Appendix F

Austin Factor Memo

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Austin Economic Factors

In September, EGRSO staff was requested to begin working on assessing the potential economic impacts to Austin resulting from a future urban rail system and developing an analytic tool that could be used to help calculate the estimated benefits that could be derived from new development locating near an urban rail stop. The main areas of focus used to assess the economic impacts are as follows:

1. **Taxes** – The city property tax and sales tax revenues to be achieved.

2. **Jobs** – The number of jobs created by investment near urban rail stops.

3. **Savings** – The amount of personal savings by commuters who are able to abandon their vehicle in favor of utilizing urban rail.

4. **Business Productivity** – The amount of productivity gains businesses can expect to achieve by reducing commute times for employees.

5. ***Health Benefits –** The amount of CO2 (NOX) emissions (tons) reduced as a result of less vehicle use in favor of urban rail, benefits of leading a less sedentary lifestyle.

6. ***Capital Infrastructure Savings** – The amount of City dollars saved by investing in urban rail as opposed to public infrastructure used to support cars and urban growth (parking, etc.).

Each section above will be addressed individually within this document in an effort to provide ease of understanding and clarity to each factor. It should be noted, however, that the research and resulting data are not necessarily specific to Austin and that any one of these factors could be a full study in and of themselves. An example of this challenge is outlined in trying to determine the personal savings for a family / individual generated per vehicle that is not owned and operated. The average cost is derived from a study released by the U.S. Department of Labor's U.S. Bureau of Labor Statistics. The study was based on national averages related to vehicle ownership costs across the U.S. and is not specific to Austin. Therefore, the argument could easily be made that these figures are not specifically *"Austin Factors"*, but rather National factors that may be applicable to Austin. Nonetheless, significant time and research

was allocated toward this initiative with the goal of creating a document that can be used to help frame the perceived economic benefits of an Urban Rail System in Austin.

1. Taxes

Property taxes:

For the baseline analysis of value capture, we are using the Urban Rail Economic Impact Evaluation studies done by Capital Market Research for the Budget Office. Capital Market Research generally included properties within ¼ mile of a proposed transit stop in their studies, which is consistent with methodologies used in other value capture studies available. [1] It is generally recognized that transit ridership catchment areas can reach beyond the typical ¼ to ½ mile radius cited in value capture studies, since transit access can be enhanced by transfer from bus, bicycle and even automobile. However, there is little, if any evidence in the literature that property value premiums are experienced beyond the ¼ to ½ mile walking distance. The table below summarizes the ROI of the urban rail investment based on the Capital Market Research studies:

Urban Rail TIF Studies Total Station Area Tax Revenue (through 2029)

Urban Rail Segment	Segment Cost	Station Location	Total Tax Value	Total w/o Rail	Rail Influence	Rail Influence %	Segment ROI %
Riverside East	$398,000,000	Discovery	$14,237,089	$10,905,765	$3,331,324	23.40%	2.28%
		Clubview / Brassie (Grove Blvd)	$12,575,252	$6,813,074	$5,762,178	45.82%	
Riverside	$300,000,000	Parker / Pleasant Valley	$101,633,937	$84,623,162	$17,010,775	16.74%	5.67%
Downtown	$315,000,000	Downtown (inc. West Campus, Capitol Complex & South Shore)	$933,557,612	$859,436,637	$74,120,975	7.94%	23.53%
Manor Rd	$345,000,000	MLK TOD (inc. Manor in TOD)	$32,734,305	$20,929,207	$11,805,098	36.06%	3.47%
		Manor Rd (inc. MLK TOD)	$83,007,729	$71,023,215	$11,984,514	14.44%	
Red Line	$110,000,000	Crestview Station TOD	$46,067,153	$40,314,746	$5,752,407	12.49%	5.23%
		Overall Total	**$1,223,813,077**	**$1,094,045,806**	**$129,767,271**		

- ***Based on this information, an overall average ROI for urban rail investment based on the Capital Market research studies can be calculated at a rail influence of +22.41% on the total tax value of facilities located within ¼ mile of a transit stop. The individual rail influence factors can be applied on a project-by-project basis as development proposals come forward, and estimate of the additional property taxes collected on the land improvements can be calculated based on the construction value and rail influence factors.***

