RAIL TRANSIT STRATEGIC PLAN

The Report of the Transportation Strategies Ad Hoc Committee
of the INCOG Transportation Policy Committee

October 2008

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1. Introduction

The Indian Nations Council of Governments (INCOG) has been working on exploring possible alternatives for improving the transportation mobility of the population of the Tulsa region. INCOG recognizes that the implementation of rail transit in the region can boost economic development and address the region's future travel needs. The Rail Transit Strategic Plan's objective is to provide a framework for passenger rail implementation in the Tulsa Transportation Management Area (TMA).

1.1. Overview of the Planning Process

In April 2007, the INCOG Transportation Policy Committee designated an Ad Hoc Committee to analyze existing rail corridors in the area for their use for rail transit service. It was the goal of the Ad Hoc Committee to recommend actions to the Policy Committee in accordance with the Public Transportation section of the Regional Transportation Plan, *Destination 2030*. The establishment of the Ad Hoc Committee emerged as a result of the Broken Arrow to Tulsa Mass Transit Feasibility Study commissioned by the Metropolitan Tulsa Transit Authority. Consultants determined that conditions for implementing either commuter rail or bus rapid transit were favorable in the 14 mile Broken Arrow Expressway corridor between Downtown Broken Arrow and Downtown Tulsa. This report is a compendium of collected data, comparative research, conducted surveys, public outreach, analysis of existing conditions, and, ultimately recommended actions, as directed by the Policy Committee.

The Ad-Hoc Committee was made up of members of the Transportation Policy Committee and other community leaders and stakeholders, to guide the process and provide feedback to staff. Members of that Ad Hoc Committee were:

- Cherokee Nation – Robert Endicott, Transportation Director
- ODOT – Randle White, Division 8 Engineer and
  - Dawn Sullivan, Planning and Research Division Engineer
- Tulsa County – Ray Jordan, Tulsa County Engineer
- Suburbs – Randy Ewing, Jenks Director of Central Services;
  - Jim Twombly, Broken Arrow City Manager; and
  - Eric Wiles, Owasso Community Development Director
- City of Tulsa – Charles Hardt, Public Works Director
- MTTA – Bill Cartwright, General Manager
- INCOG – Rich Brierre, Executive Director

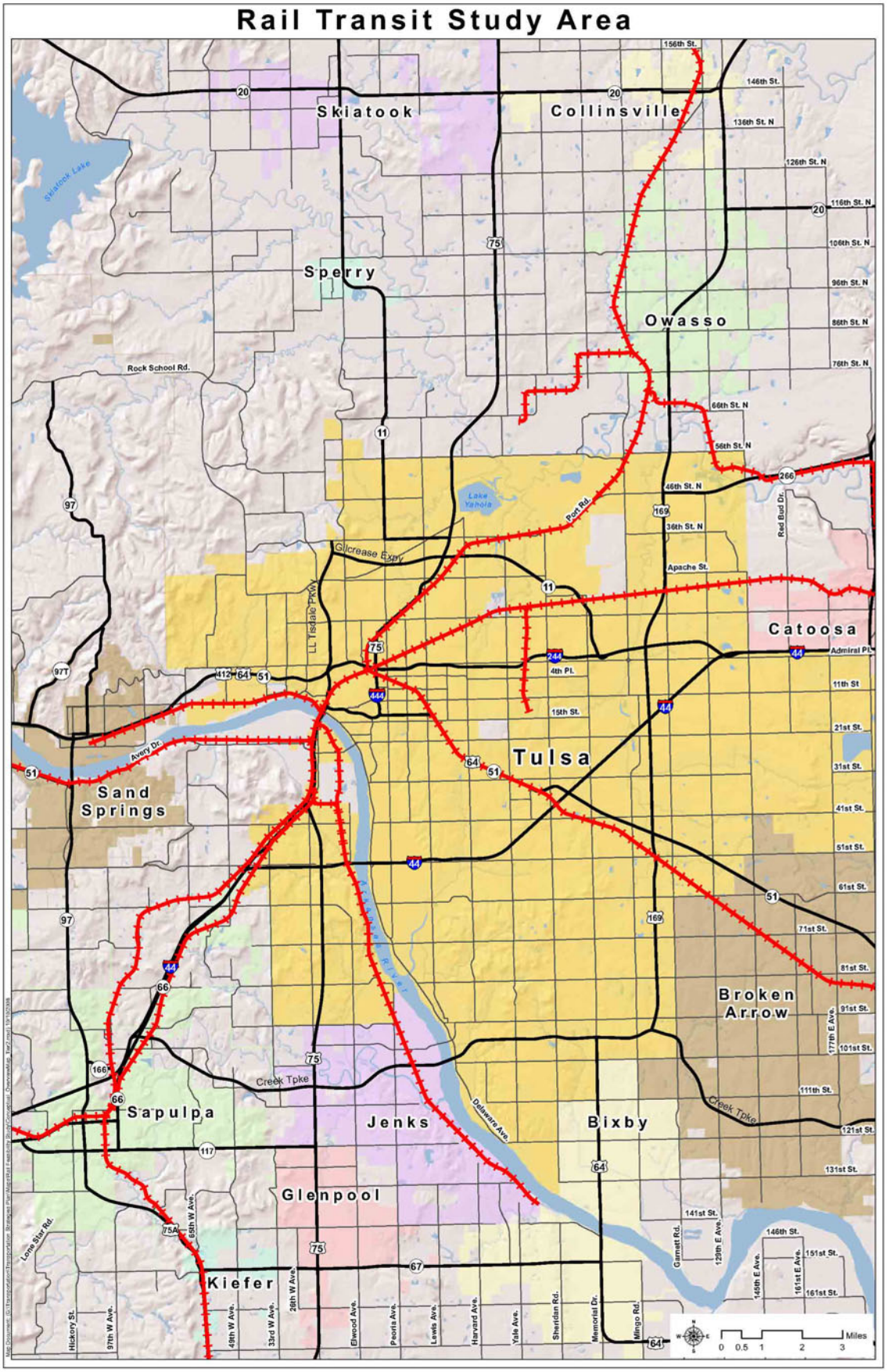
The Ad Hoc Committee adopted the following mission: to assess multimodal transportation system opportunities within designated corridors that will significantly impact the travel demand, economic vitality, safety, and livability of the Tulsa region. The Committee goal is to recommend a series of near term and long term actions that promote the development of a regional transportation system and to

recommend implementation of systematic transportation strategies for consideration by the INCOG Transportation Policy Committee and the INCOG Board of Directors.

1.2. Study Area

There are seven rail corridors in the Tulsa Transportation Management Area (TMA): the Union Pacific line from Coweta through downtown Broken Arrow to downtown Tulsa; the BNSF line from Claremore through Catoosa to downtown Tulsa; the SK & O line from Collinsville through downtown Owasso to downtown Tulsa, which includes a spur to the Cherokee Industrial Park; the Union Pacific Line operated by the Tulsa-Sapulpa Union (TSU) short line on the West Bank of the Arkansas River from near Bixby south of Jenks to downtown Tulsa; the Sand Springs to downtown Tulsa corridor, operated by the Sand Springs Railway; and the Sapulpa to downtown Tulsa corridor, which has a line operated by BNSF and a line operated by TSU. The seventh corridor is the former Midland Valley Railroad right-of- way-from north of Skiatook near Barnsdall to downtown Tulsa. Its right-of- way is now rail-banked and is used for the Osage Prairie and Midland Valley trails. Because it is rail-banked and not a corridor with existing rail operation it was not examined as a part of this study.

These corridors were reviewed for viability for rail transit service as part of a comprehensive transportation system strategy; from a potential commuter and congestion management perspective, from an economic opportunity perspective, and from a social and environmental benefit perspective. Each corridor is classified in one of two tiers, based on an amalgamation of these criteria. Tier I corridors are defined as corridors that have the most immediate potential for success in providing transit service to the most people, that have the most potential for creating economic development opportunities near future rail stations and corridors, and that would provide the best service to members of the community with the highest level of need for quality transit service. Tier II corridors were designated based on future needs should expansion of such a transit system be warranted. Tier I corridors are the most attractive corridors for initial study and investment based on the above criteria.


Rail Transit Study Area
Skiatook
Collinsville
Sperry
Owasso
Catoosa
Tulsa
Sand Springs
Sapulpa
Jenks
Bixby
Broken Arrow
Glenpool
Kiefer
Skiatook Lake
Lake Yahola
Rock School Rd.
Gilcrease Expy
LL Tisdale PKWY
Port Rd.
Red Bud Dr.
Apache St.
Admiral Pl.
4th Pl.
11th St
15th St.
21st St.
31st St.
41st St.
51st St.
61st St.
71st St.
81st St.
91st St.
101st St.
111th St.
121st St.
131st St.
141st St.
146th St.
151st St.
161st St.
156th St.
146th St.
136th St. N
126th St. N
116th St. N
106th St. N
96th St. N
86th St. N
76th St. N
66th St. N
56th St. N
46th St. N
36th St. N
Avery Dr.
Arkansas River
Delaware Ave.
Creek Tpke
Lone Star Rd.
Hickory St.
97th W Ave.
65th W Ave.
49th W Ave.
33rd W Ave.
26th W Ave.
Elwood Ave.
Peoria Ave.
Lewis Ave.
Harvard Ave.
Yale Ave.
Sheridan Rd.
Memorial Dr.
Mingo Rd.
Garnett Rd.
129th E Ave.
145th E Ave.
161st E Ave.
177th E Ave.
Miles
0 0.5 1 2 3

1.3. Background

This effort was entitled “Transportation Strategies” to capture the reality and importance of de-compartmentalizing the regional transportation planning process, that is, to plan for transportation modes as a comprehensive system, so they integrate with and complement one another. Vehicular, transit, bicycle and pedestrian systems work best when they are integrated to provide logical connections with each other contextually and reasonably serving the development or land use in the region. Additionally, transit should not be focused on specific technological choices that limit the type of service to be provided to the community. Levels of service and technology choices in transit should be diverse and complementary to each other. Feeder systems using shuttles, bus routes, taxis, trolley or streetcar routes, as well as bicycle and pedestrian provisions must be properly routed and synchronized in order for rail transit systems to be successful. Generally, many other regions in the nation have used rubber tire, fixed route bus service for their feeder systems. Rail based streetcar service might be appropriate in certain neighborhoods, particularly those with higher densities, or those that are focused on dense redevelopment.

Considerations for other ongoing efforts conducted by INCOG and other agencies, and related to transportation planning that address many of these issues were factored into the evaluative process. Those plans and efforts include INCOG’s Congestion Management Process, area Comprehensive Planning documents, the Regional Trails Master Plan, the *Destination 2030* Regional Transportation Plan, and the recently completed Coordinated Public Transit-Human Services Transportation Plan. Since the start of this rail transit planning effort the City of Tulsa has launched PlaniTulsa, the update of its Comprehensive Plan. As such, INCOG has extended itself to assist in that process, to avoid duplication of effort, and to assist in the integration of the land use and transportation elements of that plan.

If rail transit is going to be successful in attracting appropriate development at and near future station locations it is imperative that transportation related land use issues be addressed prior to the implementation of any fixed rail transit system. Typically, land use is addressed in conjunction with transportation investments, whether they are transit related or roadway related. PlaniTulsa will develop scenarios for development from the public and develop appropriate land use policy and different transportation investments based on the outcome of those scenarios.

Finally, the term “strategies” relates to the complicated process of funding any future transit investment. Data from the Federal Transit Administration (FTA) and other communities show that investment strategies vary. Some systems rely heavily on federally funded New Starts and Small Starts programs, while others use a variety of local mechanisms. The two consistent findings, however, are that financial commitment from a local level, for both capital costs and ongoing operations and maintenance, must be significant, and must be dedicated to the success of the program. If federal dollars are desired at any point in the future, they must be conscientiously pursued, with the FTA’s participation from the initial stages and throughout the process.

1.3.1. Why now?

There were several reasons for the decision to pursue assessing a rail-based transit system in the Tulsa region. Primarily, there are several impending transportation-related concerns both on the local and national level. The first is the rising price of petroleum and petroleum-based materials, including, but not limited to, gasoline. Analysts and industry experts don't anticipate that this will decrease substantially in the foreseeable future. This means that production and operating costs will rise for products that require oil for manufacturing and/or operations. This cost is borne primarily by the user. The middle-to-low income consumer is particularly hard hit by high gas prices. If that consumer relies on their vehicle for employment, that means overall wages are reduced, and their earnings are diminished.

Also, in June 2008, CNNMoney.com released a study published by the economic development group, Common Current, that ranked the 50 largest cities in the US based on their ability to survive and thrive in the face of increasing fuel cost. Due to the combined factors of limited public transit systems, historically cheap fuel costs, proximity to oil refineries, telecommuting, carpool rates, urban sprawl and other factors the study ranked Tulsa 49th and Oklahoma City 50th in their ability to withstand an oil crisis. These results simply underscore from a national perspective the need for the Tulsa region to diversify its transportation system and land use development patterns.

The second reason is the sheer volume of deferred maintenance that local governments across the nation have in regard to their roadway systems. Early in 2008, the City of Tulsa Mayor's Complete Our Streets Committee and Public Works Department identified $1 billion worth of deferred maintenance and over $600 million in needed street expansions. This problem is compounded in that as the city expands more roadways are built, which ultimately have to be maintained, and the tax base spreads out, diluting the primary source of revenue for municipalities in the Tulsa region. This, combined with high gas prices, which ultimately reduces the amount of disposable income households have to spend within these local economies, means there is simply more infrastructure to maintain with, potentially, less money.

In order to boost municipal sales tax revenues, communities are reinvesting in their older, core neighborhoods to boost the number of homes and to increase retail and business activity. Good rail transit investments have the added benefit of creating such opportunities for reinvestment in communities and neighborhoods as evidenced in cities throughout the nation. Portland, Oregon, has seen nearly $4 billion in private investment in its downtown core and nearby neighborhoods, which is directly attributed to the existence of a three mile streetcar line. Charlotte, North Carolina, has seen major investment in its station area locations around a still-under-construction light rail line. Minneapolis, Minnesota's Hiawatha Line has exceeded all of its twenty year ridership and development estimates within the first three years of its existence. This evidence demonstrates that investment in rail-based transit, in the proper location, with appropriate land use surrounding the corridor, translates into highly attractive investment opportunities and likely increased revenues for cities.

One of the benefits of transit is that it reduces the number of single-occupant vehicles on the road. The primary causes of damage to our roadways are traffic and weather. In addition to creating new sources of revenue that could be used for such needs, investments in transit can reduce the level of traffic impact on streets and roads.

Another concern is the physical expansion of cities in the United States, particularly in the midwestern and western regions of the United States. The suburban communities of the Tulsa region have grown by 55% since 1990 while the City of Tulsa has grown 4%. This growth has, and will continue to put pressure on our established roadways system. Rail transit is most efficient at peak hours, when highways and streets are least efficient. The addition of an effective transit element to a transportation corridor can assist in relieving the growth of congestion by reducing the number of cars using roadways to travel in peak periods especially between the suburban communities and the central city.

According to INCOG Travel Demand Forecasting and as indicated in the *Destination 2030* Regional Transportation Plan, the total vehicle miles of travel is anticipated to rise by 36% over the next 20 years, while our total roadway lane-miles is expected to expand by just 13%. This disparity is likely to result in more congestion in the future, particularly during peak traffic hours. This will not only have a negative effect on quality of life, fuel consumption, and travel times, but will also challenge the Tulsa area's ability to protect its air quality and maintain the Environmental Protection Agency (EPA) air quality standards.

