
See Map at Left
Utah
Arizona
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Sunrise St
19th St
Aero Ave
Grandview St
20th Ave
17th Ave
N Navajo Dr
S Navajo Dr
Vista Ave
Elm St
8th Ave
4th Ave
Date St
Aqua Ave
Coppermine Rd
Via Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
N Lake Powell Blvd
S Lake Powell Blvd
89
98

Lake Powell Boulevard) and increase up to 65 MPH in the rural areas. SR 98 has posted speed limits of 55 MPH, however, decreases to 45 MPH at the intersection with US 89 and Coppermine Road. The collector roadways speed limit within the City varies from 25 to 35 MPH with slower speeds through school areas.

4.3.5. Existing Traffic Conditions

Documented existing traffic conditions are related to the City's existing daily and peak hourly traffic counts, as well as intersection and roadway traffic operations. This information will be used to develop, maintain, and enhance the City's database for conducting future analysis in evaluating the performance of the proposed roadway and transit improvements.

Traffic counts were conducted at five intersections during AM and PM peak hour. Twenty-four hour daily traffic volumes at fifteen minute interval at various locations within the study area were collected.

Average Daily Traffic

Average daily traffic (ADT) data was collected along major corridors throughout the City. The counts were collected from December 12, 2006 through December 13, 2006. Page's traffic volume fluctuates due to seasonal variation with the influx of summer visitors during the months of June, July and August resulting in increased traffic volumes. To compensate for this fluctuation, a seasonal factor of 1.25 was used to adjust the collected traffic volumes to annual average daily traffic (AADT) in accordance with *ADOT Daily and Seasonal Factors Guidelines* (2005). Also incorporated where available are daily traffic counts from ADOT. Traffic count locations are shown in ***Figure 5.***

The City of Page conducted additional traffic counts on April 24-26, 2007 and May 1-3, 2007 to capture seasonal traffic variation when Page experiences a significant influx of visitors to Lake Powell and the surrounding area. These unadjusted daily traffic counts are shown in ***Figure 6***.

The traffic flow map for year 2006 with prevailing AADT volumes (adjusted for seasonal variation) along major corridors is shown in ***Figure 7***.

Peak Hour Intersection Turning Movements

Based on discussion with the TAC, five intersections were selected for the peak hour turning movement counts. Morning peak (7:00 to 9:00 AM) and afternoon peak (4:00 to 6:00 PM) intersection turning movement counts were conducted at these intersections during the mid-week workdays (Tuesday, and Wednesday) on December 12 and 13, 2006. Existing peak hourly turn traffic movements are shown in ***Figure 7***.

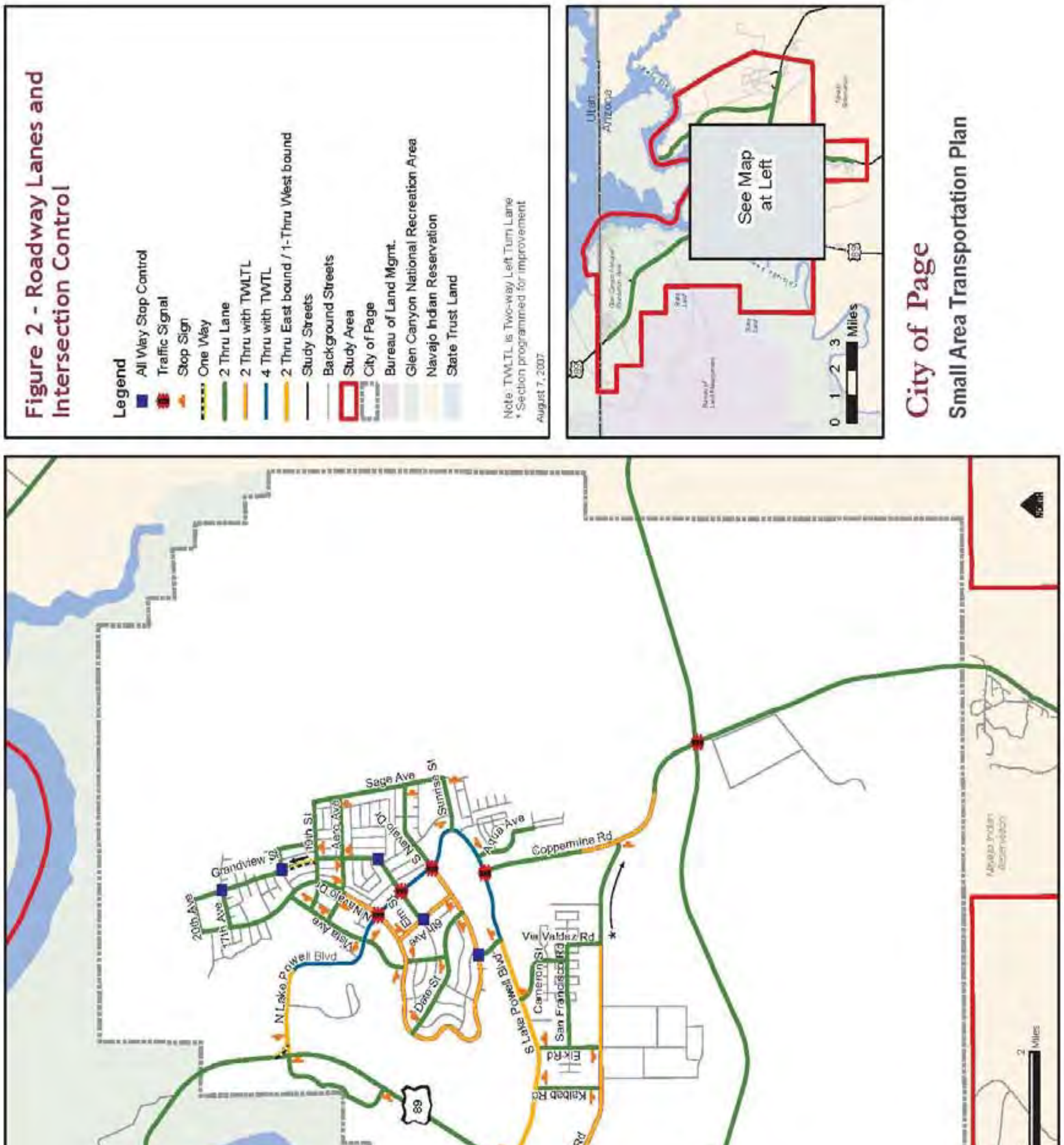


Figure 2 - Roadway Lanes and Intersection Control
Legend
All Way Stop Control
Traffic Signal
Stop Sign
One Way
2 Thru Lane
2 Thru with TWLTL
4 Thru with TWLTL
2 Thru East bound / 1-Thru West bound
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
Note: TWLTL is Two-way Left Turn Lane
* Section programmed for improvement
August 7, 2007
See Map at Left
Utah
Arizona
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Grandview St
20th Ave
17th Ave
10th St
Aero Ave
S Navajo Dr
N Navajo Dr
Vista Ave
Elm St
8th Ave
Date St
Sunrise St
Coppermine Rd
N Lake Powell Blvd
S Lake Powell Blvd
Vermillion Rd
Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
89
98

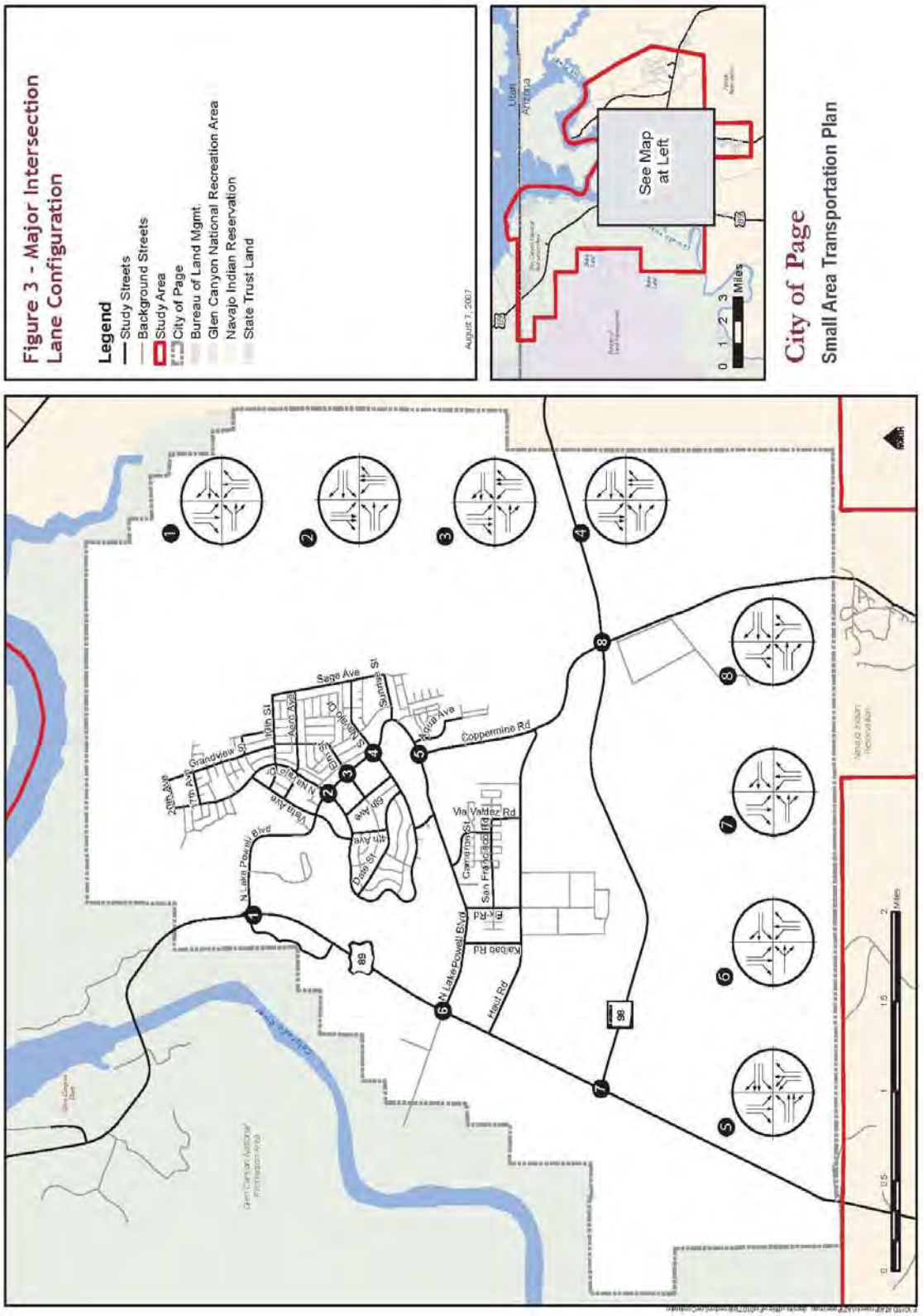


Figure 3 - Major Intersection
Lane Configuration
Legend
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map
at Left
Utah
Arizona
0 1 2 3 Miles
City of Page
Small Area Transportation Plan
N Lake Powell Blvd
Coppermine Rd
Via Valdez Rd
Haul Rd
Navajo Indian Reservation
Glen Canyon National Recreation Area
0 0.5 1 1.5 2 Miles

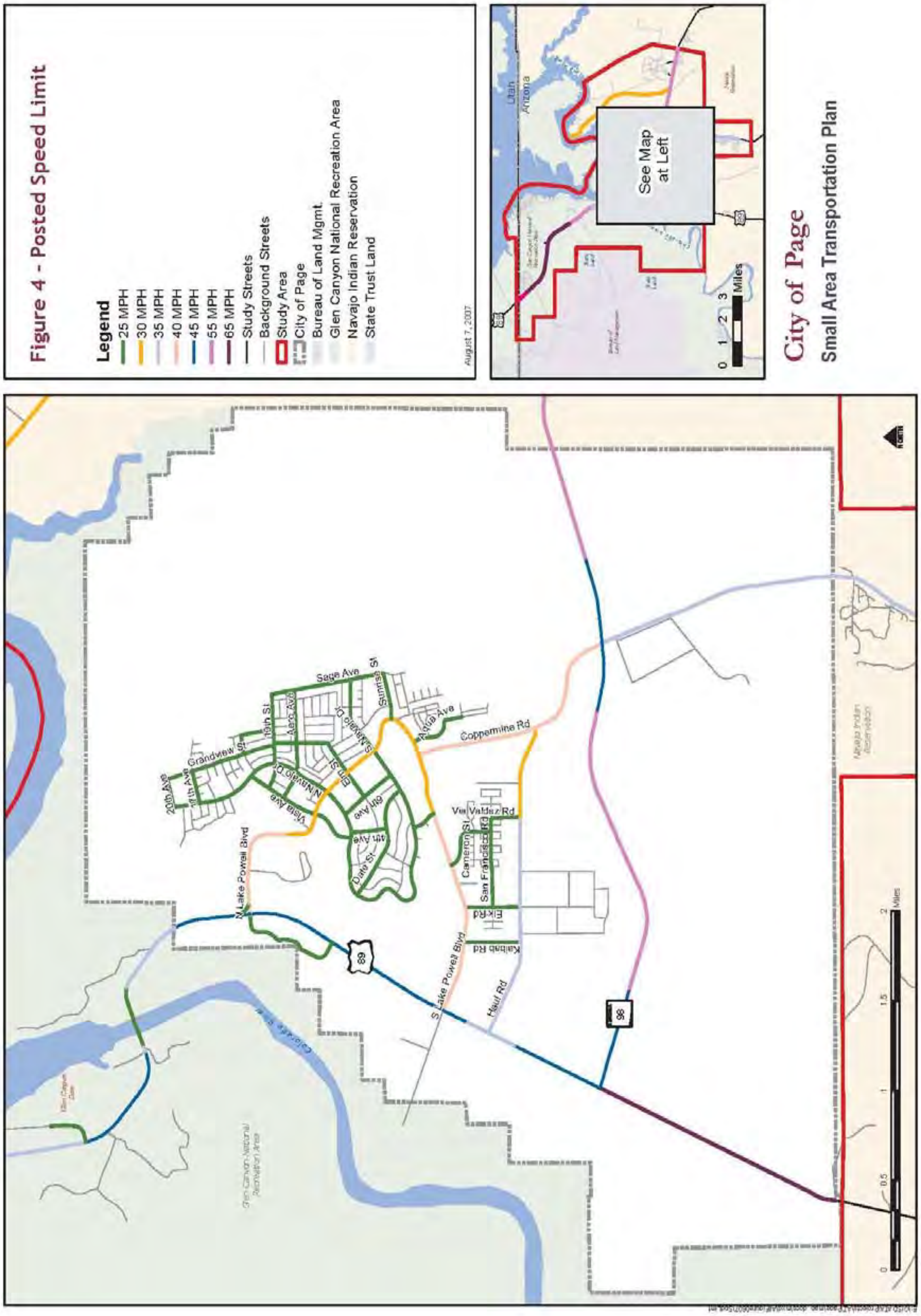


Figure 4 - Posted Speed Limit
Legend
25 MPH
30 MPH
35 MPH
40 MPH
45 MPH
55 MPH
65 MPH
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
City of Page
Small Area Transportation Plan
Utah
Arizona
Miles
Sage Ave
Grandview St
20th Ave
Coppermine Rd
Vista Ave
N Lake Powell Blvd
S Lake Powell Blvd
Elk Rd
Kaibab Rd
Haul Rd
Valdez Rd
San Francisco Rd
Cameron St
89
98

Level of Service

Level of Service (LOS) grading system qualitatively characterizes traffic conditions associated with varying levels of traffic. LOS ranges from LOS A – representing free-flow traffic conditions with little or no delay experienced by motorists, to LOS F - describing congested conditions where traffic flows exceed design capacity, resulting in long queues and delays. LOS A, B, and C are generally considered to be satisfactory service levels, while the influence of congestion becomes more noticeable at LOS D. LOS E is undesirable and is considered by most agencies to be the limit of acceptable delay, and LOS F conditions are considered to be unacceptable to most drivers. Most jurisdictions strive to attain a LOS of at least D or better on all roadways and signalized intersections in urban areas, and LOS C is targeted for rural conditions. Existing roadway and intersection level of service is shown in ***Figure 8***.

LOS Analysis Methodology

Transportation system performance is commonly measured using planning level capacity analysis techniques using volume to capacity ratio (v/c) for roadway segments. Operational level capacity analysis is more detailed and requires extensive data collection.

The study intersections were analyzed using the *Highway Capacity Manual 2000* (Transportation Research Board, 2000) methodology as required by ADOT. Tables 4.1 and 4.2 present the LOS criteria for signalized and unsignalized intersections, respectively.

Table 4.1 Signalized Intersection LOS Definitions

Level of Service	Description	Average Control Delay (second/vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 – 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 – 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 – 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	> 55 – 80
F	Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80

Source: Highway Capacity Manual, Transportation Research Board, 2000

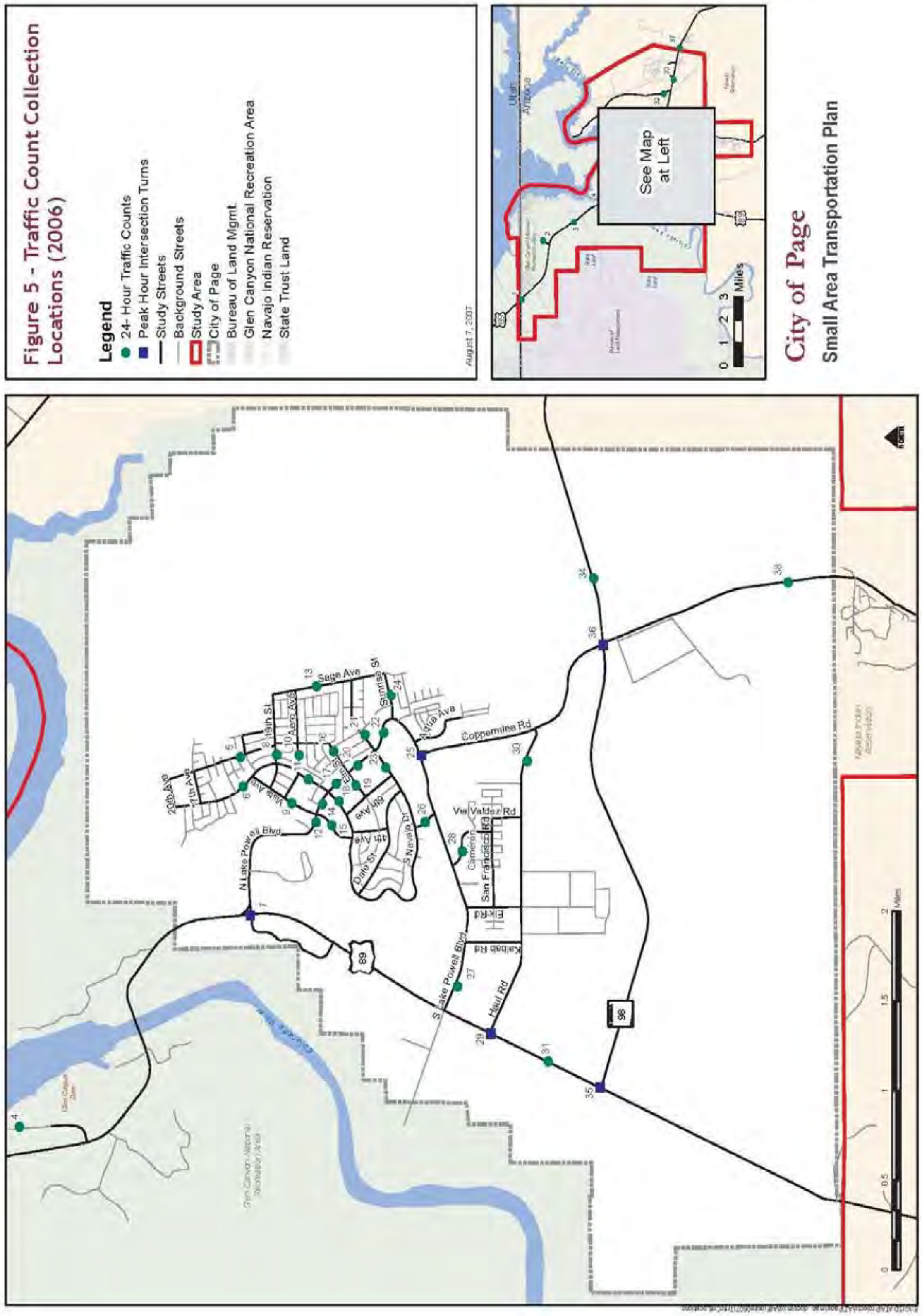


Figure 5 - Traffic Count Collection Locations (2006)
Legend
24- Hour Traffic Counts
Peak Hour Intersection Turns
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
Utah
Arizona
Miles
City of Page
Small Area Transportation Plan
N Lake Powell Blvd
S Lake Powell Blvd
Haul Rd
Kaibab Rd
Elk Rd
San Francisco Rd
Vista Valdez Rd
Coppermine Rd
Sage Ave
Sunrise St
Aero Ave
20th Ave
17th Ave
S Navajo Dr
Navajo Indian Reservation

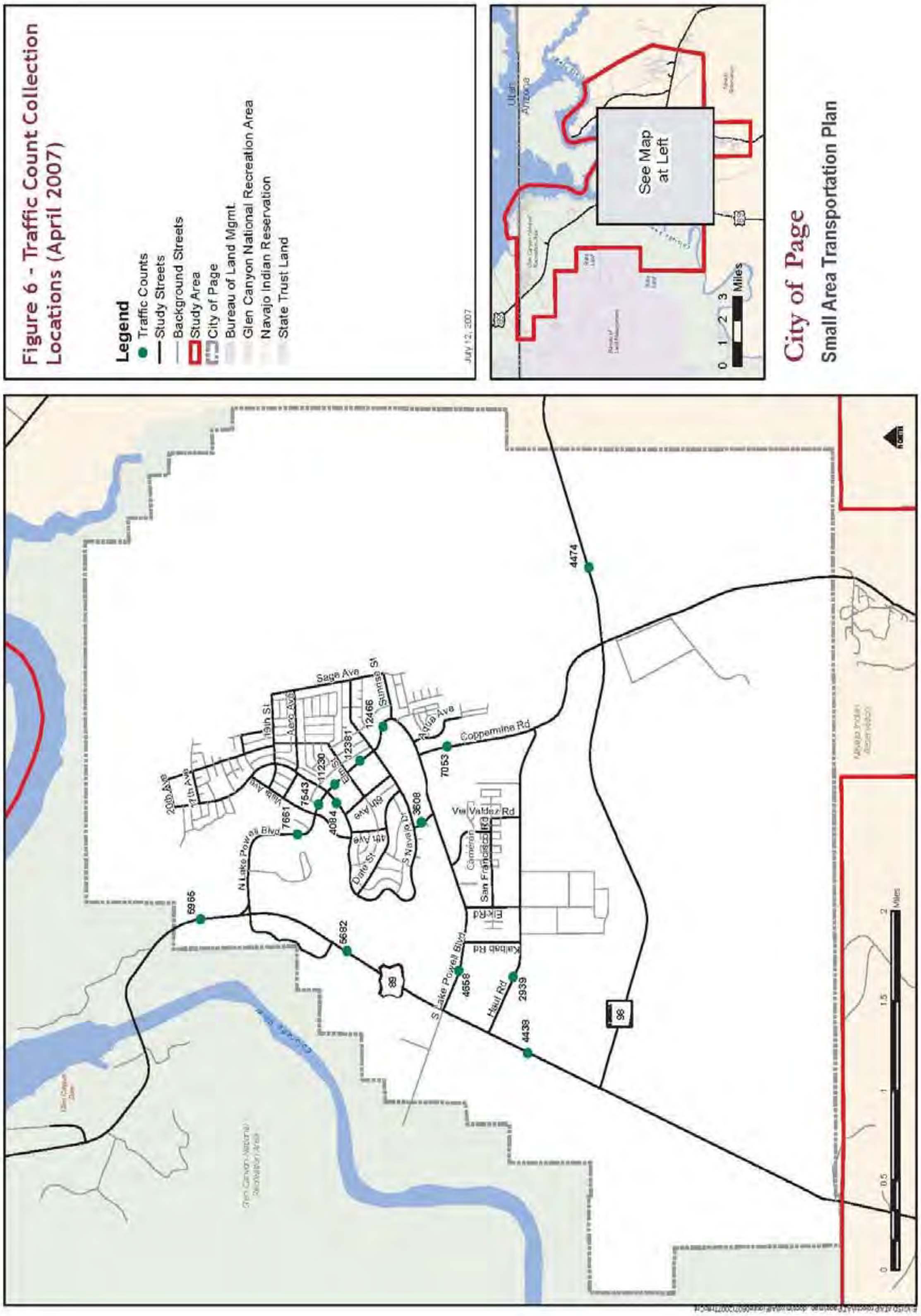


Figure 6 - Traffic Count Collection Locations (April 2007)
Legend
Traffic Counts
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
July 12, 2007
See Map at Left
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Sunrise St
Coppermine Rd
Vista Ave
Vermillion Dr
Valdez Rd
Cameron
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
S Lake Powell Blvd
N Lake Powell Blvd
S Navajo Dr
Aero Ave
16th St
20th Ave
17th Ave
Date St
4474
7053
12466
12381
11230
7543
4084
7661
3608
6966
5682
4658
2939
4439
89
98

LOS at unsignalized intersections are calculated based on average control delay in seconds per vehicle for the worst approach, based on the methodology in the *Highway Capacity Manual 2000*.

Table 4.2 Unsignalized Intersection LOS Definitions		
Level of Service	Description	Average Control Delay (second/vehicle)
A	Little or no delay.	0 – 10
B	Minor delays.	> 10 – 15
C	Average delays.	> 15 – 25
D	Moderate delays.	> 25 – 35
E	Lengthy delays.	> 35 – 50
F	Excessive delays/gridlock.	> 50

Source: Highway Capacity Manual, Transportation Research Board, 2000

Roadway LOS was also performed on segments based on the daily traffic flows, roadway capacity, area type and functional classification. Typical roadway capacities in urban and rural areas based on roadway classification are shown in Table 4.3.

Table 4.3 Daily Roadway Capacity		
Roadway Classification	Area Type	Daily Lane Capacity
Principal Arterial	Urban	9,000
Minor Arterial		8,000
Collector		6,250
Local		5,000
Principal Arterial	Rural	9,500
Minor Arterial		8,500
Collector		6,500
Local		5,000
Unpaved		500

Source: HDR Engineering, Inc.

The stratification of roadway LOS using volume over capacity (v/c) ratios was derived using the threshold values presented in Table 4.4.

