

Northwest Arkansas Transit Development Plan

Technical Memorandum #8 TDP Financial Analysis

Prepared for:



**RAZORBACK
TRANSIT**

Submitted by:
Connetics Transportation Group
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1.0 Introduction

The Northwest Arkansas Regional Planning Commission (NWARPC) is leading the effort to complete a Transit Development Plan for the Northwest Arkansas region. The overall objective of this project is to identify near-term, short-range and long-range service recommendations that provide an integrated regional public transportation network and expands opportunities for Northwest Arkansas residents to utilize this network. Several work tasks are being completed to achieve this objective including:

- The collection of Ozark Regional Transit (ORT) and Razorback Transit ridership data at a stop level and trip level basis;
- An on-board survey of ORT and Razorback Transit riders;
- A review of historical ridership trends for both systems;
- Input from staff and drivers for both systems;
- A comprehensive evaluation of existing transit services on a systems and route level basis that is based on collected data;
- Input from representatives of key stakeholder groups, a project advisory committee and from input received at public meetings; and
- A latent demand analysis that is based on existing and projected demographic characteristics of the Northwest Arkansas region.

This Technical Memorandum is the last of eight Technical Memorandums that have been prepared over the past several months. This Technical Memorandum presents anticipated capital and annual operating and maintenance (O&M) costs for each phase of the TDP's defined time period – near-term (1-2 years), short-range (3-5 years) and long-range (6-10 years and beyond). Anticipated funds from passenger fares, federal and state sources are then identified, as well as funds required from local sources.

2.0 Existing Transit Revenues

Prior to determining financial requirements for the TDP service plans, it is important to have an understanding of how existing transit services are funded.

2.1 Existing Revenue Sources

Ozark Regional Transit's (ORT's) existing operating budget is approximately \$2.6 million. Operating revenues for Ozark Regional Transit (ORT) come from a variety of sources.

- Federal 5307 (Small Urban Formula) - \$1.16 million
- Federal 5311 (Rural Formula) - \$50,000
- Federal 5316 (JARC) - \$167,000
- State - \$200,000
- Local Governments - \$700,000
- Lifestyles & NWAC (local JARC match) - \$167,000
- Miscellaneous (e.g., advertising) - \$60,000
- Passenger Fares - \$90,000

Razorback Transit's current operating budget is approximately \$2.35 million. Primary sources of operating funds for Razorback Transit are as follows:

- Federal 5307 (Small Urban Formula) - \$950,000
- State - \$450,000
- Local Governments - \$50,000 (Fayetteville)
- Miscellaneous (e.g., advertising) - \$45,000
- University of Arkansas - \$855,000

2.2 5307 Program

As noted above, both ORT and Razorback Transit receive a large portion of funding from the Federal Transit Administration's (FTA's) 5307 program. 5307 is a formula program. ORT and Razorback draw funds from 5307's "Small Urban Area" program (for urban areas under 200,000 population). These funds can be used for capital purchases (such as buses), operations and preventative maintenance. 5307 funds can be used for up to 50% of operations costs and 80% of capital costs. FTA 5307 funds flow first to the State, and then to the two transit agencies. ORT and Razorback Transit currently have an agreement in place that divides the Northwest Arkansas region's 5307 funds, with 55% going to ORT and 45% going to Razorback Transit.

It is anticipated that the 2010 Census will result in the Northwest Arkansas region being reclassified as a "Large Urban Area" under the 5307 program (i.e., the urbanized area population will be greater than 200,000). Transit agencies drawing funds from 5307 under the Large Urban Area portion of the program can use those funds only for capital purchases and preventative maintenance. 5307 funds will no longer be used towards operations. It is anticipated that Northwest Arkansas will be impacted by this program change in federal fiscal year 2014 (i.e., October 1, 2013). The estimated loss of 5307 funds that are currently applied towards operations is \$950,000 for ORT and \$650,000 for Razorback Transit. The loss of 5307 funds towards operations will require replacement funding from other sources, if transit service in the Northwest Arkansas region is to remain at existing levels.

