
Circulation & Bicycle Element Background (Packet 1)

To: Circulation and Bicycle Working Group, CAC Members and Alternates
From: Staff
Date: January 12, 2012
Re: Circulation & Bicycle Element

Assignment:

Please read “Circulation & Bicycle Element Background – (Packet 1)”

- Identifying the state statute requirements;
- Background information/trends/data;
- Element relationships;
- Listing existing goals/policies with Staff critique

State Statutes: The applicable AZ state statutes frame the requirements the Regional Plan shall address.

Circulation Element:

A.R.S. 9-461.05.C.2: A circulation element consisting of:

- The general location and extent of existing and proposed freeways, arterial and collector streets, bicycle routes and any other modes of transportation as may be appropriate, all correlated with the land use element of the plan.

A.R.S. 9-461.05.E.3: The circulation element provided for in subsection C, paragraph 2 of this section (as shown above) shall also include for cities of fifty thousand persons or more recommendations concerning:

- Parking facilities, building setback requirements and the delineations of such systems on the land, a system of street naming and house and building numbering and other matters as may be related to the improvement of circulation of traffic. The circulation element may also include:
 - A transportation element showing a comprehensive transportation system, including locations of rights-of-way, terminals, viaducts and grade separations. This element of the plan may also include port, harbor, aviation and related facilities.
 - A transit element showing a proposed system of rail or transit lines or other mode of transportation as may be appropriate.

Bicycle Element:

A.R.S. 9-461.05.E.9: A bicycling element consisting of:

- Proposed bicycle facilities such as bicycle routes, bicycle parking areas and designated bicycle street crossing areas.

Background Information and Trends: *This is an informational presentation to CAC, introducing the element and Regional trends, in the way of numbers, maps, graphs, and/or expert presentations; including community experts' information, report summaries.*

1. **Introduction**

The primary goals of an effective regional transportation system are to improve the mobility of people and goods, protect the natural environment, enhance the quality of life of our communities, assure that financial needs are met, and sustain public support for the transportation planning efforts. The factors considered in the development of a comprehensive transportation and circulation plan include supporting the economic viability of the area, increasing the safety of the transportation system, and improving accessibility and mobility options for people and freight. In order to meet these goals, the plan should protect and enhance the environment, promote energy conservation, enhance integration and connectivity of transportation systems, promote efficient system management and operation, and emphasize the preservation of existing intermodal transportation systems.

Development of a safe and efficient multimodal transportation system will be encouraged by focusing on safe vehicular, bicycle, and pedestrian ways of travel. While the element recognizes that private automobiles will be the mode for the vast majority of trips in the foreseeable future, efforts will be made to minimize the duration and severity of peak hour traffic congestion. Traffic accident rates will be minimized by implementing uniform design and construction standards. Improved urban planning and design will reduce the average length of work, school, and shopping trips and assist achievement of regional air quality objectives. The percentage of work trips made by single-occupancy vehicles will be reduced through incentive programs that will increase the share of work trips using public transit, car and van pools, bicycles, and walking.

Future land use patterns and transportation systems will be planned in a coordinated, continuous, and comprehensive manner. Air quality will be protected by promoting land use patterns that reduce travel miles and facilitate transportation alternatives. Auto, transit, bicycle, and pedestrian travel will be coordinated with land use planning, especially within and between activity centers. Attractive design of the region's travel ways and assurance of recreation and scenic linkages will be characteristic of the region's transportation system. In general, capital improvement programs will support attainment of environmental goals consistent with lifestyle expectations of citizens. New roadway design will be sensitive to the built and natural environment. Citizen participation will be a significant part of the decision-making process in order to preserve neighborhoods, promote public support for future improvements, and minimize adverse impacts on the environment and the natural terrain.

To assist the Working Group, Community Experts and staff draft the Transportation and Bicycle Element. The following information provides an overview of transportation systems, routes and other related facilities in the Flagstaff region, in addition to the various factors which influence transportation modes in the area. Factors affecting circulation that are unique to the Flagstaff region include the intersection of two major interstates (I-17 and I-40), historic Route 66, a high level of tourism related to the Grand Canyon and other local sites and activities, and the student population of Northern Arizona University. These influences, along with population increase, economic conditions and other variables, will continue to impact circulation systems in the region.

Also, staff synthesized and drafted a summary of public comments from the Regional Plan's "Circulation and Bicycle" Open House, included the SWOT analysis summarizing comments from the Circulation and Bicycle Focus Group; and, provided a list of pertinent existing, local programs. Last, staff and professionals performed an analysis of existing goals and policies from the current Regional Plan and provided suggestions as to how these goals and policies might be revised to more effectively address our transportation, bicycle and pedestrian systems now, and into the future.

A. Flagstaff Metropolitan Planning Organization (FMPO)

As required by the Arizona Department of Transportation and the US Department of Transportation, the FMPO prepared a long range transportation plan for its 525-square-mile coverage area, which was adopted in December 2009 as the *Flagstaff Pathways 2030 Regional Transportation Plan (RTP)*. The RTP identifies and prioritizes future transportation investments for the Flagstaff region for driving, riding the bus, walking, biking and goods movement. A federal and state requirement to receive transportation funding, the RTP evaluates the cost and effectiveness of projects for each major travel mode, as well as addressing the relationships between land use, transportation, the economy, and the environment. The policies of the RTP reflect a commitment to regional land use policy reflected in the Flagstaff Area Regional Land Use and Transportation Plan, and include preserving the natural environment and improving the built environment through compact, infill, and activity center development.

Common themes which were identified during the public engagement process of drafting the Regional Transportation Plan include the following:

- Participants highly rate the existing transportation system, noting recent and ongoing project and service investments.
- There is a strong desire to increase travel choices and routes, particularly north-south travel, in a way that protects residential neighborhoods and preserves environmental quality and access.
- Given the region's constrained topography, there is some debate over when and where it is acceptable to build wider roadways when other preferred options, such as increased connectivity, may not be feasible.
- Another important outcome was community support for and affirmation of mixed use activity centers at appropriate scales and locations as a planning strategy to link transportation, land use, and community character.

B. Flagstaff Area Mobility Trends and Conditions

Within the complex relationships between transportation and land use is **the simple concept that how and where we live influences how we travel**. Put another way, travel choice options and investments depend on land use and community character. Development patterns inherently influence, if not dictate, travel behavior. Jobs and housing located far apart and connected only by highways or freeways result in long commutes by car. Shops or employment located close to housing encourages walking, biking, and transit use in addition to driving.

Research locally and nationwide indicates that neighborhoods integrating housing, shops, offices, and educational and recreational opportunities in a compact, well-designed way can increase personal mobility while reducing vehicle congestion. Such land use strategies are not meant to force drivers from their cars, nor to negatively impact existing stable neighborhoods. Rather, applied at strategic locations and

thoughtfully over time, these strategies are intended to maximize personal travel choices and mobility, reduce the need to always drive long distances for every trip, and to provide the region with as many transportation options as possible to address new growth over time.

C. Vehicular Transportation Systems Overview

The Flagstaff area is served by a hierarchy of roadway types, including freeways and arterial, collector, and local streets that provide mobility and access for residents. Arterial streets include interstates and major and minor arterials. Freeways include Interstate 17, which provides access to Phoenix and Interstate 10; and Interstate 40, which provides access to Las Vegas, Los Angeles, Albuquerque and other eastern destinations.

Major arterials providing inter-regional access include US Highways 89 and 180, and State Highway 89A. Other arterials important to the region include historic Route 66 through the downtown Flagstaff area and points east and west of the city. The road network is the principal infrastructure for all modes of travel. Transit buses run on the streets mixed with other motor vehicles. Most sidewalks run along streets and are built as part of the street cross section. Bike lanes (often the most direct type of bikeway) are a part of streets, and many Flagstaff Urban Trails Systems (FUTS) run parallel to or along streets.