Table 4.4 Roadway Level of Service	
Roadway LOS	Volume Over Capacity (V/C) Ratio
LOS A – LOS C (Under Capacity)	< 0.80
LOS D (Near Capacity)	0.81 – 0.90
LOS E (At Capacity)	0.91 – 1.00
LOS F (Over Capacity)	> 1.00

Source: Transportation Research Board, Highway Capacity Manual, 2000

LOS Analysis Results

SYNCHRO models were developed for weekday AM and PM peak scenarios for the study intersections. SYNCHRO is a micro-simulation program based on the methods described in *Highway Capacity Manual 2000* to evaluate traffic operations on roadway systems. Peak hour traffic volumes and peak hour factors, lane configurations, traffic control parameters, and free flow speeds were coded into SYNCHRO models. To replicate the lane configurations in SYNCHRO, a general assumption for storage lengths were made of 150-feet for unsignalized intersections and 200-feet for signalized intersection per standard engineering practice.

Figure 8 shows the existing level of service at traffic counted intersections for AM and PM peak hours, respectively. Intersection LOS analysis results under existing conditions show the study intersections operate at LOS B or better. As recommended in the *Highway Capacity Manual 2000*, level of service for signalized intersections is calculated based on average control delay per vehicle. For side street stop controlled intersections, LOS was calculated based on average control delay in seconds per vehicle for the worst approach. Study roadway segments operate at LOS C or better under existing conditions.

4.3.6. Crash Data

A crash analysis was conducted for the Page Small Area Transportation Study project to identify crash patterns, trends and classifications during three years from March 1, 2003 through February 28, 2006. The purpose of pursuing this analysis is to determine whether there are sections within the study area that should be addressed to eliminate potential safety hazards and improve safety.

Crash Locations

A total of 322 crashes were reported within the City during the three years analysis period. During this time, 39% of the reported crashes occurred at the intersections, while 61% occurred at midblock locations and driveway access points. Table 4.5 shows the crashes by location and percentage. Crashes occurring within 250-feet radius of an intersection were analyzed as intersection crashes; while mid-block crashes occurred along roadway sections, at driveway access and alleys. Mid-block crashes did not include the crashes that occurred at intersections.

Table 4.5 Crashes by Location

Location	Number of Crashes	Percent of Crashes
Mid-Block	125	39%
Intersection	197	61%
Total	**322**	**100%**

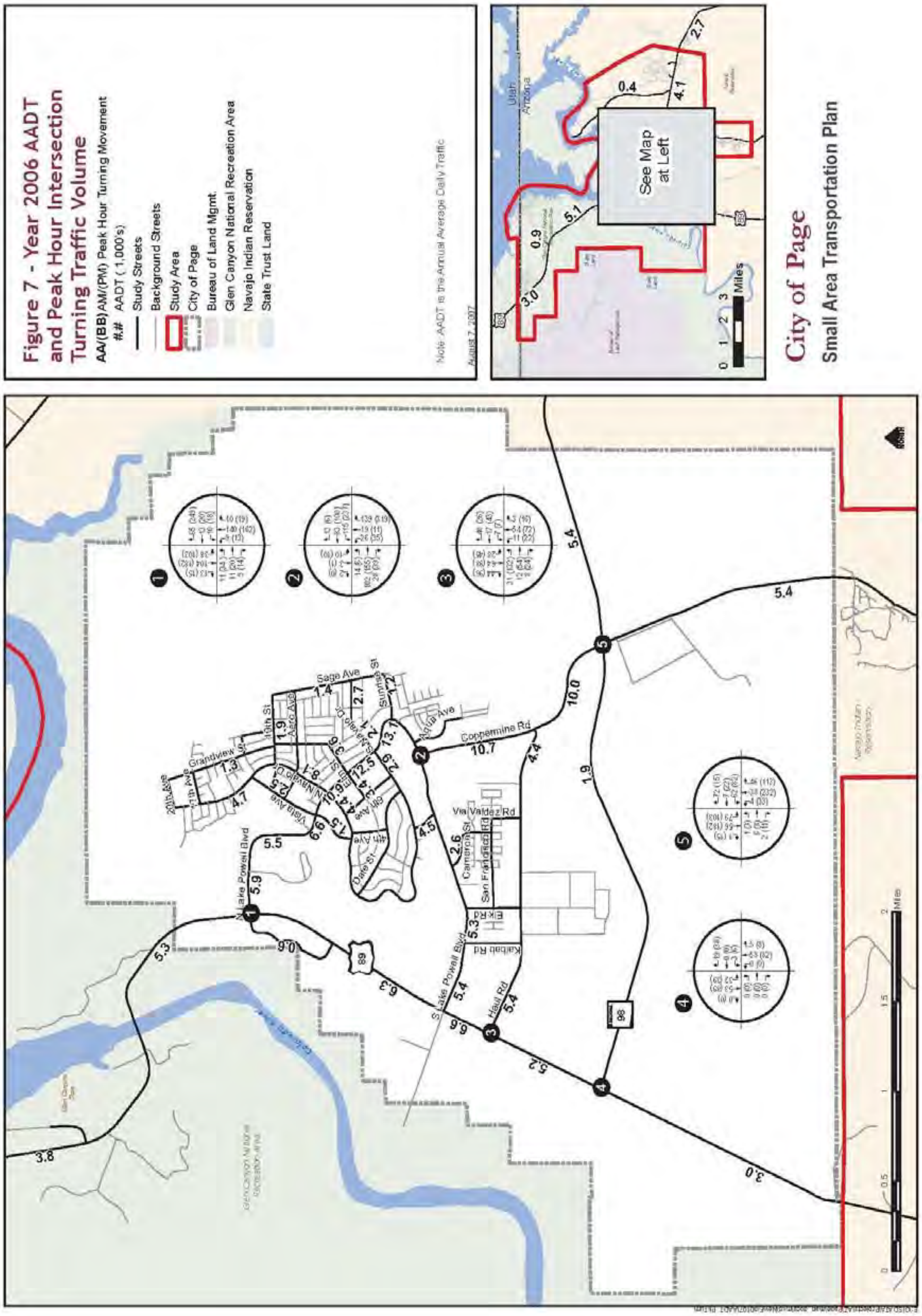


Figure 7 - Year 2006 AADT and Peak Hour Intersection Turning Traffic Volume
AA(BB) AM/(PM) Peak Hour Turning Movement
#.# AADT (1,000's)
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
Note: AADT is the Annual Average Daily Traffic
August 7, 2007
See Map at Left
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Sunrise St
Coppermine Rd
Grandview
20th Ave
17th Ave
16th St
Aero Ave
N Navajo Dr
Vista Ave
N Lake Powell Blvd
S Lake Powell Blvd
Haul Rd
Kaibab Rd
Elk Rd
San Francisco Rd
Cameron St
Via Valdez Rd
Dale St
Miles

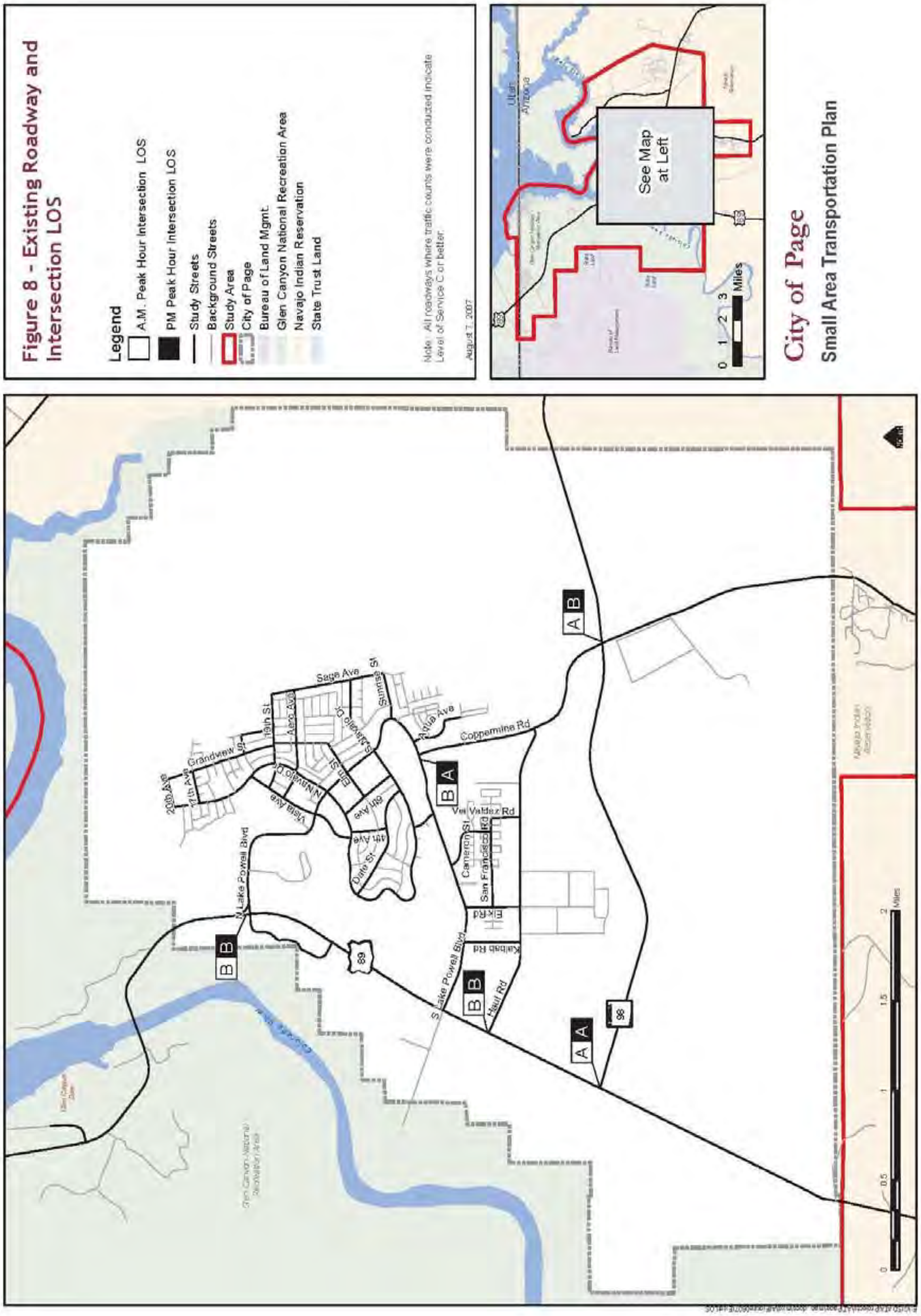


Figure 8 - Existing Roadway and Intersection LOS
Legend
A.M. Peak Hour Intersection LOS
PM Peak Hour Intersection LOS
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
Note: All roadways where traffic counts were conducted indicate Level of Service C or better.
August 7, 2007
See Map at Left
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Sunrise St
Aero Ave
Grandview St
20th Ave
17th Ave
N Lake Powell Blvd
Vista Ave
N Navajo Dr
Elm St
8th Ave
6th Ave
4th Ave
Date St
Aqua Ave
Coppermine Rd
Vermillion Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
S Lake Powell Blvd
89
98
A
B

Figure 9 shows the crash locations within the study area for the analysis period.

Major corridors such as Lake Powell Boulevard, Navajo Drive (North and South), Elm Street, U.S. Route 89 (US 89) and State Route 98 (SR 98), 6th and 7th Avenue attributed most of the crashes within the City. As presented in ***Figure 10***, a higher concentration of crashes was observed in the downtown Page area. Note that some crash locations are identified off of roadways (although the database descriptions refer to roadways) and are likely miscoded. On ***Figure 9***, crash locations not on the roadways are presented as coded in the database to preserve the integrity of the data.

Crash Trend

A steady state crash trend was observed during the analysis period. Chart 1 presents the yearly crash trend for years 2003 through 2006[1]. Non-injury crashes slightly varied between years 2003-04 and 2004-05, however, they decreased during year 2005-06.

Crash Severity

There were two fatal crashes (one percent) during the analysis period. One fatal crash was reported at the intersection of Elm Street and 6th Avenue, whereas, another fatal crash occurred on US 89, approximately 1.2 miles south of SR 98. Out of the total 322 crashes, 97 crashes resulted in injuries (30%) at various levels. The remaining 223 crashes (69%) were non-injury or property damage only crashes. Table 4.6 illustrates the number of the crashes by severity.

1 Available accident data period occurred after the opening of Wal-Mart on US 89 and Haul Road.

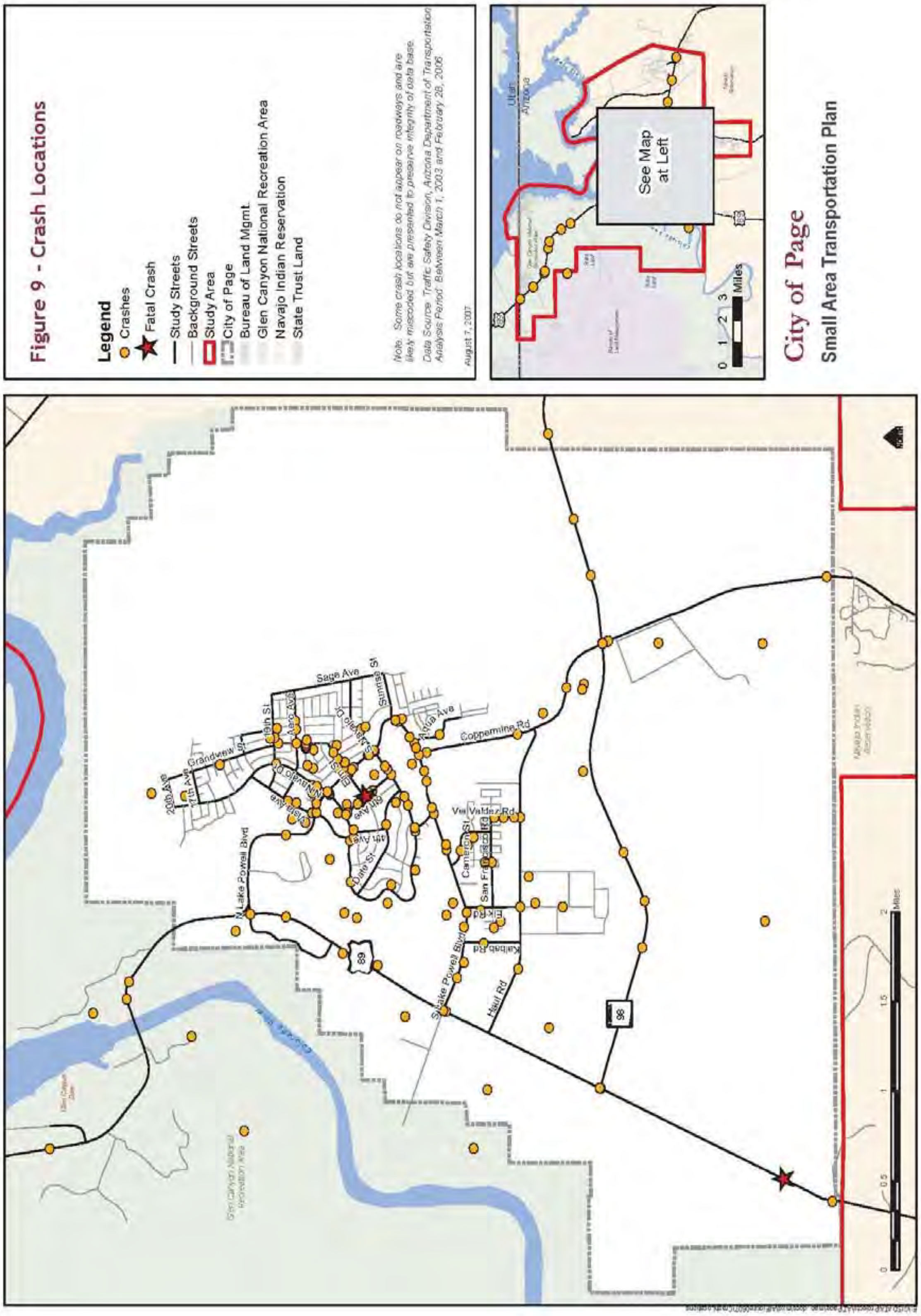


Figure 9 - Crash Locations
Legend
Crashes
Fatal Crash
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
Note: Some crash locations do not appear on roadways and are likely miscoded but are presented to preserve integrity of data base.
Data Source: Traffic Safety Division, Arizona Department of Transportation
Analysis Period: Between March 1, 2003 and February 28, 2006
August 7, 2007
Utah
Arizona
See Map at Left
Miles
City of Page
Small Area Transportation Plan
Sage Ave
Sunrise St
Coppermine Rd
Grandview St
20th Ave
17th Ave
N Lake Powell Blvd
S Lake Powell Blvd
Cameron St
Elk Rd
Kaibab Rd
Haul Rd
89
98
Miles

Chart 1 Yearly Crash Trends for Years 2003 through 2006

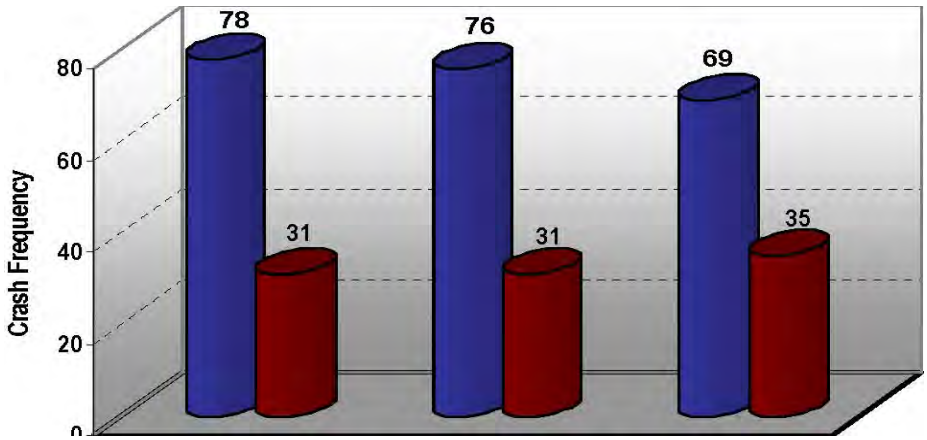


Table 4.6 Crashes by Severity

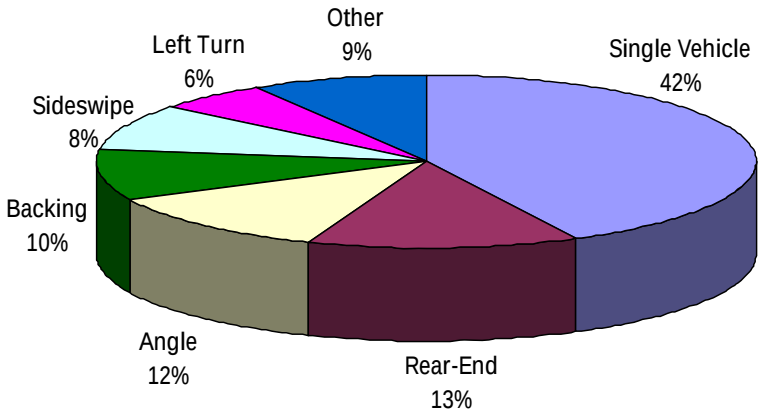
Severity	Number of Crashes	Percent of Crashes
Fatal Crash	2	1%
Injury Only Crash	97	30%
Property Damage Only Crash	223	69%

Source: ADOT Traffic Safety Division

Crash Classification

Crash classification based on crash type is shown in Chart 2. Single-vehicle (42%), rear-end (13%) and angle (12%) were the predominant crash types. During the analysis period the total number of crashes for various types include 137 single-vehicle, 43 rear-end crashes, 38 angle crashes, 31 backing-up crashes, 27 side-swipe (same and opposite) crashes, 18 left-turn crashes and 28 other types of crashes.

Chart 2 Crash Percentages by Collision Manner



The majority of the objects that were first collided with were other motor vehicles (207 crashes, 64%), fixed objects (54 crashes, 17%), and non-collision (35 crashes, 11%). Table 7 identifies the number of crashes by the objects that were first collided with.

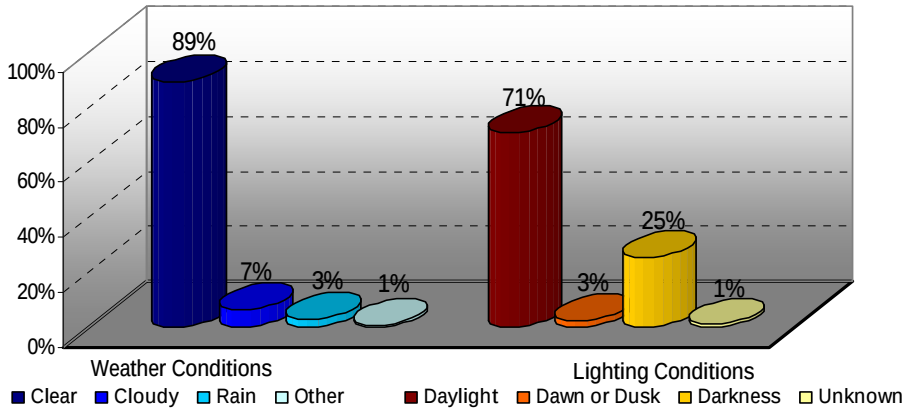
Table 4.7 Crashes by Objects First Collided with

Objects First Collided with	Number of Crashes	Percent of Crashes
Collision with Other Motor Vehicle	207	64%
Collision with Fixed Object	54	17%
All Non-Collision	35	11%
Collision with Pedestrian / Pedalcyclist	23	7%
Collision with Animal	3	1%
Total	**322**	**100%**

Source: ADOT Traffic Safety Division

Statistics for the City's crash data indicated that 89% of crashes occurred under clear weather conditions, whereas 7% and 3% crashes occurred during cloudy and rainy weather conditions, respectively. Approximately 71% of reported crashes occurred under daylight conditions and 28% occurred during dawn, dusk, or darkness conditions.

Chart 3 Percent of Crashes by Weather and Lighting Conditions



High Crash Locations

Crashes were analyzed at intersections as well as at mid-block sections to identify high crash locations triggering potential safety hazards within the study area. ***Figure 10*** shows the intersections and mid-block locations with high crash frequencies. The highest number of crashes (14 crashes during three years) occurred at the intersection of Lake Powell Boulevard and South Navajo Drive. In addition, a high number of crashes occurred at the intersections of Lake Powell Boulevard with North Navajo Drive (10), Coppermine Road (8), Elm Street (7), and Elk Road (6). The intersection of SR 89 at Coppermine Road contributed seven crashes.

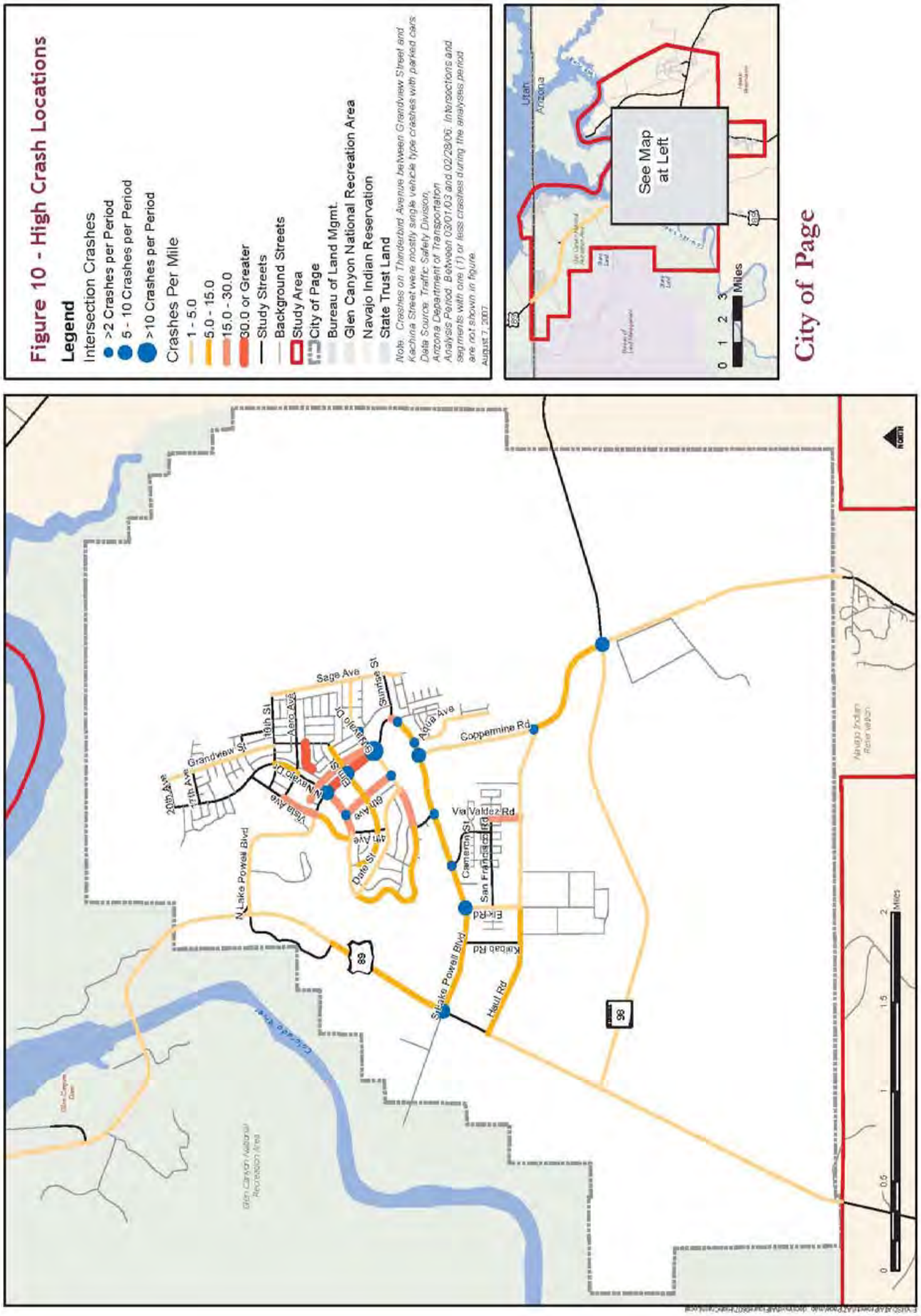


Figure 10 - High Crash Locations
Legend
Intersection Crashes
>2 Crashes per Period
5 - 10 Crashes per Period
>10 Crashes per Period
Crashes Per Mile
1 - 5.0
5.0 - 15.0
15.0 - 30.0
30.0 or Greater
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
See Map at Left
Utah
Arizona
Miles
City of Page
Sage Ave
Sunrise St
Grandview St
20th Ave
17th Ave
16th St
Aero Ave
N Navajo Dr
Elm St
Vista Ave
8th Ave
4th Ave
Date St
Aqua Ave
Coppermine Rd
Via Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
N Lake Powell Blvd
S Lake Powell Blvd
89
98

Table 4.8 summarizes primary collision manners of the crashes at various high crash locations. Most predominant crashes within the study area included rear end, angle, sideswipe (same direction), single vehicle, and left turn types. Therefore, only these crashes are documented in Table 8 for analysis purposes.