3.0 Cost Estimates

Implementation of TDP recommendations will increase the funding required for both annual operations and maintenance, and capital purchases. Following are estimates of those costs.

3.1 Operating and Maintenance Costs

Annual O&M costs were estimated by applying a cost per revenue-hour rate to the proposed ORT and Razorback Transit service plans. A rate of \$60 per revenue-hour was applied to exiting ORT cutaway service and to Razorback service. A rate of \$75 per revenue-hour was applied to regular fixed route ORT bus service in the short and long-range plans, when it is assumed ORT will be operating large buses and will require additional support staff. For ORT paratransit, it was assumed that paratransit costs would increase in conjunction with expanded local route service, and be equivalent to 20% of fixed route costs (based on ratios of paratransit costs to fixed route costs for peer systems). Table 3-1 presents anticipated costs for each service plan scenario. Costs are presented in current year (2011) dollars. As noted in this table, ORT's costs grow substantially for both the Short-Range and Long-Range scenarios.

Table 3-1
Annual O&M Cost Estimates (2011 dollars)

ANNUAL O&M COSTS	Existing	Change from Exist.	Near-Term	Change from N.T.	Short-Range	Change from S.R.	Long-Range
ORT O&M Costs							
<i>Cutaway</i>							
Rev. Bus-Hours	\$29,116	0	29,116	-22,486	6,630	21,064	27,694
Hourly Cost	n/a	\$60.00	n/a	\$60.00	n/a	\$60.00	n/a
Total O&M	\$1,850,000	\$0	\$1,850,000	-\$1,349,200	\$500,800	\$1,263,800	\$1,764,600
<i>Standard Bus</i>							
Rev. Bus-Hours	n/a	0	0	112,710	112,710	88,224	200,934
Hourly Cost	n/a	\$75.00	n/a	\$75.00	n/a	\$75.00	n/a
Total O&M	\$0	\$0	\$0	\$8,453,300	\$8,453,300	\$6,616,800	\$15,070,100
<i>Paratransit</i>	<i>\$750,000</i>	<i>\$0</i>	<i>\$750,000</i>	<i>\$1,040,800</i>	<i>\$1,790,800</i>	<i>\$1,576,100</i>	<i>\$3,366,900</i>
Total ORT O&M Cost	\$2,600,000	\$0	\$2,600,000	\$8,144,900	\$10,744,900	\$9,456,700	\$20,201,600
Razorback Transit O&M Costs							
Rev. Bus-Hours	33210	227	33,437	2,989	36,426	0	36,426
Hourly Cost	n/a	\$60.00	n/a	\$60.00	n/a	\$60.00	n/a
Total Razorback O&M Cost	\$2,350,000	\$13,600	\$2,363,600	\$179,300	\$2,542,900	\$0	\$2,542,900
TOTAL REGIONAL O&M COSTS	\$ 4,950,000	\$13,600	\$4,963,600	\$8,324,200	\$13,287,800	\$9,456,700	\$22,744,500

Note: Razorback Transit's annual costs are inclusive of both fixed route and paratransit costs.

3.2 Capital Costs

The TDP Short-Range and Long-Range service plans reflect significant expansion of transit services in the Northwest Arkansas region, and will require the purchase of new buses, enhanced passenger amenities at stops, the construction of new transit centers, park & ride lots and a new bus maintenance facility. Capital requirements are identified in *Tech Memo 7 –Service Plan Recommendations*. Key assumptions used to develop capital cost estimates were as follows:

- A unit cost of \$70,000 has been used for small body on chassis buses.
- A unit cost of \$400,000 has been used for standard (30' to 40') buses.
- Bus expansion figures are based on vehicle requirements identified for each TDP phase.
- Bus replacement figures typically assume 2 to 3 replacement vehicles per year for both fixed-route and demand-response service.
- A unit cost of \$1.25 million has been used for primary transit centers and \$750,000 has been assumed for secondary transit centers. It is assumed that transit centers will typically be at locations that do not require the purchase of right-of-way (e.g., through developer land contributions, use of street right-of-way, etc.).
- A unit cost of \$250,000 has been used for park & ride lots. It is assumed that park & ride lots will typically be at locations that do not require the purchase of right-of-way (e.g., through developer land contributions, lease arrangements with churches or shopping centers). The unit cost of \$250,000 is assumed primarily for potential capital improvements (e.g., new access drives, re-paving of lots, signage).
- \$15 million has been assumed for a new bus maintenance facility. This figure is based on cost estimates for other transit property bus maintenance facilities for similar sized systems (i.e., storage for 50 to 75 standard buses).
- An allowance has also been identified for bus stop enhancements, such as sidewalks, signalized crosswalks, bus stop signage and passenger shelters. The allowance has been assumed for both ORT and Razorback Transit.

The Near-Term Plan assumes only replacement vehicles per year for both ORT and Razorback Transit. No other capital costs are included in the Near-Term Plan. The Short-Term Plan requires significant expansion of vehicle fleet for ORT (standard buses). It also assumes the construction of primary and secondary transit centers (described in Tech Memo #7), a new maintenance facility and bus stop enhancements. Table 3-2 presents the capital cost requirements for each TDP phase. Costs are presented in 2011 dollars.

**Table 3-2
Capital Cost Estimates (2011 dollars)**

Operator	Cost Item	Near-Term	Short-Range	Long-Range	Total 10-Year Costs
ORT	Vehicle Capital Costs				
	<i>Cutaway Vehicles</i>				
	Replacement Fleet Vehicles	6	2	3	11
	Expansion Fleet Vehicles	0	0	11	11
	<u>Unit Cost</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>n/a</u>
	<u>Total Cost</u>	<u>\$420,000</u>	<u>\$140,000</u>	<u>\$980,000</u>	\$1,540,000
	<i>Standard Bus</i>				
	Expansion Fleet Vehicles	0	38	18	56
	<u>Unit Cost</u>	<u>\$400,000</u>	<u>\$400,000</u>	<u>\$400,000</u>	<u>n/a</u>
	<u>Total Cost</u>	\$0	\$15,200,000	\$7,200,000	\$22,400,000
	<i>D.R. (Paratransit) Vehicles</i>				
	Replacement Fleet Vehicles	6	9	15	30
	Expansion Fleet Vehicles	0	10	0	10
	<u>Unit Cost</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>n/a</u>
	<u>Total Cost</u>	<u>\$420,000</u>	<u>\$1,330,000</u>	<u>\$1,050,000</u>	<u>\$2,800,000</u>
	<u>Total Vehicle Costs</u>	<u>\$840,000</u>	<u>\$16,670,000</u>	<u>\$9,230,000</u>	<u>\$26,740,000</u>
	Passenger Facility Capital Costs				
	<i>Primary Transit Ctrs.</i>				
	NWACC		\$1,250,000		
	Springdale Wal-Mart		\$1,250,000		
	Arvest Ball Park			\$1,250,000	
	NWA Mall/Wal-Mart			\$1,250,000	
	Downtown Fayetteville		\$1,250,000		\$6,250,000
	<i>Secondary Transit Ctrs.</i>				
	Bentonville Wal-Mart		\$750,000		
	Rogers Wal-Mart			\$750,000	
	Pinnacle Hills		\$750,000		
	East Springdale		\$750,000		
	MLK Wal-Mart			\$750,000	\$3,750,000
	<i>Park-and-Ride Lots</i>				
	Bella Vista			\$250,000	
	Pinnacle Hills			\$250,000	
	Arvest Ball Park			\$250,000	
	MLK Wal-Mart			\$250,000	\$1,000,000
	<i>Bus Stop Enhancements</i>		\$500,000	\$500,000	\$1,000,000
	Total Pass. Facility Costs	\$0	\$6,500,000	\$5,500,000	\$12,000,000
	Maintenance Facility Costs		\$15,000,000		\$15,000,000
	TOTAL ORT CAPITAL COSTS	\$840,000	\$38,170,000	\$14,730,000	\$53,740,000