1. Existing and Future Conditions

Demands of the existing population base on the transportation system resulted in many recent improvements. The Highway 89 traffic interchange was recently reconstructed, and the Fourth Street railroad overpass and connection was also recently completed. Miles of trails and bike lanes have been constructed and the region recently (May 2008) passed several 10-year sales tax ballot measures to fund and significantly expand transit service. Consequently, the Flagstaff region’s transportation network performs very well, and is rated highly by residents, stakeholders, and other users.

Yet, major transportation issues and challenges remain. These include Milton Road congestion, limited access to downtown, railroad crossing congestion, Northern Arizona University related traffic, parking access and supply (especially downtown), and improving pedestrian, bike and transit levels of service in existing areas. Safety is a concern also. The table below shows existing conditions concerning modes of travel in the FMPO Region.

Table 3: Existing Conditions - FMPO Region

| Travel Mode | Geographic Region | | | |
|---------------|----------------------|-------------------|----------------|---------------|
| | Core: Downtown & NAU | Rest of Flagstaff | Rest of Region | Entire Region |
| Car | 71% | 77% | 95% | 78% |
| Pedestrian | 17% | 12% | 4% | 12% |
| Bicycle | 11% | 8% | 1% | 7% |
| Transit | 1% | 3% | 0% | 2% |
| Totals | 100% | 100% | 100% | 99% |

Source: Flagstaff MPO Trip Diary Survey, May 2007.
 Survey results indicate transit ridership is over-reported.

D. Population Trends

1. Population

The area of the FMPO contains approximately 85,000 residents as of 2010. This is primarily made up of inhabitants of the city (79%). Figure 2 illustrates the projected growth of the FMPO area and its components through 2050.

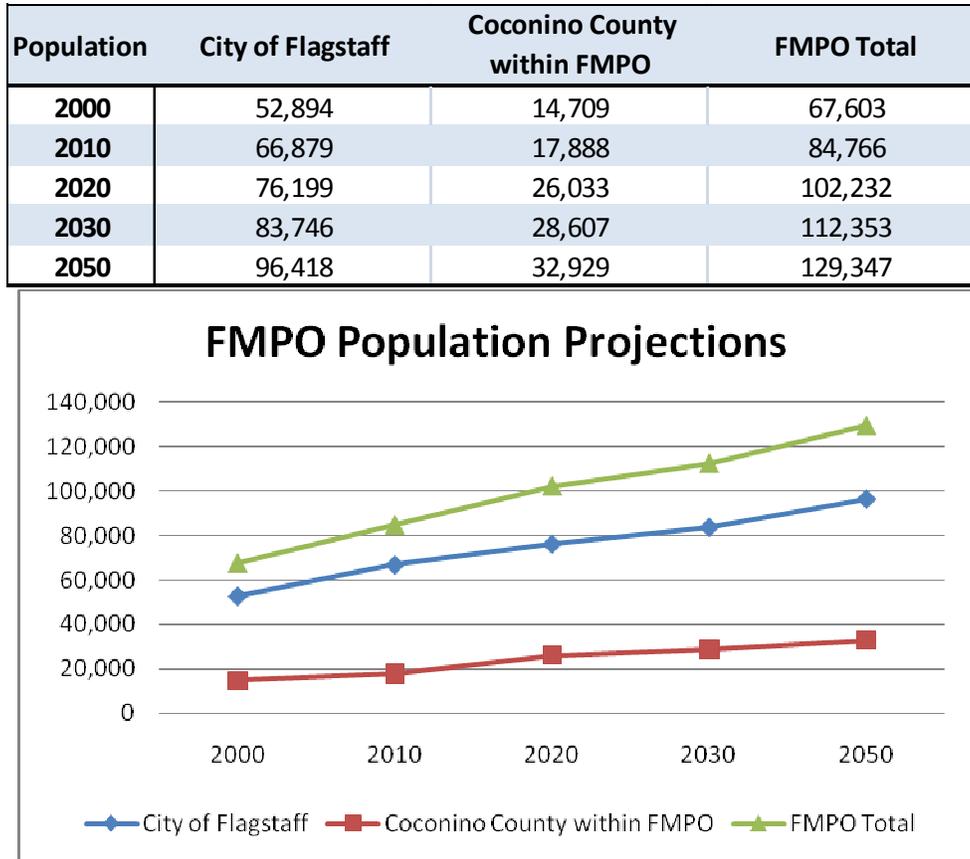


Figure 2: Illustrated Growth of FMPO, City, County within FMPO,¹

2. Historical, Estimated, and Projected Populations

Table 1 lists population figures for the FMPO, Flagstaff, surrounding communities, Coconino County, Arizona, and the United States. These numbers include historical census data as well as current estimates and future projections based on census records and anticipated demographic variances. All growth rates are expected to slow in coming years. Arizona is still projected to grow at around twice the national rate. In the next decade, the FMPO is expected to grow at a higher rate than the city, county, or neighboring communities. This is likely due to increased development in county lands adjacent to the city. In later years, Arizona will continue to grow rapidly while the scarcity of developable lands in the Flagstaff area will cause it to slow considerably. Land swaps or state trust land sales may alter these projections somewhat, increasing the growth rates within Flagstaff and the FMPO.

¹ Source: Department of Economic Security. City data comes direct from DES, FMPO and County data is based on city and adjusted according to anticipated growth patterns by city personnel.

Table 1: Historical, Estimated, and Projected Populations among FMPO and select Geographies

| Geography | Historical Populations | | | | | | Estimated and Projected Populations | | | | | | |
|-----------------|------------------------|------|-------------|------|-------------|------|-------------------------------------|------|-------------|------|-------------|------|-------------|
| | 1980 | r | 1990 | r | 2000 | r | 2008 | r | 2013 | r | 2020 | r | 2050 |
| United States | 228,545,805 | 0.9% | 248,709,873 | 1.2% | 281,421,906 | 0.9% | 303,247,000 | 1.3% | 323,044,000 | 0.8% | 335,805,000 | 0.7% | 418,854,000 |
| Arizona | 2,718,215 | 3.0% | 3,665,228 | 3.4% | 5,130,632 | 3.2% | 6,622,885 | 2.7% | 7,554,429 | 2.2% | 8,779,567 | 1.3% | 12,830,829 |
| Coconino County | 75,008 | 2.6% | 96,591 | 1.9% | 116,320 | 2.1% | 137,261 | 1.4% | 147,431 | 1.1% | 159,345 | 0.7% | 198,149 |
| FMPO | | | | | | | 79,517 | 1.4% | 85,217 | 2.6% | 102,232 | 0.8% | 129,347 |
| Flagstaff | 34,743 | 2.8% | 45,857 | 1.4% | 52,894 | 2.5% | 64,692 | 1.6% | 69,991 | 1.2% | 76,199 | 0.8% | 96,418 |
| Kachina Village | | | 1,711 | 4.5% | 2,664 | 3.4% | 3,474 | 2.2% | 3,867 | 1.6% | 4,328 | 1.0% | 5,828 |
| Mountaineer | | | | | 1,014 | 2.9% | 1,278 | 1.9% | 1,406 | 1.5% | 1,556 | 0.9% | 2,044 |
| Sedona | | | 7,720 | 2.8% | 10,192 | 1.4% | 11,361 | 1.1% | 12,016 | 0.9% | 12,829 | 0.5% | 15,030 |
| Winslow | 7,921 | 0.3% | 8,190 | 1.5% | 9,520 | 1.0% | 10,290 | 0.7% | 10,673 | 0.6% | 11,153 | 0.4% | 12,521 |
| Page | 4,907 | 3.0% | 6,598 | 0.3% | 6,809 | 0.8% | 7,253 | 0.6% | 7,468 | 0.5% | 7,720 | 0.3% | 8,542 |
| Williams | 2,266 | 1.1% | 2,532 | 1.2% | 2,842 | 1.8% | 3,289 | 1.3% | 3,505 | 1.0% | 3,759 | 0.7% | 4,587 |
| Munds Park | | | | | 1,250 | 6.3% | 2,045 | 3.5% | 2,431 | 2.5% | 2,883 | 1.4% | 4,356 |
| Ash Fork | | | | | 457 | 0% | 457 | 0% | 457 | 0% | 457 | 0% | 457 |
| Seligman | | | | | 456 | 0% | 456 | 0% | 456 | 0% | 456 | 0% | 456 |