Lake Powell Boulevard experienced the highest number of mid-block crashes within the City. During the three years, there were 44 mid-block crashes reported along Lake Powell Boulevard corridor within the City limits. Approximately 0.40 mile section on Lake Powell Boulevard between North and South Navajo Drive experienced 23 reported mid-block crashes. Crashes on Thunderbird Avenue between Grandview Street and Kachina were mostly single vehicle type crashes where collisions occurred with a parked object.

Table 8 Primary Collision Manners at High Crash Locations

Location	Crashes	Rear End	Angle	Side-swipe (Same)	Single Vehicle	Left Turn	Other
Intersection Crashes[1]							
Lake Powell Blvd./South Navajo Dr.	**14**	43%	14%	--	14%	14%	15%
Lake Powell Blvd./North Navajo Dr	**10**	10%	20%	--	20%	10%	40%
Lake Powell Blvd./Coppermine Rd.	**8**	25%	13%	--	25%	12%	25%
Lake Powell Blvd./Elm St.	**7**	14%	--	14%	29%	29%	14%
SR 98/Coppermine Rd.	**7**	29%	14%	--	29%	14%	14%
Lake Powell Blvd./Elk Rd.	**6**	--	50%	--	17%	33%	0%
Mid-Block Crashes[2]							
Lake Powell Blvd between North and South Navajo Dr.	**23**	18%	5%	23%	27%	14%	13%
Elm St between Gum St. & 9th Ave.	**10**	20%	--	--	20%	--	60%
7th Ave. between North and South Lake Powell Blvd.	**7**	29%	--	--	57%	--	14%
US 89 between North and South Lake Powell Blvd.	**6**	--	17%	--	67%	--	16%
6th Ave. between North and South Navajo Dr.	**6**	--	17%	17%	50%	--	16%
Thunderbird Ave. between Kachina St. & Grandview St.	**6**	--	17%	--	83%	--	--
North Navajo Dr. between Lake Powell Blvd. & 7th Ave.	**4**	--	25%	--	50%	--	25%
South Navajo Dr. between Lake Powell Blvd. & Aspen St.	**4**	--	--	--	75%	--	25%

Notes: 1. Crashes occurred within 250-feet radius of an intersection
2. Crashes occurred at mid-blocks, at driveways, and alleys
Source: ADOT Traffic Safety Division

4.3.7 Transit and Non-Motorized Transportation

Transit

Existing Conditions

The Helping Hands Agency, Inc., is currently providing public transit in the Page area. The service, named the “Express” provides regular fixed-route transportation between major destinations throughout Page and local attractions. The carrier reports a ridership of 23,500 between March 2006and February 2007. Figure 11 approximates the Express’ current routes.

Major destinations and originations served by the Express include the Walmart at Haul Road and US 89, the Page High School and Middle School, the Safeway Food and Drug on Elm Street, the Bashas’ Supermarket on South Lake Powell Boulevard, in addition to the Wahweap and AntelopePoint marinas.

The Express receives funding through the Section 5311 funds. The purpose of these funds is to provide capital and operating assistance for rural and small urban public transportation systems. The FTA Section 5311 program provides federal financial assistance for public transportation in rural and small urban areas. Section 5311 funds are apportioned by the FTA to states on a rural population-based formula. This program is intended to improve the access of rural residents to health care, shopping, education, recreation, public services and employment through human service and general public transportation services. Program funds are available for capital and operating assistance. Eligible recipients include state agencies, local public bodies, non-profit organizations, Indian tribes and operators of public transportation services. The Section 5311 systems are required to plan, market and provide for general public transportation.

Private transportation companies, private non-profit corporations providing public transportation services and private non-profit institutions of higher learning are eligible to receive Section 5311 assistance if their request is endorsed by the local public governing body. Funds may be awarded directly to private organizations or provided through a third-party contract awarded by the local public body. Funds are also available to provide technical and planning assistance to non-urbanized areas. The federal share of net operating costs cannot exceed 50 percent; the maximum federal share for capital costs is 80 percent.

The City of Page operates the Page Senior Transportation Program through the Page Senior Center. The services are funded by the City of Page, participating seniors and donations. Transportation for eligible residents is scheduled on-demand, Monday through Friday. The program operates two wheelchair lift vans, with major funding provided by NACOG and ADOT. Out of town trips, for shopping and medical needs, are scheduled once per month; special trips to regional destinations are planned throughout the year.

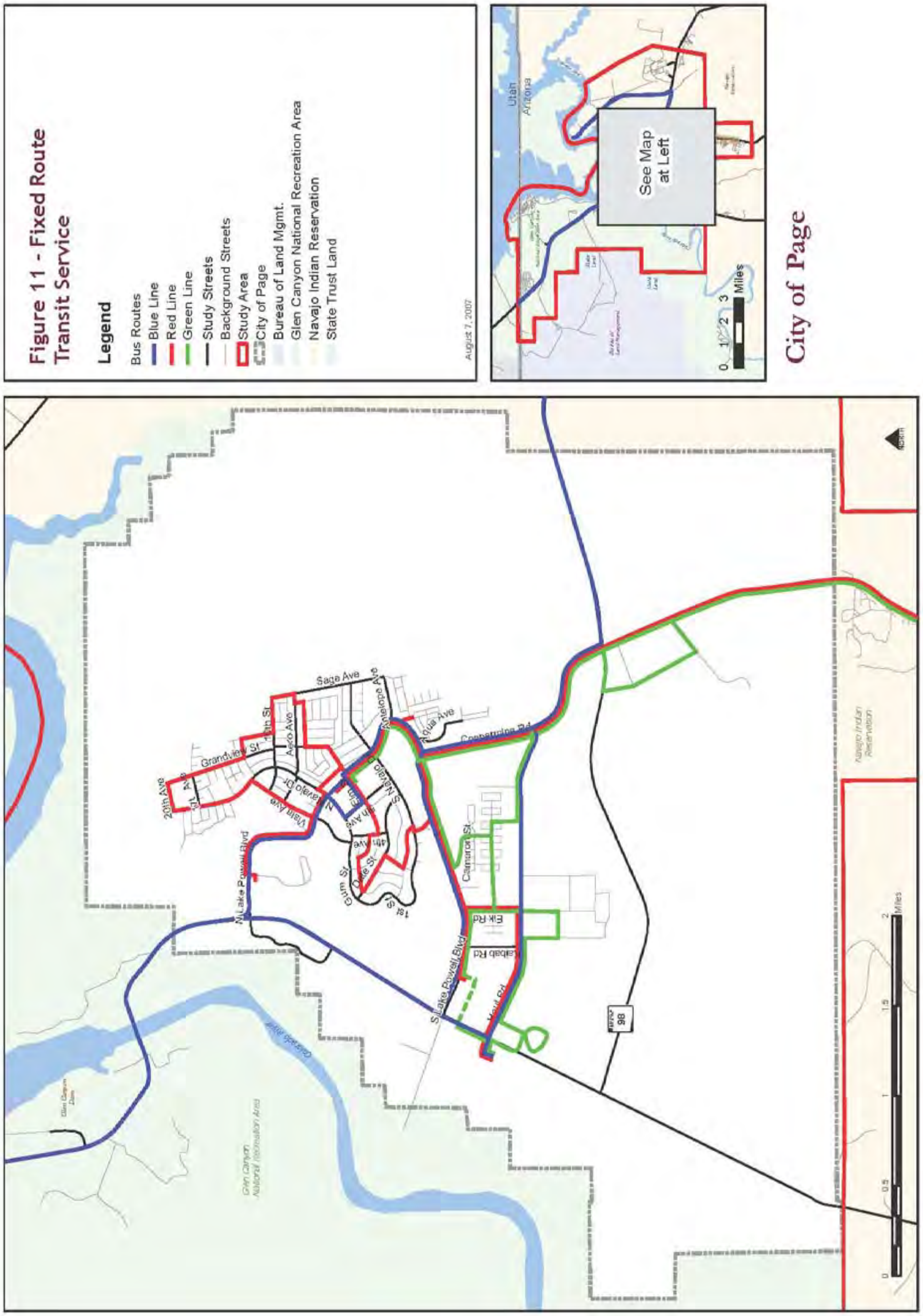


Figure 11 - Fixed Route Transit Service
Legend
Bus Routes
Blue Line
Red Line
Green Line
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
Utah
Arizona
Miles
City of Page

In addition to the above referenced services, there is at least one private transportation provider in the area, the Grand Circle Shuttle. The Grand Circle Shuttle reports on its website that they service a 300-mile radius of the City of Page. The Grand Circle Shuttle reported 6,255 riders from January 2006 through the end of December 2006.

Potential Transit Demand

The provision of effective transit service is dependent on a thorough understanding of the demand for service within a community. Transit ridership is viewed as a "derived demand," undertaken because the rider desires to travel to a specific location. There are many related decisions involved in any specific travel choice, but certain characteristics may be used to determine demand: development characteristics, user characteristics, and, trip characteristics. Each of these characteristics (both current and projected) are described for the Page area below.

- *Development characteristics relate to the type and density of development.*

While overall population density in Page is relatively low (approximately 450 people per square mile), residential development is largely limited to the area of Manson Mesa, where the density is considerably higher (approximately 3,150 people per square mile). Residential density is not expected to increase significantly, however, this density will continue to support demand for transit. Significant employment concentrations, such as the marinas, the Navajo Generating Station, and Wal-Mart also generate transit demand.

- *User characteristics include such things as income, age, and the availability of autos.*

According to the 2000 Census, Page has a higher median household income ($46,035), and lower percentage of households with no vehicles available (4.9 percent) than that of Coconino County (5.6 percent). The population 65 years of age and over is lower than that of Coconino County, however the percentage of school age population (less than 18 years of age) in Page is 32 percent, higher than that of Coconino County (27 percent). In Lechee, it is estimated that approximately one-half of the population is under 18 years of age.

- *Trip characteristics include time of travel and the location of origins and destinations.*

Within Page specific destinations that generate periods of relatively high roadway demand include the public schools, the Wal-Mart center, the Navajo Generating Station, and recreation attractions such as the Glen Canyon Dam and Lake Powell marinas. While there are no anticipated large developments that will rival these destinations, demand at these locations can be expected to remain high or increase over the planning period.

Peer Transit Providers

Five transit providers in other areas of rural Arizona offer good examples of rural fixed

route transit for the City of Page to consider for benchmarking and lessons learned. Each of the municipalities receives Federal Transit Administration Section 5311 funding from the Arizona Department of Transportation. They offer comparable service including hours of operation and fees. The providers identified are:

- Vista Transit, Sierra Vista
- Four Seasons Connections, Show Low
- Bullhead Area Transit System, Bullhead City
- Bisbee Public Transit, Bisbee
- Cotton Express, Bisbee

Vista Transit operates eight routes in the City of Sierra Vista. The service connects with the Cochise Commuter servicing Douglas, Bisbee, and Sierra Vista. Services operate daily and utilize a fleet of 10 vehicles. Ridership exceeds 115,000 passenger trips per year. A transit center is planned to be the focal point for the system's routes.

Through the Four Seasons Connection Public Transit System, the City of Show Low and the Town of Pinetop-Lakeside provide deviated fixed-route public bus service between the two communities. This service includes scheduled service and a pick-up service for disabled individuals who are not able to access the transit system at the existing bus stops. In the 2006 fiscal year, this service provided approximately 105,000 passenger trips. This is up from 31,000 annual passenger trips when the service opened in 1997.

Bullhead Area Transit System (BATS) provides deviated fixed route and dial-a-ride service and connects with the Laughlin Connection, an intercity service to Laughlin, Nevada. BATS operates Monday through Saturday and provides Nearly 115,000 annual passenger trips with a fleet of ten vehicles.

The City of Bisbee operates a fleet of two vehicles, providing deviated fixed route service within the City of Bisbee and Naco, Arizona. The service connects with the Cochise Commuter servicing the Douglas, Bisbee and Sierra Vista. Service runs Monday through Saturday and provides over 30,000 passenger trips per year.

The Cotton Express Transit service operates a deviated fixed route and dial-a-ride service. The service operates three separate routes referred to as the Central Shopper's Loop, a West Loop and East Loop. Service runs Monday through Friday and provides approximately 22,000 passenger trips per year.

One way of learning how transit levels compare is to look at the service provided by the peer cities. The peer transit providers service and cost data compares Page's service with other agencies of similar size and character with existing public transit service. The service and cost data for the peer transit providers is shown in Table 4.9 and Table 4.10 below.

Table 4.9 Peer Transit Providers Service Data			
Service	Annual Passenger Trips	Project Miles	Fares Collected
Vista Transit, Sierra Vista	115,782	231,110	$86,503
Four Seasons Connections, Show Low	104,486	172,286	$28,544
Bullhead Area Transit System, Bullhead City	113,993	273,343	$159,546
Bisbee Public Transit, Bisbee	30,302	61,995	$28,244
The Express, Page	23,500	379,769[1]	$18,200[2]
Cotton Express, Coolidge	21,962	56,130	$21,945

Notes: [1] Project miles for the Express extrapolated from reported miles (October 2006 through February 2007) in March 23, 2007 memo from Helping Hands Agency to the City of Page.
[2] Fares collected reported by the Helping Hands Agency, July 17, 2007.

Source: Arizona Department of Transportation Rural Public Transportation Program FY 2006 Section 5311 Annual Report, The Helping Hands Agency (2007)

Table 4.10 Peer Transit Providers Cost Data			
Service	Administration Cost (Percent Local Contribution)	Net Operating Cost (Percent Local Contribution)	Cost per Passenger Trip (excluding capital expenses)
Vista Transit, Sierra Vista	$144,066 (20%)	$517,706 (54%)	$6.35
Four Seasons Connections, Show Low	$70,958 (20%)	$237,614 (56%)	$6.70
Bullhead Area Transit System, Bullhead City	$150,272 (37%)	$486,991 (58%)	$5.60
Bisbee Public Transit, Bisbee	$34,627 (20%)	$116,813 (51%)	$5.00
Cotton Express, Coolidge	$64,898 (58%)	$132,974 (54%)	$9.00

Source: Arizona Department of Transportation Rural Public Transportation Program FY 2006 Section 5311 Annual Report

Non-Motorized Transportation

The City of Page's scenic setting and mild climate are extremely conducive to pedestrian, equestrian, and bicycling. Non-motorized transportation is not limited to walking or bicycling. Other modes include wheelchairs, horses, skateboards, scooters, and skates. In addition, new technologies are emerging (e.g., the Segway) and the City should continue to explore how these emerging trends can be accommodated on existing facilities or the feasibility of developing new facilities for them.

The inclusion of non-motorized routes in the City is increasingly important as development occurs to lessen on road conflicts and to ensure that pedestrians, bicycles and other non-motorized modes are accommodated. In addition to sidewalks, development of a non-motorized transportation system in the City of Page should include several other types of trails:

- Multi-purpose Paved Trail – to connect pedestrian use areas, designed for high traffic and good accessibility

- Multi-purpose Unpaved Trail – for medium-traffic, compacted crushed rock (gravel) surface

- Limited Purpose Unpaved Trail – for low traffic path, surfaced with compacted crushed rock (gravel) or other material, as appropriate

Bicycles are an important component of the non-motorized transportation system. Some of the bicycle conflicts that occur are due to their use on streets with inadequate right-of-way for bicycles and motor vehicles. To alleviate this conflict, three types of bicycle facilities should be considered in the City:

1. Shared Use Trail – a multi-purpose paved or unpaved trail that is separated from a roadway and intended for shared use by pedestrians, equestrians, and cyclists. The Page Rim Trail is an example of a shared use unpaved trail.
2. Bike Lane – a portion of a roadway designated for the exclusive use of cyclists by signs and pavement markings.
3. Shared Roadway – lower traffic volume and slower speed residential street designated for non-motorized transportation use that does not have pavement markings or signage. Many roads serving as local streets in Page are appropriate for shared roadway designation.

The Rim Trail

The Rim Trail is an existing eight-mile long multi-purpose paved trail that circles Manson Mesa. It was developed with Arizona Heritage Fund Grants and the efforts of numerous volunteers. Because the trail is accessible from several locations around the City it is an important part of a non-motorized network, linking residential and tourist accommodations with many of the destinations in the City.

4.4 LAND USE AND SOCIOECONOMIC CONDITIONS

4.4.1. Land Use

The City of Page is the only urbanized portion of the study area. South of Page, along Coppermine Road is the residential development of LeChee on the Navajo Reservation. Greenhaven, a developing residential community within the study area is located northwest of Page. The City of Page was created in 1957 to house workers and their families during the construction of nearby Glen Canyon Dam on the Colorado River. Its 17-square-mile site was obtained in a land exchange with the Navajo Indian tribe. The town is perched atop Manson Mesa at an elevation of 4,300 feet above sea level and 600 feet above Lake Powell.

Page has developed with a compact form, with residences in close proximity to commercial services; the majority of commercial development may be found along SR 89, SR 98, and North Lake Powell Boulevard. A Wal-Mart store located at Haul Road and US 89 is a regional commercial center. Haul Road is developing as an important commercial corridor. A developing industrial park is located along Coppermine Road with several businesses recently established. The Page General Plan guides development in the City. The Land Use Plan Map is shown in ***Figure 12***.

The Page Airport is situated on the mesa in the northeast section of the town. East of the City along SR 98 is the Navajo Generating Station. This coal-fired generating station has a capacity of 2,250 megawatts from three 750-MW units.

Northwest of the City of Page is the Glen Canyon Dam. The Dam was constructed and is operated by the Bureau of Reclamation, an agency within the Department of Interior. The Glen Canyon Dam is a 710-foot-high structure, rising 587 feet above the Colorado River. The Carl Hayden Visitor Center is located next to Glen Canyon Dam.

Table 4.11 shows the major landowners in the study area.

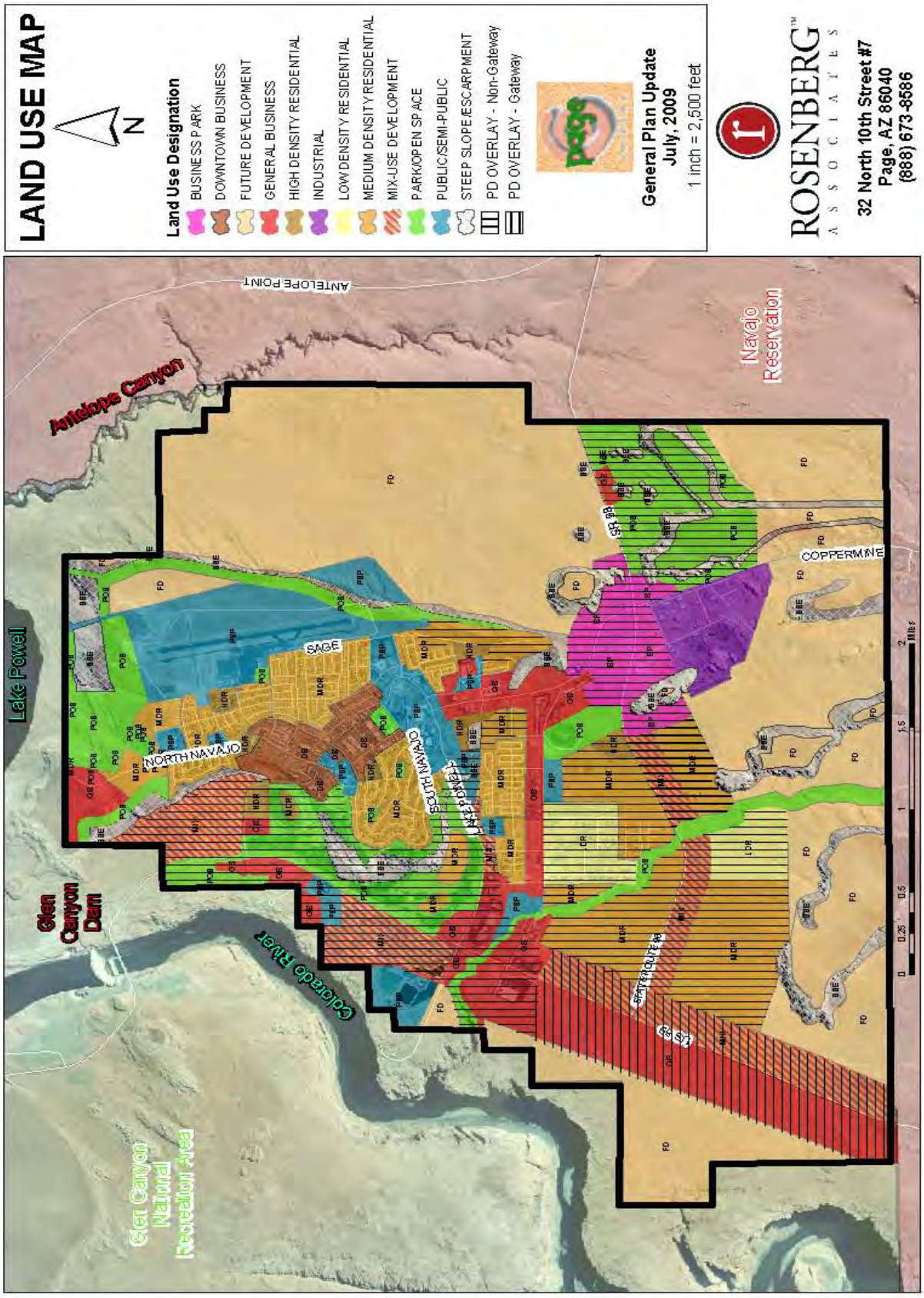
[1] Information provided for the portion of the study area within Arizona.

Table 4.11 Land Ownership in the Study Area[1]

Landowner	Acres	Percent
Glen Canyon National Recreation Area	20,726	48%
Navajo Indian Reservation	11,422	26%
Private Land	10,971	25%
Bureau of Land Management	158	0.4%
State Trust Land	129	0.3%
Total	43,407	100%

Source: Arizona Land Resource Information System (2004)

PAGE GENERAL PLAN 2006-2026



4.4.2 Socioeconomic Data

Population

The City of Page was estimated to have a 2006 population of 7,159. The study area has an estimated population of 9,203. Population estimates for the study area, City of Page, Coconino County and Arizona are found in Table 4.12. Table 4.13 shows the demographic information for the same areas.

Table 4.12 Population Estimates for the Study Area, City of Page, Coconino County, and Arizona

	2000	2006	Average Annual Growth Rate (%)
Study Area	--	9,203	--
City of Page	6,809	7,159	0.8%
Coconino County	116,320	132,826	2.3%
Arizona	5,130,632	6,239,482	3.6%

Source: U.S. Census (2000), Arizona Department of Economic Security (2007)

Demographics

Table 4.13 Demographics

	Arizona	Coconino County	City of Page	Study Area 1
Minority Populations	38.9%	43.7%	34.6%	48.2%
Hispanic or Latino[2]	28.0%	11.6%	4.7%	3.8%
Asian[2]	2.1%	0.9%	0.7%	0.5%
Black[2]	3.5%	1.3%	0.4%	0.3%
Native American and Native Alaskan[2]	5.0%	29.4%	26.4%	39.5%
Pacific Islander and Native Hawaiian[2]	0.2%	0.1%	0.2%	0.1%
More than one race[2]	1.5%	1.5%	2.3%	3.9%
Percent of Population in Poverty[2]	14.2%	17.9%	13.9%	--
Disability[2]	18.0%	16.3%	13.2%	--
Female Heads of Household with own children under 18 years[2]	6.8%	12.2%	7.6%	--
Age 65 and Over Population[2]	12.7%	7.4%	6.3%	--

1 The study area population is approximated by the SAZ that are within two miles of the study area roads.
2 Based on U.S. Census data, 2000

Environmental Justice

The Environmental Protection Agency (EPA) defines Environmental Justice (EJ) as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies." There are three fundamental environmental justice principles: avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations; ensure the full and fair participation by all potentially affected communities in the transportation decision-making process; and, prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Within the City of Page, demographic groups identified were all below the percentage of the same population for Coconino County. The Study Area has a slightly higher minority population largely due to the Native American population of LeChee. The City of Page SATS project would benefit all socioeconomic groups within the study area equally. The recommendations for improved local and regional mobility described in the SATS improve roadway level fostering economic development and increasing opportunities for local employment. In addition, the recommendations for transit and the trails plan provide for alternative modes of travel which would directly benefit low-income residents. Implementation of transit and a trails system has the advantage of benefiting all residents by reducing roadway congestion and offering options for both non-driving residents (e.g., children and the elderly) and those who would prefer to use alternative modes.

Traffic Analysis Zones

Traffic analysis zones (TAZ) are areas that are generally bounded by roadway network, political boundaries, or geographical constraints such as rail lines or major washes. Socioeconomic data is collected by these TAZ boundaries and with the model; traffic is generated by each land use within the TAZ, distributed, and then assigned to the roadway network. Subsequently, using assumed 2011, 2016 and 2026 projected land use data, traffic forecasts can then be derived. The socioeconomic data was then reviewed and refined by TAZ for each of the land use categories for 2006 conditions.

The land use categories and socioeconomic variables used in the development of the 2006 base year are shown in Table 14. ***Figure 13*** presents the TAZ structure in which the socioeconomic data was collected.

Base year 2006 estimated population and total employment density for the study area are shown in ***Figure 14*** and ***Figure 15***, respectively.

Table 4.14 Socioeconomic Categories

Socioeconomic Data	Units
Population	Persons
Single Family Residential	Dwelling Units
Multi-Family Residential	Dwelling Units
Mobile Home	Dwelling Units
Retail	Employees
Office	Employees
Wal-Mart	Employees
Industrial/Manufacturing	Employees
Commercial/Non-Retail	Employees
Hotel/Motel	Rooms
Hospital	Beds
Antelope Point Marina	Employees
Wahweap Marina	Employees
Navajo Generating Station	Employees
Schools	Students
Tourist Facility (Antelope Canyon)	Visitors
Airport	Enplanements

4.4.3. Interim and Planning Horizon Population and Employment Projections

Urban growth within the City of Page Small Area Transportation Plan study area is expected to occur at an annual compound growth rate of 1.3 percent over the 20-year planning horizon. Projections for the 2026 planning horizon anticipate a study area population of over 12,100 persons. Over 4,900 jobs are anticipated by year 2026. ***Figure 16*** and ***Figure 17*** show the estimated year 2026 population and employment density. Appendix A contains tables showing the population and employment estimates for years 2006, 2011, 2016, and 2026.

