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Final Report

Operational Test for the Implementation

of

Advanced Technologies in Rural Transit Service

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13. ABSTRACT (Maximum 200 words) - The purpose of this project was to assess the feasibility of implementing transit management software in the eastern region with the goals of increasing efficiency, lowering operating costs, improving customer service, and encouraging trip coordination between transit agencies. Its purpose was to select transit management software and RouteMatch TS of RouteMatch Software, Inc. was selected as the transit management software for this project. This report provides information of a performance evaluation and two completed surveys. The first survey focused on the hosting environment and satisfaction with ECC staffing, while the second focused on the RouteMatch TS software and customer satisfaction with RouteMatch Software, Inc. Follow up interviews were conducted with each of the transit agency managers to further explore issues identified through the surveys. There are two long-term recommendations for this group. The first is to expand the client bases of these agencies, thus increasing the demand for out-of-county trips and thereby providing more opportunities for coordination. The second is to recruit agencies to this effort that would exploit the natural geography and highway system of the region. The document serves as the final evaluation for transit management software.

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Foreword

This document serves as the final evaluation and the final report for the Eastern Carolina Council (ECC) Transit Coordination Project (FTA-NC-26-7006-2009.1).

The purpose of this project was to assess the feasibility of implementing transit management software in this region with the goals of increasing efficiency, lowering operating costs, improving customer service, and encouraging trip coordination between transit agencies.

RouteMatch TS of RouteMatch Software, Inc. was selected as the transit management software for this project. As part of their contract, RouteMatch Software, Inc. provided instructor-led training and supervised configuration and implementation of the software.

The Eastern Carolina Council conducted performance evaluations with input from the participating transit agencies and staff from the Institute for Transportation Research and Education at North Carolina State University. Transit agency staff completed two surveys as part of the project evaluation. The first survey focused on the hosting environment and satisfaction with ECC staffing, while the second focused on the RouteMatch TS software and customer satisfaction with RouteMatch Software, Inc. Follow up interviews were conducted with each of the transit agency managers to further explore issues identified through the surveys. The survey and interview results are summarized in this report followed by conclusions and recommendations for this project.

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Executive Summary

The Eastern Carolina Council Transit Coordination Project is a feasibility study for implementing transit management software in this region with the goals of increasing efficiency, lowering operating costs, improving customer service, encouraging trip coordination between transit agencies, and providing participating rural transit agencies with technology more commonly found in larger transit systems.

Prior to this regional system each transit agency had its own scheduling and billing software, or that of its contractor, but none incorporated the use of GIS--based scheduling and dispatching for route optimization. These earlier systems also had limited reporting functionality due to their simplistic database structure.

This new system provides each transit agency with a comprehensive transit management system that integrates customer, vehicle, scheduling, dispatching, billing, and reporting into a relational database system that provides the agency with greater querying and reporting functionality, leading to better decision making.

This FTA operational test started in September 2004 and ended in March 2007. As of April 2009, the system is still ongoing and has been funded by the transit agencies and the North Carolina Department of Transportation through their annual budget processes.

Project Overview

The Eastern Carolina Council Transit Coordination Project was a feasibility study for implementing transit management technology in the five participating transit agencies within this nine-county region (See Appendix A for a list of project participants and agency descriptions). The primary goal of implementing this system was to allow the five transit agencies that operate in these rural eastern North Carolina counties to take advantage of technology that is readily available and being used by larger systems in order to increase operational efficiencies and reduce operation and overhead costs. A secondary goal was to offer the opportunity for each of the five agencies to coordinate trips with their counterparts in surrounding counties to increase services and opportunities for their general public riders and the human service agencies that rely on their system to transport clients.

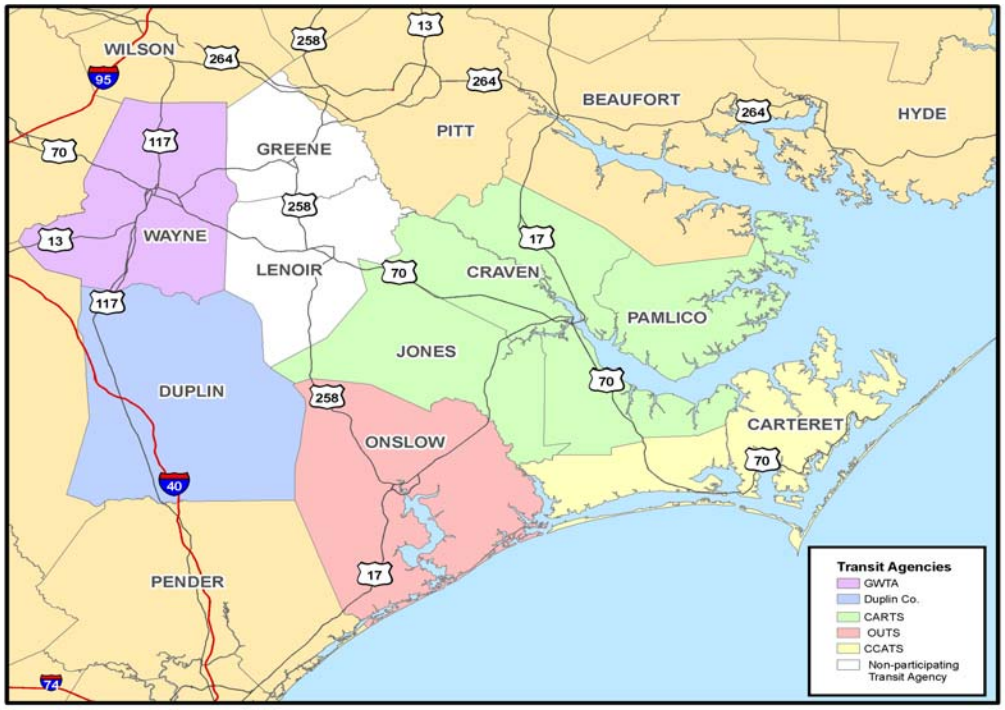

Figure 1 – Map of Eastern Carolina Council region with participating transit agencies

Prior to this project, each of the transit systems had its own management system, or that of a consultant, that offered computerized billing and some administrative functions. This new system uses RouteMatch TS which offers greater functionality in scheduling, routing, and dispatch management for transportation services. In addition to optimizing schedules and routes this system allows individual transit operators to view routes scheduled by others, and offers opportunity for coordination of trips and sharing of passengers.

