

Northwest Arkansas Transit Development Plan

Technical Memorandum #3 Ridecheck Survey Methodology And Results

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 transit network and expands opportunities for Northwest Arkansas residents to utilize transit. 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 one of several that are being prepared as part of this TDP. This particular Technical Memorandum presents methodology and survey results from the TDP's ridecheck survey. Understanding boarding and alighting activity at a stop level basis, and understanding on-time performance at a trip level are key elements in the assessment of current route strengths, weaknesses and service performance.

The ridecheck survey information will be utilized to conduct detailed analyses regarding existing transit operations. These analyses include maximum load analyses, the identification of route and route segment productivity strengths and weaknesses, the identification of poor performing trips that could be eliminated, and the analyses of time schedules, resulting in recommendations to increase or decrease running times.

Following is a description of the methodology used to collect ridecheck survey data, survey procedures and survey results. This report is accompanied by two detailed ridecheck survey result files that are provided separately on a cd: 1) a Razorback Transit Ridecheck Excel Summary file, and 2) an ORT Ridecheck Excel Summary file.

2.0 Methodology

As a part of an overall Comprehensive Operational Analysis, The Northwest Arkansas Regional Planning Commission, in conjunction with Ozark Regional Transit and Razorback Transit contracted to have a ridecheck survey conducted on 100 percent of its weekday fixed route service. The objective of the ridecheck survey was to compile boarding and alighting information by bus stop and by trip for all routes for weekday service. On-time performance was also compiled at major time points of each route. Various summaries depicting detailed and aggregated information were developed for use in evaluating the effectiveness and efficiency of the existing service.

For the ridecheck survey, there were approximately 194 Razorback weekday platform hours and 141 Ozark platform hours surveyed. The preparation for the surveys was done from August 25th to September 10th, 2010. The Razorback field work was conducted on September 14th & 15th; the Ozark field work was conducted on September 16th, 2010.

There are currently several methods utilized to collect ridecheck information. These are generally categorized into automatic passenger collection, hand held units, and the manual method. The manual method was used to collect the information. This method basically consisted of preparing “surveyor packets” for a surveyor to tabulate boardings, alightings, and arrival times at timepoints. The surveyor attached the packet to a clipboard and recorded the information as he/she rode the bus. The information was then keyed, edited and summarized.

The surveys were conducted by AJM Consulting, as a subcontractor to Connetics Transportation Group. AJM worked closely with ORT and Razorback Transit during the preparation for and conduct of the survey. Temporary surveyors were hired through Express Personnel in Springdale.

2.1 Ridecheck Survey Preparation

The preparation for the ridecheck survey consisted of several tasks. These included preparing the survey packets for use in the survey, scheduling the pieces of work to be surveyed each day, and hiring and training the surveyors.

The survey was set up to survey pieces of work; where a piece of work is defined as the time a driver starts a shift to the time the driver ends the shift. A survey packet was developed for each piece of work.

The survey packet consisted of two basic forms. The “front” sheet defined the trips to be surveyed for a given piece of work. This sheet defined the start and end times of the piece of work; the location where the work starts and ends; the route, run and block numbers; and the route, direction and trip start time for each trip to be surveyed.

The second type of form in the survey packet was the ridecheck form. There was a separate ridecheck form included for each trip to be surveyed. This form contained all bus stops for the route sequenced in the order of travel. In the case of ORT, street intersections were also included in sequential order since the majority of their stops are unmarked “flag stops”. The surveyor recorded the boardings and

alightings at the appropriate location each time the bus stopped. The scheduled time was pre-entered at the time points. The surveyor recorded the actual time the bus arrived at these timepoints.

Pertinent information defining each piece of work was entered into a spreadsheet for the purpose of scheduling the pieces. Initially all the pieces of work were scheduled into separate dates. The resulting schedules by date were used by the survey supervisor during the conduct of the survey. Schedules by surveyor were given to each of the permanent surveyors, so that they could arrange for the appropriate report and end time each day. The master schedule was updated each day to accommodate missed and/or extra pieces of work.

The survey packets were grouped by scheduled date, boxed, and transported to Razorback for distribution during the survey.