4.5 INTERIM AND PLANNING HORIZON TRANSPORTATION SYSTEM CONDITIONS

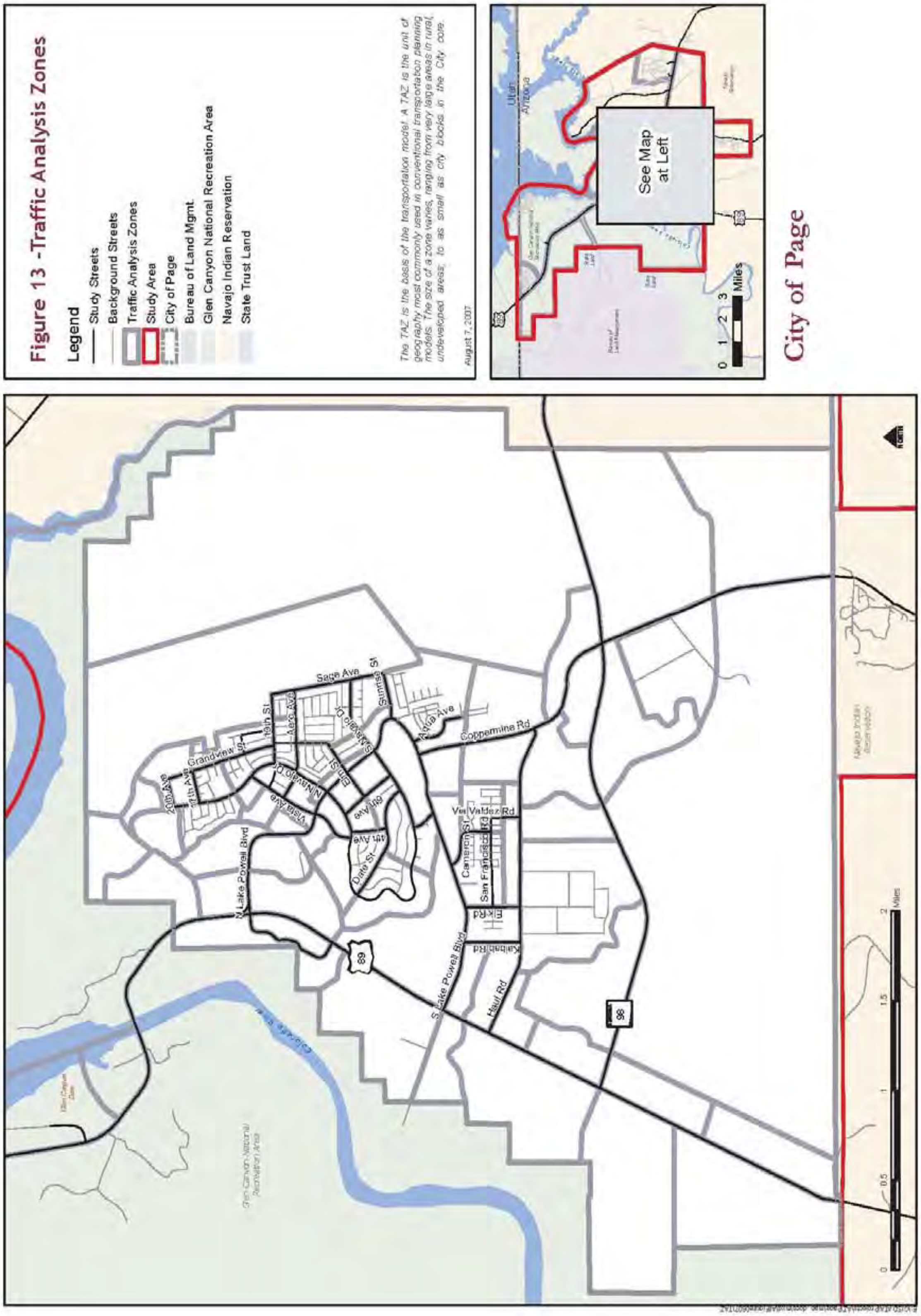


Figure 13 -Traffic Analysis Zones
Legend
Study Streets
Background Streets
Traffic Analysis Zones
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
The TAZ is the basis of the transportation model. A TAZ is the unit of geography most commonly used in conventional transportation planning models. The size of a zone varies, ranging from very large areas in rural, undeveloped areas, to as small as city blocks in the City core.
August 7, 2007
See Map at Left
Miles
City of Page
Sage Ave
Grandview St
Coppermine Rd
N Lake Powell Blvd
S Lake Powell Blvd
Vista Ave
Aqua Ave
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
89
98

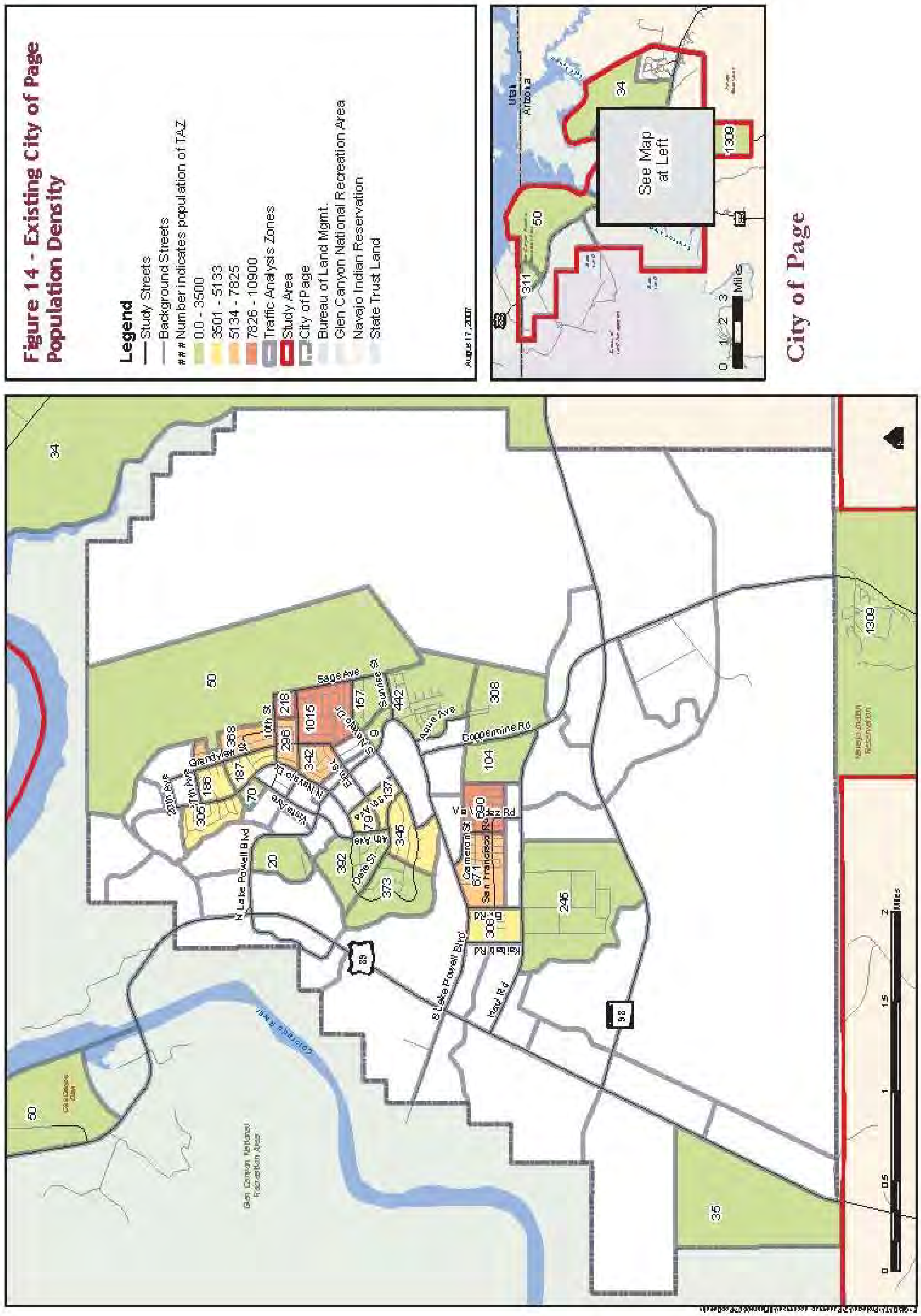


Figure 14 - Existing City of Page Population Density
Legend
Study Streets
Background Streets
Number indicates population of TAZ
0.0 - 3500
3501 - 5133
5134 - 7825
7826 - 10900
Traffic Analysis Zones
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
See Map at Left
Miles
City of Page
N Lake Powell Blvd
S Lake Powell Blvd
Coppermine Rd
Sage Ave
Haul Rd
Navajo Indian Reservation
Glen Canyon National Recreation Area

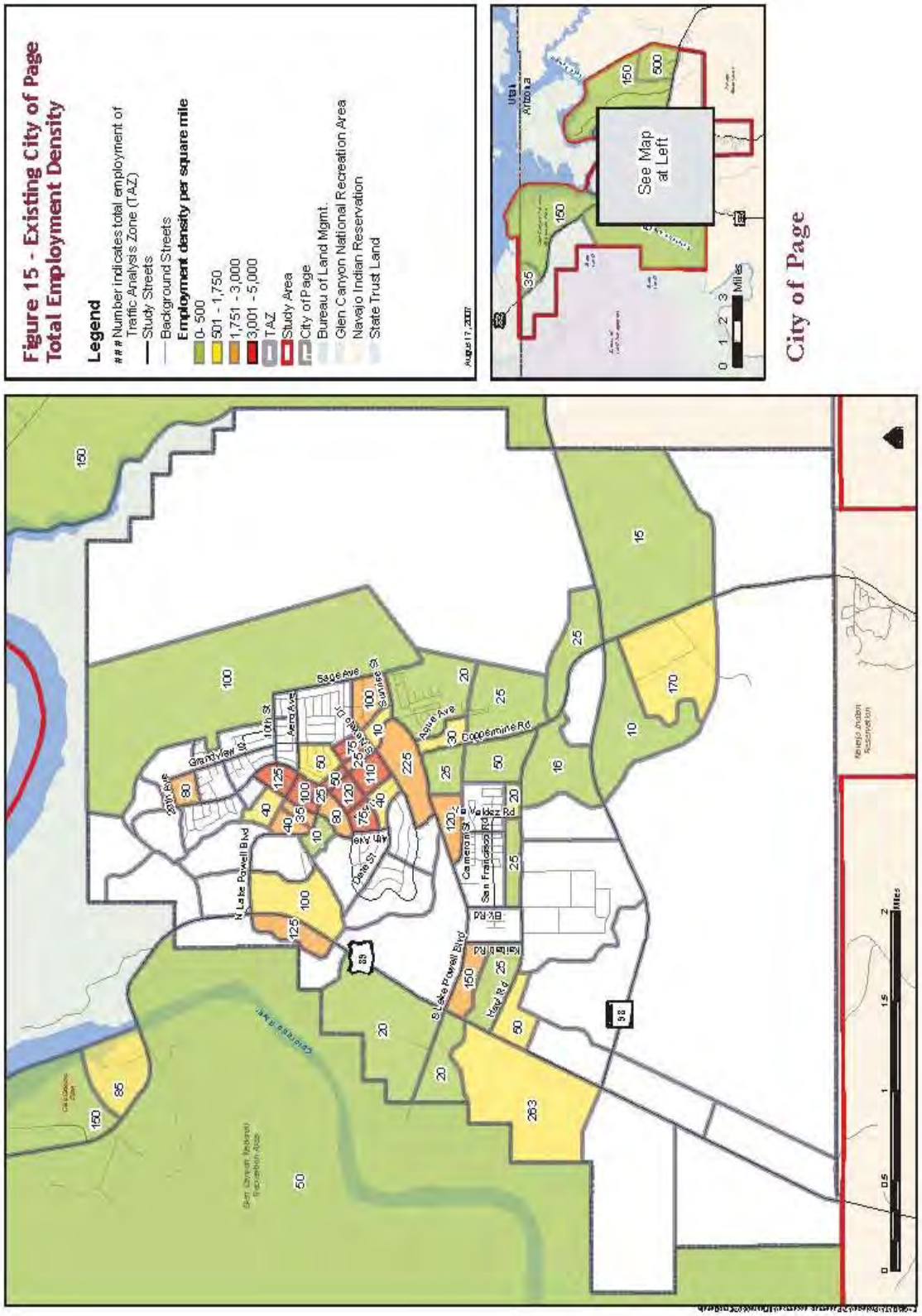


Figure 15 - Existing City of Page
Total Employment Density
Legend
Number indicates total employment of Traffic Analysis Zone (TAZ)
Study Streets
Background Streets
Employment density per square mile
0- 500
501 - 1,750
1,751 - 3,000
3,001 - 5,000
TAZ
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 17, 2007
See Map at Left
Utah
Arizona
0 1 2 3 Miles
City of Page
Lake Powell Blvd
Coppermine Rd
Vermilion Cliffs
Navajo Indian Reservation
0 0.5 1 1.5 2 Miles

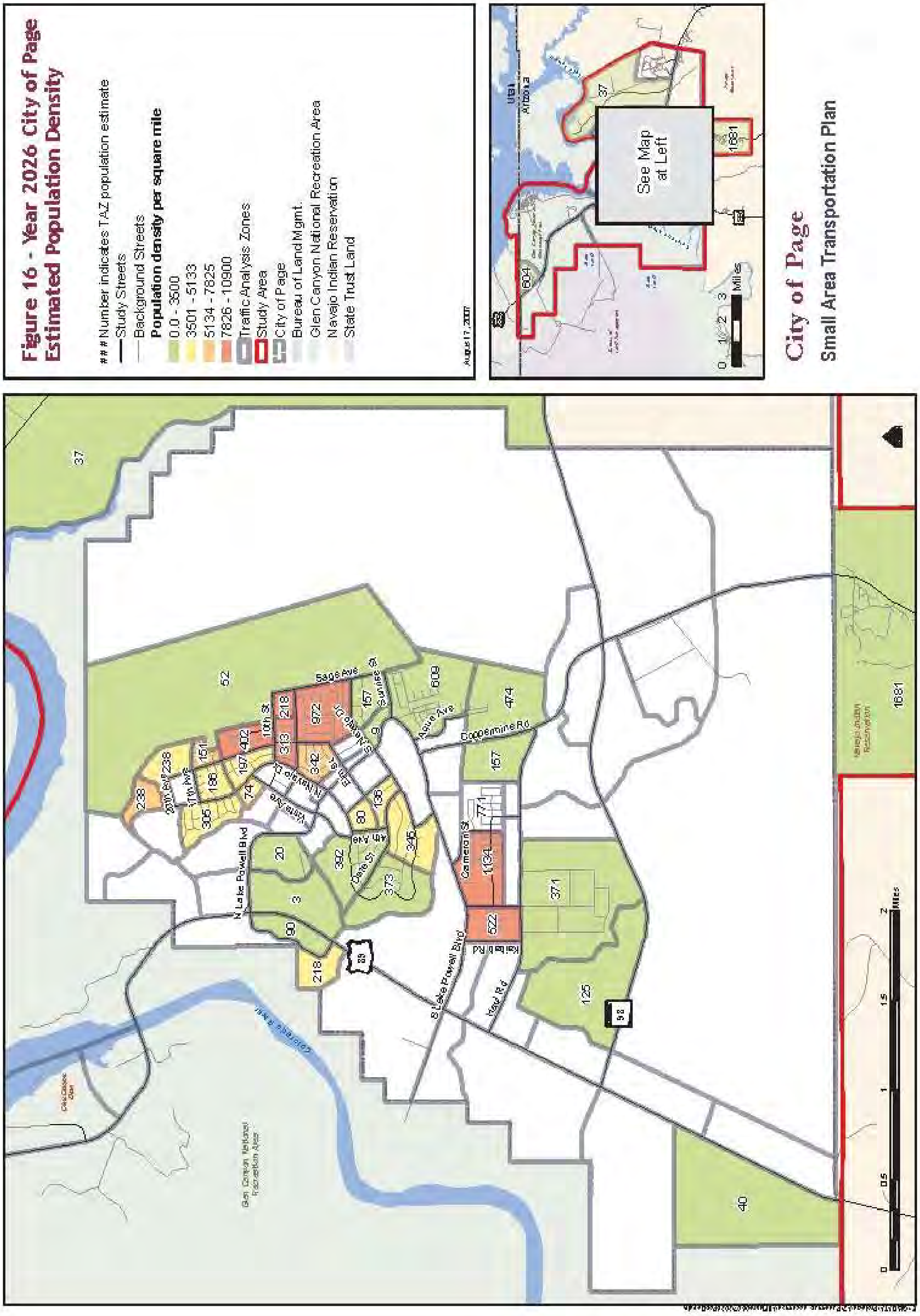


Figure 16 - Year 2026 City of Page
Estimated Population Density
Number indicates TAZ population estimate
Study Streets
Background Streets
Population density per square mile
0.0 - 3500
3501 - 5133
5134 - 7825
7826 - 10900
Traffic Analysis Zones
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 17, 2007
See Map
at Left
Utah
Arizona
Miles
City of Page
Small Area Transportation Plan
N Lake Powell Blvd
S Lake Powell Blvd
Sage Ave
Sunrise St
10th St
N Navajo Dr
S Navajo Dr
Vista Ave
Aqua Ave
Coppermine Rd
Cameron St
Haul Rd
Kaibab Rd
Date St
4th Ave
17th Ave
20th Ave

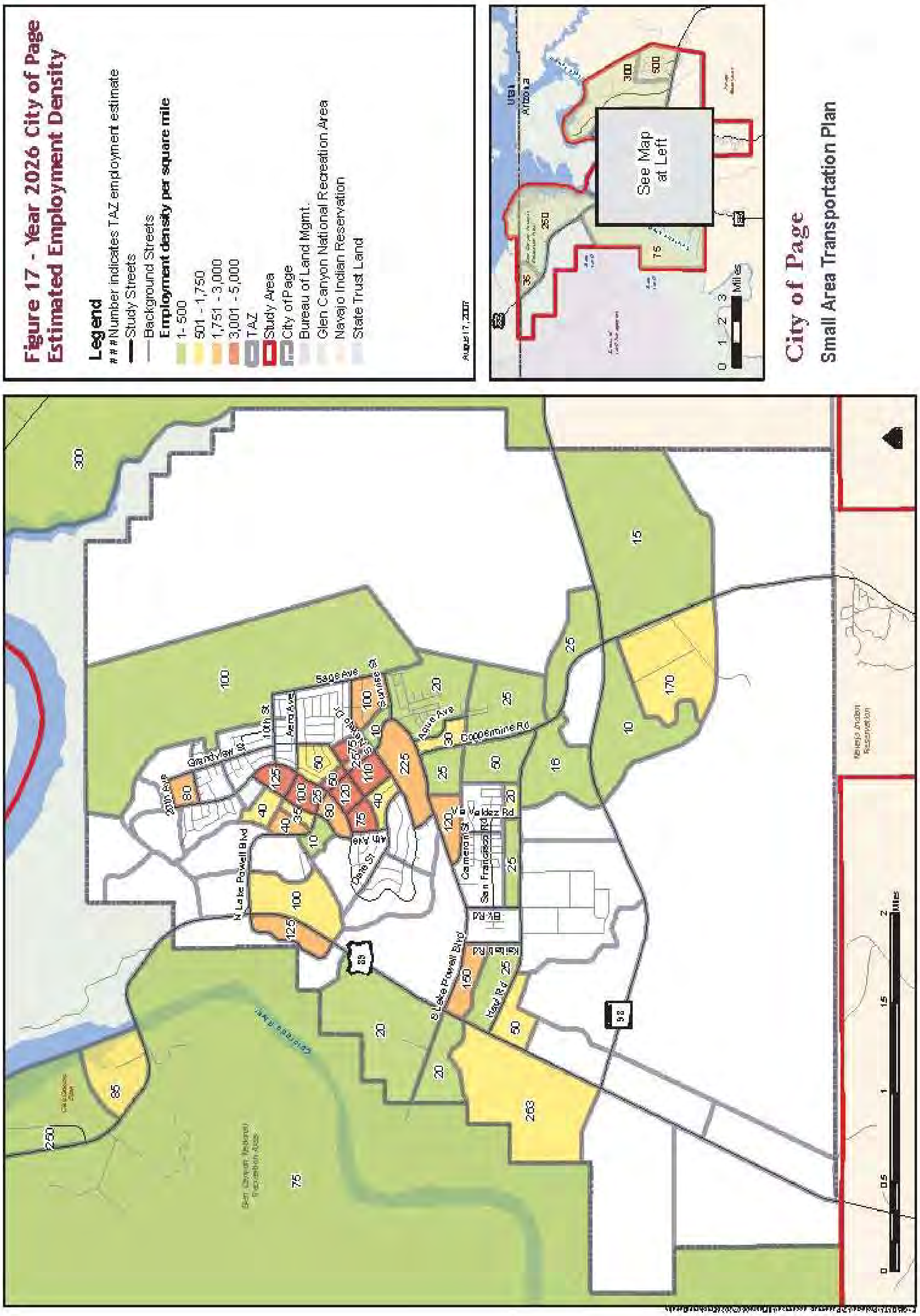


Figure 17 - Year 2026 City of Page
Estimated Employment Density
Legend
Number indicates TAZ employment estimate
Study Streets
Background Streets
Employment density per square mile
1 - 500
501 - 1,750
1,751 - 3,000
3,001 - 5,000
TAZ
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 17, 2007
See Map at Left
Utah
Arizona
Miles
City of Page
Small Area Transportation Plan
N Lake Powell Blvd
S Lake Powell Blvd
Grandview
20th Ave
10th St
Sage Ave
Sunrise St
Aztec Ave
Coppermine Rd
Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Haul Rd
Date St

4.5.1 Travel Demand

A travel demand model for the City of Page Small Area Transportation Study was developed to evaluate the long-range traffic impacts based on anticipated land use and development. The transportation planning model is a representation of the study area roadway facilities and the travel patterns associated with these facilities. This model was developed with the most recent release of TransCAD travel demand software program.

Travel Demand Modeling Process

The transportation planning model utilizes socioeconomic data and the transportation network to estimate the roadway system travel demand. Together with the socioeconomic data, simulated roadway network, and other mathematical travel parameters, the model is calibrated and validated to replicate the base year travel patterns, making it possible to project future traffic flow.

Before traffic forecasts could be derived, the 2006 base year model was calibrated and validated to simulate existing travel patterns and traffic flow on the roadway network. Model data collected for this time period includes socioeconomic data, traffic counts, and other roadway network data such as number of lanes, roadway capacity, and speeds. Calibration and validation of the travel demand model was accomplished by comparing the estimated model traffic volumes against the year 2006 ground counts to ensure the model's ability to replicate reasonable traffic conditions. The model was considered validated based on a number of performance measures including root mean square error, coefficient of determination, and Federal Highway Administration (FHWA) guidelines for allowable errors.

4.5.2 Future Year Traffic Forecasts

Figure 18 through Figure 20 show daily travel demand volume estimates and Level of Service analysis using the year 2006 roadway network for years 2011, 2016, and 2026. This analysis of the no-build network shows that the existing Page transportation system has sufficient capacity to accommodate anticipated year 2026 population and employment growth.

However as new growth and development occurs in and around Page, new access will be required. The study team in coordination with the Technical Advisory Committee has identified a number of potential new facilities to provide enhance mobility and access to planned and approved developments.

4.5.3 Recommended Roadway Improvements

Figure 21 shows the year 2026 travel demand volume estimates and Level of Service analysis using the recommended year 2026 roadway improvements. This figure shows that this recommended network is anticipated to function at an acceptable level of service through year 2026.