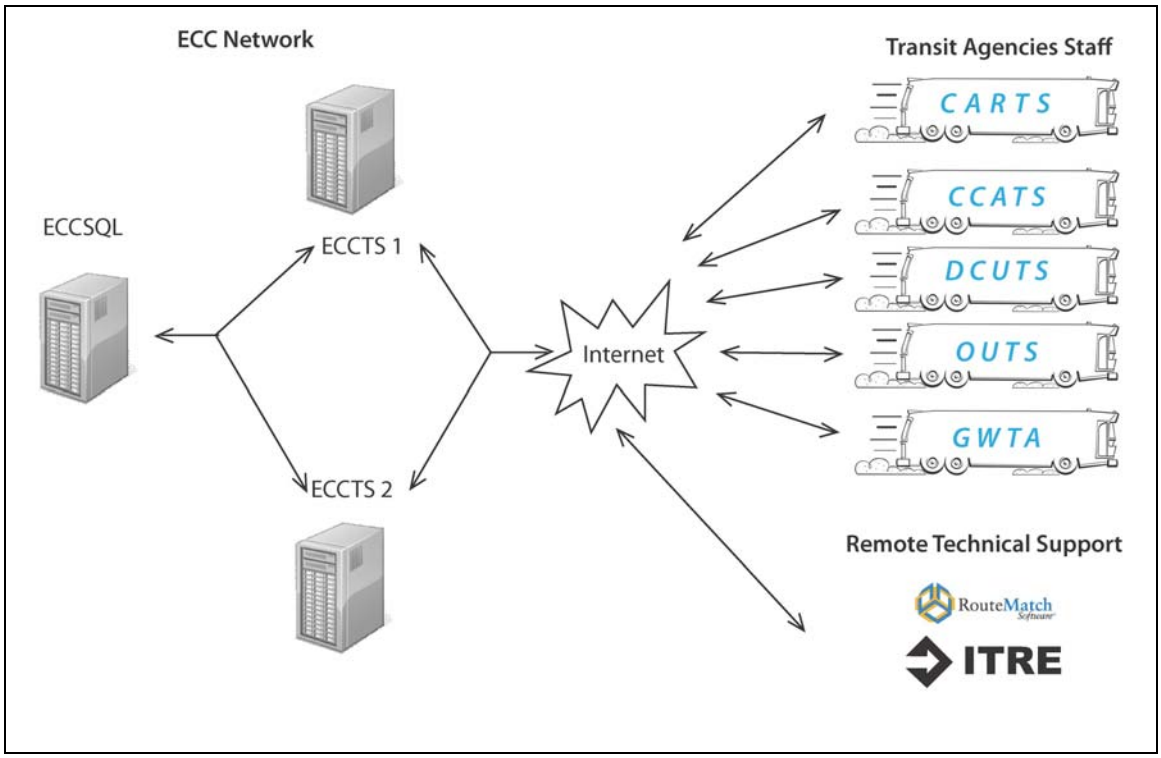

Figure 2 – ECC Transit Coordination Project System Diagram

The new system consists of a series of servers that reside on the Eastern Carolina Council network (see Figure 2). Each transit agency's data is stored in a database on the ECC Data server (ECCSQL), and each of these databases share a common schema which permits the RouteMatch software to share information between agencies. The RouteMatch TS software is installed on a pair of terminal servers (ECCTS1 and ECCTS2) that the transit agency staff connects to using remote desktop technology. Once a user connects to one of these RouteMatch terminal servers, the RouteMatch application reads and writes information to the agency database on the ECC Data server. This system design allows the user to connect to either terminal server and run the RouteMatch TS software as if it were running on their local desktop.

Project Evaluation

The fundamental goal of this project was to improve the participating agencies' general operation by providing them with technology that is commonplace in larger transit systems. The secondary goals were to reduce general operating expenses for the participating agencies and to increase coordination of out-of-area trips between agencies. These goals, their corresponding hypotheses, and the evaluation methods are summarized in Appendix B.

Transit agency staff completed two surveys evaluating this system. The first survey focused on the system hosting environment including satisfaction with ECC for technical and customer satisfaction. The second survey addressed the RouteMatch TS software and the transit agencies' satisfaction with RouteMatch's customer and technical support. After the surveys were completed, interviews were held with each of the transit agency managers to further explore issues identified in the surveys (see Appendix C and Appendix D for complete surveys and response summaries).

Goal 1: *Reduction in general operating expenses*

The RouteMatch Scheduling Engine (RSE) was originally expected to create more efficient schedules and routes for demand response trips. To date, none of the agencies are using these optimization functions. There are several staff related reasons for this, including preoccupation with learning other components of the software, turnover combined with lack of training, and time spent troubleshooting other software problems. While these problems might be overcome in time, the main obstacle is inaccurate and incomplete street map layers.

Early attempts to use the optimized scheduling features were generally met with disappointment. There were significant problems with suggested routes and estimated route times. The generated routes often did not include newer, prominent roads that would significantly cut drive time. At other times, the suggested route was reasonable but the estimated drive time was inaccurate. It is possible that some of these inaccuracies with the street map layers and routing results could have been overcome with better training and alterations to the system settings. However, at this time the perception is that the street map layers are out of date, the recommended routes are flawed, and the estimated drive times are too inaccurate to use.