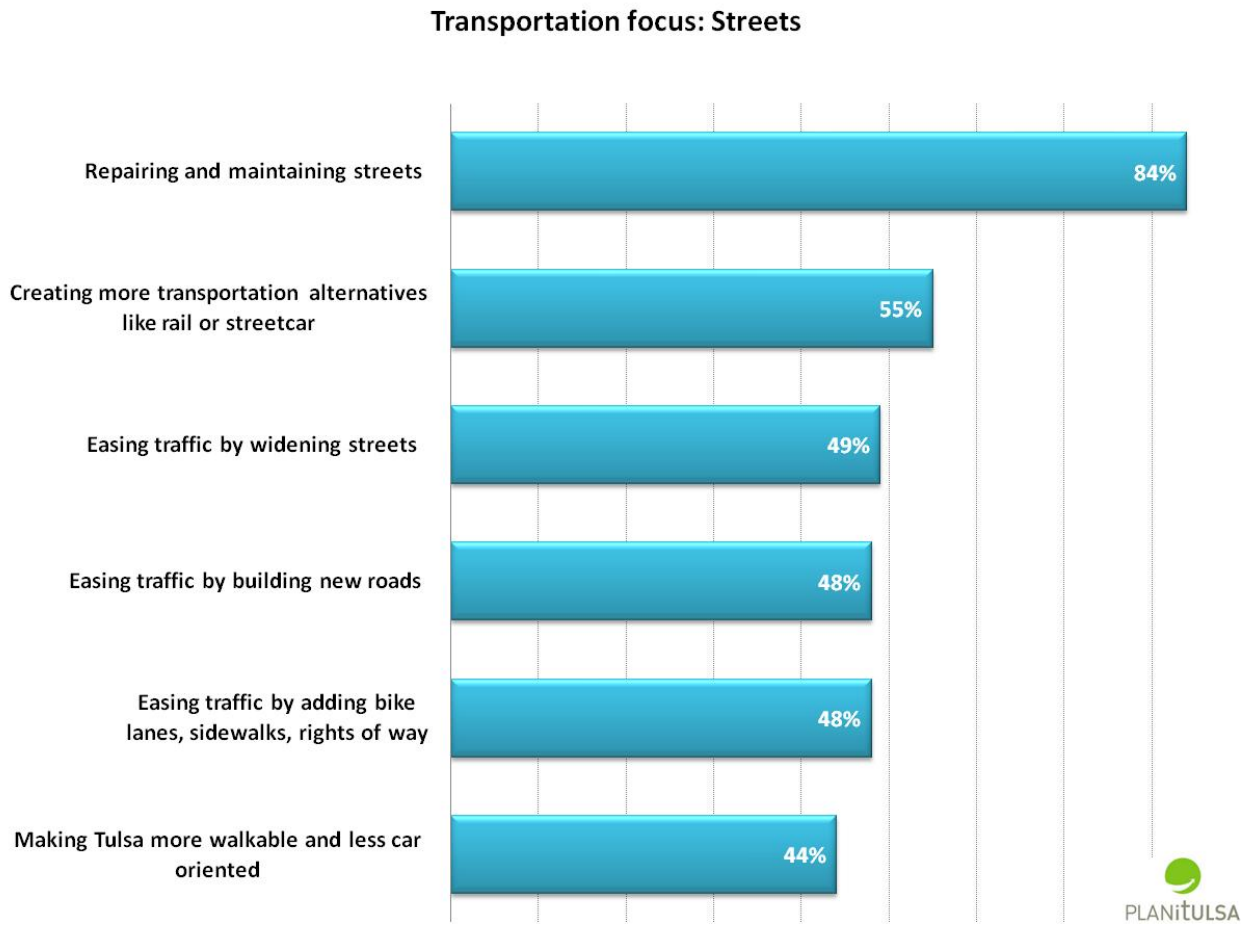
Along with rising gasoline prices, increasing traffic congestion, diminishing revenue, and an aging transportation system, there are other coinciding trends that contribute to the validity of investing in an integrated, comprehensive, multimodal transportation system. Cities that have not developed a safe, reliable, and cost-effective alternative transportation system will have great difficulty competing and surviving fiscally in the 21st century.

1.3.2. Public Assessment

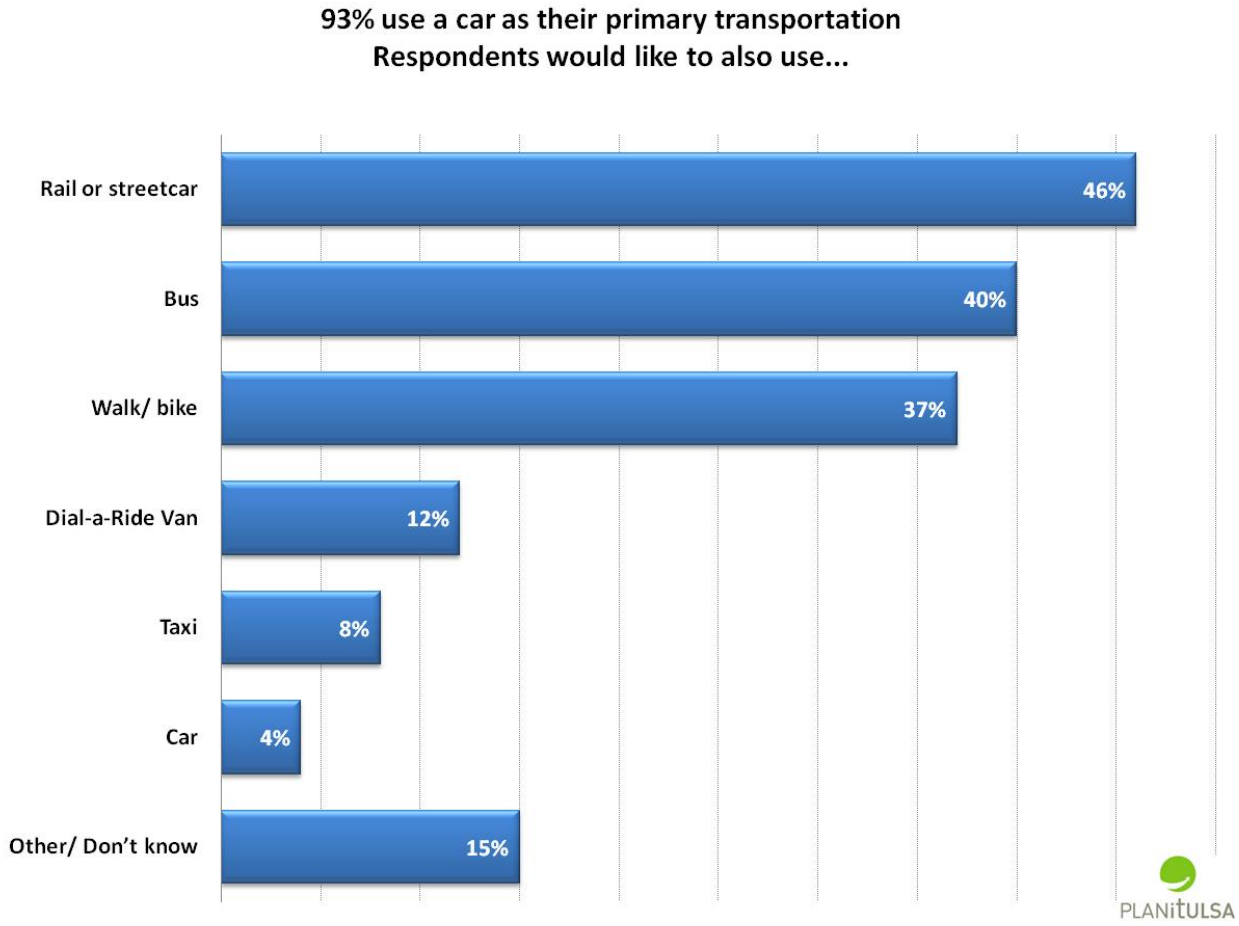
In addition to the presentation of the Broken Arrow to Tulsa Transit Feasibility Study, there were several indicators that influenced the initiative to examine, at a high level, the potential for rail transit in the region.

In June of 2008 the City of Tulsa conducted a statistically significant survey of 1,000 Tulsa residents in conjunction with the development of their comprehensive plan, PlaniTulsa. The results indicate that Tulsans want more transportation options as the city develops while maintaining the existing system.

When asked about priorities, 84% of the respondents indicated that maintaining the streets was a priority. But in the same question, 55% respondents selected "Creating more transportation alternatives like rail or streetcar" as a priority, 48% choose to have more bicycle and pedestrian facilities to ease traffic congestion, and 44% wanted to make Tulsa more walkable and less car-oriented.

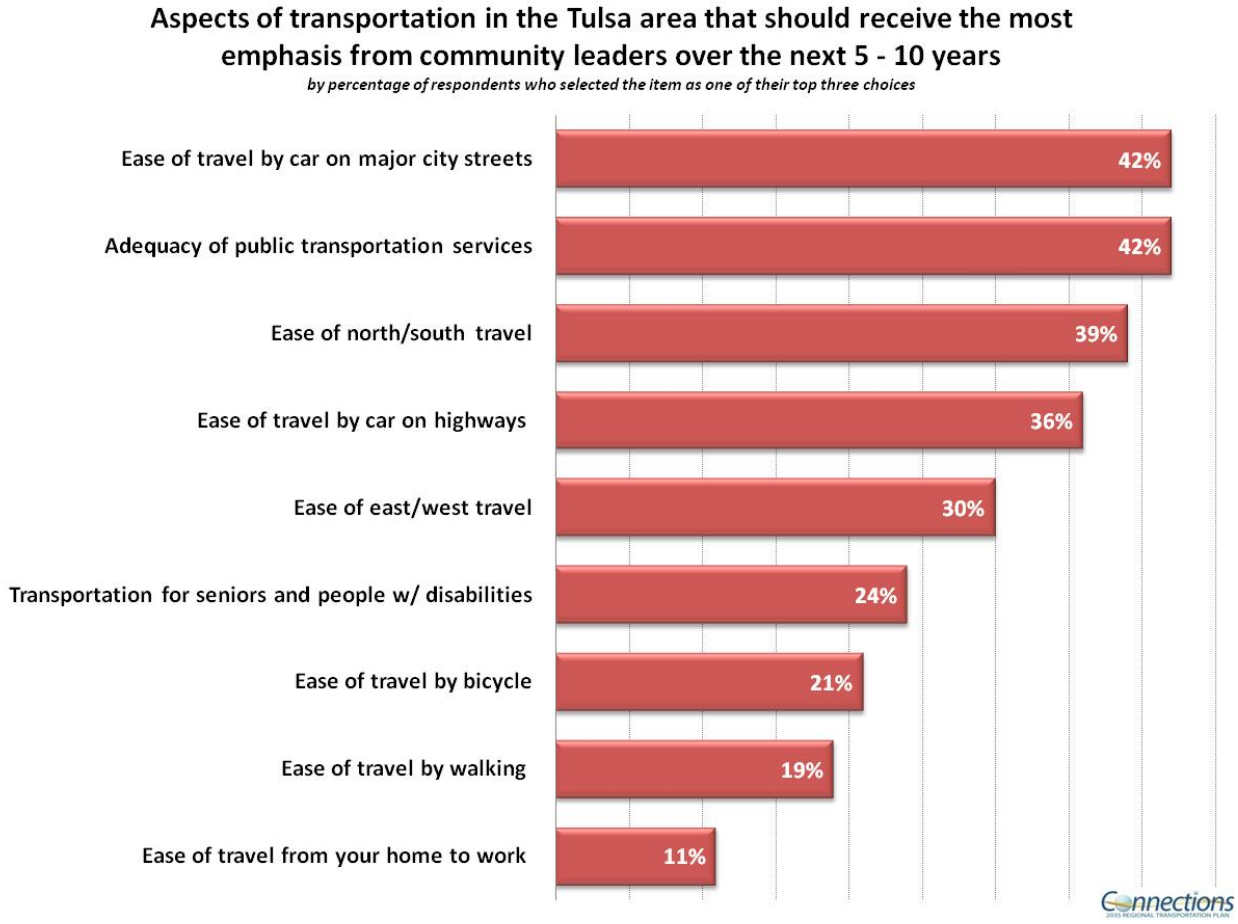


Further, while 93% indicated they primarily use the automobile for transportation, when asked what other forms of transportation they would like to use 46% indicated they would prefer using rail transit.

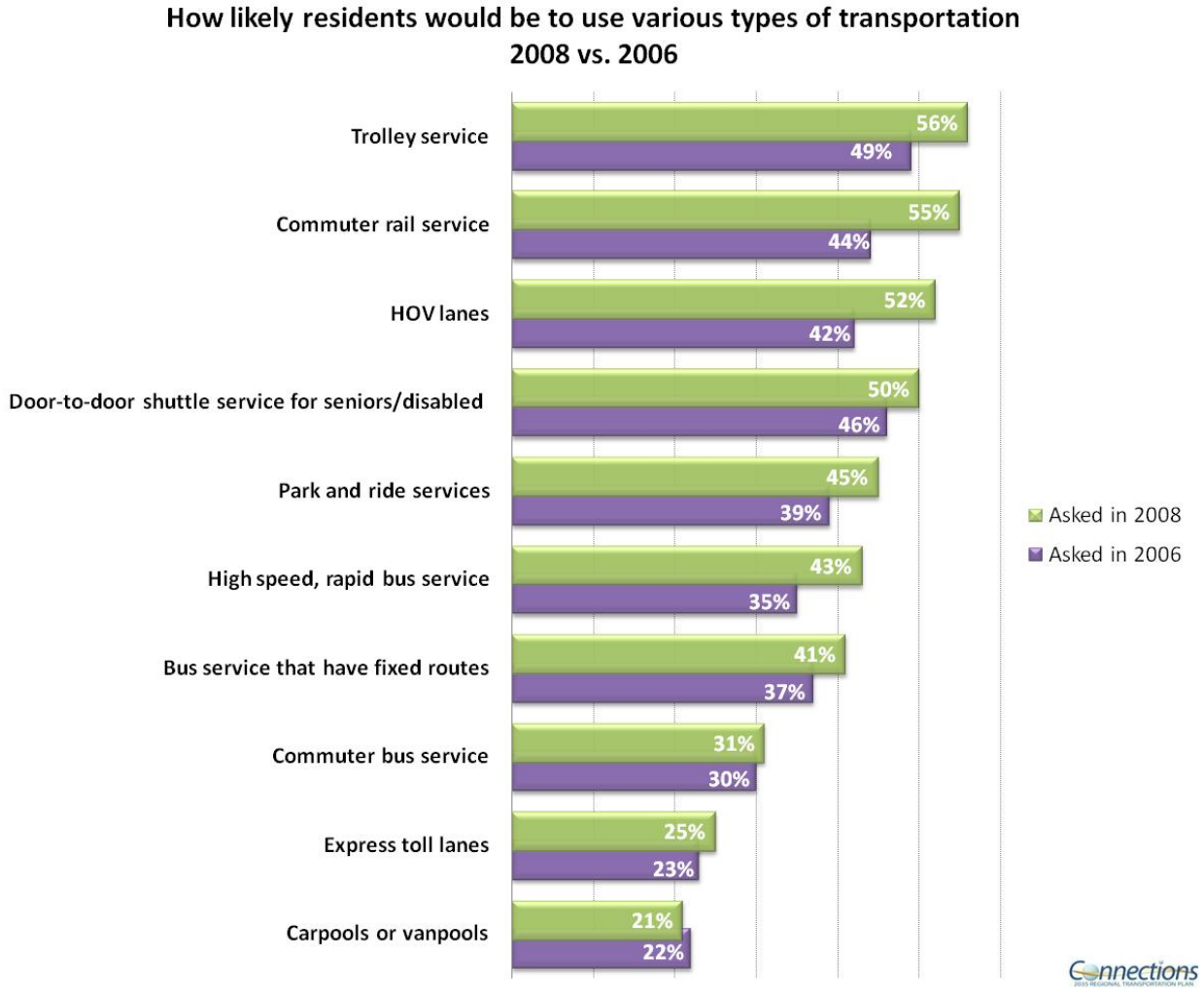


INCOG conducted a statistically significant survey of 806 households in the Tulsa metropolitan region in June 2008, with a precision of at least +/- 3.5% at the 95% level of confidence, to gather data on public opinion regarding transportation options. That survey posed a number of questions about public transportation. The results of the survey suggested a heightened interest in expanding public transportation options in the Tulsa area as well as a willingness to fund it.