Table 3-2 (Continued)
Capital Cost Estimates (2011 dollars)

Operator	Cost Item	Near-Term	Short-Range	Long-Range	Total 10-Year Costs
Razorback	Vehicle Capital Costs				
	Standard Bus				
	Replacement Fleet Vehicles	4	6	10	20
	Expansion Fleet Vehicles	0	1	0	1
	<u>Unit Cost</u>	<u>\$400,000</u>	<u>\$400,000</u>	<u>\$400,000</u>	<u>n/a</u>
	<i>Total Cost</i>	\$1,600,000	\$2,800,000	\$4,000,000	\$8,400,000
	D. R. (Paratransit) Vehicles				
	Replacement Fleet Vehicles	2	3	5	10
	Expansion Fleet Vehicles	0	1	1	2
	<u>Unit Cost</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>\$70,000</u>	<u>n/a</u>
	<i>Total Cost</i>	\$140,000	\$210,000	\$350,000	\$700,000
	Bus Stop Enhancements	\$0	\$75,000	\$75,000	\$150,000
TOTAL RAZORBACK CAPITAL COSTS		\$1,740,000	\$3,085,000	\$4,425,000	\$9,250,000
TOTAL REGIONAL CAPITAL COSTS		\$2,580,000	\$41,255,000	\$19,155,000	\$62,990,000

4.0 Revenue Sources

Potential revenue sources that have been identified for this TDP include farebox revenues, federal funds, state funds and local funds. This chapter presents potential revenues for the first three revenue sources, and then identifies the amount of local funds required to match projected expenses.

4.1 Potential Farebox Revenues

Farebox revenues are based on projected ridership, multiplied by the average fare. Farebox revenues only apply to ORT service, since Razorback Transit does not charge a fare. This TDP assumes Razorback continues to be a fare-free system. Additional fare revenues could be generated if Razorback Transit were to charge for U of A trips. This will, however, require the purchase and installation of farebox machines on Razorback buses and cash handling staff and procedures at the maintenance facility. Consideration will also need to be given to potential bus loading impacts (i.e., longer times at bus stops) if fares were charged.

ORT Near-Term ridership is assumed to grow by 3 percent each year in response to proposed near-term recommendations in this TDP. ORT's current fixed route ridership averages about 7.5 riders per revenue bus-hour. This growth will raise average ridership to about 8 riders per revenue hour. For purposes of this TDP, short and long-range ridership (unlinked trips) was estimated by applying the following factors:

- Local Route Service – 18 riders per revenue-hour
- Regional Route Service – 15 riders per revenue-hour
- Rural/Flex Route Service – 7 riders per revenue-hour

Ridership per revenue-hour for other transit systems similar in size to what is proposed in the Short and Long-Range plans (such as Little Rock and Tulsa) ranges from 15 to 27 riders per revenue-hour, with an average of 20 riders per revenue-hour. This TDP assumes rates below the peer system average, for population and employment densities in the Northwest Arkansas region are generally lower than the peer systems.

The current cash fare for ORT is \$1.25. For purposes of this TDP, the cash fare is assumed to remain the same (in 2011 dollars) for all future transit services. The average fare collected, however, will be less than the cash fare, due to pass discounts, elderly/student discounts, free transfers, etc. For purposes of this analysis, the average fare is assumed to be 70% of the cash fare, which is more than existing. It is important to note that as transit services are expanded in Northwest Arkansas, alternative fare structures should be considered, such as a zonal fare structure (i.e., fares that increase based on trip distance).

Table 4-1 presents potential farebox revenues from expanded ORT service. Revenues are presented in 2011 dollars. As previously noted, Razorback Transit is not included in this table; for it is assumed Razorback Transit continues to be fare-free.