The first hypothesis for the goal of reducing operating expenses was that the GIS-based scheduling and routing functions of the transit software would create more efficient schedules and routes for demand response trips. The second hypothesis was that these same functions would decrease the staff time required to schedule and route demand response

trips. Since none of the agencies are using these optimized scheduling functions, both hypotheses must be considered indeterminate at this time.

Goal 2: *Increase Coordination of out-of-area trips between agencies*

It was anticipated that the RouteMatch TS software would improve and encourage trip coordination between participating transit agencies through the use of its coordination module. Once the coordination module was installed and configured, the transit agencies participated in a brief training session conducted by RouteMatch staff. In general, the transit managers were not impressed with this module. The transit managers concluded that the coordination module was too cumbersome and did not simplify the process of coordinating trips. At the time of this report, no agencies are using this module for coordinating trips.

The transit agencies met several times with staff from ITRE and the Eastern Carolina Council to discuss trip coordination. The goal of the meetings was to identify potential coordination partnerships for each agency. Important factors were the geography of the region, common routes, common destinations, and agencies' current schedule for out-of-county trips. The following potential coordination partnerships were identified.

Destination	**Participants**
Greenville	CCATS / CARTS
Greenville	OUTS / Lenoir County* / Greene County*
Greenville	Duplin County / Lenoir County* / Greene County*
Greenville	Duplin County / GWTA / Greene County*
Raleigh/Durham	CCATS / CARTS / Lenoir County* / GWTA
Raleigh/Durham	OUTS / Duplin County
Jacksonville	CCATS / OUTS
Jacksonville	CARTS / OUTS
New Bern	CCATS / CARTS
New Bern	OUTS / CARTS

**Indicates non-participating transit agency*

Table 1 - Potential coordination partnerships

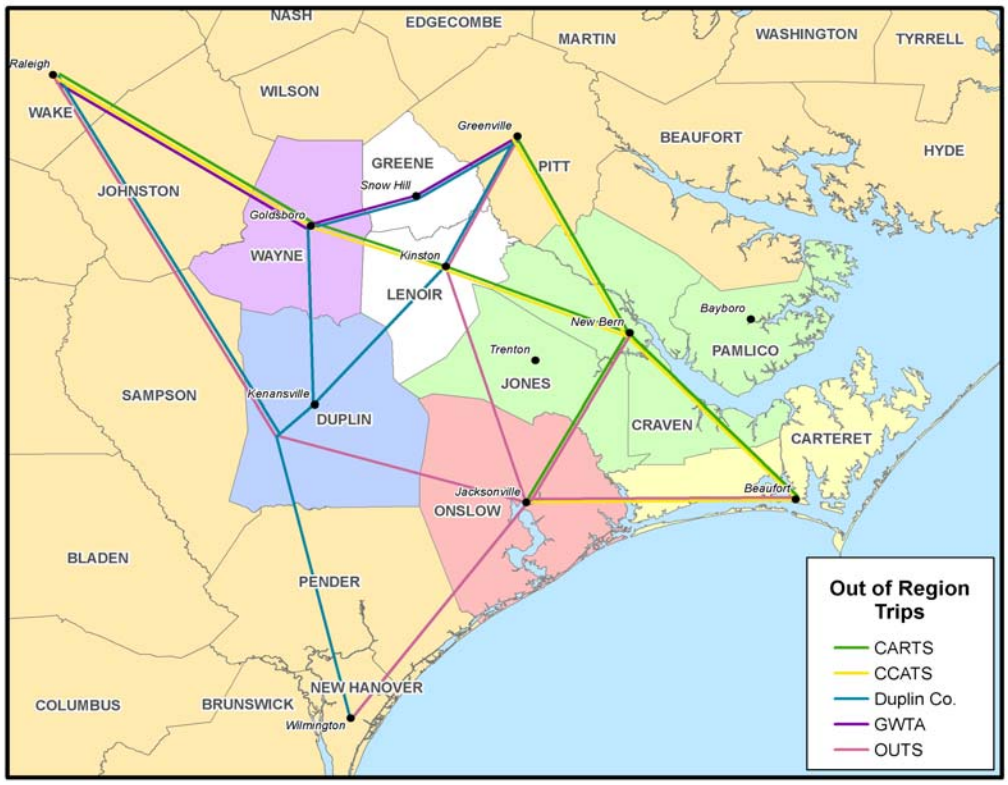

Figure 3 - Map of Potential Partnerships

Throughout the course of this project, the only attempt that resulted in coordinated trips involved CARTS and CCATS. CARTS and CCATS initially started coordinating trips to Greenville with the expectation that the effort would eventually lead to additional trips such as Raleigh/Durham. The attempt lasted over two months but was ultimately unsuccessful. CCATS agreed to pick up CARTS clients in New Bern en route to Greenville. This effort was somewhat successful until CCATS experienced several weeks with no scheduled clients for this trip. During that time, CCATS billed CARTS for the entire trip including the deadhead miles from Morehead City to New Bern and the return trip. When CARTS determined that it was more cost effective to use their own vehicles, the coordination effort ended.

CCATS had been offering out-of-county trips for only a few months prior to this coordination effort with CARTS. From interviews with both transit agency managers, it is evident that CCATS does not yet have the client base or demand for sustained out-of-county trip coordination. With time, perhaps CCATS can develop its client base and become a reliable coordination partner for CARTS.

Reviewing the map of the participating agencies and the common out-of-region destinations (Raleigh/Durham, Greenville, and Wilmington), it is apparent that Lenoir County and Greene County have the greatest potential for coordinated trips. Unfortunately, both of these transit agencies withdrew from this project. Greene County Transit is a very small agency and their staff, after going through the RouteMatch training, found the software to be too complicated and overwhelming compared to their previous management software. The Greene County Transit agency manager was also disappointed with the street map layers, particularly because all county roads were addressed by route number rather than county road names. Lenoir County choose not to participate because their contractor was against using the RouteMatch software and the county was concerned over long-term maintenance costs associated with the software and ECC hosting costs.