- r = annualized growth rate
- Historical Populations were obtained from ESRI (Environmental Systems Research Institute, Inc.)
- Population Estimates for 2008 and 2013 were obtained from ESRI
- Projected Populations for all geographies but FMPO in years 2020 and 2050 were acquired from the Arizona Department of Economic Security.
- FMPO projections were formulated using DES figures adjusted according to anticipated growth patterns by the City of Flagstaff
- Gaps in historical population record represent times of minimum population when the area was not identified by the US Census
- More historical figures and growth rates can be found in the appendix¹

E. Visitors/Tourists

Flagstaff has a strong tourism sector due to its proximity to Grand Canyon National Park, Oak Creek Canyon, Arizona Snowbowl, Meteor Crater and historic Route 66. How do visitors travel to Flagstaff? One would assume that most visitors arrived in some form of vehicular transportation, but of what type? Private auto (53.3%) accounted for more than half of all visits, followed by rental cars (31.3%); together these account for 84.6% of all travel modes. We know from previous survey research in northern Arizona that most of these rental vehicles are picked up either in Phoenix or Las Vegas. All other categories accounted for only very small percentages: RV/Camper (4.1%), Train/Amtrak (2.9%), Shuttle (2.5%), Tour bus (1.8%), Air service (1.6%), and Motorcycle (.8%). “Other” transportation modes accounted for 1.7 percent. The table below provides a breakdown of the primary modes of transportation used by visitors to Flagstaff. (Source: Flagstaff Tourism Survey)

What is your primary mode of transportation?

| | Count | Column N % |
|-------------------------------|-------|------------|
| Private auto | 565 | 53.3% |
| Rental car | 332 | 31.3% |
| RV/Camper | 43 | 4.1% |
| Train/Amtrak | 31 | 2.9% |
| Shuttle company/Greyhound bus | 27 | 2.5% |
| Tour Bus | 19 | 1.8% |
| Other transportation | 18 | 1.7% |
| Air Service | 17 | 1.6% |
| Motorcycle | 8 | .8% |
| Total | 1060 | 100.0% |

(Source: Flagstaff Tourism Survey)

F. Land Use

As previously stated, land use and circulation are closely linked. The FMPO’s ‘Flagstaff Pathways 2030 Regional Transportation Plan’ identifies the component land use characteristics underlying the area types, activity centers and special districts are shown in the table below. This table, which can be read both horizontally and vertically, shows the characteristics defining each activity center type, the components describing each land use element, the range of metrics to quantify these characteristics and components, and the priorities placed on broad modal categories.

Should the Regional Plan employ a Sector Plan land use, the FMPO’s Land Use Component categorization along with the new Zoning Code’s transects integrate in terms of land planning, description, and terminology.

Table 7: Area Type and Activity Centers Organization Framework

| Land Use Component | Metric | Description (Range of Values) | | | |
|---|-------------------------------|---|--|--|--|
| Area Type/Activity Center Development Character | Description | rural | suburban | urban | special district |
| | Definition | Areas of contiguous, low-density housing, interspersed by larger areas of open space or agricultural lands. | Primarily residential areas surrounding the dense core(s) of a city. | Dense, often multi-story, mixed use core(s) that serve as city focal points. | Areas predominated by a single use, large in scale, and significantly concentrated employment. |
| | Measurement | density, transect, policy designation | | | |
| Urban Form | Description | conventional | hybrid | traditional (TND) | unique |
| | Measurement | land use mix, density, lot size, connectivity, setbacks, unique facilities/infrastructure | | | |
| Land Use Mix | Description | single use | separate uses | mixed uses | unique uses |
| | Measurement | number, proximity, integration, compatibility of land uses, buffer from dis-similar uses | | | |
| Density | Description | low | medium | high | |
| | Measurement | units/area, floor-area ratio, lot size/coverage, bldg. height, transect | | | |
| General Mobility Investment Strategy | Overall Strategy by Area Type | minimum investment standard to ensure safety for all modes and traffic flow | moderate investment by mode to create travel choice opportunities | high investment by mode to maximize travel choices | investment customized to unique needs; economic & freight/goods emphasis |
| | | see tables by mode for specific mobility investment guidance | | | |

Using the Tool

- Employs land use components to define character as a means to guide mobility investment strategies by travel mode.
- Defines land use components of area types and activity centers.
- Matrix can be read horizontally and vertically.
- Special districts include industrial/business parks, Pulliam Airport, and other unique land uses.
- "Suitability" for transit, bike and pedestrian investments improves within and across area types as mix and density increase.

G. Pedestrian and Bicycle Facilities and Opportunities

1. The table below provides miles of existing sidewalks located along major streets in the city.

| Sidewalks along Major Streets City of Flagstaff | | |
|--|--------------|--------------|
| | Miles | Percent |
| Both sides | 53.0 | 48.6 |
| One side or partial | 26.4 | 24.2 |
| None | 29.6 | 27.2 |
| Total | 109.0 | 100.0 |

2. The following table provides bike lanes as measured in miles along major streets in the city.

| Bike Lanes along Major Streets City of Flagstaff | | |
|---|-------|---------|
| | Miles | Percent |
| Bike lanes | 66.6 | 61.1 |
| No bike lanes | 42.4 | 38.9 |
| Total | 109.0 | 100.0 |

H. Flagstaff Urban Trails System (FUTS)

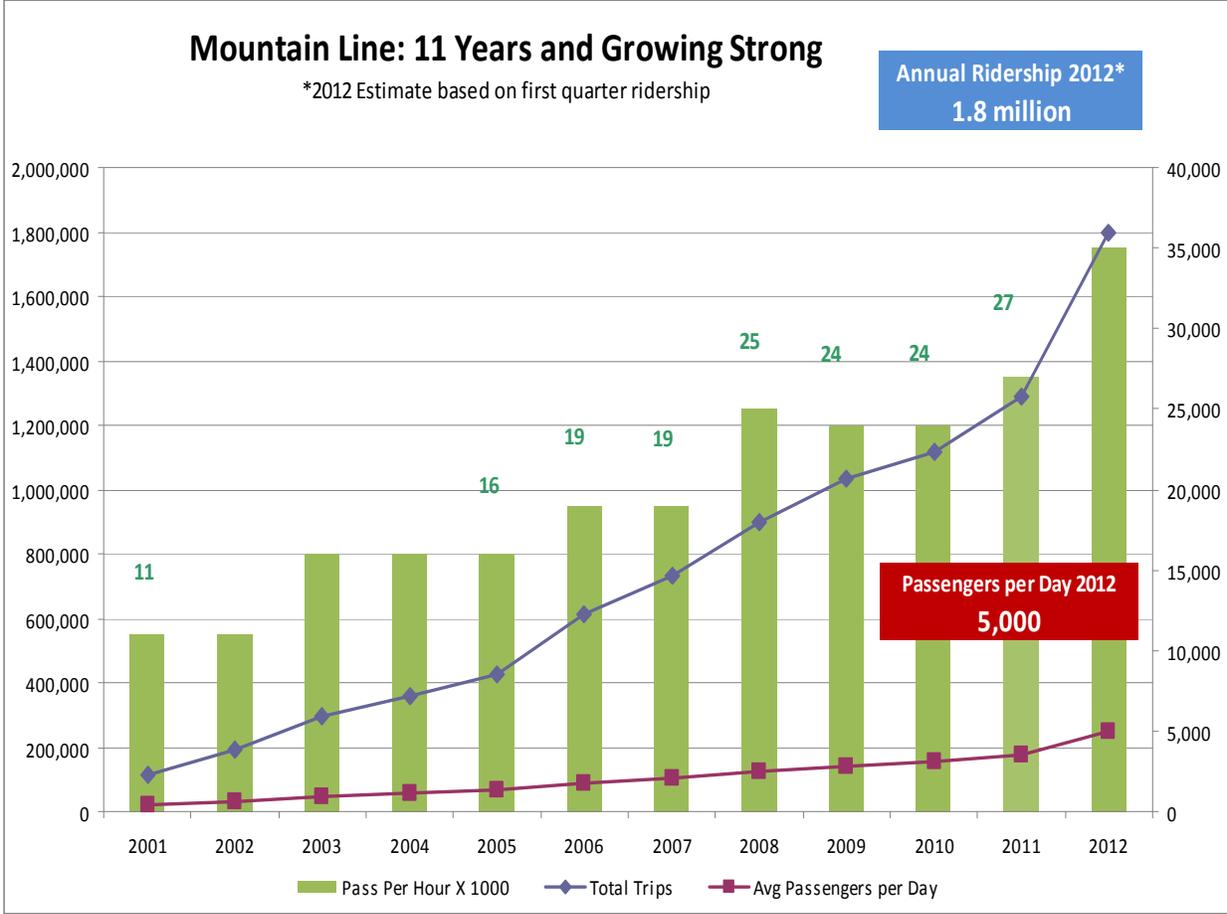
The following table provides existing and planned FUTS trails as measured in miles in the region.