**Table 4-1
ORT Potential Farebox Revenues (2011 dollars)**

	Near-Term	Short-Range	Long-Range
Local Route Service			
Rev. Bus-Hours	29,116	89,760	116,825
Annual Ridership	232,900	1,615,700	2,102,900
Cash Fare	\$1.25	\$1.25	\$1.25
Average Fare Collected	\$0.33	\$0.88	\$0.88
Annual Farebox Revenues	\$76,900	\$1,413,700	\$1,840,000
Regional Route Service			
Rev. Bus-Hours	n/a	29,580	63,045
Annual Ridership	n/a	443,700	756,500
Cash Fare	\$1.25	\$1.25	\$1.25
Average Fare Collected	\$0.33	\$0.88	\$0.88
Annual Farebox Revenues	n/a	\$388,200	\$661,900
Rural/Flex Route Service			
Rev. Bus-Hours	n/a	n/a	21,064
Annual Ridership	n/a	n/a	147,400
Cash Fare	\$1.25	\$1.25	\$1.25
Average Fare Collected	\$0.33	\$0.88	\$0.88
Annual Farebox Revenues	n/a	n/a	\$129,000
Demand Response	\$75,000	\$179,100	\$336,700
TOTAL FAREBOX REVENUES	\$151,900	\$1,981,000	\$2,838,600
<i>(Fixed Route Farebox Recovery)</i>	<i>4.2%</i>	<i>20.1%</i>	<i>15.6%</i>

Farebox revenues for D.R. - assumed to be 10% of O&M costs

4.2 Federal Funds

As noted earlier in this Technical Memorandum, ORT and Razorback Transit presently receive 5307 funds that can be used towards capital purchases, preventative maintenance and O&M costs. In FY 2011, approximately \$2.1 million went to Northwest Arkansas, with ORT receiving 55% and Razorback Transit receiving 45%. These funds come from the “small urban area” portion of the 5307 program. It is anticipated that the 2010 Census will result in the reclassification of the Northwest Arkansas region into “large urban area”. ORT and Razorback Transit will still be eligible for 5307 formula funds. However, 5307 funds for large urban areas can only be applied towards capital purchases and preventative maintenance. The Arkansas State Highway and Transportation Department has estimated \$32.6 million could be available through 5307 funds for capital purchases and preventative maintenance

between 2012 and 2022. This estimate is based on current ORT and Razorback Transit services. Expanded transit services will bring more 5307 formula funds to the Northwest Arkansas region.

Other federal transit funds may also be available for Northwest Arkansas transit services, such as 5309 (the transit capital investment program) and 5316 (Job Access Reverse Commute – JARC). ORT currently receives JARC funds for NWACC and Lifestyles services. For purposes of this analysis, it is assumed that federal funding (primarily through 5307 and 5309) will be available for 80% of all capital costs. No federal funds have been assumed for operating after FY 2013. However, as noted above, 5307 funds can be applied to preventive maintenance.

ORT also receives some funds through 5311 for rural transportation. 5311 funds can be used for both operations and capital purchases. The amount currently received by ORT (approximately \$50,000), is assumed to remain constant throughout the TDP's 10-year time period.

4.3 State Funds

State funds for transit are available through a statewide rental car tax. ORT receives about \$200,000 in state funds through the rental car tax. Razorback Transit receives \$450,000 in state funds. This funding stream is also assumed to remain constant annually through the TDP's 10-year time period for both transit systems (in current year dollars).

4.4 Miscellaneous Revenues

ORT and Razorback Transit also receive other miscellaneous revenues through sources such as advertising. It has been assumed those miscellaneous revenues will continue to be received throughout the TDP's 10-year time period, at about \$50,000 each year for ORT and \$50,000 each year for Razorback Transit (in current year dollars).