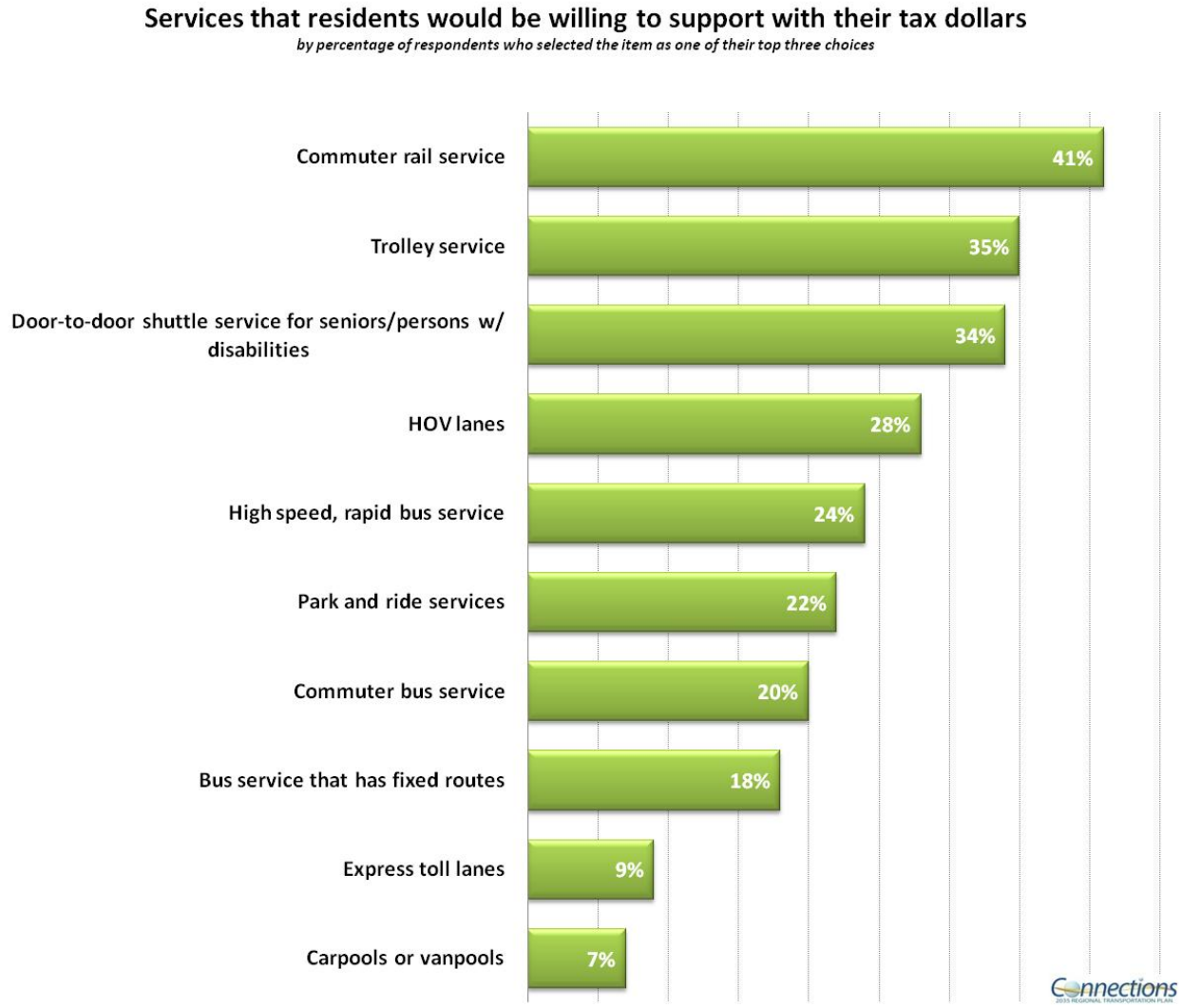
When asked what aspects of transportation should receive the most emphasis from community leaders over the next 5-10 years, respondents placed equal emphasis on streets and public transportation with 42% selecting both options.



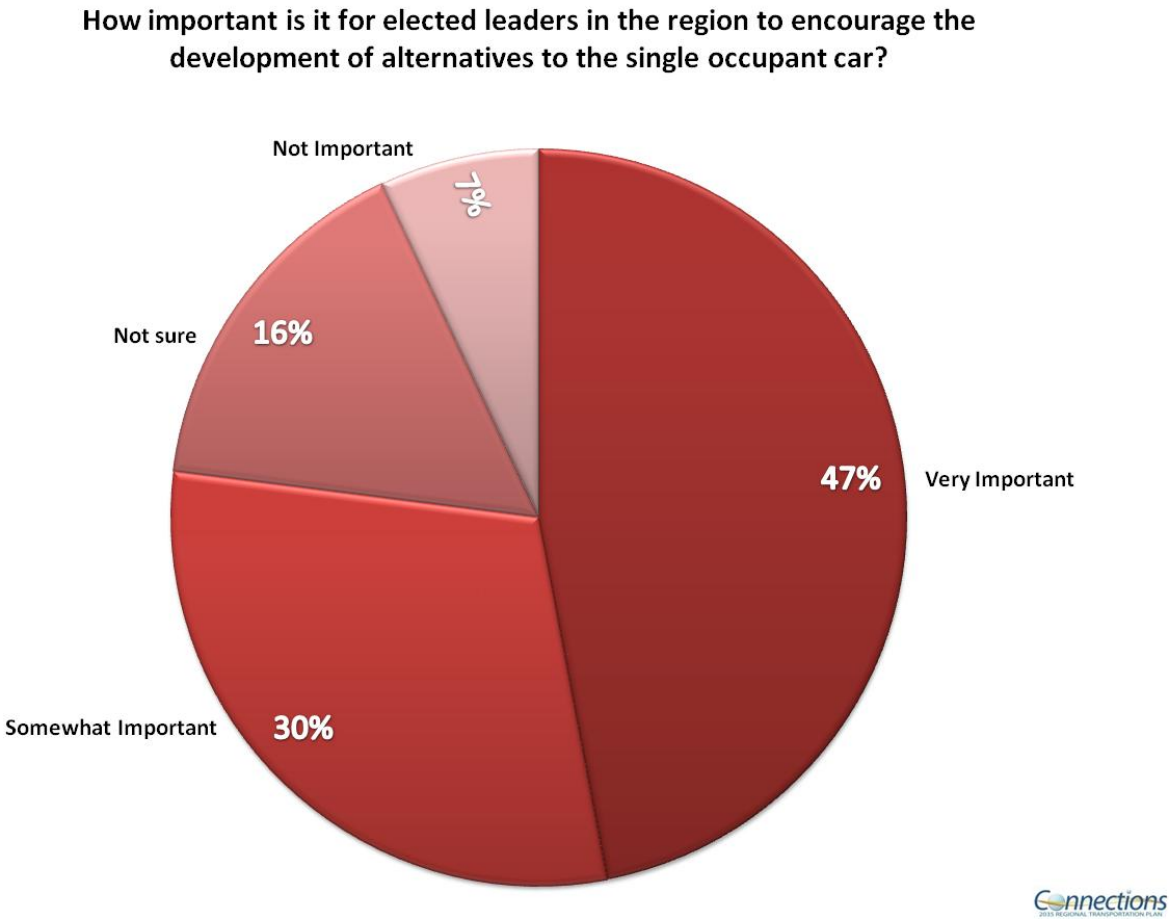
The majority of households also indicated they would be willing to use rail transit options if they were available. The responses selecting this option increased significantly over the same question asked two years ago.



When asked besides roadways, what transportation services they would be willing to support with their tax dollars most chose commuter rail service at 41% followed by trolley service at 35%.

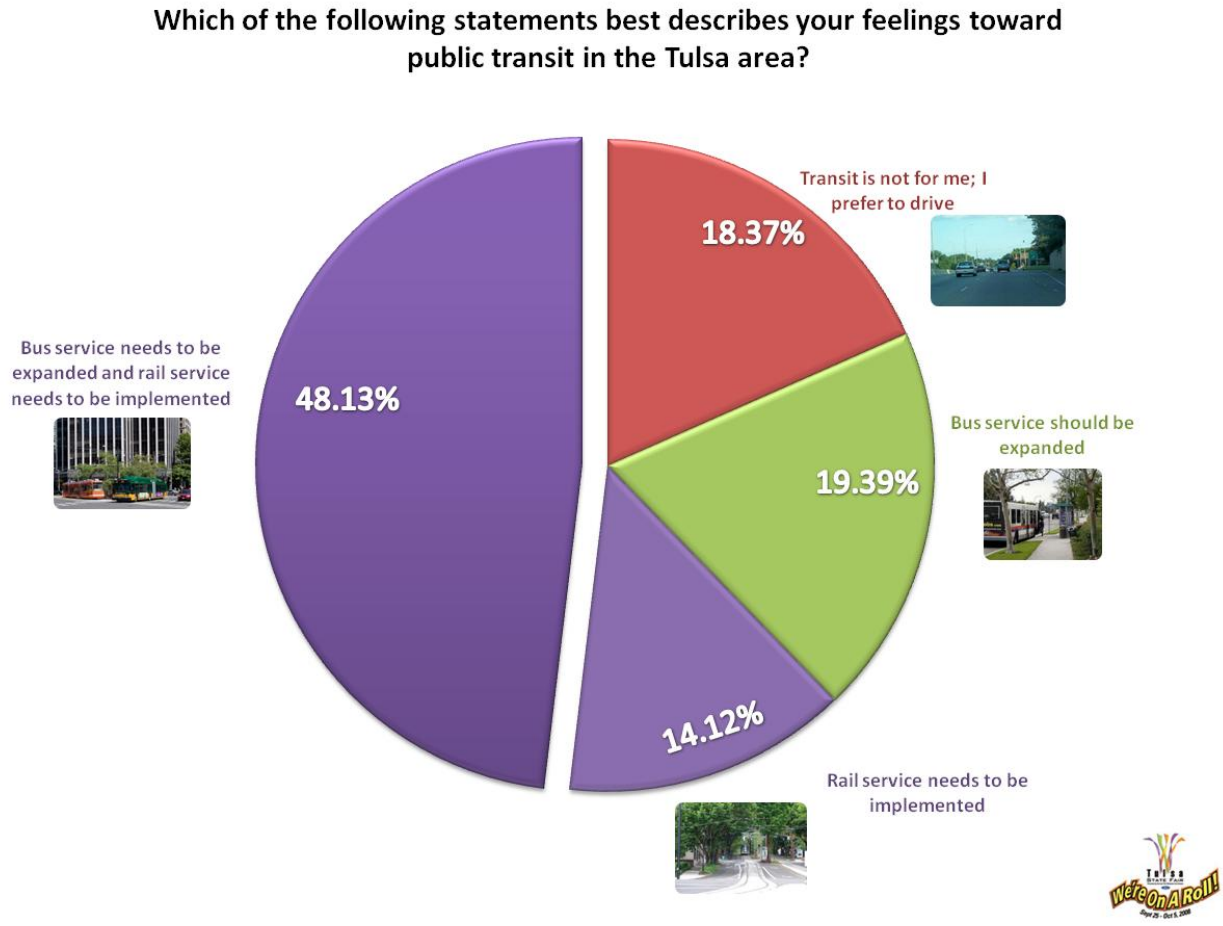


In response to the question of the importance of elected officials to encourage the development of alternatives to the single-occupant automobile 77% rated it important, with nearly half rating it as very important, while only 7% thought it was unimportant.

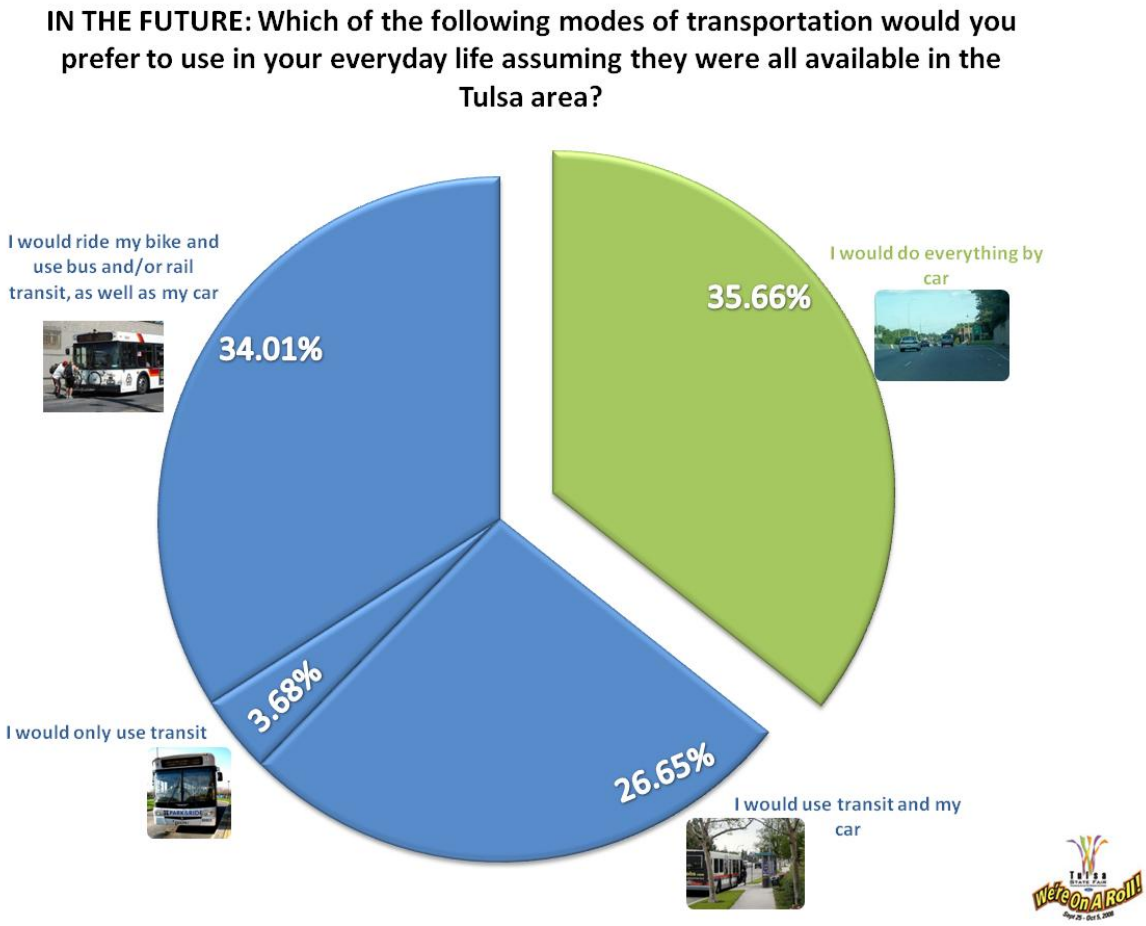


This data is further supported by the results of a random survey of 673 individuals collected at the Tulsa State Fair in September 2008. Using a web based visual survey participants were asked to select their preferences from three to four options.