| FUTS Trails | |
|--------------------|-------|
| | Miles |
| Existing | 54 |
| Planned | 78 |
| Total | 132 |

I. Transit

1. Mountain Line Bus System

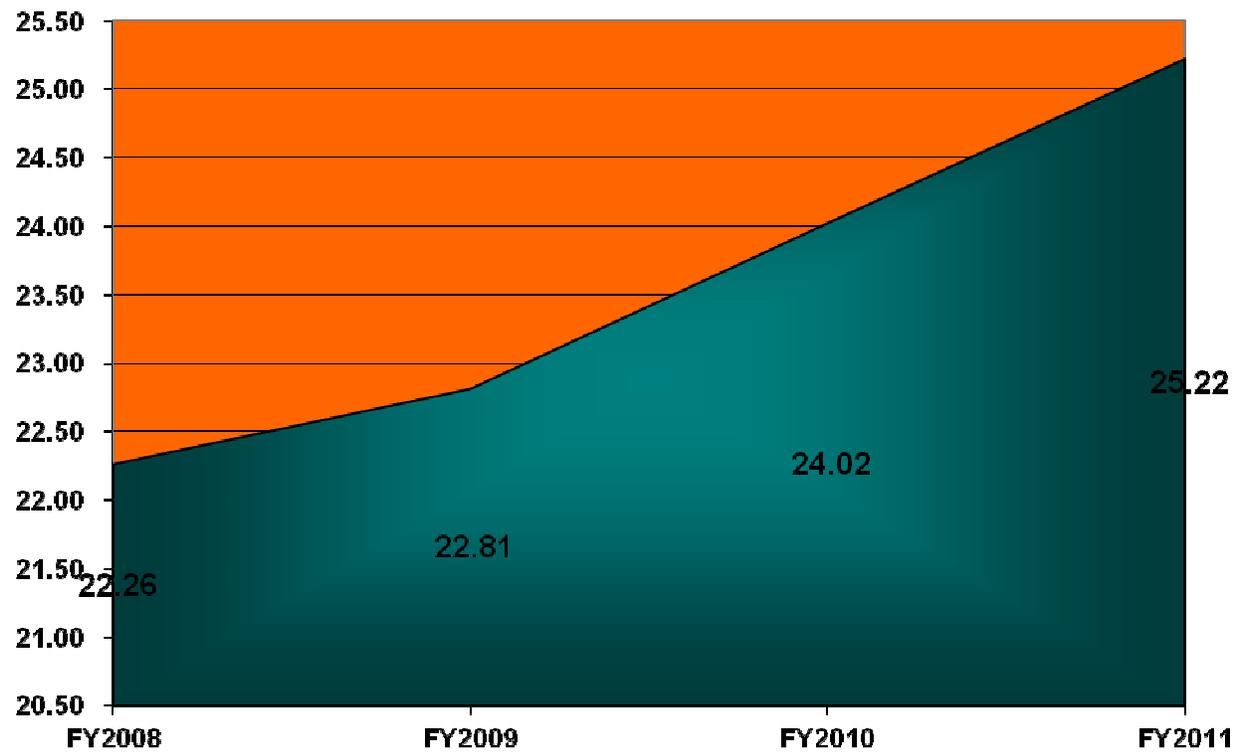
Mountain Line is a large part of Flagstaffs transport system. Route expansion has just occurred with the creation of Mountain Link and they will be undertaking their next 5-year planning process this year (kickoff in February). As shown in the chart below, ridership of the Mountain Line Bus System has steadily increased over the last ten years. This may indicate the need for additional transit lines and increased service areas.



Source: NAIPTA

The graph below shows the number of boardings per hour over the same time periods which have steadily increased each year. The number of boardings per hour increased by 2.96 passengers between FY2008 and FY2011.

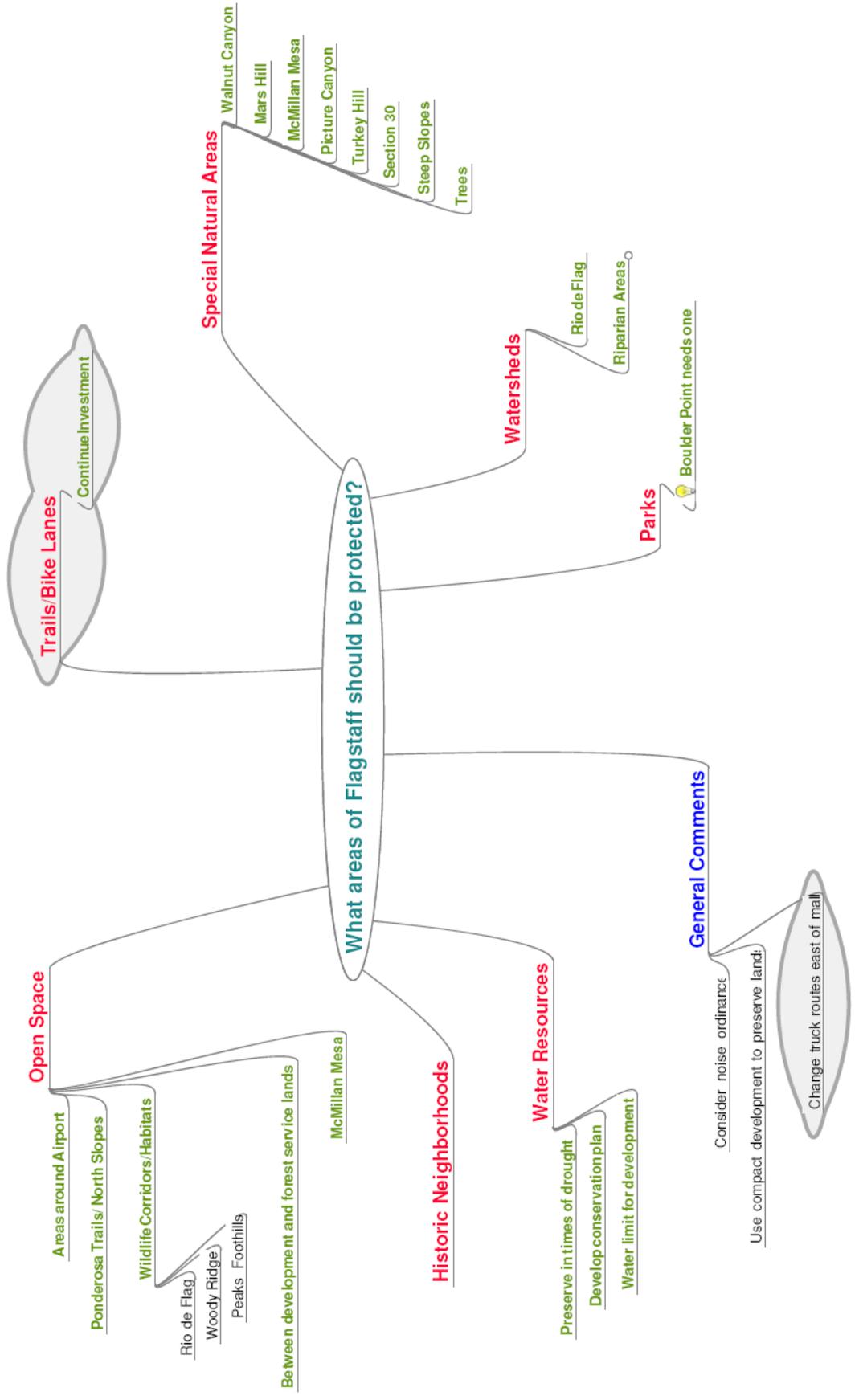
NAIPTA History - Boardings per Hour (Bus)