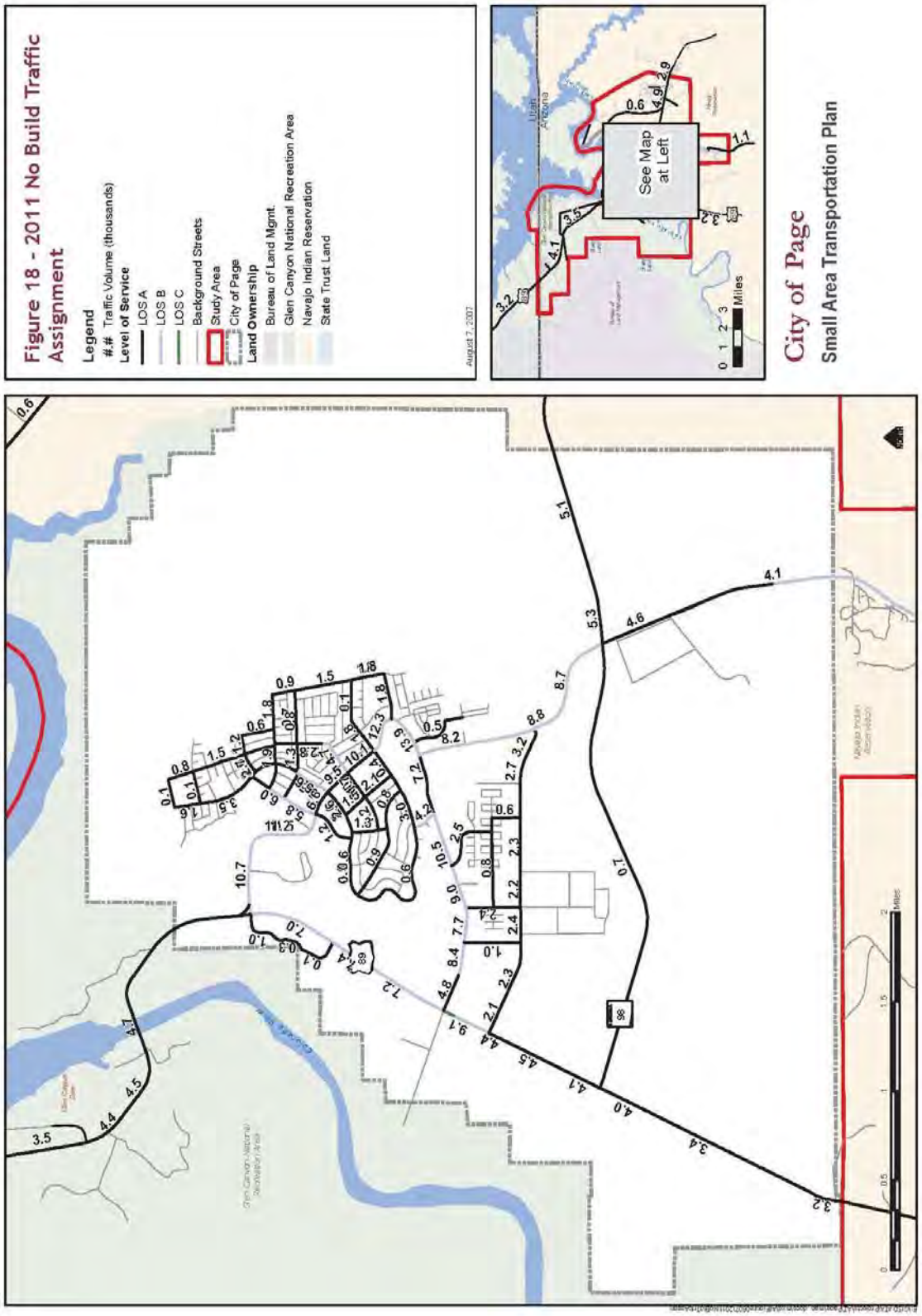


Figure 18 - 2011 No Build Traffic Assignment
Legend
#.# Traffic Volume (thousands)
Level of Service
LOS A
LOS B
LOS C
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
Utah
Arizona
0 1 2 3 Miles
City of Page
Small Area Transportation Plan

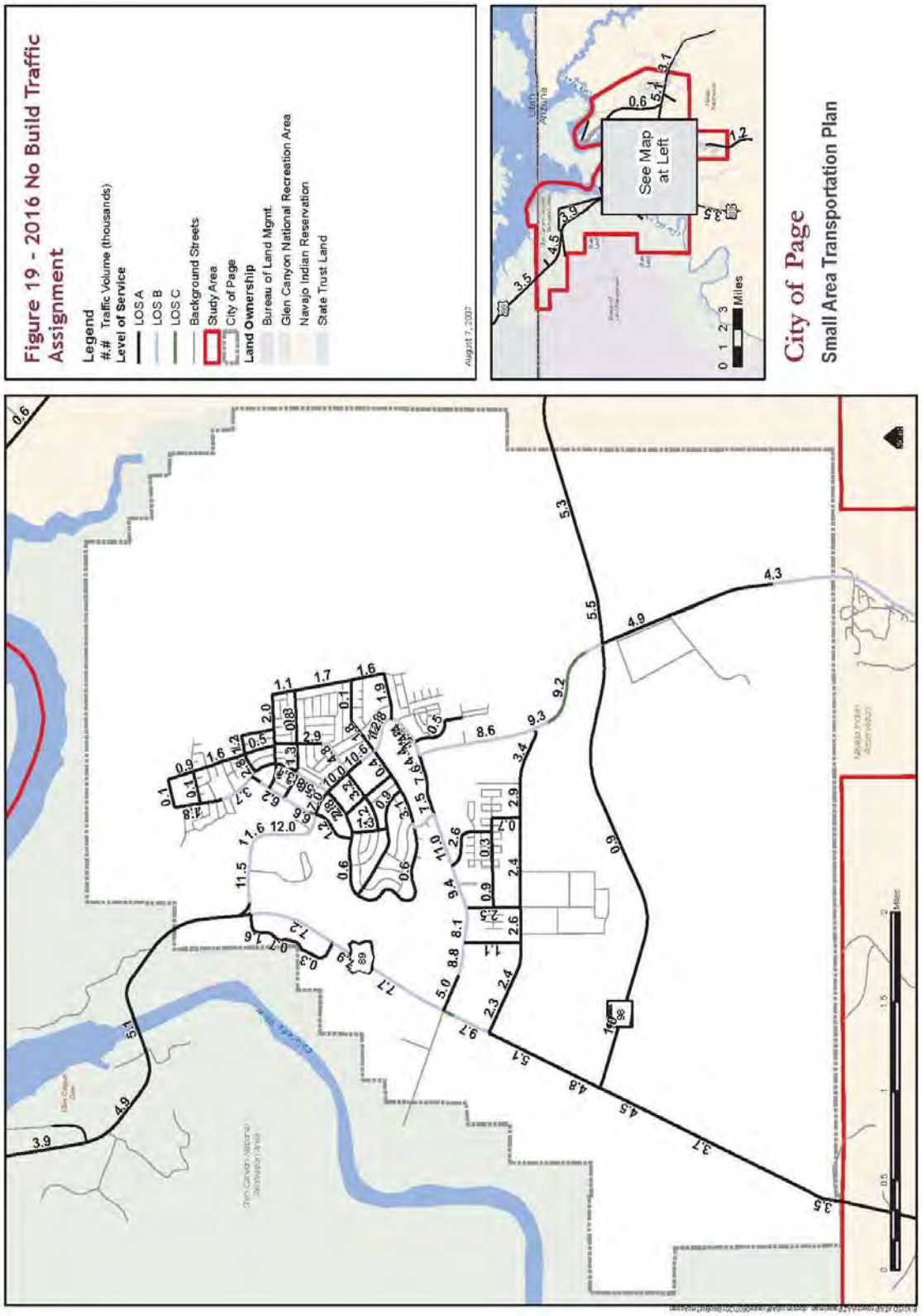


Figure 19 - 2016 No Build Traffic Assignment
Legend
#.# Traffic Volume (thousands)
Level of Service
LOS A
LOS B
LOS C
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
0 1 2 3 Miles
City of Page
Small Area Transportation Plan

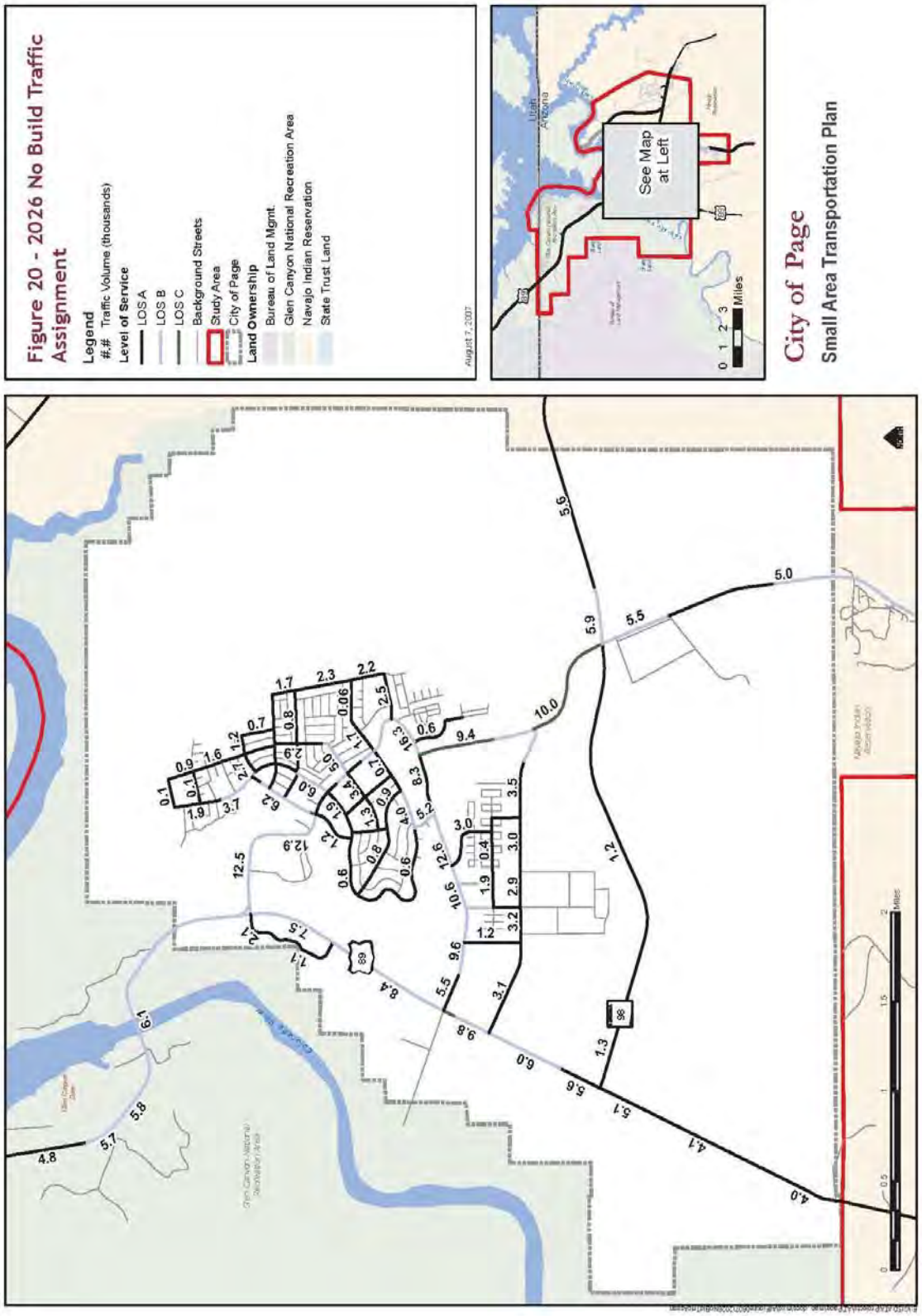


Figure 20 - 2026 No Build Traffic Assignment
Legend
#.# Traffic Volume (thousands)
Level of Service
LOS A
LOS B
LOS C
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
Utah
Arizona
0 1 2 3 Miles
City of Page
Small Area Transportation Plan

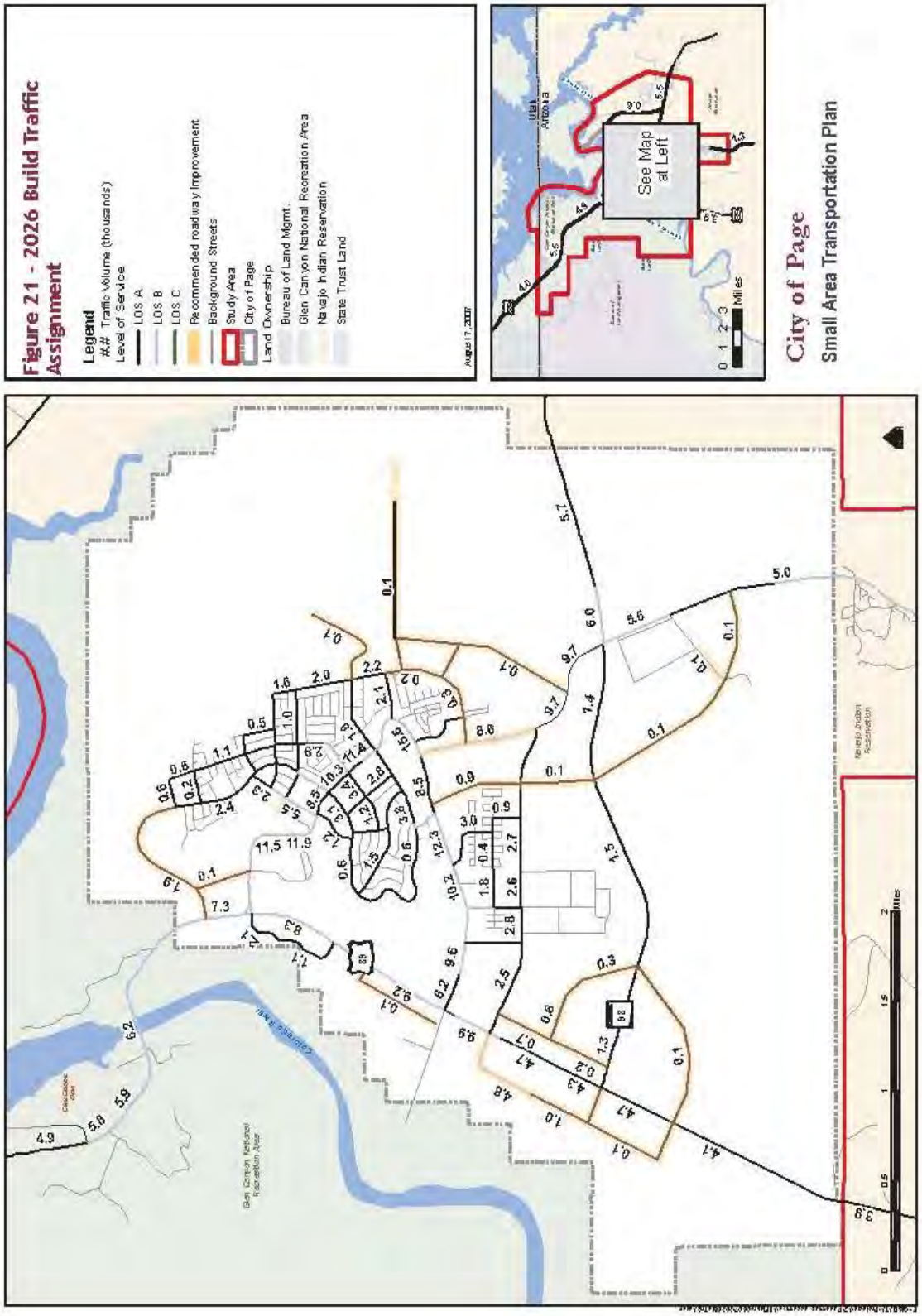


Figure 21 - 2026 Build Traffic Assignment
Legend
#.# Traffic Volume (thousands)
Level of Service
LOS A
LOS B
LOS C
Recommended roadway improvement
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 17, 2007
See Map at Left
Miles
City of Page
Small Area Transportation Plan

4.6. IMPLEMENTATION PLAN

The City of Page Small Area Transportation Plan contains three principal elements: roadways, transit, and a non-motorized element. The recommendations for each of these elements are based on technical analysis of existing and future conditions as well as stakeholder and public participation.

Based on the recommended improvements identified in Chapter 5, cost estimates, a funding plan, and an action plan were developed for the 2026 long-range transportation plan. In addition, information is provided on access management guidelines and traffic impact procedures.

4.6.1. Future Roadway Functional Classification Plan

The travel demand analysis discussed in Chapter 5 shows that capacity on study area roadways should be sufficient to accommodate anticipated year 2026 population and employment growth. To provide mobility and access to planned and approved developments, the study team, together with the Technical Advisory Committee, has identified a number of recommended system improvements. ***Figure 22*** shows the recommended future roadway functional classification plan, which reflects these new improvements.

Right-of-way preservation is critical for implementing the recommended roadway improvements. Each roadway classification will require the necessary right-of-way to construct the full cross-section. Specific right-of-way requirements for each planned roadway facility should be considered when reviewing future development proposals. Chapter 7 presents detailed design standards for each of the cross-sections shown in the Future Roadway Functional Classification Plan.

4.6.2. Year 2026 Roadway Improvement Plan

Figure 23 shows the recommended roadway improvements that focus primarily on providing access and mobility to planned future developments. The construction of these roadway improvements would depend on the phasing of the developments that these new facilities would serve. Continued coordination between the City of Page and the development community will help identify when design and construction on these improvements should begin.

The acceleration lane study recommended on Coppermine Road between SR 98 and Lake Powell Boulevard should be undertaken in the near-term to identify improvements to traffic operations and safety on this key facility.

Improvement Cost Estimates

Cost estimates were developed for the various projects. These costs should be used only for planning and programming purposes and do not include costs related to acquisition of right-of-way. Additionally, these estimates are for new or widened roadway facilities and do not include the costs for upgrading existing roads to current design standards. Table 15 presents the cost estimates for each of the projects. Based on the latest ADOT bid tabulations, the cost of constructing one mile of a new 2-lane facility is estimated at $2.5 million.

This estimate is in 2006 dollars and does not include items such as traffic signals, municipal utilities (sanitary sewer or water line), and roadway enhancements (landscaping) as they can vary for each project. ADOT has been experiencing approximately 30 percent annual cost increases for construction over the past several years.

Table 4.15 2026 Transportation Improvement Cost Estimates (2006 Dollars)[1]

ID	Location	Type	Length (miles)	Cost (thousands)	Responsible Agency
1	North Navajo Dr - US 89 Connector	New 2-Lane	1.0	$2,500	Page
2	Northeast Connector	New 2-Lane	0.35	$880	Page
3	Airport East Area Access	New 2-Lane	1	$2,500	Page
4	ADOT Rest Area Access	New 2-Lane	0.75	$1,880	Page
5	Antelope Valley Rd - East Mesa Connector	New 2-Lane	1.1	$2,750	Page
6	Hopi Avenue - Antelope Valley Connector	New 2-Lane	0.2	$500	Page
7	Coppermine Rd - Sage Ave	New 2-Lane	0.8	$2,000	Page
8	Sage Rd - Antelope Valley Connector	New 2-Lane	0.2	$500	Page
9	Lake Powell Rd - Haul Rd East Connector	New 2-Lane	0.6	$1,500	Page
10	SR 98 - Haul Rd East Connector	New 2-Lane	0.5	$1,250	Page
11	SR 98 - Haul Rd West Connector	New 2-Lane	0.7	$1,750	Page
12	Southwest Spur	New 2-Lane	1.6	$4,000	Page
13	US 89 - Southwest Spur Connector	New 2-Lane	0.21	$530	Page
14	SR 98 Alignment West Extension	New 2-Lane	1.75	$4,380	Page
15	SR 98 - Industrial Park Connector	New 2-Lane	2	$5,000	Page
16	Acceleration Lane Study	Study	-	$50	Page
17	Antelope Valley Access	New 2-Lane	1	$2,500	Page
18	Rim View-Vista Avenue Connector	New 2-Lane	0.1	$250	Page
19	Lake Powell Blvd.-Vista Traffic Signal Study/ Pedestrian Lighting Study	Study	-	$25	Page
20	Improved signage for designated airport corridor (Lake Powell Blvd / Aero Ave / Sage Ave)[2]	Sign Program	-	$5	Page
			Total	$34,745	

Notes: [1] The items in this list represent identified projects and are not prioritized.
[2] The sign program is not called out on figure.
Source: HDR Engineering, Inc., June 2007.

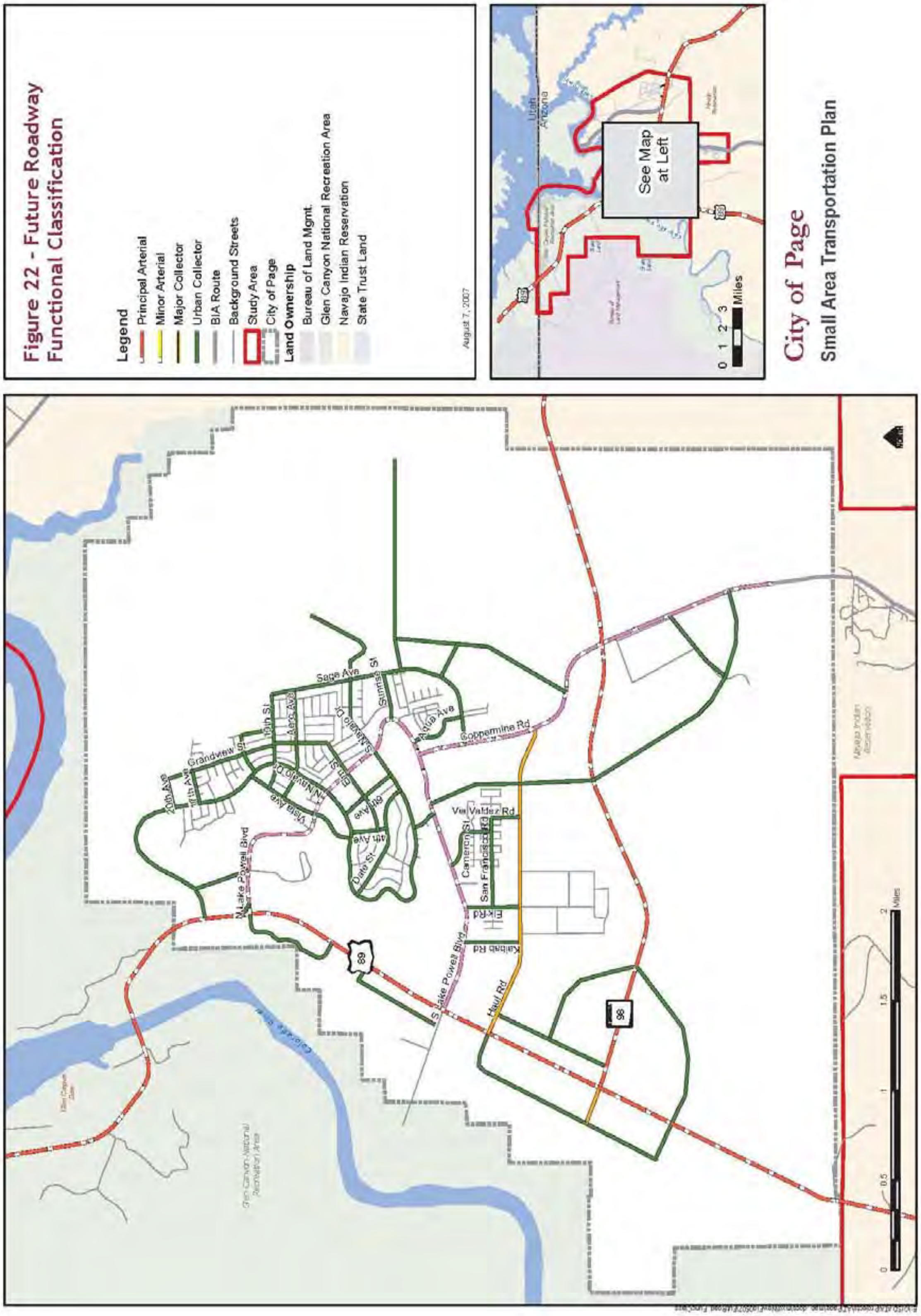


Figure 22 - Future Roadway Functional Classification
Legend
Principal Arterial
Minor Arterial
Major Collector
Urban Collector
BIA Route
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
See Map at Left
Utah
Arizona
0 1 2 3 Miles
City of Page
Small Area Transportation Plan
Sage Ave
Grandview St
20th Ave
N Lake Powell Blvd
S Lake Powell Blvd
Vista Ave
N Navajo Dr
S Navajo Dr
Elm St
Coppermine Rd
Aqua Ave
Sunrise St
Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
Date St
89
98
Miles

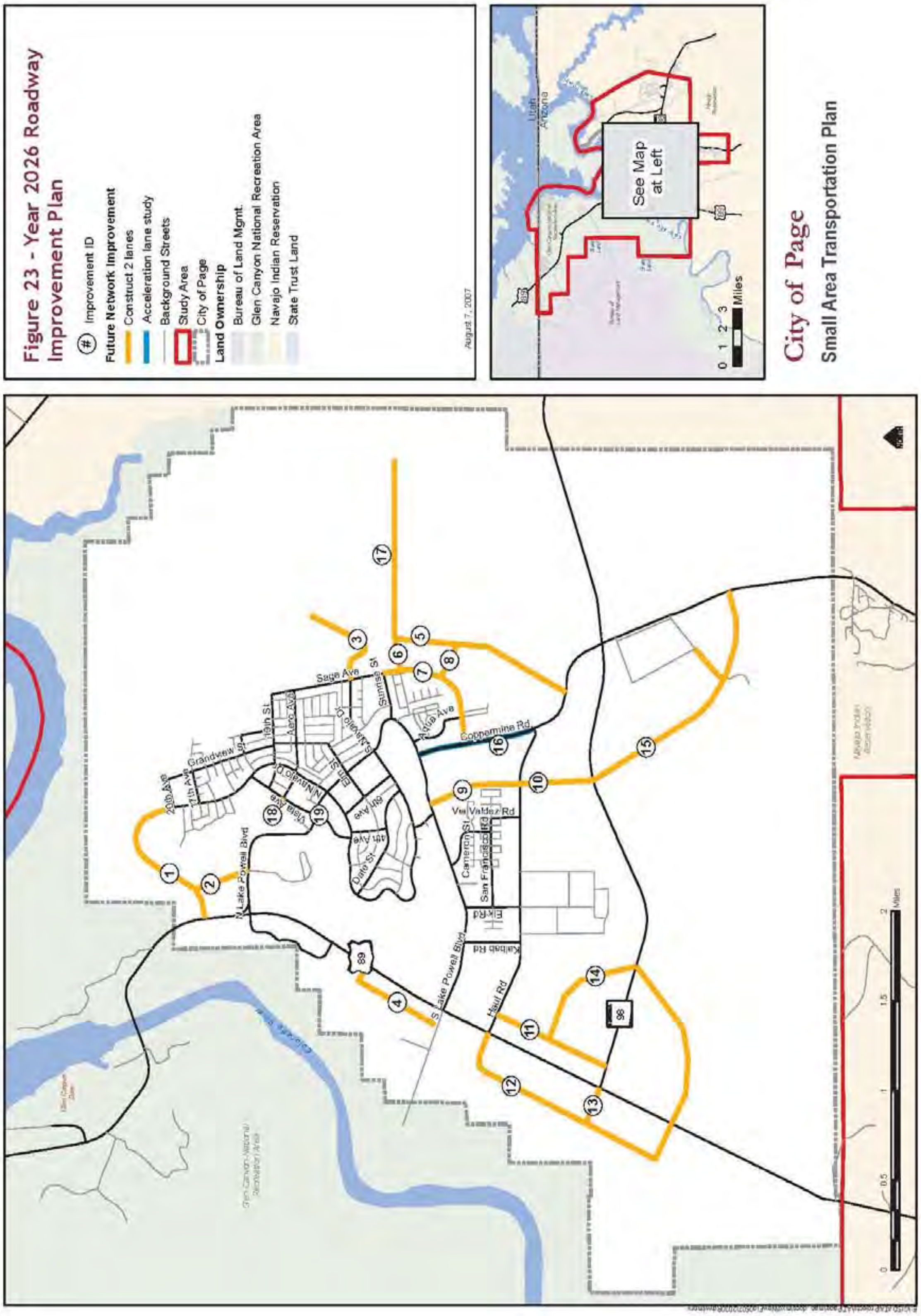


Figure 23 - Year 2026 Roadway Improvement Plan
Improvement ID
Future Network Improvement
Construct 2 lanes
Acceleration lane study
Background Streets
Study Area
City of Page
Land Ownership
Bureau of Land Mgmt.
Glen Canyon National Recreation Area
Navajo Indian Reservation
State Trust Land
August 7, 2007
Utah
Arizona
See Map at Left
0 1 2 3 Miles
City of Page
Small Area Transportation Plan
20th Ave
17th Ave
Grandview St
19th St
Aero Ave
Sage Ave
Sunrise St
Aqua Ave
Coppermine Rd
N Lake Powell Blvd
Vista Ave
N Navajo Dr
Elm St
8th Ave
4th Ave
Date St
Vermillion Valdez Rd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
S Lake Powell Blvd
Haul Rd
89
98
Navajo Indian Reservation
Glen Canyon National Recreation Area
Miles
0
0.5
1
1.5
2

4.6.3 Transportation Revenue Sources

The following section describes and summarizes the revenue sources that are currently available for funding roadway transportation projects. It should be noted that in the current environment the funding of significant transportation projects is complex and in most cases requires multiple sources. Also, transportation funding is dynamic and there is a need to continuously monitor the existing sources and new sources that may become available as state and federal legislation changes. Innovation has become the mainstay of successful transportation funding.