4.5 Cash Flow Analysis

Total expenses for the TDP has been estimated by summing up annual O&M cost and capital costs for each of the following TDP time periods:

- Near-Term – 2012-2013 (2-years)
- Short-Range – 2014-2017 (3 years)
- Long-range – 2018-2022 (5 years)

Table 4-2 presents a cash flow analysis for the TDP service plan. Costs presented in this table are in 2011 dollars. The Short-Range Plan assumes a 3-year implementation period (e.g., 1/3 of Short-Range service expansion projects are implemented in 2014, another 1/3 in 2015 and the last 1/3 in 2016). A 3-year implementation period is also assumed for the Long-Range time period (2020 through 2022).

Farebox, federal and state funding revenues that are presented in Table 4-2 are based on the assumptions presented in this Technical Memorandum. Local funding requirements were determined by subtracting known revenues from total expenses. In total, almost \$112 million is estimated to be required from local funding sources over the 10-year time period.

At Razorback Transit, \$855,000 is provided by the University of Arkansas. This amount is calculated based on student enrollment; thus is subject to fluctuations from year to year. However, this funding arrangement is typical of university-provided transit services across the country. For the purpose of this cash-flow analysis, the University of Arkansas contribution has been included in the “Local Funding” amount. Local funds for ORT service are currently obtained through the general budgets of local municipalities and counties. Transit is funded in many areas of the country through a dedicated tax – typically a sales tax or property tax. Analysis from a prior study has indicated a ¼ cent sales tax in Benton and Washington Counties will generate approximately \$15 million/year in the two counties. Assuming a sales tax is put on the ballot and passed, 2014 is likely the soonest sales tax revenues could start being received. Thus, this tax could bring in \$120 million between 2014 and 2022 (the last year of the TDP time period). As noted below, \$112 million in local funds is anticipated to be required over the TDP ten-year time period. Thus, the Short-Range and Long-Range Plans presented in this TDP could be fully implemented, should a ¼ sales tax be adopted.

It is important to note that the likely loss of Federal 5307 funds towards operations costs in 2014 affects both ORT and Razorback Transit. Implementation of a ¼ cent sales tax could be applied towards both the loss of federal funds for existing services and the proposed expansion of transit services, as presented in this TDP. Thus, a cost sharing agreement outlining how local sales tax revenues (if put on the ballot and passed by the voters) are to be split between ORT and Razorback Transit would be needed to ensure both systems remain viable.

Finally, it is important to note that this TDP has provided only a cursory review of funding requirements and potential funding sources. A more detailed assessment of costs and revenues will eventually be required, should officials in Northwest Arkansas decide to pursue a dedicated tax funding source for transit, such as a sales tax.

Table 4-2

Cumulative Expenses and Revenues – Local Funds Required (2011 dollars)

Agency			Near-Term 2012-2013	Short-Range 2014-2017	Long-Range 2018-2022	10-Year TDP Period
Expenses	O&M	ORT	\$5,200,000	\$24,089,800	\$72,637,900	\$101,927,700
		Razorback	\$4,727,200	\$7,628,700	\$12,714,500	\$25,070,400
	Capital	ORT	\$840,000	\$38,170,000	\$14,730,000	\$53,740,000
		Razorback	\$1,740,000	\$3,085,000	\$4,425,000	\$9,250,000
Total Expenses			\$12,507,200	\$72,973,500	\$104,507,400	\$189,988,100
Revenues	Farebox		\$303,800	\$4,113,900	\$13,335,400	\$17,753,100
	Fed. Funds - Operating		\$1,600,000	\$0	\$0	\$1,600,000
	Fed. Funds - Capital		\$2,064,000	\$33,004,000	\$15,324,000	\$50,392,000
	Fed. Funds - 5311		\$100,000	\$150,000	\$250,000	\$500,000
	State Funds		\$1,300,000	\$1,950,000	\$3,250,000	\$6,500,000
	Misc. Funds		\$300,000	\$450,000	\$750,000	\$1,500,000
	Local Funds Req'd.		\$6,839,400	\$33,305,600	\$71,598,000	\$111,743,000
	Total Revenues			\$12,507,200	\$72,973,500	\$104,507,400

Note: Local Funds include those budgeted annually by the University of Arkansas for Razorback Transit service.