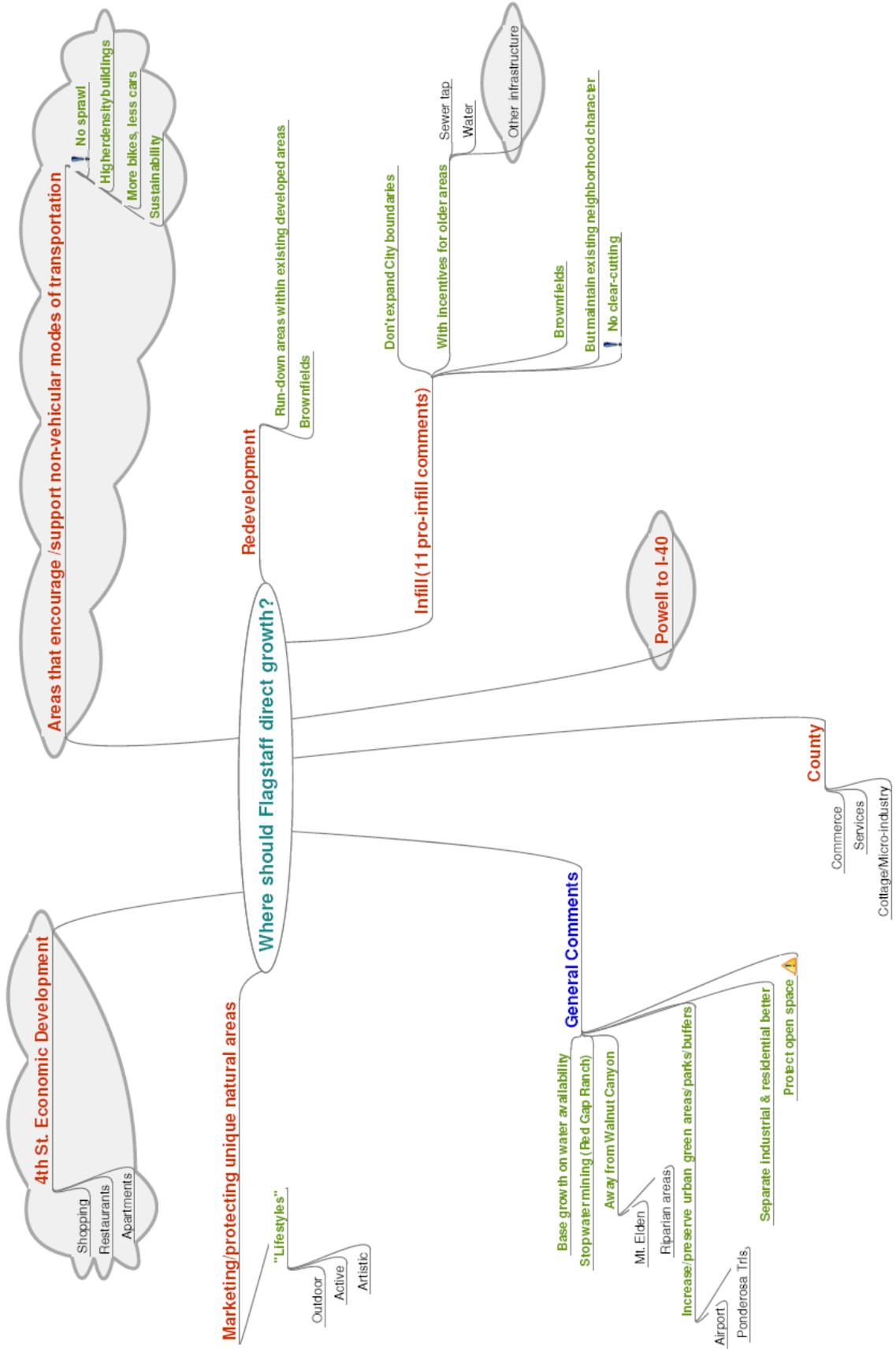


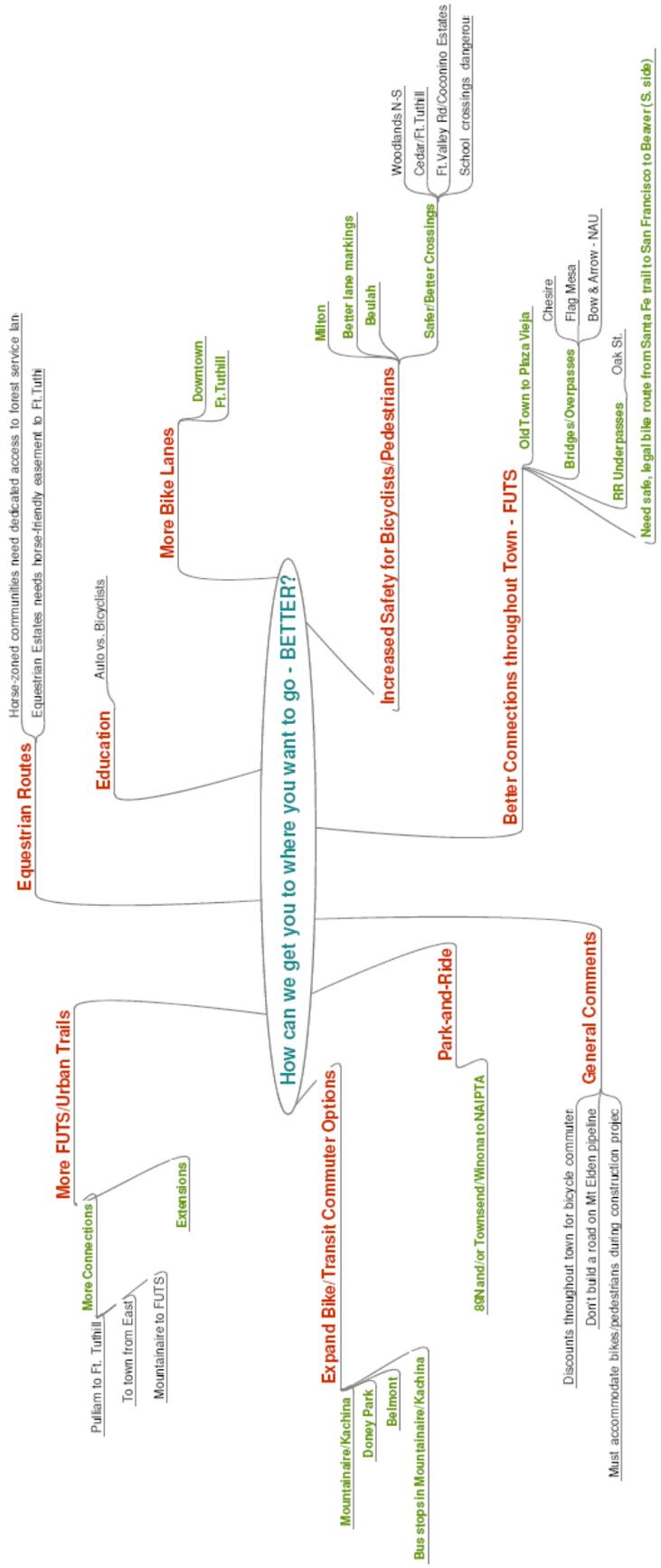
Source: NAIPTA

J. Public Open House Comments

1. A summary of public responses to the following questions were collected at the Regional Plan “Land Use, Growth Areas, Circulation and Bicycles” Open Houses which occurred on 5/28/09 [Aquaplex, 22 attendees]; and 5/29/09 [City Hall; 28 attendees]. A detailed list of responses is available upon request.