[1] Capturing the Value of Transit, Center for Transit-Oriented Development, Prepared for: United States Department of Transportation – Federal Transit Administration

Sales taxes:

The impact to the City in terms of additional sales taxes generated from new development at urban rail stops is more difficult to calculate as they are determined on a project-by-project basis. For example, the development of a new professional office building will have a much different impact in terms of sales taxes generated than would the development of a new retail establishment. For the purpose of calculating a local sales tax impact created by a retail project, the impact can be determined by taking the average gross retail sales per square foot multiplied the tax rate. For example, the average Home Depot retail store is 105,000 square feet with annual sales of $365 per square foot ($38 million annually). Based on these figures, the local sales tax impact of a Home Depot retail operation (or similar big box retailer) can be calculated as follows:

- ***105,000 sq/ft x $365 = $38,000,000 in annual sales***

- ***$38,000,000 x *.01% (local sales tax rate) = $280,000 in annualized local sales taxes generated***

**The local 2% sales tax assessed by the City of Austin is split 50/50 between the City and the Metropolitan Transit Authority.*

A similar analysis can be performed for any future proposed development project based on existing or know sales tax data for the various types of retail.

This calculation makes the assumption that the development is new to the area and does not result in shifting from one location to another. Thus, the true economic impact of any new development must first consider whether a shift did occur and if so, discount the previous benefits of the shuttered store in order to generate a net benefit.

2. <u>Job creation</u>

Number of jobs created by investment near urban rail stops:

The number of jobs created by investment in and around transit oriented districts can be estimated using the gross square footage of the new commercial development, broken down by the type of usage and the following CAMPO Generalized Employment per Land Use Factors [which are based on the ITE Trip Generation, 7th Edition, APA Planners Estimating Guide]:

Commercial Development Type	Median Square Feet per Worker
Office	250
Retail	1000
Medical	285

The amount of direct new taxes generated by employees:

For this analysis, a WebLOCI analysis was performed using the current median wage for the Austin MSA of $36,000 annually. Based on this analysis, the estimated net impact per job is $28 per year. This impact includes an estimate of both positive gains, such as sales and property taxes, offset by public sector costs such as infrastructure, public safety, and other general government costs.

3. Personal Savings for Individuals and Families

The amount of personal savings generated by commuters:

Government Estimates

According to *Consumer Expenditures in 2006*, released in February of 2008 by the U.S. Department of Labor's U.S. Bureau of Labor Statistics, the average vehicle costs $8,003 per year to own and operate. The breakdown of the figure comes to $3,421 for purchasing the vehicle, $2,227 in gasoline and motor oil expenses, and $2,355 in other vehicle-related costs. As one might expect, the least affluent spend less than the most affluent. In fact, the nation's most affluent quintile spends a whole lot more, with their $15,198 in annual vehicle expenses coming in at nearly six times the $2,856 spent by the least affluent. An overview of vehicle expenses based on household income is provided in the *table below.

Item	Lowest 20% of Income Earners	Second 20% of Income Earners	Third 20% of Income Earners	Fourth 20% of Income Earners	Highest 20% of Income Earners
Total	$2,856	$5,058	$7,310	$9,571	$15,198
Purchase	$987	$1,954	$2,940	$3,774	$7,442
Gasoline/Oil	$991	$1,624	$2,182	$2,829	$3,508
Other	$879	$1,489	$2,188	$2,968	$4,248

** 2006 household cost of owning a vehicle per quintiles of income.*
Source: Bureau of Labor Statistics

Statistics from the American Automobile Association

The American Automobile Association (AAA) also compiles statistics on the cost of driving, and has been doing so since 1950. In its 2007 *Your Driving Costs* survey, it summarizes the cost of gasoline, maintenance, insurance, license and registration, loan finance charges and depreciation costs for a variety of vehicles. The data is summarized in the *table below.