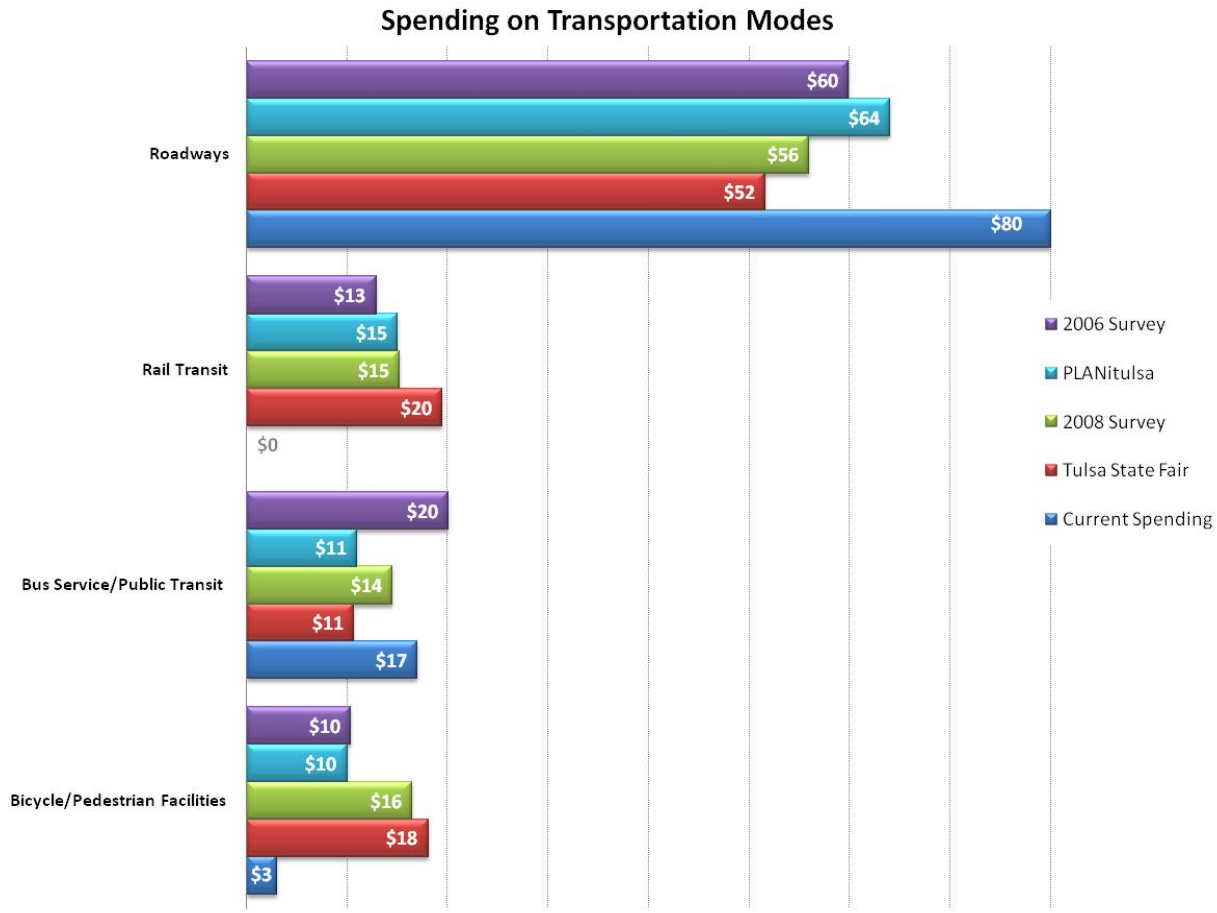
When asked their opinion about public transportation 62% wanted it to be expanded and to include rail transit.



When asked what modes of transportation they would prefer to use if it were available, 64% choose transit, bike, or some combination as opposed to 35% who would choose to do everything by car.



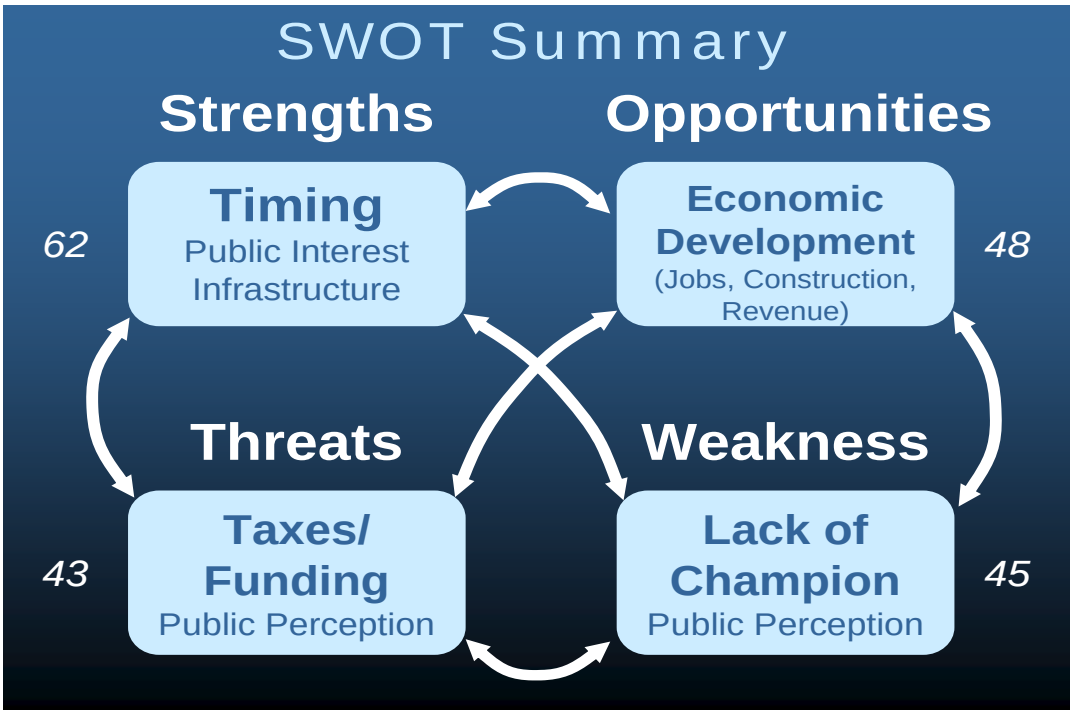
Finally all the surveys (PlaniTulsa, INCOG in 2006 and 2008, and the State Fair) asked participants if they only had $100 to invest in the transportation system how would they do so. The results from all surveys indicates the public wants to invest in maintaining our existing transportation system while significantly increasing investment in other modes of transportation compared with current expenditures, particularly rail transit.



2. Assessment of Current Conditions

The Ad-Hoc committee met several times throughout the planning period for the Passenger Rail Strategic Plan to develop actions and recommendations for the implementation of passenger rail in the Tulsa Transportation Management Area (TMA). As part of its assessment of the transportation corridors in the study area, the Ad-Hoc committee conducted an analysis of the Strengths, Weaknesses, Opportunities, and Threats (SWOT) related to developing a comprehensive, integrated transportation system with rail transit. The SWOT analysis allowed the committee members to examine existing and future land use issues, connectivity, public and private interest and cooperation, regional growth, multimodal opportunities, affordability, among other trends. The result of this analysis was prioritized and served as the foundation for the

strategic plan. The details of that analysis are included in the appendix and are summarized in the following chart.



Strengths

In terms of Strengths, the Ad Hoc committee pointed out timing as the most important factor. There is growing political and community support for rail transit shown on public participation meetings and surveys such as the 2008 Tulsa State Fair Survey, the INCOG Public Opinion Survey, and the City of Tulsa 2008 Residents Survey.

Timing was also identified as a strength due to the current high gasoline prices and the transportation financing crisis. Other factors that also support the implementation of a passenger rail system is the development of regional destinations throughout the region such as the BOK center in downtown Tulsa, the Jenks Riverwalk development, the City of Sand Springs Vision 2025 development, the Broken Arrow Performing Arts Center, the Drillers ballpark, and the continued regional growth of population and employment throughout the metropolitan area. The Tulsa region has the advantage of having the availability of established rail infrastructure and parallel commuter corridors, making it easier to expand transit service beyond Tulsa into the suburbs. The Ad Hoc Committee also pointed out the update of the City of Tulsa Comprehensive Plan (PlaniTulsa) as a strength since land use policies can be developed based on the implementation of an improved public transportation system that includes rail transit.

Weaknesses

Several weaknesses were identified including the aging nature of the existing infrastructure, inadequate investment, the lack of dedicated funding for transit, a limited

transit system, and no established regional transportation authority. However, the main issue pointed out by the Committee was public perception and the need for a champion for public transportation. The perceived difficulty of riding public transit, low service-level, and the long bus headways and ride times make the overall perception of riding public transit very unfavorable.

Opportunities

In terms of opportunities, potential for economic development and timing, including the City of Tulsa Comprehensive Plan development process, the momentum towards healthier lifestyles, demographic and cultural shifts attracted toward mass transit, and environmentalism and sustainability awareness, were the most important factors identified by the Committee. Other opportunities identified by the Ad Hoc Committee include political will as well as the existence of policies and studies favoring passenger rail such as the completion of a feasibility study for rail transit along the Broken Arrow corridor. The potential for a funding package that includes transit, the possibility of providing multimodal travel options in congested travel corridors, and the potential gas price increase are also included as opportunities.

The Ad Hoc Committee also believes that reaching the limit in roadway expansions is an opportunity for pursuing mass transit in the region. The Broken Arrow Expressway and other highways cannot easily be expanded and the cost of implementing good public transportation might be less than expanding roadways making it a necessity for the availability of alternative transportation in the region.

Threats

Threats can be summed up in terms of public perception of transit and lack of funding availability. Because of the general skepticism related to Public Transportation, there is certainly opposition to any additional tax or fee directed towards transit.

2.1. Gaps And Needs Analysis

An important part of the SWOT analysis is the realization of what is necessary to complete goals. An assessment of the environment in which the Ad Hoc committee operates revealed the responses that follow in terms of gaps and needs.

Gaps

The gaps as identified include several problems and barriers to progress with varied transportation ideals.

- A true regional transportation authority needs to be created.
- The transportation district structure as it currently exists in state statute, limits the revenue source to a 3 per cent sales tax
- Land use policies are not currently in place to accommodate successful transit systems and economic development.
- The lack of dedicated State funding to this end creates a need for research of multiple funding sources with creative resource development.

- A champion of the transportation cause and mission needs to be determined and private sector involvement of business and philanthropic organizations need to be included and involved.

Needs

- The next step toward implementing rail transit is to conduct Alternatives Analysis and Mode Choice Modeling of identified corridors.
- The transportation district structure needs to be altered to allow broad revenue opportunities.
- The public must be fostered as the champion for transportation choices by their on-going inclusion in the Planning Process.
- The existing transit system should be restructured and expanded to accommodate a future rail transit system.
- A variety of sources of local funding must be developed.
- Momentum for advocating and developing a comprehensive multimodal transportation system has to continue to build and the private sector needs to be engaged in the process.
- The City of Tulsa Comprehensive Plan will include transportation and mass transit goals and objectives.
- Environmental initiatives need to be promoted.

2.2. Beneficial Factors

An efficient public transit system is critical to a metropolitan area's economic health and prosperity. Public perception reflected in a national opinion poll showed that 81% of respondents believe that "increased public investment in transit strengthens the economy, creates jobs, reduces traffic congestion and air pollution, and saves energy."

Economic indicators potentially impacted by rail transit include increased productivity, employment, income, business activity, property values, redevelopment and tax revenue. Increased transit ridership, especially through discretionary travelers, who have the option of driving a vehicle, serves as a stimulus for a variety of cost savings and efficiency gains, including congestion reduction, road and parking cost savings, consumer savings, reduced crash damages, and improved public health. These benefits translate into savings to consumers, businesses and governments, increasing the productivity and competitiveness of a region.

Role of Transit-Oriented Development

Rail transit is clearly effective in large cities with heavy congestion. Growing metropolitan areas can also have cost effective rail systems if implemented with compatible land use policies. Transit-oriented development (TODs) is a mixed-use residential or commercial area designed to maximize access to public transportation, and incorporates features to encourage transit ridership. Typical characteristics of TODs are the walkability created by pedestrian and bicycle friendly environments, easy access to transit, park-and-ride lots, mixed land use for both commercial and residential purposes, and street oriented design. Data presented by the Federal Transit

Administration (FTA) in 2006 identified the increasing need for rental units for immigrants, retirees, echoboomers, and low income populations. Households want lower driving costs and shorter commutes, while the largest growth areas are 20 miles or more from the Central Business District. FTA's projection is that national demand for residential TOD can more than double by 2025, from 6 million to 14.5 million households by 2025.

Transit-oriented development can pay off for cities in several ways. Research of successful transit systems shows that the value of commercial and residential properties close to transit stations often rises, resulting in higher real-estate tax revenues. As an example, between 1997 and 2001, office properties near suburban Dallas Area Rapid Transit stations increased in value 53% more than comparable properties not served by rail. Values of residential properties rose 39% more than a control group not served by rail. Fact sheets on rail systems are included in the appendix.

Environmental Effects

Americans use more energy for transportation than any other activity, according to research published by the Brookings Institution in "Down by the Station: Exploring the Benefits of Rail Transit in the 21st Century", January, 2007. Data demonstrates, however, that public transport is cleaner than private vehicles. Public transportation uses one-half the fuel of private cars. If public transportation use increased from the current level of 1-2% to 10% in a year, oil import savings would grow by 12 times the current rate, the equivalent of 12 months of oil imports from Saudi Arabia.

Health benefits from increased use of public transportation impact two areas. Air quality improves with lower emissions resulting from the decreased number of private vehicles on roadways. Research also demonstrates that the availability of reliable, efficient public transportation reduces stress levels of travelers and increases productivity for employers. In addition, the walkability of transit-oriented developments encourages an increase in exercise through walking and bicycling.

Social Impacts

The social benefits of rail transit can be numerous. Successful transit developments create inviting and walkable neighborhoods that offer amenities that have a positive effect on both physical and mental health. Walkable neighborhoods decrease social isolation and improve physical health. Available public transportation allows access to recreational opportunities, as well as shopping and other population centers. With a smaller percentage of the household budget spent on transportation, more money is available for housing, health care, and other daily needs.

Two key benefits are the availability of affordable housing near the transit stations and improved access to employment. Compacted land use near transit stations creates supply for the increasing minority and non-traditional households identified by FTA wanting to live closer to transit. Easy access to employment opportunities improves the quality of life for a wide variety of populations, from the business professional to the entry level laborer.

Transit-friendly neighborhoods not only provide improved mobility and access to employment, medical appointments, and social activities for low-income populations,

they also serve people with disabilities and the elderly. These special populations have the need for transportation services that increase their independence and ability to function as normally as possible. Many have the economic need to earn income and are able to do so if they have reliable and efficient transportation options. Access to facilities that are easy to use, a characteristic of TODs, enhances the freedom and range of opportunities available to those with special needs and limited physical abilities, thereby reducing their reliance on outside resources for support.

Case Studies of Successful Rail Transit Systems

Successful rail systems in regional proximity, population, compatible land use policies, and implementation methods were researched with focus on total costs, operating costs, costs per mile, technology, funding sources, and ridership. Planning and strategies were examined with relation to time needed for development and degree of success. The following chart summarizes the results for the Nashville Music City Star, St. Louis MetroLink, Albuquerque Rail Runner, Little Rock River Rail Streetcar, Dallas Area Rapid Transit, Salt Lake City TRAX Light Rail, Denver TheRide, and Austin Capital MetroRail. Fact sheets with descriptive information can be found in the Appendix.

City	Type of Rail	Miles of Track & # of Stations	Total Cost	Open Date/Year	Daily Ridership in 2006	Gross Operating Cost
Albuquerque Rail Runner	Commuter Rail	47 miles 9 stations	$135 million	2006	2,000	n/a
Nashville MusicCity Star	Commuter Rail	32 miles 6 stations	$41 million	2006	1,500	$3 million
Austin Capital MetroRail	Light Rail (DMU)	32 miles 9 stations	$90 million	2008	Projected 2,000	n/a
Charlotte LYNX	Light Rail	9.6 miles 15 stations	$462 million	not yet built	n/a	$1.9 million
Dallas (DART)	Light Rail	20 miles 34 stations	$860 million	1996	62,000	n/a
Denver TheRide	Light Rail	35 miles 14 stations	$880 million	1994	40,000	n/a
Kansas City	Light Rail	27 miles n/a	>$1 billion	not yet built	n/a	n/a
Sacramento	Light Rail	37 miles 44 stations	$165 million	1987	43,600	$11.3 million
Salt Lake City TRAX	Light Rail	19 miles 23 stations	$520 million	1999	55,000	n/a
St. Louis MetroLink	Light Rail	38 miles 28 stations	$348 million	1993	50,000	n/a
Little Rock River Rail	Streetcar	2.5 miles 11 stops	$19.6 million	2004	750	n/a

3. Transportation and Land Use

The most successful integration of land use and transportation planning occurs when a Comprehensive Plan for the area incorporates this as an essential element of the vision of a community. Tulsa has a unique opportunity to plan for special

transportation corridors and identify new land use tools to promote quality development along new transit lines.

Planning efforts in Denver, Colorado (the “Blueprint Denver Plan”), Austin, Texas, (the “Tomorrow Comprehensive Plan”) and Sacramento, California (the “Blueprint Plan”), are examples of visions that include defined transportation goals as a part of their plans. The Blueprint Denver Plan is an integrated land use and transportation plan and a strategic guide for reshaping the growth of the City. The Sacramento Blueprint Plan uses transit oriented development (TOD) as one of the major tactics to meet the regions’ goals that include providing a wider range of housing products; reinvestment in developed areas; protection of natural resources; providing more transportation choices; quality design and attacking air quality concerns. Transit oriented development (TOD) is an approach to land use based on design and practices that create economic development opportunities arising from transit projects. It promotes compact, mixed-use development and more transit choices as an alternative to low density urban sprawl developments. The Sacramento plan implements the “Blueprint Map and Growth Principles” where new transit lines have begun reshaping corridors by addressing transportation needs and air quality issues and by changing land use development along the proposed lines.