N. Focus Group

A Circulation and Bicycles Focus Group was conducted on June 11, 2009, from 3 - 6 p.m. at the Aquaplex, and consisted of experts, professionals and interested citizens who broke into groups to have a concerted discussion about certain topics. This document was previously provided to the CAC and posted upon the Regional Plan website. At the conclusion of the Focus Group meeting, a SWOT Analysis (Strengths, Weaknesses, Opportunities and Threats) was performed to summarize their comments in respect to Circulation and Bicycles, and to identify needs/concerns when developing the revised Regional Plan. The results of the SWOT Analysis are provided below:

| CIRCULATION & BICYCLES | |
|--|---|
| Strengths | Opportunities |
| <ul style="list-style-type: none"> • Flagstaff Urban Trail System (FUTS) • Bicycle System – lanes, trails, maps • Bicycle Friendly – attitude and support • Mountain Line transit system • Newer Neighborhoods are better designed – keep this up! Example: Inclusion of trails, bike lanes, transit stops and sidewalks. • Short commute relative to other areas | <ul style="list-style-type: none"> • Bicycle improvements: corridors and arterials • Incentives for reduction of car use. Examples could be (staff provided examples): <i>bus eco-passes (employees, jurors, etc.); well-connected trails & transit; retail ‘discounts’ for bike commuting; etc.</i> • Maintain Flagstaff uniqueness • Preserve wildlife corridors with all circulation decisions • Re-use, remodel and redevelop existing vacant business structures before building new business structures. • Use available Federal \$\$ • Increase citizen involvement in transportation decisions |
| Weaknesses | Threats |
| <ul style="list-style-type: none"> • Milton congestion overall • Lacking Freeway & Railroad overpasses • Lack of Milton & Fourth Street bikeways • Roads are not designed or maintained for their intended purpose. Example: Milton was intended as regional highway but has become a “main street”. • Communication – awareness of the Regional Transportation Planning process. | <ul style="list-style-type: none"> • Wildlife preservation • Losing recreation corridors to new roads • Road standards that encourage high speeds |

O. Flagstaff 2012 Regional Plan Community Values Survey

The following information concerning circulation and bicycles was obtained from the *Flagstaff 2012 Regional Plan Community Values Survey (Dec. 8, 2010)*, which was conducted by Northern Arizona University’s Laboratory for Applied Research. The CAC pre-tested a preliminary version of the questionnaire and provided critical feedback that contributed to the final version.

1. Circulation

A number of statements were developed to examine the location and adequacy of transportation modes within the region. When asked about planning priorities for transportation, respondents clearly saw automobiles as the highest, with 50% ranking it first. The other choices (public transit, pedestrian crossings, bicycles and walkways) were considered by a much smaller percentage of respondents to be the top planning priority.

| In planning for transportation, which of the following should be given priority? | |
|--|-----|
| Automobiles | 50% |
| Pedestrian Crossing | 11% |
| Walkways | 9% |
| Bicycles | 11% |
| Public Transit | 16% |

Another item asked respondents about where to put transportation resources with similar results. But when a direct statement is presented, “*When planning, motorists should be given priority over pedestrians and cyclists,*” the majority (54%) disagree with the statement.

Asked about the adequacy and convenience of public transit in the region, a high percentage of respondents did not know or were neutral. The statement about the transit system being sufficient to support city needs showed 45% agreeing or strongly agreeing, and 28% in disagreement or strong disagreement. The convenience of the transit system had a near even split, but with small percentages in the agreement and disagreement categories and with 43% in the neutral or don’t know categories.

The statement about traffic control being balanced among the various modes of transportation received a mixed response leaning toward the negative. Similarly, respondents felt that traffic congestion is a problem throughout the city.

About half of respondents felt that pedestrian and bicycle paths are adequate. Similarly, almost half of all respondents felt bike lanes were adequate. Two statements about bicycle commuters received mixed responses leaning toward positive; 43% agreed with bus discounts for bike commuters and 51% agreed with bike registration fees to support bike trails.

| Table 14. Circulation. | SA | A | N | D | SD | ? |
|---|-----|-----|-----|-----|-----|-----|
| 1. The Flagstaff Transit System is sufficient to support city needs. | 5% | 40% | 13% | 20% | 8% | 15% |
| 2. Bike lanes in Flagstaff are adequate. | 7% | 42% | 17% | 24% | 4% | 6% |
| 3. In general, traffic congestion throughout the city is not a problem. | 1% | 20% | 12% | 43% | 24% | 0% |
| 4. Pedestrian and bicycle paths in the community are adequate. | 7% | 41% | 20% | 26% | 3% | 3% |
| 5. When planning, motorists should be given priority over pedestrians and cyclists. | 7% | 20% | 19% | 30% | 24% | 0% |
| 6. Traffic control is adequately balanced among pedestrians, cyclists, public transit, and drivers. | 5% | 24% | 27% | 31% | 8% | 5% |
| 7. Public transit is convenient (i.e. frequent services and accessible) throughout the community. | 2% | 30% | 22% | 18% | 8% | 21% |
| 8. Flagstaff should give bike commuters bus discounts. | 14% | 29% | 24% | 18% | 12% | 2% |
| 9. I would support a mandatory bike registration fee to support bike trails. | 14% | 37% | 13% | 23% | 11% | 2% |

Finally, a statement about parking in downtown Flagstaff showed that 42% of respondents thought it should be left alone, followed by 35% supporting a public parking structure. Only 3% supported metered street-side parking. However, 16% supported a combination of using metered parking and a parking structure.

| Table 15. Circulation Parking. | |
|--|-----|
| Parking in downtown Flagstaff should be: | |
| Left alone. | 42% |
| Changed to metered street side parking. | 3% |
| Changed by building a public parking structure. | 35% |
| Changed to metered street-side parking and by building a public parking structure. | 16% |
| No Response. | 4% |

2. The following table also provides survey results related to the adequacy of regional trails that are used for biking and hiking.

| Table 19. Recreation. | SA | A | N | D | SD | ? |
|--|-----|-----|-----|-----|-----|-----|
| 1. The urban trail system should be lighted within the city limits. | 10% | 37% | 16% | 17% | 15% | 5% |
| 2. Established playing fields, courts, and equipment are adequate in the Flagstaff region. | 14% | 41% | 14% | 21% | 5% | 6% |
| 3. My neighborhood has adequate recreation facilities. | 9% | 39% | 14% | 24% | 12% | 2% |
| 4. The Flagstaff Aquaplex is affordable. | 8% | 27% | 21% | 19% | 5% | 20% |
| 5. Flagstaff has adequate trails for hiking or biking. | 27% | 49% | 11% | 7% | 2% | 3% |
| 6. Snowplay areas are needed within the city. | 26% | 47% | 12% | 13% | 1% | 1% |
| 7. Open space for recreation should be increased. | 18% | 38% | 28% | 12% | 3% | 1% |
| 8. City recreation fees are affordable. | 7% | 25% | 30% | 13% | 3% | 22% |