The hypothesis for this goal was that a regional remotely hosted application would improve coordination of out-of-area trips between transit agencies. While the RouteMatch coordination module was deemed inadequate by the participants, it is evident that numerous obstacles are more crucial to successful coordination efforts than technology. Despite numerous attempts to overcome these obstacles no coordination effort has survived more than a few months. For these reasons this hypothesis must be considered unsupported.

Goal 3: *Provide participating transit agencies with a better data management system.*

The critical goal of this project was to supply the transit agencies with a data management system that was an improvement over their previous software. It was anticipated that the optimization features and coordination efforts would play the most significant roles in this new system. While neither of these two components has been implemented, the analysis and summary of the surveys and interviews indicate that the system does have advantages over previous software.

At this time, the advanced querying and reporting functionality is the most significant improvement. In addition to providing the basic information required for reports to the state and human service agencies, this system allows the user to run ad-hoc queries. Such queries provide valuable information that initiate more effective and efficient decision making throughout the organization.

Although the transit managers have agreed that this system is an overall improvement, they have also identified a few common problems. The majority of these problems have ultimately been due to slow and intermittent internet performance on the client side, and all involved

agencies are exploring their options for upgrading their bandwidth. The more severe problem is the current lack of training. Since the implementation of this system, most of the involved agencies have had significant staff turnover. While the original staff was trained on the software, many of the newer employees never received this formal training. Most managers agree that the software is too complex to use without instructor-led training, but additional funding has not been identified. Instead, many users have had to learn the software on their own or from a coworker, leading to a lesser understanding of the software and increased frustration for the user.

The hypothesis that this system would be an improvement is partially supported by surveys and interviews with transit managers. While it is agreed that the advanced querying and reporting tools are beneficial, there is strong disappointment that the optimization features and coordination module are currently not available. While these features are expected to be implemented in the near future, the satisfaction with the querying and reporting capabilities demonstrates partial success for this goal.

Conclusions

In 2002 these transit agencies starting meeting together under the auspices of the Down East RPO and Eastern Carolina RPO to discuss transit issues. The following year they started to lay the framework of a regional transit management system by researching other coordination efforts and investigating funding sources and software platforms. In August of 2004, this project was officially initiated under the funding provided by the Federal Transit Administration with the goals of providing a better overall technology system for all agencies, lowering operation costs through the use of optimization features, and promoting coordination of trips between agencies.

The notion of lowering operating costs through the use of optimization software generated more interest in this project than any other aspect. While there is much frustration over the inability to implement the optimization functions, the transit agencies remain optimistic that cost savings are feasible given other success stories across the state. The biggest obstacle to utilizing the RouteMatch Scheduling Engine (RSE) is not staff turnover, lack of training, or resistance to adopt new business practices but simply inaccurate and incomplete street centerline data. The recommendations are to obtain updated street centerline data from the vendor, budget for continuing future updates, and develop GIS workflows for minor edits.

Coordinating trips between agencies has been viewed as the project's greatest challenge since the onset. While there is disappointment with the RouteMatch coordination module, it has been accepted that other non-technical factors play a far more significant role in building successful partnerships. Short-term recommendations are to identify ways to accommodate billing discrepancies between agencies while also identifying efficiency incentives for contractors thereby establishing coordination as a priority for all agencies. There are two long-term recommendations for this group. The first is to expand the client bases of these agencies, thus increasing the demand for out-of-county trips and thereby providing more opportunities for coordination. The second is to recruit agencies to this effort that would exploit the natural geography and highway system of the region. Lenoir County for example, is located in the geographic center of this region, has five highway corridors, and would be a natural coordination partner for every agency in the region (see Figure 3).

While there has been no shortage of difficulties in all aspects of this project, this group is satisfied with its progress. Transit managers believe that the software is an improvement over their previous systems. While there has been no general reduction in operating costs throughout this project, all parties are convinced that the optimization features can be implemented in the near future. While there are still many obstacles to overcome, these transit agencies remain committed to their initial coordination goals established in their first meeting in 2002. This commitment is evidenced by their continued local funding of the project since 2007, when federal funding expired.

Appendix A

Project Participants

ECC **Eastern Carolina Council of Government**
North Carolina Councils of Government are voluntary associations of county and municipal governments, established by the North Carolina General Assembly in 1972. The 17 current regional associations handle services which are generally more economical to coordinate on a regional, rather than local level, including economic development, environmental protection, land-use planning, and services for the elderly.

a. **Larry Moolenaar, Executive Director**
b. **Alex Rickard. Planning Director**

RPO **Rural Transportation Planning Organizations**
In July 2000, Senate Bill 1195 became part of Article 17 General Statue 136-210 through 213, which stated that the NCDOT will develop a plan to establish RPOs. The purpose of these organizations is to work cooperatively with NCDOT to plan rural transportation systems and to advise the department on rural transportation policy.

DERPO **Down East Rural Transportation Planning Organization**
Serves the counties of: Carteret, Craven, Jones, Onslow, and Pamlico

ECRPO **Eastern Carolina Rural Transportation Planning Organization**
Serves the counties of: Duplin, Greene, Lenoir, and Wayne

TRANSIT AGENCIES

CCATS **Carteret County Area Transit Service**
Serving all of Carteret County

CARTS **Craven Area Rural Transit Service**
Serving Craven, Jones, and Pamlico Counties

Duplin Co. **Duplin County Transit System**
Serving all of Duplin County

GWTA **Goldsboro-Wayne Transit Authority**
Serving the City of Goldsboro and Wayne County

OUTS **Onslow United Transit Service**
Serving all of Onslow County

TECHNICAL SUPPORT AGENCIES

ITRE **Institute for Transportation Research and Education**
An inter-institutional research center, administered by North Carolina State University

RouteMatch *RouteMatch Software offers customized solutions for community transportation systems.*