In Charlotte, North Carolina, Charlotte’s planners and transit officials believe their transit plan hinges on development. To spur development, the City created new zoning for transit oriented development and adopted the “Charlotte Region Transit Station Area Joint Development Principles and Guidelines.” Transit oriented development encourages moderate to high density development, is located within an easy walk of a major transit stop, generally includes mixed uses such as residential with employment and shopping opportunities and is concerned with quality design and accommodating fewer automobiles.

The INCOG Transportation Strategies Ad Hoc Committee has identified several key issues through their SWOT (strength, weaknesses, opportunities and threats) analysis related to land use and transportation issues including the timing of the new Comprehensive Planning effort, concern about the existing development pattern in conjunction with aging infrastructure, lack of incentives for mixed use development, momentum toward healthier lifestyles and pedestrian oriented walkable communities, interest in environmentalism, economics due to gas prices, future tourist development and air quality concerns.

Tulsa has a unique opportunity to incorporate our transportation goals with a new Comprehensive Plan which is anticipated to be completed within the next two years. The “PlaniTulsa Plan” effort will be guided by Fregonese and Associates who have proposed to define corridors and perform “Context Sensitive” transportation plans. Context Sensitive Design (CSD) is an approach to planning and designing transportation projects based on active and early partnerships with communities with goal of providing greater choices for walking, biking, and using transit. The significance of the land use/transportation connection is recognized and infill and redevelopment can be encouraged in transit supported areas. Transportation recommendations can be made available in a format that could easily be integrated into a form based zoning code.

Types of development that are most supportive of transit are sometimes difficult to undertake because of existing regulatory factors – especially zoning, parking requirements, and permitting procedures. Tulsa does not presently utilize the types of zoning tools to accommodate certain transit oriented developments or transit villages. Barriers to development along transit corridors will need to be removed and a concerted dialogue undertaken to reevaluate the current codes and regulations. Regulations can be amended in ways that can spur developers to undertake the types of development that are suitable for transit districts. Zoning around transit facilities can provide incentives for the development of relatively higher density mixed-use projects. These should be preferably by right and requiring only administrative review or involving minimal special review procedures. Some communities have established overlay zones for transit station areas that allow, for example, smaller lot sizes, higher floor area ratios, or other modifications to the base zoning. Other tools for land use include the use of overlay zones such as transit districts with specific plans, floating zones permitting density bonuses for station related districts, station specific areas with sub-district overlay zones or base zones, reduced parking requirements to reduce development costs around transit stations (shared parking or parking maximums could be promoted), a special guided permitting process, and opportunities for historic preservation and redevelopment to be targeted within plan specific development areas.

A major new transit station in a community should bring more than a train. It represents an opportunity not only for the development of a project at the station, but for the development of a full-fledged transit-centered place, with all the attendant economic and cultural benefits. A central place can be encouraged and created with a balancing of retail, pedestrian and bicycle traffic, housing and neighborhood town center appeal surrounding transit.

"The quality of life in any City depends in large part on transportation – how easy it is to get from home to work or errands and back, the amount of time spent traveling, and the types and degree of choices available for getting around. These values go hand in hand with the choices we make about how land should be used. The types and appearances of buildings, how they function in a neighborhood or business district, and where they are located all have an effect on transportation and quality of life." (Fregonese and Associates)

4. Rail Transit Modes

In discussions about rail transit it is common to hear the term Light Rail used to reference the concept of rail transit generally. In fact, Light Rail is one specific mode which, like the other modes, has its advantages and disadvantages and should be deployed to optimize its benefits. Generally, rail transit modes can be grouped into five categories: Commuter Rail, Heavy Rail, Light Rail, Streetcar, and the Diesel Multiple Unit. The transportation system is a complex matter that has substantial impacts on the community and region and has many factors affecting it's complexity. There is no single mode to address all the issues that form our transportation system. As with other regions throughout the nation, a detailed study of the local circumstances must be undertaken before specific solutions, and modes, are pursued in developing a high quality, efficient, and beneficial transportation system. Ultimately, there may be multiple applications of the various rail transit modes in the Tulsa region, but the system will

have to be implemented incrementally, building upon the demonstrated success of the individual phases. The following is a brief discussion of the rail transit modes.

Commuter Rail is the mode that most resembles what many would consider to be a train. It has a diesel locomotive and passenger cars, typically traveling longer distances, at higher speeds and with fewer stops than the other modes. Commuter Rail can carry a higher volume of passengers and uses standard freight rail lines either shared with the freight operators or using new track in the rail right-of-way. Commuter Rail is used in Albuquerque, Nashville, and the Dallas-Fort Worth area.

Heavy Rail is typically a subway type of system with multiple cars powered generally by an electrified third rail, frequent service, frequent stops, and moving a high volume of travelers throughout an urban area with connections to outlying cities. Heavy rail is grade-separated from other transportation modes on dedicated track to allow for the frequent service. Examples of Heavy Rail include the systems in San Francisco, Chicago, Atlanta, Washington, and New York.

Light Rail is usually an electric powered train serving trips in a given corridor in an urban area. It carries high volumes of passengers on shorter trips and making more frequent stops than Commuter Rail. Light Rail uses exclusive right-of-way but at-grade with other modes and in many instances is on-street. It is designed to travel in mixed traffic and thus travels at lower speeds than Commuter Rail.

The Modern Streetcar is similar to Light Rail, carrying many passengers in an electric powered vehicle, but making more frequent stops and travelling shorter distances than Light Rail. Streetcars are typically less expensive than Light Rail in both capital and operating cost, but are more commonly used as a type of circulator in urban cores or connecting higher density development areas.

Finally, Diesel Multiple Units or DMUs are a relatively new system to the US, that provide some of the advantages of both Commuter Rail and Light Rail. As the name implies, the vehicle is powered by a built in diesel engine that allows the units to be operated singly or coupled together with other units and controlled by a single operator. The DMU can travel at higher speeds on standard freight rail lines like Commuter Rail, but because of their design they can negotiate grades and curves like an electric Light Rail system and travel in the urban core on rail built into the street. The DMU can operate like a Light Rail system without the expense associated with electrification of the lines. Compared to Light Rail, the DMU is less fuel efficient and more polluting but does provide the benefits of both Light Rail and Commuter Rail. Current examples of DMU system are the New Jersey Riverline and the new Austin Capital Metro rail line.

5. Costs

In any consideration of transportation improvements the most pertinent question is how much will it cost. The answer to that question could be the determining factor whether or not to pursue a particular improvement. And if the question of cost is not the deciding factor, the related question of how to pay for the improvement probably will determine the course of action. The Transportation Strategies Ad Hoc Committee devoted considerable attention to the issue of cost but at the level of analysis of this report it is nearly impossible to generate an actual estimate. Clearly one of the first

steps the region must take is to conduct a thorough analysis of options and the potential costs.

The Tulsa region is at a significant advantage in two key points regarding cost estimates: There are existing rail lines connecting nearly every community in the region so there should be a cost benefit in that we will not need to develop entirely new corridors. Also, many other areas in the nation have initiated some type of mass transit system in the past 10 to 15 years from which we can gather information and data. In spite of these advantages, not many metropolitan areas had existing rail line at their disposal when they implemented their systems and the data that is available is diverse and highly variable depending on factors from technical considerations such as the type of equipment to legal issues of local financing limitations. Adding to the data complexity is the need to determine not only the capital cost of constructing and developing the system, but also the operating costs on an annual basis for the system. Therefore, based on reasonable assumptions and considering areas that most closely resemble the conditions in the Tulsa region rough cost estimates were generated. A robust analysis of the corridors is needed to develop reliable cost estimates for determining the feasibility of passenger rail options.

Focusing on 12 other regions in the nation that have similarities to the Tulsa region, capital and operating cost data were collected. Most of the regions implemented light rail systems, three developed commuter rail only, one developed both light rail and commuter rail, and one implemented a streetcar system. In terms of capital costs all the systems averaged $21 million per mile. However, when considering some areas such as Albuquerque or Austin that implemented commuter rail or light commuter rail systems on existing rail lines, the capital cost was as low as $3 million per mile. Rail construction experts in the Tulsa region have estimated that capital costs could range between $4 million and $10 million per mile. Depending on the type of rail system that's implemented the capital costs for the 14 mile Broken Arrow corridor, for example, could be as low as $50 million or as much as $300 million. Further, there will be additional one-time start-up capital costs for maintenance and other facilities, safety improvements, etc., that are beyond the scope of this review and will require a more rigorous analysis.

Operating cost data were more difficult to ascertain, but based primarily on the annual data from the Federal Transit Administration's National Transit Database reasonable assumptions of costs were between $30 and $45 per train/mile. This amounts to between $840,000 and $1,350,000 annually to operate 4 trains 30 miles a day for five days a week in the Broken Arrow Expressway corridor, for example.

5.1. Comparative Costs

Contemplating costs between $50 million and $300 million to improve or build a single corridor for passenger rail service is rather daunting when that figure is multiplied by up to six different corridors, which would be a total of $300 million to $1.8 billion. So, it is important to consider the cost of highway improvements relative to the potential costs of developing these existing rail lines.

Currently the Oklahoma Department of Transportation is undertaking the reconstruction and expansion to 6-lanes of I-44 from the Arkansas River to Yale Avenue, a distance of approximately 3.5 miles. This is a multifaceted project involving

substantial drainage mitigation, right-of-way acquisition, and complex engineering considerations in a highly developed urban environment. The most recent estimate cost to complete this project is $350 million, or about $100 million per mile. If we assume similar conditions in the Broken Arrow corridor, the cost to reconstruct and expand that highway for 14 miles would amount to $1.4 billion. This would be comparable to the high estimate capital cost of implementing all 6 existing rail corridors.

Given the complex nature of reconstructing and expanding a highway in an urban environment it is helpful to consider the cost estimate to construct a new highway in relatively undeveloped or sparsely developed areas on the urban fringe. A recent estimate to build approximately 10 miles of highway on new alignment is $323 million or $32 million per mile.

There are substantial needs in our roadway system that must be addressed without the risk of further deference or neglect. But all future development of the transportation system should give full consideration to all the alternatives and their associated impacts or benefits such as economic, environmental, and social, before settling on a course of action.

5.2. Financing

Financing of the 12 mass transit systems was as varied as the geographic locations of the communities themselves. All relied on local sources for the majority of the funding including sales tax, property taxes, hotel/motel and rental car taxes, Tax Increment Financing (TIF), and other sources. Most included federal funding from more than one US Department of Transportation program although the federal share of the overall project cost was generally 50% or less. Some included some state funding, although not substantially. It is important to note that those regions which did not rely on federal funding were able to implement their systems relatively quickly. Also, most systems were implemented with substantial local (public and/or private) investment through a region-wide referendum that was multijurisdictional and cooperatively developed.

6. Ridership

Ridership of the 12 regional transit systems ranged from 1,500 to 62,000 daily passengers. The light rail systems in the larger metropolitan areas carried the most passengers, averaging 55,000 daily passengers. The commuter rail systems were in smaller metropolitan areas and averaged just fewer than 2,000 passengers per day. The best estimate available for ridership on corridors in the Tulsa region is from the MTTA feasibility study of the Broken Arrow corridor. The study estimated that providing peak-hour service would amount to 2,000 passengers per day. Assuming all those passengers were former drivers on the Broken Arrow Expressway that would be approximately a 20% reduction in the peak-hour travel on that highway. Based on the estimate, rail service in the Broken Arrow corridor would be comparable to the commuter rail service in Albuquerque and Nashville, as well as the estimated passengers on the Austin system.

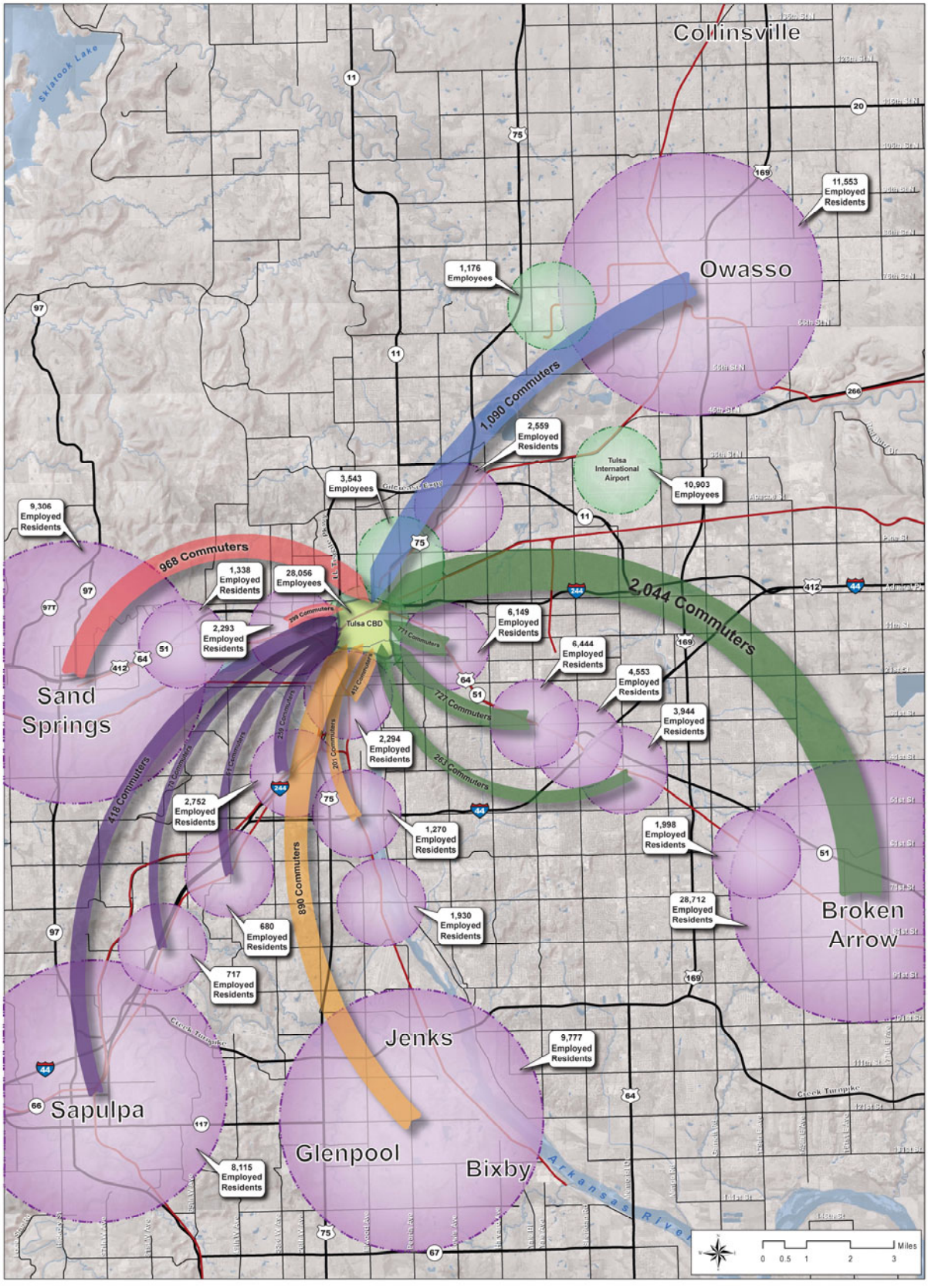
No feasibility study has been conducted for the other corridors in the region and short of a thorough alternatives analysis it is difficult to generate any kind of ridership estimate. Based on data available through the Oklahoma Department of Commerce

from the US Census Bureau, Department of Labor, and Internal Revenue Service, we have derived data on employment and commuters working in downtown Tulsa. The most recent data are from 2004 in the table below.