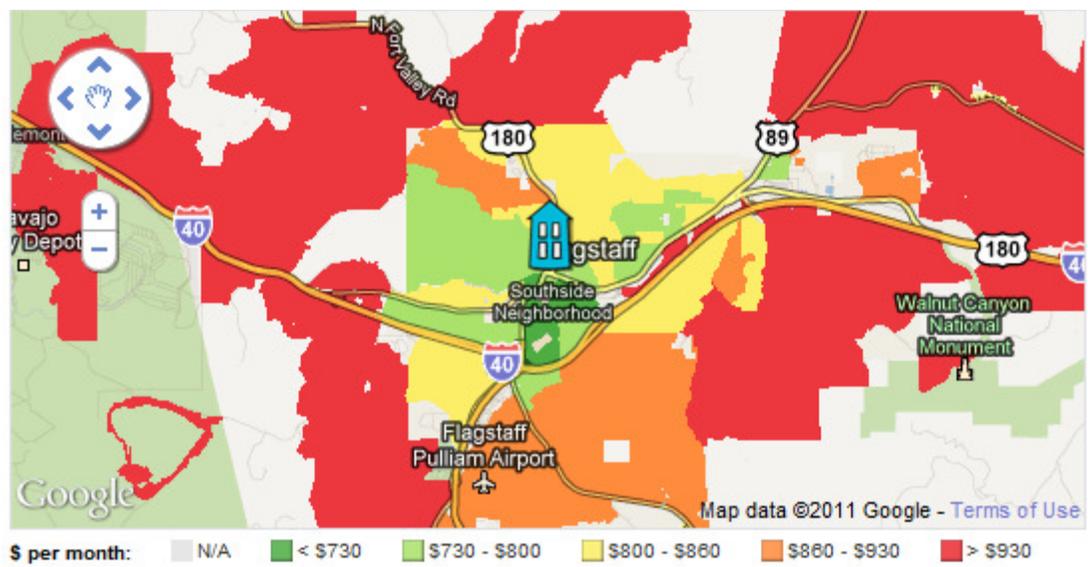
3. A summary of survey results was also provided, in which the following determinations were suggested:

- Generally, respondents look favorably upon recreation facilities including trails for hiking and biking.
- Automobiles were viewed as the top priority, but also were not seen as more important than pedestrians and cyclists.
- Traffic control being balanced among various modes received a mixed response and congestion is seen as a problem.
- Public transit adequacy and convenience produced neutral or “don’t know” responses.

P. Transportation Costs and Housing

The regional average spent on transportation costs for an average household is \$894 per month, excluding the cost of automobile ownership (Transportation Costs Made Transparent, abogo.cnt.org). As shown in the figure below, there is a direct relationship between transportation costs and distance lived from the City center throughout the region. Transportation costs directly affect affordability, and planning for an efficient network and multimodal opportunities could reduce a household's expenditure.

Average Transportation Costs in the Flagstaff Region



Source: Transportation Costs Made Transparent, abogo.cnt.org

F. **Element Relationship**

The following briefly addresses the relationship of the Circulation and Bicycle Element between other regional plan elements under study.

1. **Strong Relationship:**

a. Land Use & Growth Management: The following goals and policies from the existing regional plan have a close relationship to the Circulation and Bicycle element:

• **GOAL LU1**

Greater Flagstaff will have a compact land use pattern within a well-defined boundary that shapes growth in a manner that preserves the region's natural environment, livability, and sense of community. Flagstaff will continue to offer the primary types of housing design developments that have defined its land use patterns: the conventional and traditional neighborhood scale which provides a choice of housing types and supporting non-residential uses within walking distances.

- *Policy LU1.1—Develop a Structural Framework for the Regional Land Use and Transportation Plan*
- *Policy LU1.4—Encourage Development Within the Urban Growth Boundary*
- *Policy LU1.5—Provide for New Mixed-Use Neighborhoods*
- *Policy LU1.6—Require Urban Development to Locate within City Boundaries*
- *Policy LU1.7—Promote Infill Development*
- *Policy LU1.9—Promote Quality Design*
- *Policy LU1.10—Place Emphasis on all Transportation Modes*
- *Policy LU1.11—Place Emphasis on and Encourage Traditional Neighborhood Development and Redevelopment Design*
- *Policy LU3.4—Work Towards Determining Appropriate Levels of Recreational Uses in Urban Interface Area*

• **GOAL C1**

Shopping and service areas will be convenient to residents as well as visitors to the region in a manner that meets their needs, while remaining compatible with surrounding land uses.

- *Policy C1.1—Designate Commercial Areas According to their Role and Function in the Region*
- *Policy C1.2—Apply Design and Locational Standards for Large Retail Commercial Developments, Including “Big-Box” Retail*
- *Policy C1.3—Include a Mix of Uses in New Commercial Development and Redevelopment*
- *Policy C1.4—Promote A High Quality Urban Environment in all Commercial Development Areas*
- *Policy C1.5—Design and Establish Neighborhood Commercial Centers*

- **GOAL C2**

Downtown Flagstaff will continue to serve as the focal point of the community, as established by development intensity, land use, building height, and high quality urban design.

- *Policy C2.1—Reinforce the Role of Downtown*

- **GOAL C3**

Commercial uses in the county will be located in activity centers in specifically designated areas intended to serve as focal points for the community in which they are located, and they will provide opportunities to meet area resident needs locally, while avoiding a strip commercial pattern of development along the region's major roadways.

- **GOAL IE1**

The community will enjoy a healthy, thriving economy with opportunities for quality and diversified employment of various economic levels for its residents with livable wages, and environmentally responsible industries that make a positive contribution to the community and the economy.

- *Policy IE1.4—Designate Appropriate Location for Employment Uses*
- *Policy IE1.5—Designate Appropriate Employment Centers*
- *Policy IE1.6—Provide for Home Occupations*

b. Safety:

c. Conservation:

d. Growth Area: Typically are Greenfield areas designated for future development. The Urban Growth Boundaries are to accommodate a 10 year supply of land. The location of growth areas are at the peripheral thereby increasing transportation costs and decreasing affordability.

e. Cost of Development:

Having adequate and logical extension of infrastructure in place (water, sewer, etc) will affect development costs and influence location of development/infill consideration.

f. Recreation: Healthy lifestyle for all –children and adults

g. Community Character:

h. Housing:

i. Neighborhood Preservation and Redevelopment:

2. **Moderate Relationship:**

a. Open Space: Preserving quality ecosystems may assist in identifying valuable lands to acquire and preserve. Although preserving lands may appear to limit supply, these lands are typically beyond the city's urban growth boundary and are high quality for the ecosystem that the community desires protection.

b. Energy:

3. **Weak Relationship:**

a. *Public Facilities and Services/Buildings*

G. **Additional Resources and Reading**

1. *FMPO Flagstaff Pathways 2030 Regional Transportation Plan “Tracking Our Region’s Transportation Trends”*
2. *FMPO Flagstaff Pathways 2030 Regional Transportation Plan “Final Report December 2009”*

H. **Existing Goals And Policies**

Explores whether current plan and goals/policies are working or need ‘tweaking’ by:

- Listing existing Goals and Policies.
- Providing a professional/staff critique and recommendation of the existing goal/policy.
- Implementation – working/not working.
- Identifying potential strategies.

Existing Element: Transportation

1. **Existing GOAL T1:** *A safe, convenient, user-friendly transportation system will be developed throughout the region, addressing both short- and long-term needs, and emphasizing alternative transportation modes while reducing dependency on the automobile.*

Professional and Staff Comments:

Suggested Goal(s):

Rational:

Existing POLICY T1.1: *Develop a Balanced Transportation System*

Professional and Staff Comments:

Suggested Policy:

Rational:

- Existing Strategies:**
- T1.1(a): Develop Multi-modal Street Design Criteria*
 - T1.1(b): Establish Multi-modal Corridors*
 - T1.1(c): Coordinate With ADOT and FHWA*

Professional and Staff Comments:

- T1.1(a) –
- T1.1(b) –
- T1.1(c) –

Suggested Strategies:

Existing POLICY T1.2: *Create an Efficient Transportation System*

Professional and Staff Comments:

Suggested Policy:

Rational:

- Existing Strategies:**
- T1.2(a): Develop a Traffic Signal Capital Program and Management System*
 - T1.2(b): Develop Transportation Facility Design and Updated Roadway Cross Section Guidelines*
 - T1.2(c): Develop Connectivity Guidelines*

Professional and Staff Comments:

- T1.2(a) –
- T1.2(b) –
- T1.2(c) –

Suggested Strategies:

Existing POLICY T1.3: *Establish Roadway Improvements Categories*

Professional and Staff Comments:

Suggested Policy:

Rational:

