Metro Transit

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To: Mayor Cieslewicz
        Madison City Council
        Madison Transit and Parking Commission
        Metro Funding Partners

From: Chuck Kamp, Metro GM

Subject: Metro's 2009 Approved Budget and Fare Elasticity Estimates

The decisions of the Madison Common Council approving Metro's 2009 budget in November, including a fare increase, and the Madison Transit and Parking Commission (TPC) not approving the proposed transit fare increase earlier this month, leave Metro's 2009 budget unbalanced. The estimated imbalance for the system is $762,000, and for the City of Madison is $682,000.

One of the issues that came up on December 9th during the TPC's deliberation on the proposed fare increase relates to the accuracy of Metro's estimation methodology for predicting ridership and revenue impacts, vs. another methodology based on a study by the American Public Transportation Association (APTA).

Metro has reviewed the APTA model relative to the Metro model, and concludes that the Metro model is a more appropriate predictive tool to use for ridership and revenue estimates than the APTA model. Key background information and findings include:

- Models of elasticity are designed to estimate the ridership loss from a fare increase. One standard model used throughout the transit industry is a fare elasticity of –0.3 (called the Simpson-Curtin index based on the names of the economists who developed it many years ago), which means for every 10% fare increase, ridership is estimated to drop 3%.
- Metro uses an elasticity model with different elasticities for different fare categories (cash, 10 ride tickets, 31 day passes, etc.), ranging currently from –0.10 to –0.30.
- Metro's model has evolved over the past several years, and is adjusted based on actual experience. For example, for the 2005 fare increase, Metro's model came very close to predicting revenues but was off on ridership. Ridership actually increased (looking only at those fare categories that went up - see attached). At the time, the model used elasticity figures ranging from –0.2 to –0.3, but since ridership actually went up slightly, those figures were adjusted to –

0.1 to –0.3, which were used by Metro in the ridership and revenue estimates presented at the 12/9 TPC meeting. Metro's model also estimates shifts between fare ridership categories.

- The APTA model is a 1991 model that has not been updated in the past 17 years. It does not address shifts between fare categories (ie., cash riders shifting to 10-ride ticket rides, etc.). The model also uses the same elasticity for all fare categories. For smaller cities (under 1,000,000 in population), the elasticity estimate from the 1991 study was –0.43, which was used in the alternate model presented at the 12/9 TPC meeting. Finally, the APTA model was developed before transit systems across the country, including Metro, tested deep discount fare structures that mitigated the impact from fare increases. In other words, the APTA model is especially limited in its usefulness when applied to transit systems with deep discount fare structures. Metro's current fare structure includes a 20% discount from the $1.50 cash to 10 ride ticket cost, and a 37% discount to a monthly pass.

- The Metro Transit service area is unique, and simply does not compare meaningfully with smaller cities when peer analyses are done. Attached to this document is a copy of the peer analysis performed as part of the performance audit currently underway. It shows Metro ranks #1 in all major performance categories when compared to transit systems with similar population (see page 5 and 6), and therefore a service level peer group is established with a range of populations between 334,000 to 1,048,000 people, with Metro being the lowest in population at 238,000. In short, Metro compares more meaningfully with larger cities. This is another reason why the –0.43 elasticity from the APTA model for small cities is less likely to accurately predict ridership and revenue changes from fare increase.

- The Comptroller for the City of Madison, Dean Brasser, reports that the –0.3 Simpson-Curtin index was used back in the 1980's, and it provided a conservative estimate of revenue increases. Put another way, the actual negative ridership impact from fare increases was smaller than what the Simpson-Curtin index predicted.

- Abrams-Cherwony, the transit consulting firm doing the Metro performance audit under a Wisconsin DOT grant, has sent two memo's reviewing Metro's estimation technique, including a recent memo dated 12/16 that compares Metro's technique and APTA's. That memo concludes that Metro's model is a better prediction tool than the APTA model.

- Metro ridership has been increasing by 4 – 6% annually over the past several years. 2008 bus ridership is estimated to be 13,369,230. Metro projects 2009 ridership to be 13,550,615 with the fare increase contained in the approved budget. Cash and ticket ridership is projected to drop, but other categories, most notably unlimited ride passes, are projected to increase by more than the cash/ticket decrease.

Please contact me if you have any questions about the information or conclusions presented here.