Rail Corridor	Terminus From Downtown Tulsa	Employed Residents	Commuters to Downtown Tulsa
Broken Arrow Corridor	Main & Houston (81st St)	45,249	3,808
Jenks/Bixby Corridor	121st South & Peoria	15,271	1,523
Owasso Corridor	76th St North & Main	11,553	1,090
Sand Springs Corridor	SH-97 & downtown	11,599	1,384
Sapulpa Corridor	US-66 & Line Ave	12,264	808

This information provides a sense of commute patterns from points in the respective corridors; however it is limited to work trips and does not account for other trip purposes. Also it indicates the amount of commuters in the corridor to downtown Tulsa, but cannot account for reverse commutes or trips to destinations other than downtown Tulsa. Further the impact of proposed developments throughout the region (BOK Arena, Jenks River District, Broken Arrow Performing Arts Center, etc.,) as well as a restructuring of the existing MTTA bus system is not included in this ridership analysis. It is assumed that accounting for those other factors would increase the ridership on all routes.

Tulsa Existing Commuter Shed Statistics



7. Recommendations and Actions

In April 2008, the Federal Highway Administration and the Federal Transit Administration jointly sponsored a Peer-to-Peer exchange where experts from Denver, Austin, Portland, and FHWA discussed the land use and transportation connection and the implications for the Tulsa region. The Federal consultants are expected to complete a report of the results of the Peer exchange in early November 2008, that will provide greater detail of the event and the information presented and the dialogue between the Peer experts and local professionals.

The observations and recommendations of the experts at that event are listed below:

- Land use, transportation, and regional planning must be integrated in a coherent vision for the future growth of the region
- There is no single solution to transportation problems and therefore must be addressed systematically
- Building and sustaining strategic regional partnerships is critical to successfully integrating transportation and land use.
- Engage the community early and often to build a base of informed citizenry
- Investing in the development of a multimodal, integrated transportation system will require creative and multiple funding sources
- The transportation system must provide a superior product in terms of travel time, predictability, permanence, cost and safety
- The system must be regional in its scope to address the needs of transportation to major trip attractions such as sport venues, convention centers, government facilities, employment centers, and the associated business spin-off
- There must be solid and visionary support from policy makers and the political will to follow through

Based on the conditions, data and analysis detailed previously, as well as input from the Peer exchange, the Transportation Strategies Ad Hoc committee developed the following recommended actions for consideration by the Transportation Policy Committee. They are presented temporally as near term (less than 5 years) and long term (greater than 5 years).

7.1. Near Term Actions

Public Involvement

- Initiate a continuous process of engaging the public in the development of an inter-dependent, multi-modal transportation system that is integrated with land use development throughout the region.
- Public agencies using public and private resources, must take steps to ensure that the public is involved in such a way as to give them confidence that their input is valued and carefully weighed. The planning process should foster advocacy on the part of the public, working with citizens and independent

organizations to raise awareness of the transportation needs in the region. The planning process should foster the public as the primary champion for a multimodal transportation system.

- Leadership should also come from the regions elected representatives, and as such, educational opportunities should be made readily available to these officials through staff support and through participation in conferences and other events with appropriate curriculum.

Infrastructure Investment

- Seek dedicated funding for a comprehensive, multimodal transportation system - If a true interconnected transportation system is to be achieved, the investment must be comprehensive, reliable and multiyear in scope.

- Investment should apply revenue systematically . Transit funding should not necessarily be independent from other transportation funding sources, such as streets and roadways.
- Roadway investments should include provisions for transit, bike/pedestrian, and O&M for all systems.
- To address increasing congestion, safety and security, fiscal sustainability, and the quality of life in our region, our transportation solutions must become more diversified.

Technology

- Pursue a multifunctional and unified technology for all corridors which will accommodate integration with bus transit system and pedestrian transportation.

Mobility Management

- Use existing and readily available technology to expand and enhance the current multimodal transportation components. Using web based, wireless and other available technology, such as INCOG'S Green Traveler, consolidate and coordinate disparate transit systems and services, including transit, taxi, shuttle/jitney service, carpool, car sharing, and private/NFP provided transportation. Create and fund, per the 2007 Coordinated Human Services Transportation Plan, a Mobility Management Center.

Alternatives Analysis

- Secure funding to conduct Alternatives Analyses for the following corridors, designated by tier:

Tier 1:

Central Corridor: Downtown Tulsa to 23rd and Jackson
Broken Arrow to downtown Tulsa
Bixby, via Jenks to downtown Tulsa
Owasso via Tulsa International Ariport to downtown Tulsa
Sand Springs to downtown Tulsa

Tier 2:

Southwest Corridor: Sapulpa/Red Fork to downtown Tulsa
169 Corridor North and South
Arterial Routes: North/South and East/West
Catoosa to downtown Tulsa
North Corridor: Midland Valley/Osage Trail

What is Alternatives Analysis?

Alternatives analysis has been a key part of FTA's process for advancing local rail transit projects for over 25 years. Federal regulation requires that projects seeking New Starts or Small Starts funding be based upon the results of an alternatives analysis (and later, preliminary engineering). More importantly, an alternatives analysis has been a part of established transportation planning practice for several decades. At its core, alternatives analysis is about serving local decision-making. An effective alternatives analysis answers the questions: What are the problems in a corridor? What are their underlying causes? What are viable options for addressing these problems? What are their costs? What are their benefits?

Alternatives analysis is a locally managed study process that relies to a large extent on the information on regional travel patterns, problems, and needs generated as part of the metropolitan transportation planning process, as specified by 23 CFR Part 450 *FTA/Federal Highway Administration (FHWA) Joint Final Rule on Metropolitan and Statewide Planning*. Local agencies participating in an alternatives analysis have broad latitude in how the study is to be performed, including the choice of whether to conduct the analysis under the review process established by the National Environmental Policy Act of 1969 (NEPA). For studies initiated under NEPA, FTA plays an early and active role in the alternatives analysis, as specified by 23 CFR 771 *FTA/FHWA Joint Final Rule on Environmental Impact and Related Procedures*.

FTA strongly desires to play such an early and active role in all alternatives analysis studies, including studies initiated outside the NEPA process. FTA has found that such involvement in local alternatives analysis studies yields the greatest benefits. Specifically, FTA's early, active involvement in local alternatives analysis studies is intended to:

- Assist local agencies in addressing technical and procedural issues early in the study process, rather than at the end when it may be too late to solve them efficiently
- Ensure that project information required for FTA's evaluation is developed consistent with good planning practice and FTA guidance
- Allow FTA to gain sufficient understanding of the resulting project to support FTA's decision later to advance it into preliminary engineering and, ultimately, final design.

Coordination and Integration of Land Use and Transportation

- Establish a transit friendly and compatible land use framework for an expanded public transportation network. Partnering with the PlaniTulsa comprehensive plan

update in the City of Tulsa, and with other jurisdictions, identify corridors and land use goals within those corridors.

- Utilize city controlled land to create opportunities for Transit Oriented Development (TOD) and Economic Development around proposed transit systems.
- Recognizing that land use varies within the region, from municipality to municipality, urban to rural; incentives and policies should coordinate with land use goals within the corridor and within those various jurisdictions.

Pursue Establishment of a Regional Transportation Authority

Using existing statutory authority, consolidate the following functions under a single entity either by the creation of a new authority or reconstituting and restructuring an existing authority:

- Metro Tulsa Transit (Per Complete Our Streets recommendation)
- Tulsa Parking Authority (Per Complete Our Streets recommendation)
- Operational Planning
- Financing
- Project Monitoring and Coordination
- Operations and Maintenance
- Mobility Management Center

7.2. Long Term Actions

Plan, Design, Finance, Build, Operate, And Maintain, A Successful Demonstration Project

In order to show success from both a ridership and economic development standpoint, any demonstration project must provide a logical transportation connection, must demonstrate the region's capacity to operate and maintain a transit system, must have appropriate land use and likely developable opportunities, and may need to be locally funded for expedited implementation.

Possible Demonstration Projects:

- Broken Arrow to Downtown
- Jenks to Downtown
- Evans/Fintube (east of OUS-Tulsa) to 23rd and Jackson (Downtown to River/Downtown to North)

Identify and Plan Arterial Transit Corridors

Network interdependency depends upon a connected, hierarchical system. As such, North/South and East/West "second tier" corridors should be planned to connect with a high capacity system.

Technology And Attributes To Consider During This Process

- Enhanced Bus, Bus Rapid Transit, Streetcar
- Possible grade separation
- Signal Prioritization
- Frequent stops, short headway times, and schedule coordination

Possible Corridors And Or Districts

- North/South Corridors: Yale, Memorial, Riverside
- East/West Corridors: 71st St., 21st St., Apache/Pine St.
- Districts: 6th Street/TU/Downtown Circulator, Fairgrounds, Cherry Street, Brookside, and RiverParks

8. Conclusions

Alternatives for improving transportation mobility for the Tulsa region were studied and provide the initial research for the Rail Transit Strategic Plan. Detailed information was derived from the Broken Arrow to Tulsa Mass Transit Feasibility Study as commissioned by the Metropolitan Tulsa Transit Authority. Additional information was gathered for seven alternative commuter rail or bus rapid transit routes in the Tulsa region per the direction of the Transportation Strategies subcommittee of the INCOG Transportation Policy Committee.

Surveys of the public conclude that it is an appropriate time to plan for alternate transit modes in our present economy. With the cost of transportation rising as an important part of each household budget, and with 77% of Tulsa respondents concluding that it is important for elected leaders in the region to encourage development of alternatives to the single-occupant vehicle, the Strategies subcommittee has met to review ideas for retrofitting existing rail lines for rail transit, to compare case studies of other cities throughout the nation, and determine the optimum investment strategy for new transportation modes.

Planning efforts include a comprehensive approach to the regional transportation system for rail, auto, bus, taxis, trolley, streetcar, bike and pedestrian systems. Coordination with the current Comprehensive Plan update for the City of Tulsa is also underway to include these transportation routes. Land use, Congestion Management, and Coordinated Services plans all are consulted in this effort. Maintenance for roads has been identified as a funding concern because of the volume of problems with existing conditions. Deferring maintenance due to budget constraints prompts the need for further study of the way streets are built and serious consideration of Complete Street design alternatives. Safe travel routes and air quality standards are a concern for these planning goals.

Numerous conditions now exist or are emerging that require a reconsideration of our historic approach to developing our transportation system. Because of this changing paradigm we cannot continue to plan and construct the transportation system like we have the past 70 years and expect conditions to improve. Our roadway system must be developed and maintained. In that process consideration must be given to accommodate all user of the roadways. Regarding maintenance of roadways,

encouraging alternative modes of transportation will help to reduce the total volume of traffic using the road and thus the overall impact of traffic.

The cost of improving our transportation system is increasing and the revenue is stagnant at best so we need to get the best return on our investment in the transportation system. Passenger rail service will not solve our growing congestion problem but neither will roadway widening. However, rail transit, as a component of a comprehensive, integrated, regional transportation system, provides economic, environmental, social, and safety benefits that traditional roadway widening cannot. The opportunity is here to start planning and developing a comprehensive, integrated, and multimodal transportation system that is responsive to the mobility needs of the residents of our region. System development often is measured in decades not years, therefore, we should not wait for increased land use or population density, nor for greater congestion to begin developing this new transportation system.

Appendix

Description Of Rail Operators

Union Pacific

The Union Pacific runs between Muskogee and Tulsa. Their warehouse is the former KATY yard near 51st Street South and Mingo. The Union Pacific Railroad operates on about 40 miles of track at 2 train yards in the Tulsa area. The UP processes up to 6 trains per day, including support operations for the UP regional terminal facility in Muskogee, Oklahoma. The local UP cargo consists of sand, lime and dolomite, pulp, wood, lumber, plastics and miscellaneous products including syrup and sugar. In addition, the UP transports most of the coal utilized at electric generating plants outside the Tulsa metropolitan area in Chouteau, Muskogee, and Oologah. They have 2 yards in town - the former Katy yard near 51st Street South and Mingo, and the former Missouri Pacific yard near 31st street between the Sinclair refinery and the west side of the Arkansas river.

Southern Kansas & Oklahoma Railroad SKOL

SKOL operates over 511 miles rail lines in Kansas, Oklahoma and Missouri. Lines including the Tulsa, OK to Humboldt, KS line, and Owasso to the Port of Catoosa, OK. Traffic includes grain, grain products, cement, chemicals, steel and plastics. The South Kansas and Oklahoma Railroad is a segment of the former Santa Fe line to Kansas City. The Company warehouse is located in Owasso between 76th Street North and 86th Street North, 1 mile west of Highway US-169. The trains run north out of Owasso and south to Tulsa connecting with BNSF and UP. It also serves the Port of Catoosa daily via an 8 mile track that goes from Owasso to the Port. Traffic includes grain, grain products, cement, chemicals, steel and plastics.

Tulsa-Sapulpa Union Railway Company

TSU operates freight service from Tulsa to Sapulpa, that runs roughly parallel to and east of I-44 (10 miles). Connections are made with UP at Tulsa and BNSF at Sapulpa and Sand Springs. TSU leases and operates the Jenks Industrial Lead from UP. The Jenks Industrial Lead runs 12.9 miles from Tulsa to Jenks, OK. Traffic includes silica sand, soda ash, limestone, plastic pellets, glass bottles, steel products and paper products. The major industry they serve is the Kimberly Clark plant south of Jenks. They also serve the Sinclair refinery and a Pepsi plant on the south side of I-44.

Sand Springs Railway Company

SSRR operates freight service between Sand Springs and Tulsa, OK with 32 miles of track (all yard limits). Connections are made with UP, BNSF and South Kansas Oklahoma Railroad (SKOL). Traffic handled includes steel, pulp board, scrap iron, scrap paper, petroleum products, plastics and lumber.

Burlington Northern Santa Fe Railroad (BNSF)

BNSF has the largest rail yard in the area, located southwest of downtown Tulsa. Access to the BNSF yard is from US-75. Approximately 5,400 tons of freight and 160 rail cars are operated daily, originating and terminating in the Tulsa area. The trains generally run east-west, and destinations vary greatly, with bulk industrial products being the primary cargo. BNSF provides rail access to the Port of Catoosa and the manufacturing plants near the Tulsa International Airport. BNSF operates on about 150 miles of track in the Tulsa region with traffic consisting of mineral ore (15%), chemicals (30%), autos/metals (15%), forestry (5%), consumer (10%), agricultural (15%), and general products (10%).10 Two BNSF spurs in the area provide rail access to the Tulsa Port of Catoosa, and the manufacturing plants near the Tulsa International Airport, respectively.

Corridor Comparison Data

Line	# of Tracks	# of Trains	Speed
SK&O line from Tulsa to Owasso	1 main track	3 trains per day	10 mph
TSU line from Tulsa to Sapulpa	1 main track	2 trains per day	10 mph
SSRR line from Tulsa to Sand Springs	1 main track	2 trains per day	10 mph
BNSF line from Tulsa to Catoosa	1 main track	23 trains per day	60 mph
BNSF line from Tulsa to Sapulpa	1 main track	10 trains per day	55 mph
BNSF line from Tulsa to Pawnee	1 main track	21 trains per day	49 mph
UP line from Tulsa to Broken Arrow	1 main track	2 through trains & 4-6 switch trains per day	25 mph
UP (TSU) line from Tulsa to Bixby	1 main track	2 trains per day	10 mph

Case Studies Fact Sheets

INCOG

Austin *Capital MetroRail*

By the end of 2008, Austin, Texas will have an Urban Commuter Rail system. But success did not come easy in Austin. In 2000, voters rejected a $1.9 billion light rail project that would cut through established neighborhoods and require a sales tax increase. Despite this defeat, government and community leaders were not disheartened. In 2004, Capital Metro, the city's transit agency, proposed a scaled back system. The new proposal included 32 miles of commuter-type rail that would utilize already existing freight rail tracks. Capital Metro had already acquired the 32 mile corridor, giving them the advantage of precedence over freight rail users.

quickfacts

- **Austin Metro Population:** *1.5 million*
- **Technology:** *Light Commuter Rail (DMU)*
- **Length:** *32 miles*
- **Station Count:** *9*
- **Fare:** *$1 each way*
- **Began service:** *Late 2008*
- **Total Cost:** *$90 million*
- **Cost per Mile:** *$2.81 million*
- **Projected Ridership:** *2,000 each weekday*
- **Swiss built railcars are first in U.S. to meet European crashworthiness standards**

The financing package was also revised to be funded totally by receipts Capital Metro already received combined with federal New Stars funding. The light rail project will entail purchasing six Diesel Multiple Unit (DMU) rail cars which, unlike the previous light rail referendum, will not require the expensive overhead catenaries used by most light rail systems.