Existing and Potential Revenue Sources

Development Impact Fees
An increasing number of growing Arizona communities are relying on a transportation development impact fee for both residential and commercial development. Development impact fees are one-time payments for public facilities based on a pro-rata share of costs incurred for facilities benefiting new development and are not to be utilized for rehabilitation efforts or operating expenses. needed to accommodate new development. Development fees relate to only capital facility expansions

County Regional Area Road Fund
State law currently allows counties with population of four hundred thousand or less to impose a transportation excise tax with approval of a majority of the qualified electors voting at a countywide special election, or a majority of the qualified electors voting on the ballot proposition at a general election. The net revenues collected under this section within a county shall be deposited in the county's regional area road fund. Funds shall be distributed from the monies in the county's regional area road fund to the individual county and to the individual cities and towns in the county in the manner that is determined by the board of supervisors. The jurisdiction receiving the revenues may only use the revenues for street and highway purposes or for transportation projects included in the regional transportation plan of the county as prepared by the county regional planning agency.

Bonding
The issuance of bonds against town revenues can be used to accelerate project construction. While not a direct funding source, bonding can be used to mitigate the immediate impacts of significant capital improvement projects and spread the costs over the useful life of the project. Though interest costs are incurred, the judicious use of debt financing can serve not only as a practical means of funding major improvements, but is also viewed as an equitable funding strategy, spreading the burden of repayment over existing and future citizens and businesses that will benefit from the projects.

Improvement Districts
Improvement districts are authorized by the state legislature for the construction of a wide range of public works facilities. They are formed to fund repaving projects, construction of roadways or sidewalks, installation of landscaping and other public improvements within a defined geographic area. The districts are initiated by property

owners who combine resources with the town to finance the improvements. Property owners are assessed over a several year time frame to repay their share of the cost of the improvement.

Highway User Revenue Funds (HURF)
HURF represents the most significant source of transportation funds in the state of Arizona. Funds are derived primarily from motor vehicle fuel taxes and vehicle license taxes. HURF funds are shared with and allocated through ADOT and distributed as an entitlement to cities, towns and counties based on population.

Highway Extension Expansion and Loan Program (HELP)
HB 2488, enacted into law on August 21, 1998, established a comprehensive loan and financial assistance program for eligible highway projects in Arizona. The program designated as Highway Expansion and Extension Loan Program or HELP provides the state and communities in Arizona a new financing mechanism to stretch limited transportation dollars and bridge the gap between the needs and available revenues. The HELP Program provides the state and its communities with an innovative financing mechanism to accelerate the funding of road construction projects and has proven to be a significant tool for financing the construction of highway projects throughout the State.

Greater Arizona Development Authority (GADA)
The Greater Arizona Development Authority (GADA) was created by the Arizona State Legislature to assist local and tribal governments and special districts with the development of public infrastructure. GADA leverages its funds to lower the costs of financing and help accelerate project development for public facilities owned, operated and maintained by a political subdivision, special district or Indian tribe. GADA has both financial and technical assistance programs

Local Transportation Assistance Fund (LTAF) I
LTAF I is funded from state lottery proceeds up to $23 million per year and the funds are distributed to cities and towns on the basis of population. The funds can be used for public transportation and transportation purposes depending on the jurisdiction's population.

LTAF II
The 1998 Legislature passed HB 2565 to provide additional statewide transit and transportation funding to incorporated cities and towns as well as the counties. In 2000, additional legislation was passed making the use of LTAF II funds “transit use only” (public transportation sponsored by a local government entity or special needs transportation) for jurisdictions allocated more than $2,500. The LTAF II funding is in the form of multi-state lottery game and instant bingo game monies along with a portion of the State Highway Fund's Vehicle License Tax monies. The Arizona Department of Transportation administers the LTAF II and the State Treasurer's Office distributes the funds to the Regional Public Transportation Authority (RPTA), Metropolitan Planning Organizations (MPOs), and cities, towns and counties not represented by a RPTA or MPO.

On August 6, 2005 the six year, $286.4 billion, Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the largest investment in surface transportation in the nation's history was signed into law. This act provides numerous ways for local government to fund transportation including non-motorized as well as roads and public transportation.

Surface Transportation Program (STP)
The Surface Transportation Program provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the National Highway System, bridge projects on any public road, transit capital projects, and intra-city and intercity bus terminals and facilities. For projects programmed with STP funds from a COG Transportation Improvement Program, local project sponsors may exchange STP funds for a reduced amount of HURF funds from ADOT, enabling the project sponsor to assume greater control over project development and implementation.

Highway Safety Improvement Program (HSIP)
The purpose of the program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Each State's apportionment of HSIP funds is subject to a set aside for construction and operational improvements on high-risk rural roads. High-risk rural roads are roadways functionally classified as rural major or minor collectors or rural local roads with a fatality and incapacitating injury crash rate above the statewide average for those functional classes of roadways; or likely to experience an increase in traffic volume that leads to a crash rate in excess of the average statewide rate.

Bridge Program (BR)
Provides funding for replacement of a structurally deficient or functionally obsolete highway bridge or rehabilitate the structural integrity of a bridge.

Railway-Highway Crossings
The program purpose is to reduce the number of fatalities and injuries at public highway-rail grade crossings through the elimination of hazards and/or the installation/ upgrade of protective devices at crossings.

National Highway System (NHS) Program
The program provides funding for improvements to rural and urban roads that are part of the NHS, including the Interstate System and designated connections to major intermodal terminals. Under certain circumstances, NHS funds may also be used to fund transit improvements in NHS corridors.

Safe Routes to School Program
The program purpose is to enable and encourage children, including those with disabilities, to walk and bicycle to school; to make walking and bicycling to school safe and more appealing; and to facilitate the planning, development and implementation of

projects that will improve safety, and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

Transportation, Community and System Preservation Program (TCSP)
The TCSP Program is intended to address the relationships among transportation, community, and system preservation plans and practices and identify private sector-based initiatives to improve those relationships.

Transportation Enhancement Program (TE)
Program purpose is to strengthen the cultural, aesthetic, and environmental aspects of the nation's intermodal transportation system. Funding is derived from a set-aside from the state's annual STP apportionment. The program provides funding for facilities such as pedestrian walkways and bicycle paths, acquisition of scenic easements, restoration of scenic or historic sites, landscaping and other scenic beautification.

4.6.4 Future Transit Service

The economic development potential of public transportation spending goes beyond the actual benefit to riders; several studies have concluded that the return on dollars invested in public transportation is far greater than the costs. This has been proven true in rural and small urban areas. A study of rural areas identified that a $1 investment in transit yielded $3 in local economic activity. Benefits to the economy include:

- Boost to business revenues and profits
- Create jobs and expands the labor pool
- Stimulate development and redevelopment
- Expand local and state tax revenues and reduce expenditures for other public services
- Reduce household and business costs and enhance worker and business productivity

Fixed-route transit service in Page, currently provided by the Express serves a real need. The current reported ridership of 23,500 can be expected to continue to grow with anticipated increases in population and employment. In addition, even greater growth may be realized by addressing specific improvements. These improvements and suggestions for addressing them are outlined below.

Potential Transit Service Improvements

To build on the success of the *Express*, the Page area fixed route transit service operated by the Helping Hands Agency, the study team has prepared recommendations for four specific areas of potential transit service improvement:

- Route structure
- Vehicle fleet
- Fare structure
- Presentation of information

Route Structure

Both patronage figures and the public comment indicate that current route structure is serving the community needs. Nonetheless, the future transit system could take advantage of a more simplified route structure which is employed by many transit providers, namely using regional collectors and a local circulator. Regional collectors are generally more cost effective as they can operate at higher speeds over longer distances. Each of the three recommended regional collector routes (covering the areas served today and beyond depending upon demand and funding) could operate together on Lake Powell Boulevard. Combining services would provide higher frequency service along this road. Regional collector routes will provide service using standard size transit buses. A local circulator could then be used to provide neighborhood service, intersecting the regional collector routes along Lake Powell Boulevard to take advantage of regular service to major employers and the outlying areas. Service in the circulator areas will be provided using cutaway vehicles. Figure 25, the Recommended Future Transit Routes Map, offers an example of what this service could look like.

Vehicle Fleet

As existing transit vehicles age and demand increases it is recommended that purpose-built buses be used to replace them. The durability of purpose-built buses is one of their major advantages (on average a life cycle about twelve-years). Another is their larger size, which provides a good amount of interior vehicle space. This is especially convenient for passengers in wheelchairs or those who require additional room in which to maneuver. Many of the components of small buses (i.e. transmission, engine and axles) are identical to heavy duty components of standard sized transit buses. They are also capable of carrying the additional passengers that can be anticipated with increasing population and service (not to mention unprecedented gasoline costs as we are already experiencing nation-wide). In the case of the neighborhood circulator, described below, a body on chassis vehicle such as the cutaways currently in service, are recommended. The advantages of using a cutaway for local service is that they can be outfitted to run on unleaded fuel, as opposed to diesel, resulting in reduced noise; they are smaller, therefore resulting in less impact to neighborhoods.

Fare Structure

It is suggested that rates be reduced (as funding is available) to a level consistent with the fare schedule of other rural communities. Each of the comparison communities currently charge a one-way fare of one dollar. Various day passes, discounted passes (seniors and students), and monthly passes should be offered as further incentives for transit use. By reducing the fare, it is anticipated that ridership would increase, thereby potentially making up the difference while increasing use of service.

Presentation of Information

It is recommended that the Express provide a brochure that addresses routes, schedules, and fares in a simple manner that will encourage use by both residents and visitors alike. The recommended schedule should provide a simple graphic map showing the routes. Route stops should also be listed along with the scheduled departure times. This information should also be available on the City of Page website.

Potential Transit Service Demand

Transit demand analysis is the basic determination of demand for public transportation in a given area. A key step in developing and evaluating transit plans is a careful analysis of the mobility needs of various segments of the population and the potential ridership of transit services. There are several factors that affect demand, not all of which can be forecast.

Due to the anticipated type and amount of development in the City of Page and environs, fixed-route transit service will likely see steady increases in ridership. However, without substantial transit ridership data it is difficult to accurately predict future transit demand in Page. Currently there is insufficient data to project transit needs based on historic trends. For the purposes of this study, population and economic forecasts for the area and an assessment of the peer city transit data were used to generate growth factors.

The average ratio of annual passenger trips to population served for the peer cities results in a value of 3.4. Applying that value to the Page SATS study area population results in a anticipated annual passenger trips for Page of 31,300. Using this approach it is assumed that the resulting 33 percent difference is a function of the latent demand which results from the current fare cost. Given this assumption, and growth projections,

Table 4.16 Transit Demand Projections

n	2006	2011	2016	2026
Study Area Population	9203	9803	10467	12033
Employment	3812	4090	4349	4899
Transit Ridership	31,300	33,300	35,600	40,900

the following projected ridership values are calculated.

Transit Funding Assistance

Transit services are funded through a variety of Federal, state and local programs, as well as farebox revenue, advertising, and other nongovernmental sources. Most local government funding for transit services is provided by general fund revenues of municipalities and/or counties. Sources of potential transit funding include:

Section 5311 Formula Funds
The funding being sought by the Express includes Federal Transit Administration Section 5311 funding. This funding supports capital expenditures (based on an 80/20% match with municipality or other entity), operating expenses (50/50% match) and administrative expenses (80/20% match). The funding is allocated through an annual competitive application process.

STP Flex Funds
Surface Transportation Program (STP) funds are also available through ADOT in support of the Section 5311 Program. Typically these funds are used to augment the capital procurement process. STP funding is determined annually by the State Transportation Board.

LTAF II Funds
The LTAF II fund is financed through the Arizona Lottery. These funds are distributed to cities, towns, and counties, some of whom allocate them to rural transit providers to use for capital purchases, to match federal funds or enhance operations. The downside of this funding is that it is contingent upon lottery proceeds in excess of a certain threshold, therefore the funding is periodic and cannot be budgeted annually.

Rural Transit Assistance Program
It is suggested that the Helping Hands Agency take advantage of the Rural Transit Assistance Program, whose Public Transportation Division staff provides technical support, training and planning assistance to the rural transit providers. This service provides training in a number of areas including: operations, maintenance, drug and alcohol program supervision, ADA requirements and marketing. They will also assist with developing Three Year Transit Plans, producing passenger information materials and carrying out vehicle and facilities procurements.

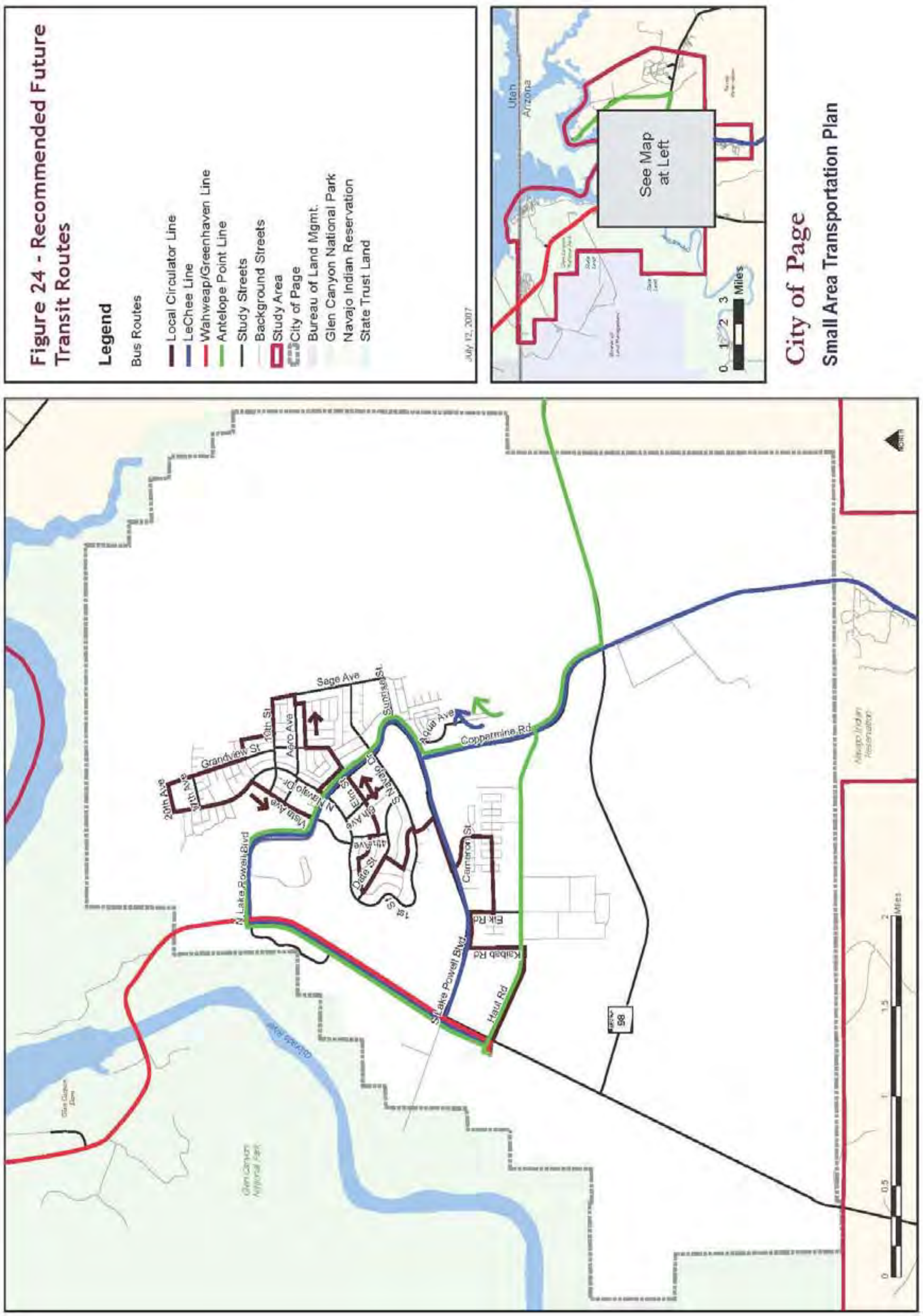


Figure 24 - Recommended Future Transit Routes
Legend
Bus Routes
Local Circulator Line
LeChee Line
Wahweap/Greenhaven Line
Antelope Point Line
Study Streets
Background Streets
Study Area
City of Page
Bureau of Land Mgmt.
Glen Canyon National Park
Navajo Indian Reservation
State Trust Land
July 12, 2007
Utah
Arizona
See Map at Left
0 1 2 3 Miles
City of Page
Small Area Transportation Plan
Sage Ave
Grandview St
20th Ave
Aero Ave
Vista Ave
N Navajo Dr
Elm St
S Navajo Dr
Coppermine Rd
N Lake Powell Blvd
S Lake Powell Blvd
Cameron St
Elk Rd
Kaibab Rd
Haul Rd
1st St
98
Miles

4.6.5 Non-Motorized Element

Figure 25 shows the recommended City of Page Recreation and Alternative Transportation Trails.

Trail Routes

Proposed trail routes identified in Figure 26 are recreational routes aimed at providing both residents and visitors an opportunity to enjoy the views of Glen Canyon Dam and the Colorado River. These proposed routes include a trail following the western boundary of the City of Page and a trail between US 89 and Horseshoe Bend.

Non-Motorized Routes

Non-motorized routes for cyclists extend throughout the city. In most instances, roads classified as urban collectors and local streets operate as shared roadways, where the lower traffic volume and slower speeds are appropriate for shared roadway designation. Figure 26 identifies non-motorized roadways, it also identifies existing routes that require improvement.

4.6.6 Implementation Action Items

Key action items required to support and implement key elements of this transportation plan include on-going stakeholder coordination, maintaining a current database of traffic information, participating in regional planning efforts, and periodically updating this transportation study.

Stakeholder Coordination

An important part of the long-term roadway improvement plan is continued coordination between stakeholders at the federal, state, county, and local level, including the development community. As the implementation of many of the roadway improvements recommended in this plan are tied to new development, coordination between the City of Page and developers will help ensure that the right transportation improvements are provided at the right time.

Additional Study

The City of Page should undertake an acceleration lane study on Coppermine Road between SR 98 and Lake Powell Boulevard in the near-term. This study would examine the potential benefits to traffic operations and safety of a new acceleration lane. It would identify right-of-way requirements and provide a detailed improvement cost estimate.

Roadway Safety Review

Study participants should also conduct periodic reviews of roadway accident data to identify safety trends.

Traffic Count Data

At a minimum, traffic counts should be conducted once every three years to monitor activity. These counts should be conducted at the previous count locations to identify trends annually and seasonally. This traffic count program will assist in adjusting priorities as necessary.

Traffic Data Collection

The City of Page should continue updates of traffic conditions through a periodic roadway inventory and/or annual system-wide traffic count program. This traffic data is a valuable resource to engineers and planners establishing transportation infrastructure needs.

Monitor and Update Transportation Plan

To facilitate periodic updates of the TransCAD travel demand model and project prioritization analysis, the City of Page should maintain current dwelling unit and employment databases. Significant changes in development patterns should trigger an update of the travel demand forecasts. At a minimum, a major review of this transportation plan should be undertaken every five years.

General Plan Update

The City of Page should incorporate multi-modal transportation improvement recommendations into its General Plan update. This would include roadway improvement recommendations, transit improvement recommendations, and multi-use trails improvement recommendations.

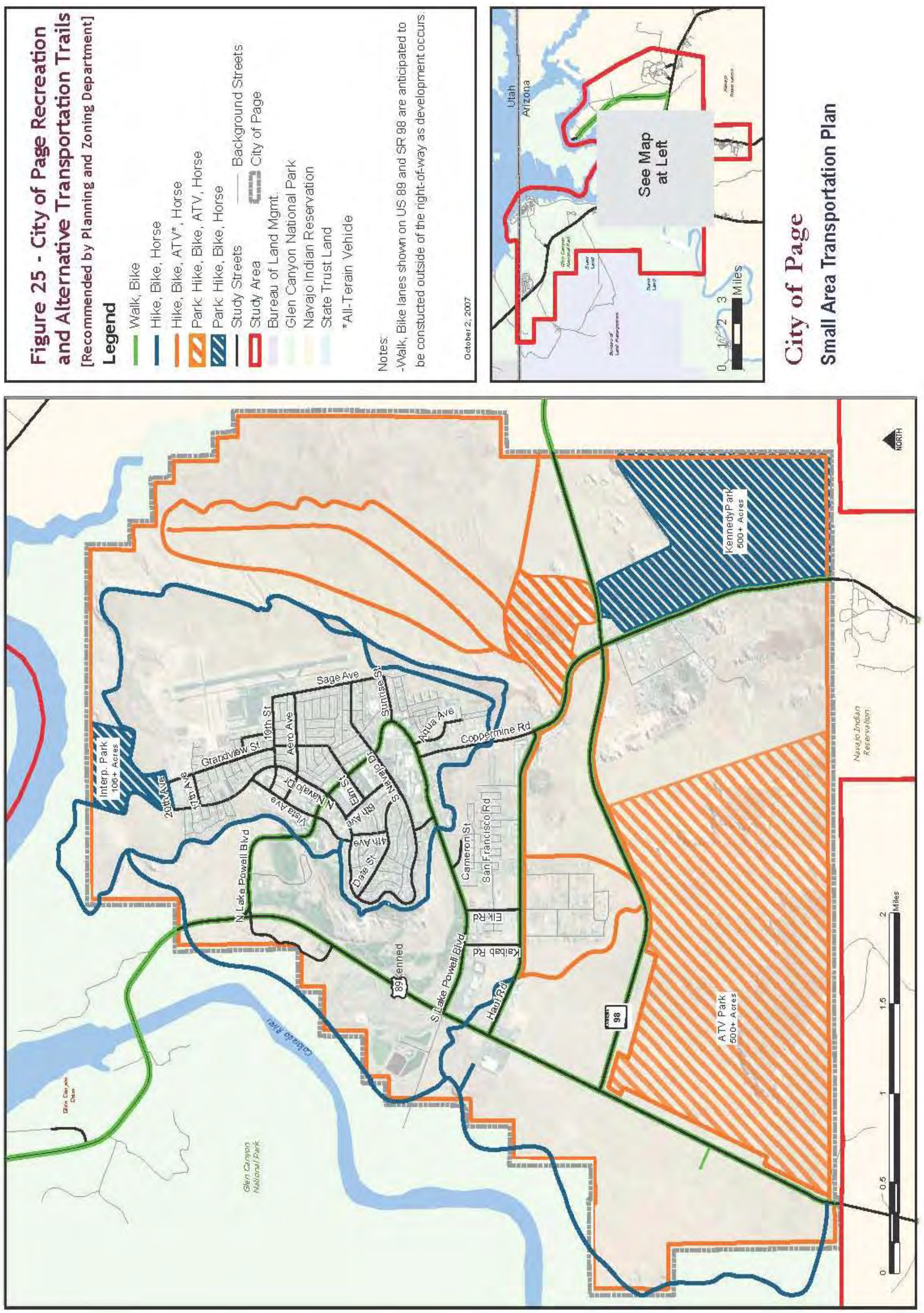


Figure 25 - City of Page Recreation and Alternative Transportation Trails
[Recommended by Planning and Zoning Department]
Legend
Walk, Bike
Hike, Bike, Horse
Hike, Bike, ATV*, Horse
Park: Hike, Bike, ATV, Horse
Park: Hike, Bike, Horse
Study Streets
Study Area
Bureau of Land Mgmt.
Glen Canyon National Park
Navajo Indian Reservation
State Trust Land
Background Streets
City of Page
*All-Terrain Vehicle
Notes:
-Walk, Bike lanes shown on US 89 and SR 98 are anticipated to be constucted outside of the right-of-way as development occurs.
October 2, 2007
Utah
Arizona
See Map at Left
Miles
City of Page
Small Area Transportation Plan
Interp. Park 106+ Acres
Kennedy Park 500+ Acres
ATV Park 500+ Acres
Sage Ave
Grandview St
Coppermine Rd
N Lake Powell Blvd
S Lake Powell Blvd
Cameron St
San Francisco Rd
Elk Rd
Kaibab Rd
Haul Rd
Navajo Indian Reservation
Glen Canyon National Park
NORTH

4.7 POLICIES AND GUIDELINES

4.7.1 Roadway Functional Classification

This section presents the policies and guidelines needed to implement the recommendations of this transportation study. This includes typical roadway cross-sections by functional classification, access management guidelines, and traffic impact study guidelines.

Roadway Functional Classification

Roads are classified based upon design and traffic characteristics. Functional classification categorizes roads by how they perform in regard to providing access and mobility. A principal arterial, for example, is a state facility that typically provides mobility for longer distance trips with higher speeds and less access to adjoining properties. Conversely, the function of a local street is to provide direct access to neighborhoods with lower speeds. The full functional classification definitions are defined below:

Principal Arterial: This facility serves regional circulation needs. It moves traffic at moderate speeds while providing limited access to adjacent land. Access is controlled through raised medians and through spacing and location of driveways and intersections. In the City of Page study area, a principal arterial is a two- or four-lane state highway.

Minor Arterial: This typical section is generally a four-lane and sometimes a two-lane roadway. Its purpose is to serve regional/sub-regional traffic circulation needs by moving traffic at moderate speeds while providing limited access to adjacent land.

Major Collector: This facility provides for shorter distance trips, generally less than three miles, and primarily serves to collect and distribute traffic between key traffic generators, local streets and arterial streets. This classification provides direct access to abutting land.

Urban Collector: Minor Collectors serve shorter distance trips than the Major Collector, generally less than one mile. They provide direct access to adjacent land and collect and distribute traffic between key traffic generators, local streets and arterial streets.

The issue of lane width was discussed at the August 7, 2007 public meeting when an attendee questioned whether twelve foot lanes were adequate. While the project team believes twelve foot lanes are sufficient, HDR contacted Lake Havasu City, AZ, a community with similar issues, to inquire as to their standard. Lake Havasu City street standards specify eleven foot lane widths (although under special circumstances for short distances with lower speeds this width may be reduced to ten and one-half feet).

Roadway Cross-Section

The typical roadway cross-sections and street standards from the City of Page General Plan were applied in this study update. Descriptions of roadway cross-sections by functional classification are shown below.

Principal Arterial
A principal arterial, as shown in Figure 27, is constructed on 110 to 200 feet of right-of-way. In urban areas, there are typically four travel lanes and a 12-foot median that could be either a raised median or a center two-way left turn lane. The two outside lanes are 14 feet in width, measured to the face of curb. In rural areas, there are typically two 12-foot travel lanes with a paved shoulder.

Minor Arterial
A minor arterial, shown in Figure 27, has two, four, or six travel lanes constructed on 100 to 200 feet of right-of-way. The travel lanes are divided by either a two-way left turn lane or a raised median. A bike lane is included in the cross-section.