2007 Model	10,000 Miles per Year	15,000 Miles per Year	20,000 Miles per Year
Small Sedan	50.5 cents	41.4 cents	37.4 cents
Medium Sedan	61.8 cents	52.5 cents	48.2 cents
Large Sedan	74.2 cents	62.5 cents	56.8 cents
4WD SUV	81.5 cents	66.6 cents	59.6 cents
Minivan	69.2 cents	57.6 cents	52.2 cents

**Yearly cost per mile of various vehicles based on number of miles driven*
Source: American Automobile Association

- ***Based on this information, a conclusion can be drawn that the average savings for individuals and family's per vehicle that they do not own and operate is $7,998.60 annually.***

4. <u>Business Productivity</u>

The amount of productivity that businesses can expect to achieve through reduced commute times:

We were asked to consider a productivity measure for recovered hours lost due to arriving late to work after being stuck in traffic. However, according to "The Route to Sustainable Commuting," "[I]t is difficult to put an economic value on congestion. It is not possible to determine the specific value of time lost (the "opportunity cost") by car commuters on congested roads without knowing how else this time might have been used. For instance whether it is lost leisure time or work time, and even then assigning economic value to this time is extremely difficult." The assumption that using alternative travel methods to get to work will result in being late to work less often and therefore to increased productivity appears to be inaccurate. In fact, using alternative transportation can lead to being late to work more often in some cases, if buses or trains are late or connections are missed. In addition, as the quote above mentions, it is impossible to know how much of the lost time would have been productive, and whether employees would simply make up that time lost by working harder or faster, or staying later. Most people are able to accurately gauge how long they will be stuck in traffic, and allow sufficient commuting time in order to get to work on time.

The lost productivity scenario changes for businesses that are involved in transportation or service-related industries which require their employees to travel as a part of doing business. For these types of businesses, the increased costs of delay and fuel as a result of congestion are more readily apparent. The result is that a company must either raise prices to sustain current margins or simply absorb the additional cost. If the company decides to increase prices, its competitiveness can be jeopardized. Conversely, failing to raise prices may negatively impact profitability. According to the 2011 Annual Urban Mobility

Report released by the Texas Transportation Institute's Mobility Data for Austin, the total annual delay for Austin is 31,038 person-hours resulting in an annual excess of consumed fuel total of 8,425 gallons with an average annual fuel cost of $2.56 per gallon for gasoline and $2.83 per gallon for diesel. Based on this information, we can ascertain the following:

- ***8,425 (additional gallons of fuel consumed annually) x $2.69 (avg. cost of gasoline and diesel fuel) = $22,705.38 in additional annual fuel costs due to congestion delay.***

Taking this a step further, a report titled "Economic Impact of Public Transportation Investment" prepared in 2009 by the Economic Development Research Group, indicates that 45% of the total congestion costs are borne by businesses while the remaining 55% is borne by households. Coupling this 45/55 split with the commercial cost per hour of time ($88.12), the following assumption can be made:

- ***Total annual cost of congestion delay for Austin (31,038 hours) x 45% (13,967.1) x commercial cost per hour ($88.12) = $1,230,781 in annual delay costs for businesses in the Austin area.***

Conversely, assessing this same 45/55 cost split with the non-commercial cost per hour of time ($16.30), the following assumption can be made:

- ***Total annual cost of congestion delay for Austin (31,038 hours) x 55% (17,070.9) x non-commercial cost per hour ($16.30) = $278,256 in annual delay costs for households.***

Summary

While the above referenced indicators are intended to provide calculable measures to assess the potential economic impacts of an Urban Rail System in Austin, they are merely a starting point for a much broader discussion and subsequent studies. An example of where further studies may be required is in determining estimated ridership for urban rail and whether such ridership figures result in reduced vehicle use and associated congestion versus transferring ridership from an existing mode of public transportation such as Capital Metro busses. Because forecasting relies exclusively on a variety of inputs, more studies are needed in order to produce more definitive patterns. This will strengthen the argument that urban rail not only helps to reduce congestion in urban areas, but that there are significant economic benefits associated with a public investment in urban rail for the City of Austin.