Appendix B

Goal 1	Hypothesis 1	Measurers	Elements	Source	Method
Reduction in general operating expenses	Transit management software with GIS-based scheduling and routing functions will create more efficient schedules and routes for demand response trips.	> Passengers per revenue mile > Passengers per revenue hour > Passengers per trip	"Before" and "after" ridership "Before" and "after" revenue miles, hours, and number of trips	"Before" data in logs or reports "After" data maintained by transit mgn. software with GIS –based scheduling and routing functions	Before/after comparison (e.g., change in passengers per revenue mile, passengers per revenue hour, and passengers per trip)
		> Transit staff opinions on efficiency	> Results from transit staff surveys	Surveys of transit staff	Analysis of survey results
			> Results from transit manager interviews	Interviews of transit managers	Analysis and summary of interviews
	Hypothesis 2				
	Transit management software with GIS-based scheduling and routing functions will decrease time required to schedule and route demand response trips.	> Staff time to schedule and route demand response trips	"Before" and "after" hours per week or month devoted to demand response scheduling/routing	Transit staff time sheets	Before/after comparison
		> Transit staff opinions on time required to schedule and route demand response trips (and maybe how easy to use the software is – it may work but its too complicated to use) (software hassle is not worth it)	> Results from transit staff surveys	Survey of transit staff	Analysis of survey results
			> Results from transit manager interviews	Interviews of transit managers	Analysis and summary of interviews

Goal 2	Hypothesis	Measurers	Elements	Source	Method
Increase coordination among participating transit agencies for out-of-area trips.	A regional remotely hosted application will improve coordination of out-of-area trips between transit agencies	> Number of coordinated out-of-area trips	Before and after number of coordinated trips	> Before data in logs or reports > After data maintained by RouteMatch TS	Before/after comparison
		> Transit staff opinions on coordination	> Results from transit staff surveys	Survey of transit staff	Analysis of survey results
			> Results from transit manager interviews	Interviews of transit managers	Analysis and summary of interviews

Goal 3	Hypothesis	Measurers	Elements	Source	Method
Provide participating transit agencies with a better data management system	Agencies can better manage their data with this system rather than their previous software	> Transit staff opinions	> Results from transit staff surveys	Survey of transit staff	Analysis of survey results
			> Results from transit manager interviews	Interviews of transit managers	Analysis and summary of interviews

Appendix C

Discussion and Survey

Individuals working within the transit agencies were asked to take the following survey. This survey evaluating RouteMatch software will help Eastern Carolina Council staff work out problems within the project.

Transit System Evaluation Survey

1. What is your opinion with the current remotely hosted RouteMatch System?
   Answered questions 20
   Skipped question 0

	Responses	
	Yes	**No**
Would you prefer to have the system hosted in-house?	77.8% (14)	22.2% (4)
Is the hosting cost reasonable?	60.0% (6)	40.0% (4)
Are you satisfied with the ECC technical support?	83.3% (15)	16.7% (3)
Is the response time conducted in a timely manner?	77.8% (14)	22.2% (4)
(Duplin County Only)		
Is this system better than when it was housed on site?	66.7% (2)	33.3% (1)

2. What improvements would you like to see?
   Answered questions 19
   Skipped question 1

	Yes	**No**
Responses		
Additional Licenses?	71.4% (10)	28.6% (4)
Faster internet service?	64.7% (11)	35.3% (6)
Faster ECC technical support?	60.0% (9)	40.0% (6)
Easier accessibility?	70.6% (12)	29.4% (5)
Improved printing functions?	47.1% (8)	52.9% (9)
Navigation improved?	70.6% (12)	29.4% (5)
File management (Exporting, sharing, EXCEL and WORD reports)	88.2% (15)	11.8% (2)

3. What problems have you experienced?
Answered questions 20
Skipped question 0

Question	Never	2 - 5 times a month	6 - 10 times a month	More	Does not apply	Rating Average	Response Count
Printing issues?	38.9% (7)	33.3% (6)	0.0% (0)	5.6% (1)	22.2% (4)	2.39	18
System slow?	0.0% (0)	36.8% (7)	0.0% (0)	63.2% (12)	0.0% (0)	3.26	19
Being "kicked off"?	0.0% (0)	21.1% (4)	10.5% (2)	63.2% (12)	5.3% (1)	3.53	19
System locks up or freezes?	0.0% (0)	30.0% (6)	0.0% (0)	65.0% (13)	5.0% (1)	3.45	20
Data lost?	70.6% (12)	5.9% (1)	0.0% (0)	11.8% (2)	11.8% (2)	1.88	17
Unable to log onto the server?	15.8% (3)	57.9% (11)	10.5% (2)	15.8% (3)	0.0% (0)	2.26	19
Communication issues?	52.9% (9)	17.6% (3)	11.8% (2)	5.9% (1)	11.8% (2)	2.06	17

4. Do you access RouteMatch outside the office?
Answered questions 20
Skipped question 0

Yes 30.0% (6)
No 70.0% (14)

5. Did you know RouteMatch was accessible outside the office?
Answered questions 20
Skipped question 0

Yes 65.0% (13)
No 35.0% (7)

6. From what locations do you access RouteMatch remotely?

Answered questions 14
Skipped question 6

	Responses Yes	Responses No
Home	50.0% (6)	50.0% (6)
Other county offices	20.0% (2)	80.0% (8)
Hotel conferences	20.0% (2)	80.0% (8)
On vacation	20.0% (2)	80.0% (8)

Other *3 Responses*

Comment Text
At work
I have accessed remotely in the past from home but I've been having problems for the past two months would like to be able to access RouteMatch from home.