- Existing Strategies:**
- T1.3(a): Develop and Adopt a Transportation Improvement Program*

Professional and Staff Comments:

- T1.3(a) –

Suggested Strategies:

Existing POLICY T1.4: *Reduce Negative Traffic Impacts in Residential Neighborhoods*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.4(a): Develop a Traffic Mitigation Program*

Professional and Staff Comments:

T1.4(a) –

Suggested Strategies:

Existing POLICY T1.5: *Coordinate Regional Transportation Funding*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.5(a): Develop and Adopt Transportation Funding Mechanisms*
T1.5(b): Pursue Mass Transit Funding
T1.5(c): Develop and Adopt Measures Requiring On-Site Improvements

Professional and Staff Comments:

T1.5(a) –

T1.5(b) –

T1.5(c) –

Suggested Strategies:

Existing POLICY T1.6: *Establish a Roadway Planning Categorization and Access Management System*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.6(a): Adopt a Roadway Planning Categorization System and Map*
T1.6(b): Develop an Access Management System

Professional and Staff Comments:

T1.6(a) –
T1.6(b) –

Suggested Strategies:

Existing POLICY T1.7: *Recognize the Importance of Rail Freight and Passenger Service*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.7(a): Work With Railroad Service Providers*

Professional and Staff Comments:

T1.7(a) –

Suggested Strategies:

Existing POLICY T1.8: *Identify Truck Circulation Needs*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.8(a): Develop a Truck Circulation Plan*

Professional and Staff Comments:

T1.8(a) –

Suggested Strategies:

Existing POLICY T1.9: *Provide Intermodal Connectivity*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T1.9(a): Provide for All Ground Transportation Modes*
T1.9(b): Identify and Implement Capital Projects Providing for Inter-modal Connections

Professional and Staff Comments:

T1.9(a) –

T1.9(b) –

Suggested Strategies:

2. **Existing GOAL T2:** *An enhanced public transit system will be promoted as an integral part of the region's overall transportation system.*

Professional and Staff Comments:

Suggested Goal(s):

Rational:

Existing POLICY T2.1: *Coordinate a Public Transit System*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T2.1(a): Implement Short-Range Transit Plan*

Professional and Staff Comments:

T2.1(a) –

Suggested Strategies:

Existing POLICY T2.2: *Develop a Cost-Effective and Efficient Public Transit System*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T2.2(a): Identify Revenue Sources*

T2.2(b): Develop Transit System

Professional and Staff Comments:

T2.2(a) –

T2.2(b) –

Suggested Strategies:

Existing POLICY T2.3: *Integrate Transit System Design*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T2.3(a): Integrate Multi-modal Street Design Criteria*

Professional and Staff Comments:

T2.3(a) –

Suggested Strategies:

3. **Existing GOAL T3:** *The region’s development pattern will support a diverse range of transportation choices including transit walking and bicycling, as well as driving.*

Professional and Staff Comments:

Suggested Goal(s):

Rational:

Existing POLICY T3.1: *Establish a Comprehensive Bicycling Network and Trails System*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T3.1(a): Implement Transportation Improvement Program
T3.1(b): Coordinate Trail Programs with USFS Trail System
T3.1(c): Identify Critical Bikeways Corridors
T3.1(d): Develop Bikeways Facilities
T3.1(e): Develop Standards for Range of Cyclists*

Professional and Staff Comments:

T3.1(a) –
T3.1(b) –
T3.1(c) –

T3.1(d) –
T3.1(e) –

Suggested Strategies:

Existing POLICY T3.2: *Promote Accessible, Pedestrian-Friendly Community Design*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T3.2(a): Adopt Accessible Community Design Standards*
T3.2(b): Adopt Transit-Oriented Design Standards
T3.2(c): Establish Pedestrian Districts

Professional and Staff Comments:

T3.2(a) –
T3.2(b) –
T3.2(c) -

Suggested Strategies:

4. **Existing GOAL T4:** *The Region’s transportation system will be developed and managed with attention both to supply-side (e.g., new roads) and to demand-side strategies.*

Professional and Staff Comments:

Suggested Goal(s):

Rational:

Existing POLICY T4.1: *Promote Transportation Modes Other than Single Occupancy Vehicles*

Professional and Staff Comments:

Suggested Policy:

Rational:

Existing Strategies: *T4.1(a): Cooperate with Area Employers*
T4.1(b): Implement the Regional Plan Land Use, Neighborhood, and Economic Development Policies

Professional and Staff Comments:

T4.1(a) –
T4.1(b) -

Suggested Strategies:

I. Recommended Bicycle Policies - per City of Flagstaff Bicycle Advisory Committee, January 7, 2010

1. Develop recognition of bicycling as a legitimate and beneficial form of transportation.
2. Establish and maintain a comprehensive system of bikeways that seamlessly connect neighborhoods, shopping, employment, schools, parks, open space, and public transit hubs.
3. Educate bicyclists and motorists about bicyclist safety through education programs, targeted enforcement and detailed crash analysis.
4. Provide short and long term bicycle parking at all places where bicyclists want to go, including commercial areas, employment centers, multi-family developments, schools and institutions, recreational facilities, and transit facilities.
5. Ensure that policies to increase cycling and meet the needs of bicyclists are fully integrated into all of the City's plans, policies, studies, strategies, and regulations.

J. Proposed Outline of the Circulation and Bicycle Element

1. Introduction

- a. Purpose of Circulation and Bicycle Element
- b. History / Background
- c. Summary of Circulation and Bicycle Characteristics

2. Relationship to Vision and Guiding Principles

3. Circulation and Bicycle

ⁱ More historical population figures, as provided by ESRI:

| Place | 1960 | 1970 | 1980 | 1990 | 2000 | 2008 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| United States | 179,323,175 | 203,211,926 | 226,545,805 | 248,709,873 | 281,421,906 | 304,374,846 |
| Arizona | 1,302,161 | 1,770,900 | 2,718,215 | 3,665,228 | 5,130,632 | 6,499,377 |
| Coconino County | 41,857 | 48,326 | 75,008 | 96,591 | 116,320 | 128,426 |
| Flagstaff city, Arizona | 18,214 | 26,117 | 34,743 | 45,857 | 52,894 | 59,476 |
| Sedona city, Arizona | - | 792 | 1,778 | 7,720 | 10,192 | 11,921 |
| Winslow city, Arizona | 8,862 | 8,066 | 7,921 | 8,190 | 9,520 | 9,618 |
| Page city, Arizona | - | - | 4,907 | 6,598 | 6,809 | 7,417 |
| Kachina Village CDP, Arizona | - | - | - | 1,711 | 2,664 | 2,777 |
| Williams city, Arizona | 3,559 | 2,386 | 2,266 | 2,532 | 2,842 | 3,141 |
| Munds Park CDP, Arizona | - | - | - | - | 1,250 | 1,538 |
| Mountaineer CDP, Arizona | - | - | - | - | 1,014 | 1,039 |
| Ash Fork CDP, Arizona | 2,352 | 1,392 | 1,382 | - | 457 | 635 |
| Seligman CDP, Arizona | - | - | - | - | 456 | 655 |

| Growth Rate Percent Change Decade | 1970 | 1980 | 1990 | 2000 | 2008 |
|-----------------------------------|------|------|------|------|------|
| Flagstaff city, Arizona | 43% | 33% | 32% | 15% | 12% |
| Sedona city, Arizona | | 124% | 334% | 32% | 17% |
| Winslow city, Arizona | -9% | -2% | 3% | 16% | 1% |
| Page city, Arizona | - | - | 34% | 3% | 9% |
| Kachina Village CDP, Arizona | - | - | - | 56% | 4% |
| Williams city, Arizona | -33% | -5% | 12% | 12% | 11% |
| Munds Park CDP, Arizona | - | - | - | - | 23% |
| Mountaineer CDP, Arizona | - | - | - | - | 2% |
| Ash Fork CDP, Arizona | -41% | -1% | - | - | 39% |
| Seligman CDP, Arizona | - | - | - | - | 44% |