At the outset of the project, about twenty four surveyors were hired and trained. Express Personnel recruited and screened the surveyors. An AJM Consulting supervisor trained the surveyors.

2.4 Survey Processing

After the survey, completed survey forms were transported to AJM offices in Northern Kentucky.

The ridecheck forms were edited to eliminate or correct any obvious errors which were not caught by the supervisors. The ridecheck forms were then keyed to an ASCII file.

Subsequently, the ASCII file was organized by survey date and then processed through various editing programs. Minor adjustments to the files were made as required.

After all the files were edited, the files were merged into two master files – one for Razorback trips, and a second for Ozark trips. Summaries were run that listed trips by route and trip start time. These summaries were compared to the public timetables to ensure that all trips were surveyed.

3.0 Survey Results

The ridecheck master files were summarized into six Excel worksheet reports. These reports are as follows:

- Route Totals ;
- Max Load Summaries by Trip and Route;
- Boardings, Alightings, and Loads by Trip by Route;
- Aggregated Boardings, Alightings, and Total Activity and Load by Route;
- On Time Performance by Route; and
- On Time Performance Time Point Comparisons by Trip.

A separate cd contains two files with ridecheck survey results (Razorback and Ozark). Following are summaries of ridecheck counts by route.

**Table 3-1
Summary of Razorback Transit
Ridecheck Survey Counts**

Route Name	Ons	Offs	Total	% of Total
Blue	2,334	2,334	4,668	24.2%
Brown	492	492	984	5.1%
Gray	439	439	878	4.6%
Green	2,345	2,345	4,690	24.3%
Maple Hill	249	249	498	2.6%
Pomfret	737	737	1,474	7.6%
Purple	456	456	912	4.7%
Red	549	549	1,098	5.7%
Route 56	478	478	956	5.0%
Tan	783	783	1,566	8.1%
Yellow	463	463	926	4.8%
Blue Reduced	187	187	374	1.9%
Green Reduced	128	128	256	1.3%
TOTALS	9,640	9,640	19,280	100.0%

Notes:

1. Two missed trips on Blue route.
2. One missed trip on Grey route.
3. One missed trip on Green route.
4. One missed trip on Pomfret route.
5. Two missed trips on Tan route.
6. Two missed trips on Yellow route.

**Table 3-2
Summary of Ozark Regional Transit
Ridecheck Survey Counts**

Route No.	Route Description	Ons	Offs	Total	% of Total
40	Fayetteville-Springdale NB	120	112	232	26.6%
	<u>Fayetteville-Springdale SB</u>	<u>104</u>	<u>112</u>	<u>216</u>	
	<i>Route 40 Total</i>	<i>224</i>	<i>224</i>	<i>448</i>	
41	6th Street	178	178	356	21.1%
42	Springdale East	98	98	196	11.6%
43	Robinson/Huntsville EB	3	1	4	0.7%
	<u>Robinson/Huntsville WB</u>	<u>3</u>	<u>5</u>	<u>8</u>	
	<i>Route 43 Total</i>	<i>6</i>	<i>6</i>	<i>12</i>	
44	Rogers	47	47	94	5.6%
46	Bentonville	76	76	152	9.0%
47	Zion/Joyce & N. Hills Medical	32	32	64	3.8%
50	Lincoln/Fayetteville Express NB	3	3	6	0.6%
	<u>Lincoln/Fayetteville Express SB</u>	<u>2</u>	<u>2</u>	<u>4</u>	
	<i>Route 50 Total</i>	<i>5</i>	<i>5</i>	<i>10</i>	
54	NWACC/U of A Express NB	69	70	139	18.4%
	<u>NWACC/U of A Express SB</u>	<u>86</u>	<u>85</u>	<u>171</u>	
	<i>Route 54 Total</i>	<i>155</i>	<i>155</i>	<i>310</i>	
55	Springdale Crosstown	21	21	42	2.5%
TOTALS		842	842	1,684	100.0%

Notes:

1. Route 57 (Washington County Courthouse) not surveyed.
2. One missed trip on Route 54.
3. Two missed trips on Route 55.