7. How often do you access RouteMatch from somewhere other than your office?

Answered questions 19
Skipped question 1

Never	63.2%	(12)
Once a month	0.0%	(0)
2-5 times per month	15.8%	(3)
6-10 times per month	10.5%	(2)
More	5.3%	(1)
Does not apply to me	5.3%	(1)

8. How often do you contact ECC for technical support for RouteMatch concerns?

Answered questions 20
Skipped question 0

Never	10.0%	(2)
Once a month	40.0%	(8)
2-5 times per month	15.0%	(3)
6-10 times per month	5.0%	(1)
More	0.0%	(0)
Does not apply to me	30.0%	(6)

9. Please rate your experience with ECC.

Answered questions 18
Skipped questions 2

Totally satisfied	11.1%	(2)
More than satisfied	11.1%	(2)
Satisfied	77.8%	(14)
Not satisfied	0.0%	(0)
Dissatisfied	0.0%	(0)
Extremely dissatisfied	0.0%	(0)

10. When you contacted ECC was the response in a timely manner?
Answered questions 13
Skipped questions 7

Yes 84.6% (11)
No 15.4% (2)

11. Did the ECC Technician assist you in a courteous and professional manner?
Answered questions 13
Skipped questions 7

Yes 100.0% (13)
No 0.0% (0)

12. Were the issues at hand resolved by ECC in a timely manner?
Answered questions 14
Skipped question 6

Yes 92.9% (13)
No 7.1% (1)

13. Who do you contact and by what method of communication do you use when contacting the staff at ECC? (Please check all that apply)
Answered questions 17
Skipped questions 3

Contact	Office Phone	Cell Phone	Email	Response Count
Alex Rickard	82.4% (14)	88.2% (15)	23.5% (4)	17
Daniel Van Liere	60.0% (3)	80.0% (4)	20.0% (1)	5
Mary Strickland	100.0 (2)	0.0% (0)	0.0% (0)	2
Rob Will	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)
Vicki Prescott	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)

14. Are you satisfied with the availability of ECC staff?
Answered questions 17
Skipped questions 3

Yes 88.2% (15)
No 11.8% (2)

15. Can you reach a ECC staff member when you need assistance?
Answered questions 17
Skipped questions 3

Yes 88.2% (15)
No 11.8% (2)

16. What agency are you affiliated with?

Answered questions 20
Skipped question 0

CARTS	25.0%	(5)
CCATS	15.0%	(3)
GWTA	20.0%	(4)
OUTS	25.0%	(5)
Duplin County	15.0%	(3)

17. What is your primary role?

Answered questions 20
Skipped questions 20

Agency Manager	25.0%	(5)
Scheduling	20.0%	(4)
Dispatching	20.0%	(4)
Verification	20.0%	(4)
Administrative	15.0%	(3)
Driver	0.0%	(0)
Other	0.0%	(0)

18. Please use this section for additional comments, concerns, questions, or suggestions that might help better serve your needs:

Comment Text

I am okay with the system outside of being frequently being kicked off or the system constantly freezing. Once I log onto the internet after I have opened RouteMatch the computer reacts very slow. So if any changes could be made these are my concerns.

The communication link between the Host computer (RM Gate and X Gate) has shown significant improvements over the past several months.

RouteMatch regularly locks up on the computer I normally use. Often causing us to have to restart the computer. Sometimes when we restart it will lock us out because there are not enough licenses which bring our day to a screeching halt almost because both dispatchers have to share the other computer for verification, scheduling, and dispatching.

I was not aware that anyone other than Alex or Daniel was knowledgeable to assist with Route Match Server problems. Once reached, Alex and Daniel do an excellent job of addressing the printer and getting on to the server issues.

Carteret County is developing a plan to combine all GIS systems into one user friendly system, including the scheduling/routing/public information aspect of Transportation. RouteMatch and/or any other software program would need to fit into the County's coordinated system.

Appendix D

Discussion and Survey

Individuals working within the transit agencies were asked to take the following survey. This survey evaluating RouteMatch software will help Eastern Carolina Council staff work out problems within the project.

RouteMatch Software Evaluation

	YES	NO
1. Overall SATISFACTION:		
Is your organization BETTER off with the RouteMatch software?	**70.6% (12)**	29.4% (5)
Has the RouteMatch software saved your organization MONEY?	**68.8% (11)**	31.3% (5)
Has the RouteMatch software saved your organization TIME?	**76.5% (13)**	23.5% (4)
Has the RouteMatch software INCREASED customer service for your organization?	**68.8% (11)**	31.3% (5)
Has the RouteMatch software contributed to shorter RIDE times?	**56.3% (9)**	43.8% (7)
Has the RouteMatch software contributed to shorter WAITING times for your customers?	**50.0% (8)**	**50.0% (8)**
Has the RouteMatch software DECREASED the number of vehicles for your organization?	43.8% (7)	**56.3% (9)**
Do you wish you had your OLD software?	12.5% (2)	**87.5% (14)**

2. What was your old software?

17 Responses

Comment Text

1. MINI-PASS
2. CTS
3. MINI PASS
4. CTS
5. CTS
6. CTS and Trip Maker
7. CTS
8. mini-pass
9. CTS - contractor
10. I was not here when we used previous software. I have been here six months and have yet to be trained on how to use route match. I am learning as I am going.
11. CTS
12. AS400
13. AS400/county system
14. AS400 and a program customized by Craven County IT Department.
15. I am a new hire, so I was not here when CARTS had the old software.
16. In house program on County AS400 system.
17. CCATS used CTS-Software in the past
18. MINI-PASS

3. How would you rate your overall satisfaction with the RouteMatch software?

Answered questions 20
Skipped question 0

Totally satisfied	5.0%	1
More than satisfied	5.0%	1
Satisfied	**60.0%**	12
Not satisfied	15.0%	3
Dissatisfied	15.0%	3
Extremely dissatisfied	0.0%	0

4. What version of RouteMatch are you currently using?

Answered questions 20
Skipped question 0

3.0.18	**75.0%**	15
3.1.16	25.0%	5

5. When calling RouteMatch customer support, are your issues resolved in a timely manner?

Answered questions 17
Skipped questions 3

Yes	47.1%	8
No	**52.9%**	9

11 Responses

Comment Text

1. It depends on the issue
2. do not follow-up with customer in a timely manner to report status of software issues
3. Relative
4. I have never had to call RouteMatch.
5. The scheduling engine does not work.
6. N/A Administrative Officer handles trouble calls.
7. Sometimes
8. sometimes not
9. Sometimes they are and sometimes they aren't. There have been a couple of times when I was never called back with a resolution.
10. Some issues are still pending.
11. Response is timely, fixes are unavailable.