Service will be provided by six DMU units making 24 one-way runs each weekday. Most runs will be made during the morning and afternoon peak with a handful of midday runs. The DMU units have 117 seats and room for 83 additional standing passengers. Each railcar costs approximately $5.75 million. The remaining funds are used for the nine stations, upgrading at-grade crossings, and constructing a new 2,000 foot overpass to avoid freight interference with Union Pacific trains.

Riders traveling from the farthest station will have a 55 minute ride to the terminus in downtown Austin. Bus routes will be reoriented to serve transit stations more effectively when the system goes into service in late 2008.

Of the nine stations, the three outlying stations farthest from downtown Austin will have park-and-ride lots, while the remaining stations will have little or no parking. This pattern is similar to the pattern seen in Dallas and Houston.

Denver *TheRide*

The Denver Light Rail has been a good example of incremental development of a light rail system. The system began as 5.3 mile system has now blossomed into a 120 mile system that will be built over the next 12 years. Denver has not been known for it's transit in the past, but now that citizens have seen the benefits of public transportation, and fuel prices continue to climb, they are eager to vote more transit lines and more Transit Oriented Development (TOD).

The 120 mile expansion is funded by a $4.7 billion program funded by an ambitious financing package that draws from a number of sources.

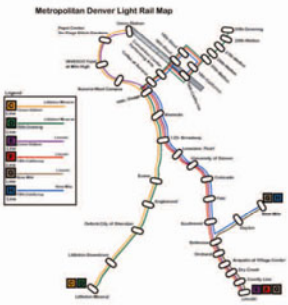
quickfacts

- **Denver Metro Population:** *2.4 million*
- **Technology:** *Light Rail*
- **Length:** *35 miles*
- **Station Count:** *36*
- **Fare:** *$1.50-$3.75*
- **Service frequency:** *Every 8 minutes*
- **Began service:** *1994*
- **Total Cost:** *$880 million (for latest 19-mile expansion opened in 2006)*
- **Cost per mile:** *$46 million*
- **Federal Funding:** *$925 million (19.6%)*
- **Ridership:** *40,000 daily*

FINANCIAL PLAN (in millions)		
	Amount	% Total of Cost
Sales Tax Bonds	$2,366	50.2%
Certificates of Participation (COPs)	$203	4.3%
TIFIA Loan	$143	3.0%
"Pay as you go" Cash	$985	20.9%
Federal New Start	$815	17.3%
Federal Other	$110	2.3%
Local Contribution	$95	2.0%
Total	$4,717	100%

One of the foremost sources of funding, comprising half of the cost, is a region-wide sales tax. After seeing the success of the initial 5.3 mile system, Denver area voters were excited to continue the expansion and voted 58% in favor of the proposal.

Transit Oriented Development has been a primary focus of the Regional Transit Authority (RTA) as they develop these rail lines. This protects the interest of suburban residents who do not want things to change, and allows for more urban environments for the newcomers to the city who want more interesting urban places to call home. The demand for interesting places to live is increasing as the population ages and as younger people wait longer to start families. TOD creates the environments for these types of people to thrive and focus development around transit stations.



INCOG

Salt Lake City *TRAX Light Rail*

When planners first envisioned the TRAX Light Rail project, they expected to have 25,000 riders daily by the year 2020. By this year, daily ridership was already 55,000, twice what was originally expected. The success of Salt Lake City's light rail system is not uncommon. Citizens have embraced Light Rail as a method of improving their downtown areas. Salt Lake City residents have continued to pass sales tax increases to show their support of increased options in transportation. In November 2006, citizens voted to spend **$2.5 billion** to build an additional 26 miles of light rail, 88 miles of commuter rail, and 40 new stations. All this for a metro area with fewer people than Oklahoma City.

quickfacts

- **SLC Metro Population:** *1.06 million*
- **Technology:** *Light Rail*
- **Length:** *19 miles*
- **Station Count:** *23*
- **Fare:** *$1.60 one-way*
- **Began service:** *1999*
- **Total Cost:** *$520 million*
- **Cost per mile:** *$27 million*
- **Ridership:** *55,000 each weekday*
- **Planned $2.5 billion expansion over the next 10 years**

Over the past eight years since the development of TRAX, an incredible amount of development has sprung up around stations. One development in suburban Murray City (pop. 50,000) is a $140 million retail, office, and housing development oriented near the station. This project will include 420 new housing units and is already sold out.

Salt Lake City officials cites the demographic shift and rising fuel prices as reasons the development has done so well. Singles make up 41% of the population in Salt Lake City. Those demanding urban type developments are singles and couples without children. Also, as the baby boomer generation retires, many look for places to live that require less maintenance and better accessibility without the automobile.

Another development that surprised officials was Waverly Station, developed on 10 acres alongside Meadowbrook TRAX station. The $42 million project has 47 condos, 131 town homes, and 14,000 sq. feet of retail and office space.

Before TRAX was built, Salt Lake City lacked interesting places in its downtown areas. Now there is a resurgence of life in the downtown areas and near transit stations that surprise even the planners who envisioned it.

INCOG

Dallas *Dallas Area Rapid Transit (DART)*

In 1984 the Dallas Area Rapid Transit Board selected Light Rail as the mode of rail transportation for the Dallas area. Twelve years later, in 1996, the first 20 miles of Light Rail Transit opened. Since that time, enthusiasm for light rail has swelled in the Dallas area. Since the construction of the 20-mile starter line in 1996, the system has doubled in size to 45 miles. Plans to double the system again to 93 miles by 2014 are in full swing.

In a historically car-oriented city, DART has attracted new ridership that otherwise would have been driving and contributing to the area's air quality woes.

quickfacts

- **Dallas Metro Population:** *4 million*
- **Technology:** *Light Rail*
- **Length:** *45 miles*
- **Station Count** *34*
- **Fare:** *$1.25 one-way*
- **Began service:** *1996*
- **Total Cost:** *$860 million (for first 20 miles)*
- **Cost per Mile:** *$43 million*
- **Light Rail Operating Cost per Passenger Mile:** *$0.54*
- **Ridership:** *62,000 each weekday*
- **$3.3 billion in direct private business investment near stations**
- **Vacant land values increased 5x faster when located near transit**
- **Serves American Airlines Arena**

Over time, once staunch transit opponents are realizing the economic development potential of Light Rail Transit. Communities like Plano, Carrollton, and Farmers Branch, which at first rejected DART in their communities, are now embracing the idea and changing their zoning codes to incorporate transit oriented development.

The most successful example to date is Mockingbird Station, located a few miles north of downtown Dallas. This station has resulted in successful mixed-use development that is now attracting new residents *and* businesses from all over the metro area. Today there is 200,000 sq. feet of apartments and 45,000 sq. feet of retail space. Mockingbird Station is becoming a true live-work-play community that attracts the coveted young professionals demographic.

Since opening in 1996, $3.3 billion in development has been constructed or is planned within walking distance of transit stations. This development far exceeded the expectations when the idea of light rail first took hold 23 years ago.

INCOG

Little Rock *River Rail Streetcar*

The original idea for a streetcar in Little Rock did not come from the Transit Agency, Central Arkansas Transit (CAT), but instead was borne from the mayors of Little Rock and North Little Rock. The Alltel Arena had just been built on the north side of the Arkansas River and the mayor felt that it needed to be accessible to the River District of Little Rock on the south side of the river. In addition, the Clinton Presidential Library site had been selected on the south side of the river with construction ready to begin. It has been noted by many users of the system that the view from the bridge crossing the Arkansas River is spectacular.

quickfacts

- **Little Rock Metro Population:** *652,800*
- **Technology:** *Streetcar*
- **Length:** *2.5 miles*
- **No. of Stops:** *11*
- **Fare:** *$0.50 per round trip*
- **Began service:** *2004*
- **Total Cost:** *$19.6 million*
- **Cost per Mile:** *$7.84 million*
- **Federal Funding:** *15.5 million (80%)*
- **Ridership:** *750 each weekday*
- **$200 million in new development since opening**
- **$28 million minor-league baseball stadium will be built on the line**
- **Serves the Alltel Arena in North Little Rock**

The system contains 2.5 miles of streetcar track built into existing streets. This greatly decreased the cost of the project, because additional right-of-way was not required.

Little Rock considered a rubber-tire trolley system, but ultimately declined to build that type of system because of the lack of investment that would result. The rationale was that private investors would not invest in a system that could be changed so easily. It was not guaranteed that the trolley route would stay the same with a rubber-tire system.

Since the opening of the River Rail in 2004, ridership has averaged 750 riders per day. The number of people riding the River Rail has steadily increased as more and more development happens around the River Market District.

Since service began in 2004, more than $200 million in new development has been built or is planned. In 2006, an extension to the line was built to serve the Clinton Presidential Library, which opened the same year.

The development of this line has spurred economic development that otherwise would not have happened, and has added a lively atmosphere to central Little Rock both day and night. The route connects many destinations including Alltel Arena, the convention center, loft apartments, hotels, two city halls, historic Argenta neighborhood, two museums, and the main library branch.

INCOG

Albuquerque *Rail Runner*

The Rail Runner Express operates 47 miles of commuter rail each weekday. The Rail Runner operates seven roundtrips each weekday. Tracks are shared with BNSF (although they are owned by the New Mexico Department of Transportation and have freight traffic on them during the times when the commuter train is not using the tracks.

By 2008, NMDOT expects to purchase 300 miles of track from BNSF for further expansion of the line.

quickfacts

- **Albuquerque Metro Population:** *816,800*
- **Technology:** *Commuter Rail*
- **Length:** *47 miles*
- **Station Count:** *9*
- **Fare:** *$1-$3 one way*
- **Began service:** *2006*
- **Total Cost:** *$135 million*
- **Cost per mile:** *$2.8 million*
- **Est. Annual Operating Cost:** *$9.5 million*
- **Federal Funding:** *None*
- **Ridership:** *2,000 each weekday*
- **Initiated by Governor Bill Richardson in 2003**
- **Completely funded at the state level**
- **$50 million for purchase of 51 miles of BNSF railway**
- **$75 million for 10 railcars and 5 locomotives**

The New Mexico Rail Runner was an idea that had been started decades before, but it was not until Governor Bill Richardson created Governor Richardson's Investment Partnership (GRIP) in 2003, that the project really took off. In just three years, by utilizing only state funding and an already existing rail corridor, the New Mexico Department of Transportation (NMDOT) and Mid Region Council of Governments (MRCOG) partnered to develop the 47 mile commuter rail line. The GRIP program is part of a $1.6 billion project in New Mexico aimed at building infrastructure and providing new modes of transportation to New Mexicans.

Service began in July of 2006 and was well-received by the public. For the first three months, the service was provided free of charge to encourage people to try out the service.

Park-and-ride lots are located at each of the stations, with ample parking for customers who prefer to keep the flexibility of having their vehicles, but want the relaxed nature and dependability of commuter rail travel times.

Fares are reasonable and easily make the trip worth the fare. Depending on the distance traveled, fares range from $1 to $3.

Expansion of the current system is already being demanded by citizens wanting transportation to the state capitol in Santa Fe. Plans are in place to extend the service to Santa Fe within the next three years.

INCOG

St. Louis *MetroLink*

The St. Louis MetroLink consists of 38 miles of light rail throughout the St. Louis Metro Area. The original 16 mile line opened in 1993 and served the Lambert International Airport, Downtown St. Louis and East St. Louis.

Portions of the system are grade-separated with two subway stations and three elevated stations. The remaining 23 stations are at-grade and have characteristics similar to a light rail system.

quickfacts

- **St. Louis Metro Population:** *2.7 million*
- **Technology:** *Light Rail*
- **Length:** *16 miles (1st line), now 38 miles*
- **Station Count:** *28*
- **Fare:** *$2.00 one way*
- **Began service:** *1993*
- **Total Cost:** *$348 million (for first 16 mile Starter Line)*
- **Cost per Mile:** *$21.7 million*
- **Ridership:** *55,000 each weekday*
- **$4.3 billion in new development within 10 minute walk of transit**

Most of the system utilizes former railway alignments that since have been abandoned. A portion of the railway uses an abandoned baggage-handling tunnel beneath Union Station in downtown.

Ridership has reached 50,000 riders daily, for an annual passenger mile count of 125 million. Conversely, the bus system generated only 122 million passenger miles, and at a greater per-passenger cost. The one rail line accounts for more passenger miles than the entire 101 bus routes combined.

Although federal funds were used to build the initial 16 miles of alignment, the latest extension, an 8.2 mile segment into the suburb of Shrewsbury, was funded entirely by local bond proceeds.

Over the past 14 years since the original segment was built, there has been $4.3 billion in new development within ½ mile of the original alignment.

The ridership characteristics of the MetroLink system are unique when compared to transit systems around the country. Many riders are "choice" riders that own cars but choose to ride transit. According to a recent study, 68% of MetroLink riders own two or more cars. Even more surprising, 80% of MetroLink riders are *not* former bus riders, but instead *entirely* new riders that did not use transit before the rail line was built.

INCOG

Nashville *MusicCity Star*

The MusicCity Star (MCS) commuter rail went into service September 2006. The Regional Transportation Authority (RTA) in Nashville was formed as the body to implement commuter rail in the region. The commuter rail service stretches 32 miles from Lebanon, TN, to downtown Nashville. The MCS shares a single track with the Nashville and Eastern Railway Authority (a public entity). There are six stations, including two terminus stations. Passing sidings were added to accommodate freight rail and to alleviate the problems of freight and passenger rail conflicts.

quickfacts

- **Nashville Metro Population:** *1.2 million*
- **Technology:** *Commuter Rail*
- **Length:** *32 miles*
- **Station Count:** *6*
- **Fare:** *$4-$5 one way*
- **Began service:** *2006*
- **Total Cost:** *$41 million*
- **Cost per Mile:** *$1.28 million*
- **Est. Annual Operating Cost:** *$3 million*
- **Federal Funding:** *$24 million (58%)*
- **Ridership:** *1,500 each weekday*

Costs:

Description	Total Budgeted Cost (in millions)
Project Management	$4.3
Railroad Rehabilitation	$23.1
Station Design	$1.1
Station Construction	$11.3
Vehicles	$0.675
	$40.5

The MusicCity Star operates four inbound and four outbound trips per day. In addition, there is special service for events such as NFL football games. The cost per trip is $5 one way for the longest trip segment. The total trip time from the farthest station to downtown Nashville is 40 minutes.

It took 10 years from the initial feasibility study to the final implementation. The environmental impact study for the corridor was completed in 2000, and a Finding of No Significant Impact (FONSI) was issued. Eighty percent of the funding for the commuter rail came from Federal Transit Administration and Federal Highway Administration funds. Eleven used coach cars were purchased from the Chicago METRA train system to reduce costs.