Access to minor arterial streets is limited to intersections at quarter-mile spacing and to driveways of major developments, such as large commercial, industrial, or office complexes, or master-planned communities. On-street parking is not allowed.

Major Collector
A major collector is four travel lanes constructed on 80 feet of right-of-way. As shown in Figure 27, opposing travel directions are separated by a two-way left turn lane or a raised median. A 5-foot bike lane is included in the cross-section.

Access to major collector streets is limited to intersections at eighth-mile spacing and to driveways to adjacent developments. All vehicles entering the traffic stream must be driving forward; no backing into traffic is allowed. On-street parking is not allowed.

Urban Collector
The urban collector cross-section, as shown in Figure 27, includes two travel lanes constructed on 60 feet of right-of-way. The cross-section includes two 12-foot travel lanes, a 5-foot striped bike lane in each direction, and on-street parallel parking in each direction. Access to minor collector streets should be restricted except for large contiguous lots.

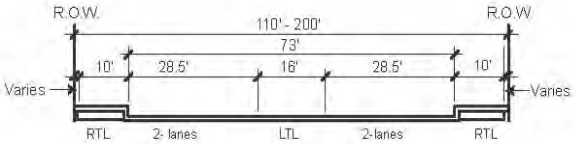
Local Street
The local street cross-section, as shown in Figure 27, includes two travel lanes constructed on 50 feet of right-of-way. The 40-foot roadway consists of a 12-foot travel lane, and 8 feet for on-street parallel parking. Access to minor collector streets should be restricted except for large contiguous lots.

City of Page

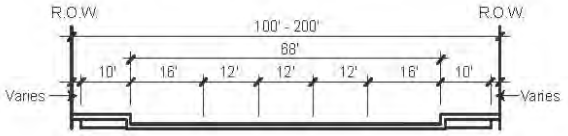
Small Area Transportation Plan

Figure 26 - General Plan Street Standards

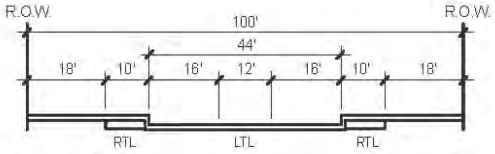
Principal Arterial
Roadways serving inter-regional travel



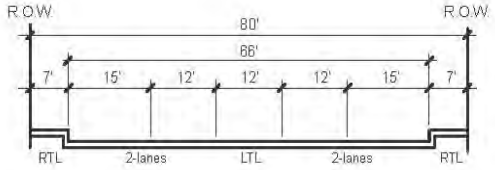
Minor Arterial (5 lane)
A 5-lane undivided urban/rural section (no parking) with wide outside lanes for turning vehicles and bicycles



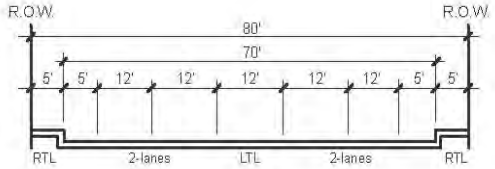
Minor Arterial (3 lane)
A 3-lane undivided urban/rural section (no parking) with wide outside lanes for turning vehicles and bicylces



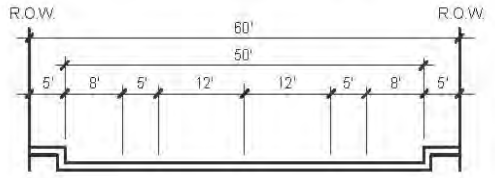
Major Collector
A 5-lane undivided (no parking) roadway



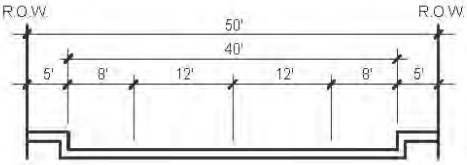
Major Collector*
A 5-lane undivided with striped bicycle lanes (no parking) roadway



Urban Collector
A 2-lane undivided roadway with striped bicycle lanes and parallel parking



Local Street
A 2-lane residential roadway or cul-de-sac urban section (parking permitted)



4.7.2 Access Management Guidelines

Purpose

Access management is the systematic control, location, spacing, design, and operation of: driveways and street connections, medians, median openings, turn lanes, traffic signals, and interchanges. The purpose is to provide (or improve upon the existing) access to land development while at the same time preserving the ever-constant flow of traffic on surrounding roadways; keeping crucial factors such as speed, safety and capacity needs, in mind. ADOT defines access management as the control of the location and design of all vehicular approaches to the state highway system including driveways and public and private roads. This control includes the option to deny a direct highway connection when it is appropriate.

Key Category Access Factors

- Intersection Spacing
- Traffic Signal Spacing
- Allowing direct access or require to obtain alternative access
- Proof of access necessity
- Scope of access improvement, such as requiring auxiliary lanes, (deceleration and acceleration lanes)
- Defining the levels of allowable access and spacing for different kinds of roads.
- Providing a mechanism for granting variances in cases where reasonable access to adjacent roadways cannot be provided.
- Establishing a means of enforcing standards (red light or speeding cameras as an example)

The challenge of access management is making the effort towards creating and maintaining a balance between land development plans and the functional integrity of the roadways that serve these developments and the region.

Legal Issues of Access Control

All private property rights including access rights are subservient to the state and its jurisdiction and are always subject to reasonable regulation through the police force of the local government or the state for the for the public health, safety, and welfare. The right of access is one of reasonable access, not a private one of direct access. However, once a direct access has been provided to a non-controlled access highway then the property owner has an access easement. Any destruction or unreasonable restriction of said access will require compensation.

In general property owners have the right of reasonable access to an adjacent roadway but sometimes this may be restricted by governments in order to enhance public safety or where it is of public interest to do so. Private rights of abutting landowners to access their property tend to be subservient to those of the public i.e. their rights to free and safe use of the public street system.

Local governments and the state have the power to regulate traffic on the highway including restricting driveway location, spacing, size and design, restricting traffic movement to one direction of travel and striping a highway or even constructing a median divider which permanently limits property ingress and egress to one direction.

Different types of roads are administered by different authorities or entities, including the state and the county, and it is important for all to understand the relationship between land use and the functionality of the road that passes through it.

Subdivision Regulations

State legislation gives the cities and counties authority to regulate subdivisions. Subdivisions can be regulated with regard to the following access management techniques:

- Control the number of access points in relation to road deceleration and acceleration lanes to avoid conflict points;
- Ensure design of adequate driveway throat length to avoid a conflict with the flow of off-site traffic;
- Provide adequate driveway spacing requirements, corner clearance, and joint and cross access configurations;
- Orient lots, buildings, and access points to local streets and not to high-traffic-volume arterials; and
- Require reverse frontage to ensure that lots abutting the roadway obtain access from a local road.

A city or county site plan review process can require documentation of all access points and the internal circulation system. Intersection controls, medians and on-site circulation controls can be required to ensure that access and design standards for roadways are followed, and that lots are not configured in a manner that encourages inadequate spacing between access points.

On state highways, what constitutes “legal” access is a determination by ADOT. Since ADOT has adopted access standards, engineering requirements and a regulatory permitting program, legal access to a state highway may only be determined by ADOT under the authority of the Director, not by county or city officials. Absent an ADOT determination of legal sufficiency, the property deed should note that the property does not have legal access established.

Any changes in access to US 89 and SR 98 would require an amendment to the current Route Transfer Agreement between the City of Page and ADOT. Currently the City is working with the ADOT Flagstaff District on just such an amendment for US 89 north of lake Powell Boulevard.

Zoning Ordinance

To promote effective access management, the City of Page zoning ordinances can: require larger minimum lot frontages; adopt minimum spacing standards for

driveways; encourage joint and cross access; require complete on-site circulation; and promote activity centers rather than strip development.

General Plan

The next update of the City of Page General Plan should identify access issues and problems; establish goals, objectives and policies regarding access; identify access management approaches; and designate key transportation corridors for special treatment.

Methods of Controlling Access

Access management, as an important means for maintaining mobility, encompasses a set of techniques that are available for use to the state and local governments to control access to highways, major arterials and other roads. These include the following:

- Access Spacing: increasing the distance between traffic signals can reduce congestion and improve traffic flow on major arterials, it can also raise the standard of air on heavily traveled roads. Subdivision regulations such as lot split regulations can ensure correct and safe spacing between access points, and these regulations can orient said access points away from high traffic volume arterials, for example.

- Driveway spacing: fewer driveways that are spaced further apart would allow for more orderly merging of traffic and would present fewer challenges for drivers.

- Related to driveway spacing is generally land division where lot dimensions are concerned, also driveway lengths. Control can be taken of this through minimum lot size and lot frontage and so on.

- Safe Turning Lanes: dedicated left- and right-turn, indirect left-turns and U-turns, and roundabouts keep through-traffic flowing. Roundabouts represent an opportunity to reduce an intersection with many conflict points or a severe crash history (T-bone crashes) to one that operates with fewer conflict points and less severe crashes (sideswipes) if they occur.

- Median Treatments: two-way left turns and non-traversable raised medians are two of the most effective ways to regulate access and reduce crashes

- Right-of-Way Management: this pertains to right-of-way reservation for future widening, good sight distance, access location, and other access-related issues.

Access Planning and Design

Access planning and design should aim to coordinate the three components of the access system – the public roadway, the private roadway, and the activity center or land development itself. The elements that must be taken into account surrounding

these components are 1) limiting the number of conflict points, 2) separating conflict areas (e.g., through traffic signals), 3) reducing acceleration and deceleration impacts at access points, 4) removing vehicles from through traffic lanes, 5) spacing major intersections to facilitate progressive travel speeds along arteries, and 6) providing adequate on-site storage.

Permitting Considerations

Allow some variation from spacing standards at an administrative level

- Distinguish between major and minor deviations from spacing standards
- Require more vigorous review of major deviations

Establish permit conditions

- Type and volume of traffic
- Interim access until alternative access is obtained

Address when existing access must be brought into confirmatory

- Substantial enlargements or improvements
- Significant change in trip generation
- Beyond any specific permit term or condition
- If use is discontinued

Need to be clearly defined

Additional Resources

ADOT is currently developing a Statewide Access Management Plan in accordance with the policies of the State Transportation Board. This plan is to develop an access management classification system for the State Highways and also a manual to guide the uniform application of access management throughout the state. Current general guidance for access management criteria may be found in *Roadway Design Guidelines and Traffic Engineering Policies, Guidelines and Procedures (see: http://www.azdot.gov/Highways/RdwyEng/RoadwayDesign/ManualsGuidelines/PDF/RoadwayDesignGuidelines.pdf)*

4.7.3 Traffic Impact Procedures

A Traffic Impact Study (TIS) is an important tool in the overall development planning process (residential, commercial, industrial, etc.) within the City of Page. The TIS provides information which identifies impacts of proposed developments on the existing, short range and long range roadway system. It also identifies mitigation measures for the identified traffic impacts.

Requirements for Traffic Impact Study

Some development applications may require Traffic Impact Studies. A TIS will be required on all new developments that generate 500 or more daily two-way trips. New developments on State Highways must be conducted in accordance with the ADOT Traffic Impact Analysis.

This ensures that projects which are anticipated to create traffic impacts will be required to mitigate those impacts, while those smaller projects are not unduly burdened with a requirement to perform a traffic study. If it is determined by the City that a TIS is required, the applicant and City Engineer must obtain agreement on the specific requirements. A meeting may be held prior to the initiation of the TIS on the following items:

- TIS Guidelines will be discussed to ensure understanding by both the City and TIS applicant. The City has the final decision on the TIS requirements;
- Study area limits;
- Locations and type (AM, PM, and/or Midday, Daily) traffic counts will be identified;
- Identifications of intersections to be evaluated;
- Study horizon years; and
- Any additional project specific requirements.

The applicant of the TIS must also coordinate with ADOT and Coconino County as appropriate. The TIS will be prepared under the supervision of a registered Arizona Professional Engineer (Civil). The report will be sealed and signed.

Traffic volumes generated by the proposed development will use the latest edition of the Institute of Transportation Engineers Trip Generation manual. Other rates may be used with prior approval by the City Engineer in cases where Trip Generation may not include specific land use category rates, limited data, or local rates may differ. Capacity analysis methodology will be based on the most current edition of the *Highway Capacity Manual 2000.*

Traffic Study Outline

The following outline provides guidance for the topics that should be addressed when a traffic study is warranted.

1. Executive Summary
   - Project Description
   - Existing Conditions
   - Probable Impacts of the Project (No-Build and Build Conditions)
   - Traffic Operations Analysis (Existing, No-Build and Build Conditions)
   - Mitigation Measures/Recommendations
   - Conclusions
2. Introduction
   - Project Description
   - Site Location and Plan
   - Study Area
   - Site Accessibility
3. Existing Conditions
   - Geometric and Traffic Control
   - Traffic Volumes
   - Level of Service

- Safety

4. No-Build Condition (Forecasted Traffic Without Proposed Development)
   - Background Traffic Volumes
     - Annual Growth
     - Site Specific Development (Other approved developments located within the designated study area scheduled for completion prior to proposed project)
   - Planned Roadway Improvements
5. Build Condition (Forecasted With Proposed Project)
   - Trip Generation
   - Trip Distribution and Trip Assignment
   - Phasing of Project
   - Build Traffic Volumes
6. Traffic Operations Analysis
   - Methodology
   - Analysis Results
     - No-Build Condition
     - Build Condition
7. Special Analysis/Issues
   - Traffic Signal Warrants
   - Others, as appropriate

8. Mitigation Measures/Recommendations
   - Off Site Improvement Needs
   - Proposed Site Access
   - Traffic Safety
9. Conclusions

10. Appendix
    - Traffic Count Data
    - Capacity Analysis Summary Sheets
    - Crash Data and Summaries

List of References

Arizona Department of Transportation Roadway Design Guidelines, Arizona Department of Transportation, January 2007.

City of Page General Plan, City of Page, 1996.

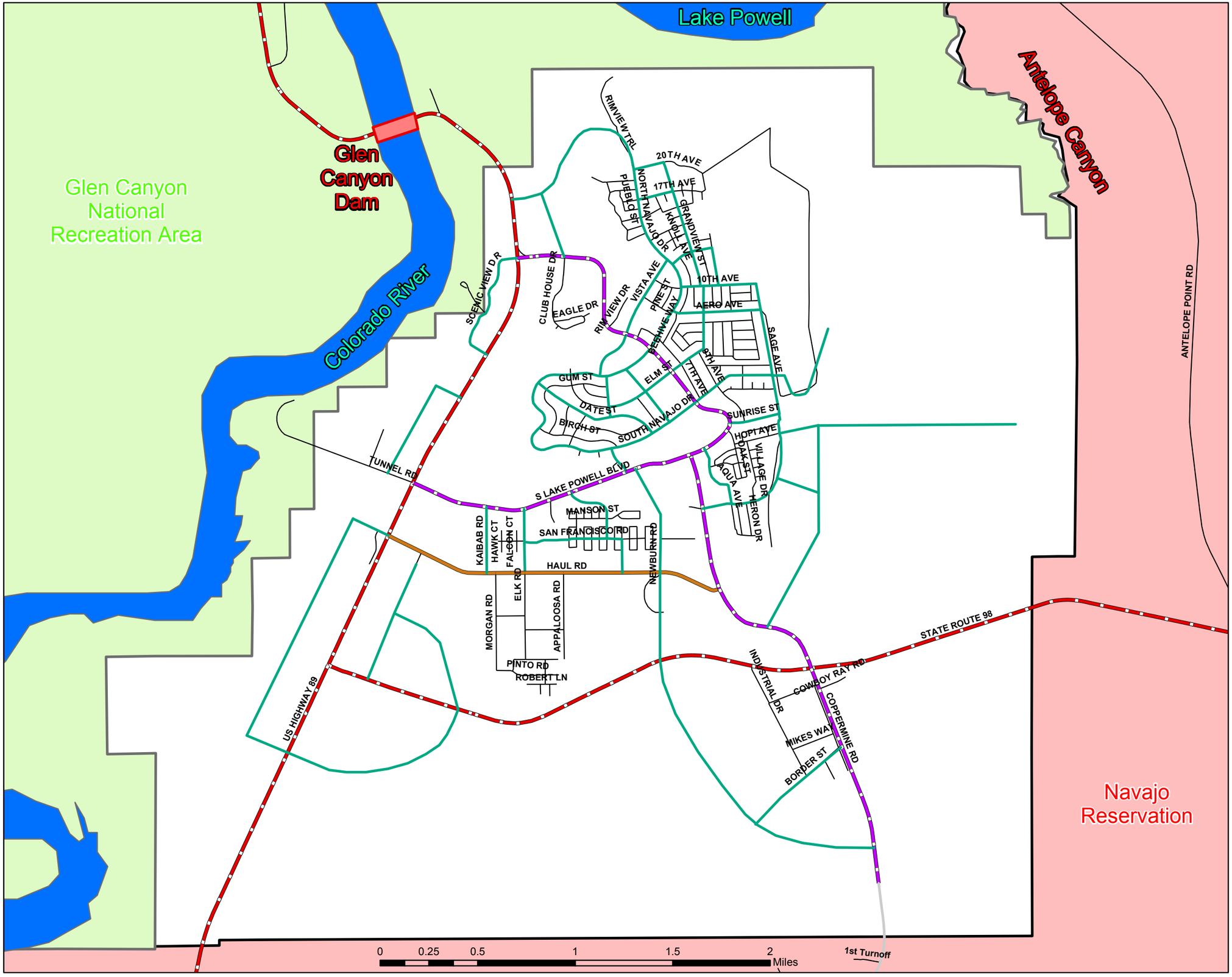
Page Area Transportation Study, BRW, 1991.

Coconino County Comprehensive Plan, Coconino County, 2003.

Gateway Area Specific Development Plan, City of Page Planning Department, August 1989, amended January 1992.

Highway Capacity Manual 2000, Transportation Research Board, 2000.

FUTURE ROADWAY CLASSIFICATION



N

Roadway Classifications

CLASS

- BIA Route
- MAJOR COLLECTOR
- MINOR ARTERIAL
- PRINCIPAL ARTERIAL
- URBAN COLLECTOR

General Plan Update
May, 2009

1 inch = 2,500 feet

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5.0 Public Facilities and Services Element

5.1 Introduction

The Public Facilities and Services Element of the ***Page General Plan Update*** identifies and establishes the City's objectives relative to the provision of infrastructure, public safety, public education and municipal facilities and services in the City. The purpose of the Public Facilities and Services Element is to guide City decision-making which:

- Provides for a coordinated system of infrastructure and public services to adequately serve existing and planned development The City of Page.

- Identifies standards for infrastructure and public services relative to population, land use intensity and locational criteria.

- Identifies desired courses of action and strategies which implement the community's infrastructure and public services goals and objectives.

5.2 Existing Setting

The existing public facilities, public services and infrastructure in the city of Page is summarized below:

- ***Public Education****,* public education in the City of Page is administered by the Page Unified School District #8 (PUSD). The PUSD currently operates four schools in Page, including, Page High School, Page Middle School, Lake View Elementary School and Desert View Elementary School. The PUSD provides educational opportunities for approximately 3,600 students from Page, the Navajo Indian Reservation and the surrounding area.

  Page voters passed a $25 million bond in 1989 to construct Lake View Elementary School and Page Middle School. Renovations were also completed at the Page High School and Desert View Elementary School. The new schools and improvements to existing schools have significantly improved the public educational facilities in the City.

  The Coconino County Community College is currently building a new campus in the City of Page. The Community College Campus is located on Lake Powell Boulevard near Aspen Street. The construction of a college campus will provide an excellent post-secondary educational opportunity for Page residents.
  Completed 1999 15,684 sq.ft. $1,108,858 + addition 2002 5,086 sq.ft. $378,398

  The Lake Powell Institute offers adult vocational education opportunities for Page residents. Curricula is based on the area's employment needs and special labor pool requirements needed to fill future positions.
  The Lake Powell Institute is gone but Community Behavioral Health Services was constructed in 2004 – 11,215 sq.ft. $840,004

  SCHOOLS A lot has taken place since 1996 GP was written
  Page High School: $2,437,435 Renovation to existing buildings; $4,353,682, New Vocational Technology Building, $1,208,42 Maintenance and athletic field house, $ 736,379 Classroom Additions
  Middle School: $ 73,300 Alarm system upgrade

Lake View Elementary: $20,000 Storage building
Desert View Elementary: $ 75,000 + $11,200 Renovations
All Schools: Various deficiency corrections (by State of AZ) $4,000,000

- ***Public Library Facilities****,* a new public library is being designed, and will be constructed concurrently with the Page campus of the Coconino county community College. This facility will significantly improve the library facility and will accommodate the future library needs of the community.
  Completed in 1999 – 14,121 sq.ft. $1,156,239 + remodel 2007 $99,034

- ***Public Safety****,* public safety in the City of Page is administered by the Page Police Department and the Page Fire Department. The Police Department is currently located at 647 Vista Avenue, west of City Hall. There are currently 22 full-time police officer positions in Page and 16 of these positions are filled. The Police Department is also responsible for animal control and detention services, which currently has 17 beds. An interview with Police Chief indicated that the Police Department building is inadequate for existing operations.

  The Page Fire Department is currently located at 714 North Navajo Drive in downtown Page. The Fire Department primarily includes state-certified volunteers who provide fire protection services in Page and the surrounding area. The Fire Department also provides emergency medical services. A new Fire Station is planned to be constructed with funds from a one percent sales tax which took effect in 1993. The new Fire Station location is proposed for the southwest corner of Lake Powell Boulevard and Coppermine Road.
  Page Public Safety Building was completed in 2001 – 28,809 sq.ft. $4,000,000

- ***Wastewater Collection and Treatment***, wastewater collection and treatment is operated by the City of Page. The wastewater treatment plant has the capacity to treat up to two million gallons/day (MGD). The wastewater collection system consists of a series of collection lines in the community. Currently all areas are served by the wastewater treatment plant with the exception of Ranchette Estates and the industrial park. The City has installed 24-inch collection lines from the Marriott Hotel to the US 89/South Scenic View Road intersection, and from the wastewater treatment plant, south along US 89 to the western portion of Haul Road. These lines will provide additional capacity in the collection system that can be extended to future development in the community.
  EDA Grant money in 2002 to extend sewer lines along Coppermine Road to serve the Industrial Park. (Coppermine, Industrial and Frontage Roads.)

- ***Potable Water Supply and Distribution****,* potable water in the City of Page is supplied by Lake Powell. Water is pumped up from the Glen Canyon Dam through two, 12-inch raw water supply lines to the water treatment plant on Aqua Avenue. The water treatment plant currently has the capacity to treat 4.5 million gallons/day (MGD). The potable water distribution system is “looped” around Manson Mesa to provide service for all residents and businesses in the City. The existing water lines will be replaced shortly with one-18-inch line that will improve pumping capacity.
  The realignment of Lake Powell Boulevard was the start of the water line replacement project. At this time, we are about to begin replacement of Elm Street water lines. All a part of our capital improvements plan.

- ***City Administration****,* city administration services are currently located in City Hall at 697 Vista Avenue in downtown Page. City Hall was originally constructed as a warehouse for the Bureau of Reclamation (BOR) and converted to office space for the City in 1974. Space utilization in City Hall is poor and the heating and cooling system does not provide adequate service to all portions of the building. These is also a lack of on site parking for large public meetings.
  Until the completion of the new library building in 1999, the public library was housed inside City Hall. A major remodel of the front portion (2,780 sq.ft.) of City Hall was turned into office space at that time. Several additional remodel projects to make better use of existing space were completed over the next few years and new HVAC system throughout. Retaining wall and asphalt at the rear of City Hall provided additional parking.

- ***Public and Private Utilities****,* electrical power in the City of Page is provided by the Page Electrical Utility (PEU), which is owned by the city of Page. Propane gas is provided by Black Mountain Gas. Telephone service is provided by US West. Cable television is provided by Post-Newsweek.
  Now SemStream Propane, Qwest and CableOne.

- ***Health Care****,* Page Hospital District provides the majority of health care services in the City of Page. The Hospital District is affiliated with Samaritan health Services. A variety of medical, dental, optical, chiropractic and behavioral health professionals are also available to meet the health care needs of page residents.
  In addition to Page Hospital (now Banner Health Services) we have a sizeable variety of "visiting" physicians who travel to Page on a weekly and/or monthly basis to see patients. Also, Canyonlands Community health Care and Lake Powell Medical Center clinics are open to see patients.

- ***Solid Waste Collection and Disposal****,* until recently, solid waste in the City of Page was collection by a private contractor and disposed of at the City landfill, located on Bureau of Land Management (BLM) property northwest of the City. The landfill will be closed, and the city has contracted with PSI, Inc. to provide a solid waste transfer station in the industrial park.
  PSI built the transfer station, offices and shop (11,486 sq.ft. facility) in 1996 for $600,000. Since that time PSI has sold to Allied Waste who now has the City contract.

5.3 Public Facilities and Services Vision Statement

We envision the City of Page continuing to increase capacity in its infrastructure system through strategic extensions to serve existing and planned development. The quality of infrastructure in downtown Page will play a major role in the re-emergence of the area as a vital economic key in the community. City management and the delivery of public services and facilities will continue to be progressive, creative and cost-effective.

5.4 Public Facilities and Services Goals and Objectives

Public Safety Goal and Objectives

Goal 1.0: **Provide quality services in both the Police Department and Fire Department.**

Objective 1.1: Determine the adequacy of the existing Police Station and determine how inadequacies in the facility can be addressed. ***Completed 2001.***

Objective 1.2: Select a location for the new Fire Station based on the results of the Fire Protection Analysis.
Fire Station move completed in 2001 but a second station should now be planned for.

Wastewater Collection and Treatment Goal and Objectives

Goal 2.0 **Safe and efficient collection and treatment of wastewater.**

Objective 2.1: Maintain an adequate treatment capacity in the Wastewater Treatment Plant.

Objective 2.2: Determine where inadequacies exist in the collection system and determine how to correct them.

Objective 2.3: Continue to annually monitor the capacity in the wastewater treatment plant. Plan for expansion when the Wastewater Treatment Plant reaches 80 percent capacity on a regular basis.
Additional ponds/dams have been constructed.

Potable Water Storage, Distribution and Conservation Goal and Objectives

Goal 3.0 **Adequate supply, distribution and conservation of potable water for residents, businesses and visitors to the community.**

Objective 3.1: Continue to work with the Bureau of Reclamation to secure a water supply that can support projected population growth.

Objective 3.2: Ensure that existing development does not have low pressure due to expansion of the system to serve new development.

Objective 3.3: Establish a water conservation program in the City of Page.