6. Is RouteMatch able to customize the software to fit your needs?

Answered questions 16
Skipped questions 4

Yes	**87.5%**	14
No	12.5%	2

9 Responses

Comment Text

1. Yes but I think I can also customize my needs for less than I can pay them to do so.
2. Expensive for the process.
3. I have had no training in route match, so I am not to sure what all I am able to customize.
4. Need help getting it done.
5. Not sure
6. N/A
7. Sometimes the cost of customizing is too expensive.
8. Yes, for a price. Route Match is all about making money for Route Match, what they can sell you.
9. ECC will be inputting data for local designation of fare zones, whether RouteMatch will be able to use the data is still to be determined

7. How would you rate your satisfaction with RouteMatch customer support?

Answered questions 19
Skipped question 1

Totally satisfied	5.3%	1
More than satisfied	0.0%	0
Satisfied	**63.2%**	12
Not satisfied	26.3%	5
Dissatisfied	5.3%	1
Extremely dissatisfied	0.0%	0

8. Manager Only: How would you rate the maintenance costs for your software?

Answered questions 16
Skipped questions 4

Totally satisfied	0.0%	0
More than satisfied	0.0%	0
Satisfied	33.3%	2
Not satisfied	**66.7%**	4
Dissatisfied	0.0%	0
Extremely dissatisfied	0.0%	0

9. Manager Only: How would you rate the costs of additional licenses for your software?

Answered questions 6
Skipped questions 14

Totally satisfied	0.0%	0
More than satisfied	0.0%	0
Satisfied	33.3%	2
Not satisfied	**66.7%**	4
Dissatisfied	0.0%	0
Extremely dissatisfied	0.0%	0

10. Manager Only: How would your rate the costs of additional vehicle licenses for your software?

Answered questions 6
Skipped questions 14

Totally satisfied	0.0%	0
More than satisfied	0.0%	0
Satisfied	33.3%	2
Not satisfied	**66.7%**	4
Dissatisfied	0.0%	0
Extremely dissatisfied	0.0%	0

11. What other cost issues do you have?

3 Responses

Comment Text

1. I think maintenance cost should include needed reports
2. None
3. n/a

12. Do you use the CUSTOMER module? If yes, are you

Answered questions 19
Skipped question 1

Totally satisfied	5.3%	1
More than satisfied	5.3%	1
Satisfied	**78.9%**	15
Not satisfied	5.3%	1
Dissatisfied	5.3%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***2 Responses***

Comment Text

1. Does not apply
2. Too cumbersome when searching for individual customer

13. How would you rate the VEHICLES module? If yes, are you

Answered questions 18
Skipped questions 2

Totally satisfied	5.6%	1
More than satisfied	5.6%	1
Satisfied	**66.7%**	12
Not satisfied	16.7%	3
Dissatisfied	5.6%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***2 Responses***

Comment Text

1. Does not apply
2. Confusion over seating if wheelchair seats in use

14. How would you rate the DRIVERS module? If yes, are you

Answered questions 17
Skipped questions 3

Totally satisfied	5.9%	1
More than satisfied	5.9%	1
Satisfied	**76.5%**	13
Not satisfied	11.8%	2
Dissatisfied	0.0%	0
Extremely dissatisfied	0.0%	0

If NO, why not? ***3 Responses***

Comment Text

1. Have not used it enough to really say if it is good or bad
2. Does not apply
3. I am not familiar with this feature.

15. How would you rate the TRIPS module? If yes, are you

Answered questions 20
Skipped question 0

Totally satisfied	5.0%	1
More than satisfied	10.0%	2
Satisfied	**75.0%**	15
Not satisfied	5.0%	1
Dissatisfied	5.0%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***1 Response***

Comment Text

1. Could be a little better

16. How would you rate the SCHEDULING module? If yes, are you

Answered questions 17
Skipped questions 3

Totally satisfied	5.9%	1
More than satisfied	5.9%	1
Satisfied	**52.9%**	9
Not satisfied	29.4%	5
Dissatisfied	5.9%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***7 Responses***

Comment Text

1. Auto scheduling needs a little more work
2. Does not apply
3. Would like to be able to use the optimization option----still scheduling manually!!!
4. Do not use optimization because of mapping and setting issues
5. Not currently using
6. would like to see appt. time in comment instead of load times
7. Never set up for local optimization.

17. How would you rate the COORDINATE module? If yes, are you

Answered questions 5
Skipped questions 15

Totally satisfied	20.0%	1
More than satisfied	0.0%	0
Satisfied	20.0%	1
Not satisfied	**40.0%**	2
Dissatisfied	0.0%	0
Extremely dissatisfied	20.0%	1

If NO, why not? ***8 Responses***

Comment Text

1. Needs a lot of work
2. Does not apply
3. We have not used the coordinate module yet.
4. Need more information - guide and how to run the program.
5. I am not familiar with this module. I am not sure what it is in the program.
6. Not currently using
7. Now can you rate what is not working????
8. Not being used

18. How would you rate the DISPATCHING module? If yes, are you

Answered questions 14
Skipped questions 6

Totally satisfied	14.3%	2
More than satisfied	21.4%	3
Satisfied	**50.0%**	7
Not satisfied	14.3%	2
Dissatisfied	0.0%	0
Extremely dissatisfied	0.0%	0

If NO, why not? ***6 Responses***

Comment Text

1. Was really enhanced with the last upgrade
2. Would like to be able to change address. Right now we have to cancel the trip and reschedule. Sometimes the wrong address is put into the system.
3. I am not familiar with this module. I am not sure what it is in the program.
4. We're unable to move runs and driver without going back to scheduling. Also, we're unable to move unscheduled trip without mess up verification.
5. Not currently using
6. CARTS does not use due to if you use can make changes in Verification as easy