Locally Proposed Financial Plan

Source of Funds *in millions*	Total Funds	Percent of Total
Federal		
Section 5309 New Starts	$24.0	58.4%
FHWA High Priority Project Funds	$7.4	18.0%
Section 115 Funds (STP)	$1.0	2.4%
State		
TDOT General Fund	$4.0	9.7%
Local		
Nashville & Eastern Rail Authority	$2.5	6.1%
Nashville, Davidson County	$1.6	3.9%
City of Mt. Juliet	$0.2	0.5%
City of Lebanon	$0.2	0.5%
Wilson County	$0.2	0.5%
Total	$41.1	100.0%

SWOT Analysis

Most popular responses by category

Class	Category	Responses
Strengths	Timing	29
Opportunities	Economic Development Opportunities & Timing	19
Threats	Tax Threat/Consumption threat	18
Opportunities	Financial Considerations: Personal & Public	14
Strengths	Existing Infrastructure	14
Weaknesses	Public Perception	13
Weaknesses	Funding	12
Weaknesses	Lack of a Champion for Public Transportation	11
Threats	Security & Losing Time	11
Strengths	Established Destinations	10
Opportunities	Air Quality Considerations	10
Threats	Lack of Support in Funding: Regional & Statewide	10
Weaknesses	Existing Infrastructure	9
Strengths	Public Interest	9
Weaknesses	Transit System	7
Opportunities	Existing Policies, Studies & Funding Opportunities	5
Threats	Public Perception	4
Opportunities	Transit Experience & Expertise	4
Opportunities	Limitations to Drive Only/Roadways	2
Weaknesses	Existing Development Pattern	2

Most popular responses by subcategory

Class	Category	Count	Subcategory
Weaknesses	Lack of a Champion for Public Transportation	11	(none)
Strengths	Established Destinations	9	(none)
Strengths	Existing Infrastructure (Strength)	9	(none)
Threats	Tax Threat/Consumption threat	9	Opposition to any additional Tax or fee
Opportunities	Air Quality Considerations	9	(none)
Opportunities	Financial Considerations: Personal & Public	8	(none)
Opportunities	Economic Development Opportunities & Timing	7	(none)
Weaknesses	Public Perception (Weakness)	7	(none)
Weaknesses	Funding	6	(none)
Strengths	Timing	6	River Development
Threats	Security & Losing Time	6	Institutional resistance to change (Highway Mentality)
Strengths	Timing	6	(none)
Strengths	Timing	5	Suburbs desire for transit service
Threats	Tax Threat/Consumption threat	5	Cannibalizing existing funding
Weaknesses	Existing Infrastructure (Weakness)	5	Aging nature of infrastructure, land use compatibility, limitations to growth
Strengths	Public Interest	5	Political Support (Mayor & Councilors) / community
Weaknesses	Funding	5	Lack of dedicated funding
Strengths	Timing	4	Gas prices
Opportunities	Existing Policies, Studies & Funding Opportunities	4	(none)
Strengths	Existing Infrastructure (Strength)	4	Union Pacific Rail lines to BA and Jenks & their willingness to negotiate
Strengths	Timing	4	Downtown Improvements
Weaknesses	Transit System	4	(none)
Threats	Tax Threat/Consumption threat	4	(none)
Opportunities	Financial Considerations: Personal & Public	3	Potential Gas Price increase
Weaknesses	Public Perception (Weakness)	3	Perceived difficulty of riding public transit
Strengths	Timing	3	Development strategies

Class	Category	Count	Subcategory
Threats	Lack of Support in Funding: Regional & Statewide	3	River funding/other proposals competing for the same pot of money
Opportunities	Financial Considerations: Personal & Public	3	Cost of implementing good public transportation less expensive than expanding roadways
Opportunities	Economic Development Opportunities & Timing	3	Demographic & cultural shifts attracted to mass transit
Weaknesses	Existing Infrastructure (Weakness)	2	Existing Rail (because of predetermined routes)
Opportunities	Economic Development Opportunities & Timing	2	Interest in Public Transportation
Threats	Security & Losing Time	2	Maintaining status quo, therefore losing ground
Opportunities	Economic Development Opportunities & Timing	2	Trolley service would appeal to tourists
Weaknesses	Existing Infrastructure (Weakness)	2	At grade railroad-street crossings
Opportunities	Transit Experience & Expertise	2	Tulsa and OKC mayors have joined to advance mass transit
Opportunities	Transit Experience & Expertise	2	Positive press concerning Broken Arrow corridor study
Opportunities	Economic Development Opportunities & Timing	2	Prospective growth in congestion
Strengths	Public Interest	2	Staff support
Weaknesses	Public Perception (Weakness)	2	Most people in Tulsa have never ridden the bus
Weaknesses	Existing Development Pattern	2	Lack of support for Transit Oriented Development
Weaknesses	Transit System	2	No regional authority established to implement regional rail
Threats	Lack of Support in Funding: Regional & Statewide	2	(none)
Threats	Lack of Support in Funding: Regional & Statewide	2	Lack of Regional cooperation
Threats	Lack of Support in Funding: Regional & Statewide	2	Lack of State or Local Government support
Threats	Public Perception (Threat)	2	(none)
Threats	Security & Losing Time	2	(none)
Opportunities	Economic Development Opportunities & Timing	1	Momentum toward healthier lifestyle
Opportunities	Economic Development	1	Comprehensive Plan

Class	Category	Count	Subcategory
	Opportunities & Timing		
Weaknesses	Transit System	1	Lack of integrated non-traditional services w/ Public Transit
Opportunities	Existing Policies, Studies & Funding Opportunities	1	Political will
Opportunities	Air Quality Considerations	1	Proposed regulations related to Ozone Standard from EPA
Opportunities	Economic Development Opportunities & Timing	1	Environmentalism, Sustainability awareness
Opportunities	Limitations to Drive Only/Roadways	1	(none)
Opportunities	Limitations to Drive Only/Roadways	1	Broken Arrow Expwy & other highways cannot be easily expanded
Weaknesses	Public Perception (Weakness)	1	Overall perception of riding public transit
Strengths	Established Destinations	1	Developing Destinations
Weaknesses	Funding	1	FTA funding not likely because of lack of local match
Strengths	Public Interest	1	(none)
Strengths	Public Interest	1	Citizens Interest
Strengths	Timing	1	Comprehensive Plan
Threats	Security & Losing Time	1	Perception of only operating for a social service
Threats	Lack of Support in Funding: Regional & Statewide	1	Tendency to attract 'any economic development' at any cost
Threats	Public Perception (Threat)	1	General Skepticism related to Public Transportation
Threats	Public Perception (Threat)	1	Maintain status quo mentality
Strengths	Existing Infrastructure (Strength)	1	Existing Rail lines

Railroad History

In July 2000, WATCO merged two short lines, Southeast Kansas Railroad Company (SEKR) and South Kansas & Oklahoma Railroad Company (SKOL), with SKOL as the surviving short line. SEKR started service on April 1987 with a line purchased from the MP from Coffeyville, KS to Nassua Junction, MO. This former MP line was built in the 1880s. The only active line left from the SEKR runs from Sherwin, KS to Liberal, MO, with all the SEKR lines abandoned. The SKOL was formed at the end of 1990 when it acquired 287 miles of rail lines from the ATSF. As a result of subsequent acquisitions, leases and abandonments, SKOL current lines consist of: Humboldt line, built by the Southern Kansas Railway in the late 1870's; SKRY, leased to ATSF before the turn of the century; Tulsa line, completed in 1905; Oxford line, completed in the 1880s; and the Tulsa Port Authority branch, completed in 1968. ATSF sold the lines to SKOL on December 28, 1990.

The Sapulpa & Interurban Railway built a line from Sapulpa to Mounds in 1908 and operated as an electric interurban line for the purpose of transporting oil field workers from the Tulsa area to the Sapulpa oil fields. The company went bankrupt in 1912 and merged with the Oklahoma Union Railway, which had built a line from Tulsa to Sapulpa. The Mounds-Sapulpa line was abandoned in 1928, and the company went bankrupt the following year. Passenger service ended in 1933. In September 1933 the railway was incorporated as the Sapulpa Union Railway. The following year the railroad became a corporation, and the name changed to the Tulsa-Sapulpa Union Railway. The railroad converted from electric to diesel operation in 1959.

This company was incorporated February 6, 1911 and was opened west from Tulsa to Sand Springs with 8.6 miles in May 1911 by the Sand Springs Home. The railroad was operated by electricity until 1955 when it discontinued passenger service and changed over to diesel locomotives. The Sands Springs Home sold to HMK, Inc. in 1987. Sheffield Steel is the current owner.

Public Participation and Outreach

The purpose of intensive public participation is to encourage and support active public involvement throughout the planning and decision-making process related to the development of proposed transportation plans, programs, and projects so that a safe, efficient transportation system reflecting the needs and interests of all stakeholders can be provided.

INCOG Transportation Planning intends to pursue the public participation activities outlined here, but also any additional activities deemed effective and appropriate. In accordance with Title VI of the Civil Rights Act and the Americans with Disabilities Act, all activities will be held in formats and locations that are accessible and meaningful.

RELATED PROJECTS

Regional Transportation Plan

The Regional Transportation Plan (RTP) has at least a 20 year horizon and is necessary for the effective programming and implementation of transportation improvements in the Tulsa Transportation Management Area (TMA). The RTP identifies the various transportation systems: roadways, public transportation (or transit), bicycle/pedestrian, and freight systems desired for the metropolitan region, as well as how the transportation modes interrelate with each other, and how to best integrate land use and planning.

All activities will be integrated with the City of Tulsa comprehensive planning process beginning in 2008.

Public participation is a key component of the RTP planning process. For the Connections 2035 RTP, public outreach activities include:

Survey – A scientifically significant survey, representative of the demographic makeup of the Tulsa TMA, was conducted in fall 2006. A follow-up survey will be conducted in summer 2008. The survey is an opportunity for over 800 households to provide input on a variety of transportation topics, including public transit and rail.

Visioning Retreat – In October 2007, community leaders, transportation providers, and agency representatives met to set the direction for the RTP. Their initial input and continued participation will help guide the final plan.

Local government presentations – INCOG staff have made presentations to city councils throughout the Tulsa TMA to share information about the planning process and to provide an opportunity for public input. This presentation cycle will be repeated at key milestones in the planning process or upon request.

Scenario meetings – Residents of the Tulsa TMA will be invited to a series of public meetings in fall 2008 to discuss and refine scenarios for the 2035 multi-modal transportation system.

Local events – INCOG staff will participate in local events, such as the Tulsa State Fair, to gather comments and present new information to residents of the Tulsa TMA.

Newsletter – A quarterly newsletter provides updates on the planning process to the over 3,000 members of the INCOG database.

Website – For those unable to attend public meetings, all information is posted on the Connections 2035 website: www.incog.org/transportation/connections2035, or by request.

Coordinated Plan

In May 2007, the INCOG Board of Directors adopted the Coordinated Public Transit-Human Services Transportation Plan, which specially focuses on the transportation needs of elderly individuals, persons with disabilities, and low-income individuals. The plan endorses the creation of an ongoing planning council, comprised of local and tribal government representatives, organization leaders, and transit providers, to guide the implementation of the plan actions. The actions include the creation of a Mobility Management Center, dedicated funding for a comprehensive, multimodal transportation system, and expansion of the existing transit system to include arterial transit routes. A summary will be distributed after each meeting to council members and the INCOG database. The summary will also be posted on the INCOG Coordinated Plan website: www.incog.org/transportation/coordinatedplan.htm. During milestones of the implementation process, input will be solicited from organizations, transportation providers, and local governments as well as transit users and other residents through public open house meetings, direct mailings, and the website. These groups will also be asked to assist in identification of potential arterial transit routes and functions of the Mobility Management Center.

STRATEGIES SPECIFIC ACTIVITIES

Blog

The *What About Rail?* blog provides as an opportunity for residents, community leaders, planners, and organization representatives in the Tulsa TMA to discuss rail and related topics. The blog will be officially launched April 24, 2008, but has operated in the preceding month as an opportunity to build enthusiasm for the What About Rail? public open house. Although topics are posted by INCOG, area residents are encouraged to comment and provide future topics for discussion. Additional information will be posted on the INCOG Transportation Planning website: www.incog.org/transportation.

Strategies Ad Hoc Committee

Membership of the Ad Hoc committee, comprised of representatives of tribal, county, suburban, city governments, operators, and state agencies, will have continued input throughout the process.

Monthly Presentations

Members of INCOG Transportation Planning staff will make presentations at least monthly to groups including service agencies, non-profit organizations, chambers of commerce, and city, county, and tribal governments. These presentations may be made upon request by the organization or initiated by INCOG to ensure all residents, including traditionally underserved populations, have opportunities to participate in the planning process. Additional public open house meetings will be held as appropriate during key planning milestones.

Alternatives Analysis

During the alternatives analysis, residents and identified agencies will be notified at the onset of the process and will receive periodic updates through existing channels (e.g. website, newsletter, public meetings, council presentations). At completion of the analysis, a public open house will be held to discuss the final report and illicit input on next steps. If Environmental Clearance is required as part of this analysis, more intensive public outreach efforts, as per federal regulations, will be undertaken.

Demonstration Project

If the Alternatives Analysis supports development of a demonstration project, public outreach to residents, tribal and city government official, service agencies, non-profit organizations, and others will be elicited through existing channels.

Dedicated Funding for a Comprehensive, Multimodal Transportation System

Pursuing dedicated funding for a multimodal system will require support and input from the public, agency/government representatives, and the INCOG Legislative Coalition.

Regional Transportation Authority

Consolidating various transportation agencies into a regional authority will require the participation of all affected authorities and input from other affected agencies.

WHAT ABOUT RAIL?

Peer-to-Peer Event and Public Open House

The What About Rail? events will provide community leaders, transportation providers, and residents to discuss how rail has been implemented in other communities and also begin the dialogue of a multi-modal system in the Tulsa TMA. Through partnerships with the Federal Transit Administration, Tulsa Now, PlaniTulsa, Tulsa Metro Chamber, and Tulsa Young Professionals, INCOG coordinated an all-day symposium and an evening public open house to encourage participation from all segments of the population. Information about the events was distributed through the INCOG Transportation Planning website, the What About Rail? blog, direct mailings to the INCOG database, activities specific to the partner organizations.

Attendees and other interested parties will be continually involved through existing channels and other deemed appropriate.

A Synopsis of Passenger Rail Planning in the Tulsa Region

Prepared by INCOG Transportation Planning Division, March 2008

ODOT's Carter-Burgess study in 2001 analyzed the potential for high-speed passenger rail service in several corridors connecting Tulsa to Oklahoma City, Kansas City and Saint Louis. The study recommended a multi-year program for implementing rail service from Oklahoma City to Tulsa and from Tulsa to Kansas City. The results of that study were included in Destination 2030, the long range transportation plan for the Tulsa region, adopted by INCOG in 2005.

In 2002 the Federal Railroad Administration designated 10 high speed rail corridors in the nation. Among the 10 corridors was the South-Central High Speed Rail Corridor connecting San Antonio, Austin, Fort Worth, Oklahoma City, and Tulsa. Although there is no dedicated federal funding identified for the corridor, there is effort in Texas to pursue the development of the corridor.

Following a recommendation in Destination 2030, The Metropolitan Tulsa Transit Authority (MTTA) conducted a study of the SH-51 Broken Arrow Expressway corridor to consider the feasibility of passenger rail service and bus rapid-transit connecting downtown Tulsa and downtown Broken Arrow as an alternative to highway expansion. The study determined that both alternatives would be feasible and recommended more rigorous analysis to address requirements for federal funding.

As a result of that study MTTA and INCOG collaborated to submit an application to the Federal Transit Administration for funding to conduct an Alternatives Analysis of the SH-51 Broken Arrow Corridor. The FTA approved $136,000 for analysis, approximately a quarter of the estimated cost to conduct the full Alternatives Analysis. MTTA is seeking local matching funds before beginning the consultant selection process.

MTTA presented the results of the Feasibility Study to INCOG's Transportation Policy Committee. The committee formed an ad hoc committee to review the existing rail corridors in the region and identify actions or recommendations for advancing passenger rail service in those corridors as part of an integrated, interdependent transportation system strategy. In that effort, INCOG Transportation staff have met with leaders of the City of Tulsa, Broken Arrow, Owasso and Jenks, to discuss the possibility of rail and it's consideration in their respective plans and goals for their communities. The concept of passenger rail connecting these communities was unanimously and enthusiastically embraced.

INCOG has initiated the development of the regional transportation plan, Connections 2035, and is working with the City of Tulsa in the update of the comprehensive plan, Planitusa, to integrate our respective efforts, particularly with consideration to future passenger rail and its coordination with land development policy. The City of Tulsa is also creating a plan for redeveloping two sites north and south of downtown owned by the City and connecting them with passenger rail service through downtown. Further, the mayors of Tulsa and Oklahoma City have issued a joint legislative agenda that specifically identifies a coordinated approach to advancing passenger service in the metropolitan regions of the state.

Last year Missouri requested Amtrak to conduct a study evaluating the potential for Amtrak service from Saint Louis to Springfield. ODOT further requested Amtrak to subsequently evaluate the Tulsa to Oklahoma City line. In May 2007, Amtrak issued a report on the Saint Louis to Springfield route stating, in effect, that due to capital improvement costs and an inability to compete in a timely fashion with automobile travel, the potential for service did not appear viable. ODOT initially expected Amtrak to issue a report on the Tulsa to Oklahoma City lines in November of 2007, but due to further refinements to financial and scheduling data, Amtrak has yet to issue that report to ODOT.