Repair and Maintenance of Infrastructure Goal and Objectives

Goal 4.0: **Protect the City's investment in infrastructure through regular maintenance and repair.**

Objective 4.1: Establish a five-year capital improvement program (CIP) for the City. Approve and update the CIP on an annual basis.

Objective 4.2: Conduct a detailed assessment of infrastructure in downtown Page to determine if it can adequately support additional development.

Solid Waste and Recycling Goals and Objectives

Goal 5.0: **Adequate and safe disposal of solid waste in the community.**

Objective 5.1: Continue to dispose of solid waste through a private contractor as currently practiced in the City.

Goal 6.0: Reduce the amount of solid waste generated through a recycling program.

Objective 6.1: Determine the feasibility of establishing a City curbside recycling program in conjunction with future solid waste disposal contracts.

5.5 Public Facilities and Services Plan

The Public Facilities and Services Plan identifies the major capital improvements that need to be built, maintained or protected in order to support existing and planned land uses in the City of Page. Capital improvements are one of the most important investments a city can make for residents and businesses in the community. The location, size and timing of improvements are important elements of the decision-making process when related to future land uses in the City of page. One of the largest challenges is to develop a long-term strategy to invest in new facilities, maintain existing facilities and protect the investment that the City has in its infrastructure system.

This element of the General Plan Update discusses the needs for major public facilities or services to accommodate the residents and businesses in the community. A series of facility thresholds and levels of service have been developed to assist the City in determining when new facilities and services could be required. Strategies to utilize existing facilities and services to their maximum useful capacity are also included.

The location of major public facilities is illustrated on Figure 5-1, *Public Facilities and Services Plan Map.*

- *Public Education Guidelines,* the City of Page will coordinate the location of public elementary, middle, and high schools with the Page Unified School District #8 to ensure that schools are located to adequately serve all areas of the City. The City will also support cooperation between local employers and industries and the PUSD to encourage vocational and training programs to prepare young people for potential employment by local businesses.

  The City of Page has invested in the Page campus of Coconino Community College. The City will continue to work with the Coconino Community College and local employers to encourage curricula that prepares young people for employment in local businesses and industries. The city will also work to expand the campus to a two-plus-two year facility in order to offer four year bachelor degrees in the future.

- *Public Library guidelines,* the City of Page will provide library facilities, staff and services consistent with local, state and national standards for libraries. The new library facility will adequately meet these demands.

- *Public Safety Guidelines,* the City of Page provides a full range of public safety facilities and services including police, fire and courts. Police facilities and services will continue to provide adequate operation of police services in the City. An assessment of the existing Police Department building should be performed to determine if the building can adequately meet the needs of the Police Department over the next several years. The location of a new Fire Station, staffing and equipment needs should be determined at the completion of the Fire Protection Analysis. Operations, staffing and equipment for public safety should be monitored on an annual basis, and improvements should be programmed in order to continue to meet the demands of a growing City.

- *Wastewater Collection and Treatment Guidelines,* the City's wastewater treatment plant should operate well below capacity at peak times in order to safely treat wastewater in the community. The City will continue to monitor peak flows into the wastewater treatment plant on a regular basis and plan to increase capacity when peak flows into the wastewater treatment plant reach 80 percent of capacity.

  New wastewater collection lines will be expanded on an incremental basis into areas of the community where residential and employment growth is forecast to occur. The city will utilize revenue from the Capital Improvements Fund through land sales and negotiate with individual developers to defray the costs of new wastewater collection lines.

  The City will determine the areas of the community where wastewater collection lines have reached 100 percent design capacity and will establish a program to increase capacity by utilizing larger lines, installing relief lines or other programs to ensure that wastewater can be adequately transported to the wastewater treatment plant.

  The City of Page will continue to utilize effluent fro the wastewater treatment plant and expand its use of effluent where possible. This effort will occur in conjunction with water conservation efforts by the City of Page.

- *Potable Water Supply, distribution and Conservation Guidelines,* guidelines regarding the provision of potable water in the City of Page should provide long-term strategies for supply, distribution and conservation of water resources. Each of these areas is described below:

- *Potable Water Supply and Demand,* currently the City's supply of potable water is supplied under the terms of a 1975 contract with the Bureau of Reclamation (BOR) to pump water from Lake Powell. This contract originally limited the amount of water pumped from Lake Powell to a delivery of 2,740 acre-feet (892,831,740 gallons) annually. In 1993, however, the City and the BOR, because of the existence of return flows to the river, agreed that a distinction be made between consumptive use and delivery, which has the effect of increasing the annual delivery amount. The water returned to the Colorado River results from water applied to vegetation in excess of evapotranspiration needs, system losses and by any other types of recharge. The exact amount of return flows is not known at this time and will no doubt change from year to year. Therefore, the City has effectively increased its allowable annual delivery by the amount of the calculated return flow.

Table 5.1, Forecast Annual Potable Water Consumption, 2000-2055 indicates that based on historic gallons per capita per day consumption, the City of Page, based upon updated population projections (2009) is within its current annual contract allocation even at the highest gallons per capita per day usage.

TABLE 5.1 (Updated 2009)
Forecast Annual Potable Water Consumption, 2000 – 2095
Annual Consumption (1)

Year	Estimated (2) Population	Based on 280 GPCD (3)	Based on 255 GPCD	Based on 225 GPC
2000	6,809	2,135 acre feet	1,945 acre feet	1,716 acre feet
2006	7,159	2,245	2,045	1,804
2011	7,385	2,316	2,109	1,861
2016	7,584	2,379	2,166	1,911
2021	7,745	2,429	2,212	1,952
2026	7,907	2,480	2,238	1,993
2055	8,644	2,711	2,469	2,179

Sources: BRW, Inc., July 1995
Sunregion Associates, Inc., June 1995
City of Page, March 2009

Notes: (1) GPCD, Gallons per Capita per Day
(2) See Appendix A for additional information regarding population forecasts.
(3) Historic GPCD consumption.

In addition, based on population estimates prepared as part of the General Plan Update, the demand for potable water in the City of Page is within the current allotment through the year 2055. The City's allotment will increase annually due to increases in the amount of water recharged to the Colorado River, so the City will not face a water shortage in the foreseeable future.

- *Potable Water Distribution system,* the potable water distribution system in the city of Page consists of the water treatment plant and the series of transmission and distribution treatment plant should be monitored annually. A water treatment plant analysis should be conducted when the prolonged demand exceeds 80 percent of the water treatment plant capacity. Water reservoirs should be expanded when water average stored water capacity falls below 110 percent of maximum daily water demand. The City should also examine the potential of water pressure zones to ensure adequate water pressure in various areas of the City. Annual monitoring should be performed, and new pressure zones should be planned when water pressure falls below 50 pounds per square inch, or exceeds 110 pounds per square inch.

  Extensions of water lines to serve new development should be funded by revenue from the Capital Improvement Fund from land sales and through negotiation with developers on specific projects. The condition of existing water transmission lines and distribution lines should be assessed to determine what improvements should be performed in order to enhance the delivery of potable water in the City. In addition, the Public Works Department should develop an annual program for the maintenance of water transmission and distribution lines in the City.

- *Potable Water Conservation,* a comprehensive water conservation program should be developed in the City of Page to conserve water resources. Such a program should include strategies to reduce both domestic and industrial water consumption. This program should also include annual goals that target specific reductions in per capita, per day consumption.

The expansion of the effluent distribution system to irrigate landscaping for non-residential developments and parks and recreation facilities should also be explored.

- *City Administration Facilities,* most City business is conducted from City Hall, with the exception of police and fire services, public works and the future library. This facility has been used since incorporation of the City and has not been significantly expanded to accommodate growth in staff due to increases in City population. The continuing growth of the City will require additional future office space to meet the needs of an expanding City workforce.

  Expansion or relocation of City Hall should be considered when the ratio of workers to general office space drops below a typical office space standard of approximately 250 square feet per worker. The City should explore potential options to cost effectively expand the current City Hall or relocate City Hall on another site in the future. This analysis should also include an assessment of the types of services which should be located at City Hall and which could better serve residents if located in another area of the community.

- *Public and Private Utilities,* the City of Page will continue to work with public and private utilities including US West, solid waste disposal, cable television and Black Mountain Gas to ensure that these utilities are provided to City residents and businesses in a cost effective and efficient manner.

- *Health Care,* the City of Page will encourage the Page Hospital and other professional health care providers to continue to provide high quality and cost effective medical treatment for residents and visitors to the community. The City will actively support efforts by health care providers to accommodate the long term health care requirements of special needs populations including seniors, and mentally or physically disabled populations in the City. This includes encouraging health care providers to examine the potential of providing assisted living, nursing and acute care facilities for residents in the community.
  The Page Hospital has undergone several large expansions and remodels since 2003 and provided for a pretty nice facility. Expansions have amounted to about $4,000,000 since that time. (Emergency wing, MRI room, labs, exam rooms, etc.) Also they have opened the Page Medical Arts Clinic on North Navajo. As far as assisted living goes, Beehive Homes constructed he 10-bed, 3,800 sq.ft. facility on Grandview Street and are In the process of designing another (16-bed) assisted living home on Elk Road.

- *Solid Waste Collection and Disposal,* until recently, solid waste from the City of Page was collected by a private contractor and disposed of at a leased City landfill on Bureau of Land Management property northwest of the City. This landfill is new closed, and the City has negotiated a 15-year contract for continued private collection and disposal via a transfer station I the industrial park.

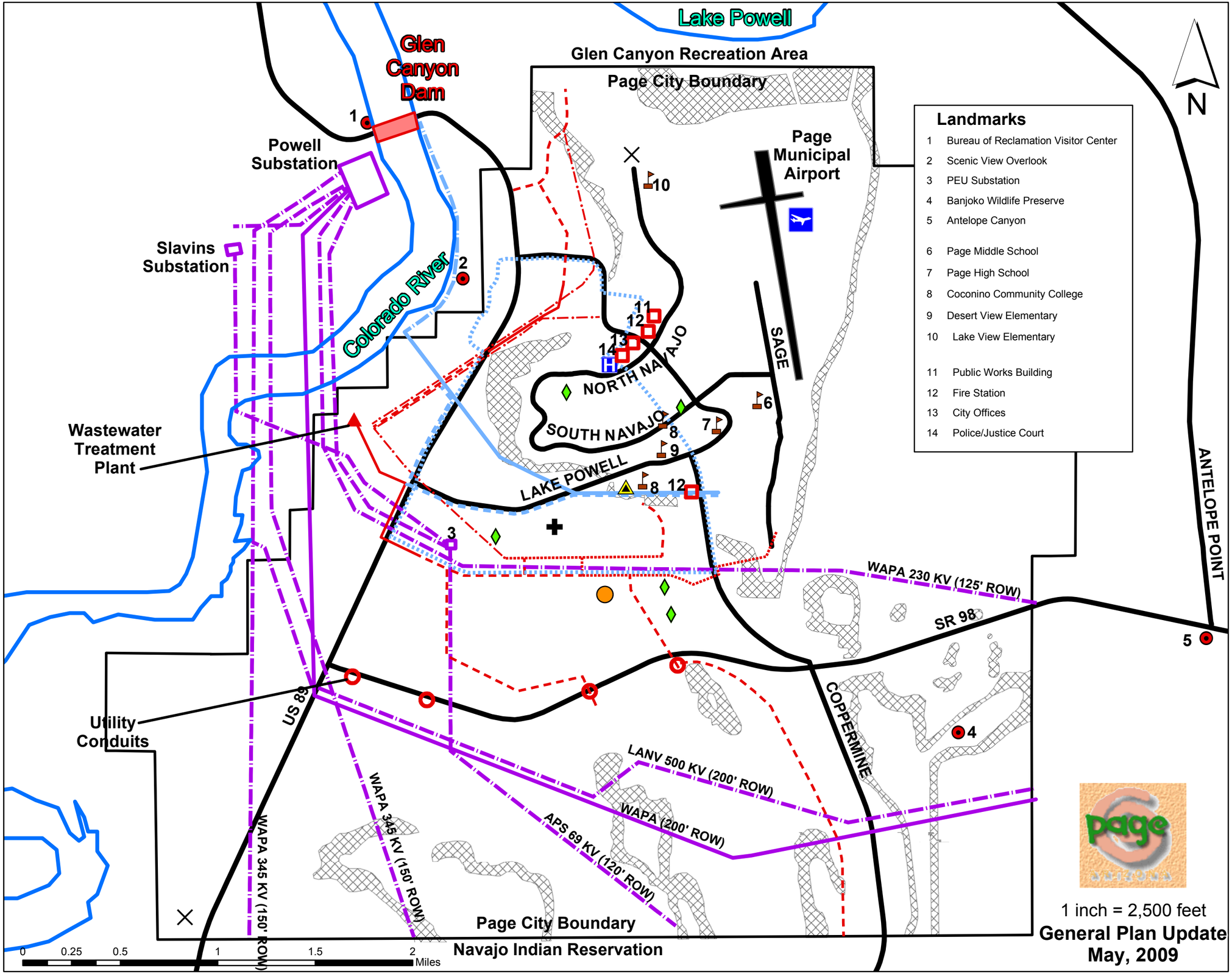
  Private collection and transfer will result in increased costs for the City of Page. The City, however, should continue to work with the private contractor to ensure that would waste from Page can be disposed of in a cost effective and safe manner. The City, through the private contractor should also monitor the annual volume of solid waste in the City and should explore options for recycling and reduction in solid waste volume to reduce costs for transportation and disposal of solid waste. Recycling could be provided by another contractor or private firm.
  Completed – see above notes.

Table 5.2
Public Facilities and Services Implementation Program

Implementation Measure	Purpose	Objective / Reference	Timeframe (Years) 1-2 3-4 5-6 7-8	Key Participants	Resources
Public Safety					
1.0 Determine the adequacy of the existing Police Department Building.	To determine long range improvements necessary to ensure adequate Police Services	1.1	•	Page Police Department, City of Page	Police Department
2.0 Select a new Fire Station location and determine other needs based on the Fire Protection Analysis.	To establish a location for the Fire Station and determine other fire protection needs.	1.2	•	Page Fire Department, City of Page	Fire Protection Analysis Report
Wastewater Collection and Treatment					
1.0 Monitor annual treatment inflows to the wastewater treatment plant	To ensure that the wastewater treatment plant maintains adequate capacity to serve growth.	2.1	• • • •	Public Works Department, City of Page	Annual Inflow Reports
2.0 Document where inadequacies in the collection system exist, and determine how to correct them.	To establish a program to replace, maintain and correct system inadequacies.	2.2	• • • •	Public Works Department, City of Page	Public Works Department
Potable Water Storage, Distribution and Conservation					
1.0 Secure a water supply that can meet the needs of additional growth.	To ensure that City residents and businesses have adequate water supplies	3.1	• • • •	City of Page, Bureau of Reclamation, Arizona Department of Water Resources	Public Works Department
2.0 Determine where low water pressure would effect future or existing development.	To provide City residents and businesses with adequate water pressure.	3.2	• • • •	Public Works Department, City of Page	Public Works Department

Table 5.2 (continued)
Economic Development Implementation Program

Implementation Measure	Purpose	Objective/ Reference	Timeframe (Years) 1-2	3-4	5-6	7-8	Key Participants	Resources
Repair and Maintenance of Infrastructure								
1.0 Establish a regular five year capital improvement program (CIP) for the City of Page.	To prioritize capital projects, budget, and determining funding for regular capital improvements in the City.	4.1	•	•	•	•	City of Page	City of Page
2.0 Assess the adequacy of existing infrastructure in downtown Page.	To establish a program to replace, repair or improve infrastructure to serve future development.	4.2	•				Main Street Program, City of Page	Main Street Program, City of Page
Solid Waste and Recycling								
1.0 Establish a long-term approach to adequately dispose of solid waste.	To maintain the health and safety of residents and protect the environment.	5.1	•				City of Page	City of Page
2.0 Determine the feasibility of establishing curbside recycling in Page.	To reduce the amount of material transferred to the landfill and encourage recycling.	6.1	•				City of Page	City of Page



Landmarks

1 Bureau of Reclamation Visitor Center
2 Scenic View Overlook
3 PEU Substation
4 Banjoko Wildlife Preserve
5 Antelope Canyon
6 Page Middle School
7 Page High School
8 Coconino Community College
9 Desert View Elementary
10 Lake View Elementary
11 Public Works Building
12 Fire Station
13 City Offices
14 Police/Justice Court

Public Facilities & Services

Power Lines
- EXISTING
- PROPOSED

Potable Water
- Exisiting 12 inch L*
- Exisiting 15" Line
- Existing 2-12 Line
- Future 18 Line

Wastewater
- EXISTING 10" Line
- EXISTING 12" Line
- EXISTING 24" Line
- Future Line

LANDMARKS
- Tourist/Visitor Centers
- City Fields/Parks
- Trailhead
- PAGE CEMETERY
- PAGE HOSPITAL
- RODEO GROUNDS
- SRP (PLANT)
- City Buildings
- LIbrary

1 inch = 2,500 feet

General Plan Update
May, 2009

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Appendix A:
Population, Employment and Land Use Demand Forecasts

A.1 Population Growth, 2006 to 2006

Table A.1 , *City of Page, Projected Population, 2006—2026,* provides estimated 2006 population of the City of Page, and projected population through the year 2026. Longer– range population projections and projection assumptions are provided in subsequent sections of this Appendix.

The City of Page population projections in Table A.1 are derived from the Arizona Department of Economic Security, Research Administration, Population Statistics Unit. The 2006 to 2026 projections represent a compound annual average growth rate of 0.5 percent, which reflects a growing population, but a much slower pace than occurred from 1980 to 2005. Growth rates for Coconino County and Arizona are projected to slow to 1.0% and 1.7% respectively for the period from 2006 to 2026.

Table A.1 indicates that the City's populations is projected to increase from 7,159 persons in 2006 to 7,907 persons in 2026, an increase of 748 persons, or 10.4 percent. During this same period, Coconino County's population is projected to increase by 26.6 percent, and the State of Arizona's population is projected to increase by 56.1 percent.

TABLE A.1

Projected Population, 2006 to 2026

Place	2006	2011	2016	2021	2026
City of Page	7,159	7,385	7,584	7,745	7,907
Coconino County	132,826	143,494	152,908	160,855	168,171
Arizona	6,239,482	7,186,070	8,093,110	8,945,447	9,744,463

Source: Arizona Department of Economic Security, Research Administration, Population Statistics Unit

A.2 Housing Stock Growth

Over the 2006-2026 projection horizon, single-family homes are projected to significantly increase their share of the housing stock. Multi-family units are projected to increase slightly while manufactured units will experience a moderate percentage decline.

As we see in Table A.2, *City of Page, Projected Housing Unit Stock by Type of Unit, 2006-2026*, the number of housing units will increase from 3083 in 2006 to 4171 in 2026, an increase of 1,088 units. The largest increase, 852 units, will be in single-family units, while multi-family units will increase by 156 units, and the balance of 80 manufactured units.

TABLE A.2				
City of Page, Historic and Projected Housing Unit Stock by Type of Unit, 2006 to 2026				
Type of Unit	**2006**	**2011**	**2016**	**2026**
Single Family	1729	1938	2106	2581
Multi-Family	259	318	324	415
Manufactured Home	1095	1103	1166	1175
TOTAL HOUSING UNITS	3083	3359	3596	4171

Source: *City of Page Small Area Transportation Study, Socioeconomic Data,* October 2007, HDR and ADOT

Table A.3, *City of Page, Projected Percentage Distributions of Housing Stock by Type of Unit, 2006-2026,* provides the percentage distributions that were utilized to allocate the housing units projected in Table A.2. These allocation are based on the Socioeconomic Data compiled for the City of Page Small Area Transportation Study, October 2007, HDR and ADOT.

TABLE A.3				
City of Page, Projected Percentage Distribution of Housing Unit Stock by Type of Unit, 2006 to 2026				
Type of Unit	**2006**	**2011**	**2016**	**2026**
Single Family	56%	57.6%	58.5%	61.8%
Multi-Family	8.5%	9.4%	9.1%	9.9%
Manufactured Home	35.5%	33.0%	32.4%	28.3%
TOTAL HOUSING UNITS	100%	100%	100%	100%

Source: *City of Page Small Area Transportation Study, Socioeconomic Data,* October 2007, HDR and ADOT

Table A.4, *City of Page, Increase in the Number of New Housing Units, 2006-2026,* is based on the increase in the number of housing units of each type as identified in Table A.2.

TABLE A.4				
City of Page, Increase in the Number of New Housing Units, 2006 to 2026				
Type of Unit	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Single Family	209	168	475	852
Multi-Family	59	6	91	156
Manufactured Home	8	63	9	80
TOTAL HOUSING UNITS	276	237	575	1088

Source: *City of Page Small Area Transportation Study, Socioeconomic Data,* October 2007, HDR and ADOT

A.3 Residential Acreage Projections, 2006-2026

The projections contained in Table A.5, *City of Page Projected Residential Acreage Demand by Housing Type, 2006-2026* are based on the following assumptions and methodology:

- Single-family homes will average 4 units per gross acre over the projection period.
- Multi-family units will average 14 units per gross acre over the projection period.
- Mobile home units will average 7 units per gross acre over the projection period.
- The density factors for single-family, multi-family and mobile home units are divided by the projected housing unit increase by type of unit in each interval, as previously presented in Table A.4, in order to yield the initial acreage estimate.
- The acreage projections are doubled during each interval which provides developers a wide range of key residential sites throughout the projection horizon.

In spite of the growth that is projected, only a small percentage of Page's existing vacant acres will be absorbed by residential uses over the period from 2006 to 2026. Table A.5 indicates that approximately 426 acres will be required. However, the long-range projections provided later in this Appendix for the 2026-2055 forecast identifies the need for additional acreage in that period.

TABLE A.5

City of Page, Projected Residential Acreage Demand by Housing Unit Type, 2006 to 2026

Type of Unit	2006-2011	2011-2016	2016-2026	2006-2026
Single Family	104.5	84	237.5	426 acres
Multi-Family	14.75	1.5	22.75	39 acres
Manufactured Home	7.5	7.5	15	30 acres
TOTAL ACREAGE	126.75	93	275.25	495

A.4 Commercial Land Use Projections, 2006-2026

Table A.6, *City of Page Projected Commercial Land Use Demand, 2006-2026,* provides estimates for future commercial real estate demand in the City of Page for the period 2006 through 2026. During this 20-year period, Commercial/Retail/Office employment is projected to increase from 2818 employees in 2006 to 3725 employees in 2026. During the period 2006-2026 period, 222 additional acres of commercial development will be needed based on projected employment, employees per square foot of building area, and estimated lot coverage factors. The 222 acre figure represents an expansion factor which doubled the yield of required acreage of "planning demand" that will allow developers a wide selection of strategically locates sites.

TABLE A.6				
City of Page, Projected Commercial/Retail/Office Land Use Demand, 2006 to 2026				
Type of Unit	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Retail	46	30	56	132 acres
Non Retail	7	15	28	50 acres
Office	6	10	24	40 acres
TOTAL ACREAGE	**87 acres**	**90 acres**	**161 acres**	**338 acres**

Source: *City of Page Small Area Transportation Study, Socioeconomic Data*, October 2007, HDR and ADOT

A.5 Industrial Land Use Projections, 2006-2026

Table A.7, *City of Page Projected Industrial Land Use Demand, 2006-2026*, reflects demand for 116 acres of industrial land during the period 2006-2026. During this 20-year period, Industrial employment is projected to increase from 844 employees in 2006 to 968 employees in 2026. During the period 2006-2026 period, 116 additional acres of commercial development will be needed based on projected employment, employees per square foot of building area, and estimated lot coverage factors. The 116 acre figure represents an expansion factor which doubled the yield of required acreage of "planning demand" that will allow developers a wide selection of strategically locates sites.

TABLE A.7				
City of Page, Projected Industrial Land Use Demand, 2006 to 2026				
Type of Unit	**2006-2011**	**2011-2016**	**2016-2026**	**2006-2026**
Industrial-Manufacturing	28	35	53	116 acres
TOTAL ACREAGE	**28 acres**	**35 acres**	**53 acres**	**116 acres**

Source: *City of Page Small Area Transportation Study, Socioeconomic Data*, October 2007, HDR and ADOT

Population Projections Methodology: 2026-2055

Population Projections 2026-2055, the population projections reported in Table A.8, *City of Page, Long Range Population Projections, 2026-2055*, is the forecast developed by Arizona Department of Economic Security, Research Administration, Population Statistics Unit. Population projected by Demographic Cohort-Component Population Model.

During the 2006-2026 time period, the Department of Economic Security's population projections translate into a compound annual growth rate of 0.5 percent which is a considerably more modest pace of growth than experienced in the past.

TABLE A.8			
City of Page, Long Range Population Projections, 2026 to 2055			
Area	**2006**	**2026**	**2055**
City of Page	7,159	7,907	8,644
Coconino County	132,826	168,171	202,972
State of Arizona	6,239,482	9,744,463	13,340.646

Source: Arizona Department of Economic Security, Research Administration, Population Statistics Unit.
Population projected by Demographic Cohort-Component Population Model.
Approved by Arizona Department of Economic Security Director, March 31, 2006.

A.6 Housing Unit Projection Methodology, 2006-2026

The total housing stock in the City of Page according to the 1990 U.S. Census was 2,307 total housing units, of which 834 (36.1%) were single-family units, 214 (9.2%) were multi-family units, and 1,259 (54.5%) were mobile home units.

The total housing stock in the City of Page according to the 2000 U.S. Census was 2,606 total housing units, of which 1,118 (42.9%) were single-family units, 287 (11.0%) were multi-family units, and 1,185 (45.4%) were mobile home units.

The housing stock mix in the City of Page in 2006 was estimated to be 3083 total housing units, of which 1729 (56.0%) were single-family units, 259 (8.4%) were multi-family units, and 1095 (35.5%) were mobile home units.

Projected housing stock mix in the City of Page for 2026 is 4171 total housing units, of which 2581 (61.8%) will be single-family units, 415 (9.9%) will be multi-family units, and 1175 (28.1%) will be mobile home units. The numbers reflected in Table A.9, *City of Page, Historical and Projected Housing Unit Allocations by Type of Unit,*

TABLE A.9								
City of Page, Historical and Projected Housing Unit Allocations by Type of Unit								
	1990		**2000**		**2006**		**2026**	
Type of Housing Unit	**Number of Units**	**Percent of Units**	**Number of Units**	**Percent of Units**	**Number of Units**	**Percent of Units**	**Number of Units**	**Percent of Units**
Single-Family	834	36.1 %	1118	42.9%	1729	56.0%	2581	61.8%
Multi-Family	214	9.2%	287	11.0%	259	8.4%	415	9.9%
Mobile Homes	1259	54.5%	1185	45.4%	1095	35.5%	1175	28.1%
Total Units	**2,307**		**2,590**		**3,083**		**4171**	

Note: Due to rounding percentages may not total to 100%