19. How would you rate the VERIFICATION module? If yes, are you

Answered questions 16
Skipped questions 4

Totally satisfied	12.5%	2
More than satisfied	12.5%	2
Satisfied	**43.8%**	7
Not satisfied	25.0%	4
Dissatisfied	6.3%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***5 Responses***

Comment Text

1. Have had a lot of issues with verification receiving info from dispatch
2. Would like to be able to change the destination address and have the system check mileage.
3. I don't personally use
4. would like to change address in verification and when going in and out a lot I'm liking to get kick off
5. When in verification mode, often locks up or freezes

20. How would you rate the FUNDING SOURCES module? If yes, are you

Answered questions 17
Skipped questions 3

Totally satisfied	5.9%	1
More than satisfied	11.8%	2
Satisfied	**64.7%**	11
Not satisfied	5.9%	1
Dissatisfied	5.9%	1
Extremely dissatisfied	5.9%	1

If NO, why not? ***1 Response***

Comment Text

1. The old way was much better when it included billing rules.

21. How would you rate the ADDRESSES module? If yes, are you

Answered questions 16
Skipped questions *4*

Totally satisfied	6.3%	1
More than satisfied	12.5%	2
Satisfied	**68.8%**	11
Not satisfied	6.3%	1
Dissatisfied	6.3%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***5 Responses***

Comment Text

1. Does not apply
2. We need updated maps!
3. Some problems can not change have to cancel etc.
4. GPS is way out of date, often difficult to locate address or have to manually plot
5. Need updates on GPS software

22. How would you rate the SERVICES module? If yes, are you

Answered questions 8
Skipped questions 12

Totally satisfied	12.5%	1
More than satisfied	12.5%	1
Satisfied	**37.5%**	3
Not satisfied	25.0%	2
Dissatisfied	12.5%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***4 Responses***

Comment Text

1. Does not apply
2. Do not know.
3. N/a for me
4. What is Services module?

23. How would you rate the SETTINGS module? If yes, are you

Answered questions 10
Skipped questions 10

Totally satisfied	10.0%	1
More than satisfied	0.0%	0
Satisfied	**50.0%**	5
Not satisfied	30.0%	3
Dissatisfied	10.0%	1
Extremely dissatisfied	0.0%	0

If NO, why not? ***4 Responses***

Comment Text

1. Does not apply
2. Do not know. (Problems with mapping Alex did not follow through)
3. n/a for me
4. Have not worked with due to "upsetting" what is already running

24. Please identify any other issues, concerns, or suggestions regarding the RouteMatch specifics:

7 Responses

Comment Text
1. It is alright to grow fast, but try harder not to leave loyal clients behind
2. To be able to print map from RouteMatch dispatch screen.
3. None
4. Don't care about the future - need issues fixed. Would like the system upgraded service SLOW.
5. RouteMatch doesn't seem to be that user friendly. I have yet to receive any real training with this software which is my biggest hindrance. The manual is overly technical.
6. We need to be upgraded to a new version. Issues in 3.0.18 are not be resolved.
7. Coordinated module has never been put into place. We were also promised upgrade and that has never come through.

25. Are you currently coordinating trips with another transit system?

Answered questions 20
Skipped question 0

Yes	0.0%	0
No	**100.0%**	20

26. If yes, are you using RouteMatch software to assist with the coordination?

Answered questions 5
Skipped questions 15

Yes	0.0%	0
No	**100.0%**	5

27. What factors make it difficult or prohibit trip coordination with other counties? (Please check all that apply)

Answered questions 8
Skipped questions 12

Scheduling	50.0%	4
Geography	0.0%	0
Funding	12.5%	1
Billing / Invoicing issues	**62.5%**	5
No common destinations	0.0%	0
Political or in-house issues	25.0%	2

Other (please specify) ***1 Response***

Comment Text
1. Prices

28. Would you recommend this software to others?

Answered questions 14
Skipped question 6

Yes	**71.4%**	10
No	28.6%	4

Reason for decision? ***5 Responses***

Comment Text
1. But not as quick as I would have in the past
2. We are currently scheduling everything ourselves.
3. Not sure
4. There are some benefits and there are some negative issues
5. I would tell them the problems and let them decide for themselves.

31. What is your primary role?

Answered questions 20
Skipped question 0

Agency Manager	**30.0%**	6
Scheduling	15.0%	3
Dispatching	20.0%	4
Verification	15.0%	3
Administrative	15.0%	3
Drive	0.0%	0
Other	5.0%	1

33. Please use this sections for additional comments, concerns, questions, or suggestions that might help better serve your needs:

6 Responses

Comment Text

1. It would be nice if the dispatcher could change addresses. Also, if the dispatcher could cancel trips for the next day. Around 3:00 p.m. to 5:30 p.m. we will receive cancellations for the next day of transportation. Right now we write the cancellation on paper. The next morning they are put into the system.
2. RouteMatch is the only software I've worked with as a dispatcher therefore I cannot answer the questions regarding the old software fairly.
3. Currently operating MDC/Awls and some of the problems with software configuration has been an issue with us relative to the amount of time it takes to resolve an issue.
4. Cost is a major concern.
5. On the computer I use RouteMatch, the program itself locks up a lot. To the point sometimes it locks up the entire computer. Then we have to reboot and about half the time it locks us out due to limited number of users who can use the program; which then brings my work day to a near halt as both dispatchers have to share computers for scheduling, verification, and dispatching.
6. The system seems to be designed to serve a fixed route system that is adding some deviation, the transition to a total demand response system falls short of what is needed from any management planning perspective. This specific implementation intended to be used for wide area coordination of trips is no better than paper, pencil and telephone. Use of this system for local optimization requires more customization than the package seems to allow. Cost for an outdated version is also extremely high.

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