Memo

April 18, 2012

To: City Council Members and Mayor Beutler

From: Audit Advisory Board

Re: StarTran Analysis Report - Response to City Council Resolution A-86238

The Audit Advisory Board (the Board) received the Financial, Marketing, Management, and Operational Analysis of StarTran Final Report February 2012 (the Report) from SRF Consulting Group, Inc. (SRF) on March 5, 2012.

The Lincoln Municipal Code (the Code) requires the Auditee (StarTran) to respond to the Report within 30 days, which was April 4, 2012. To date the Board is unaware of any response. At our March 21, 2012 meeting, City Finance Director Steve Hubka indicated management's intent to request an extra 30 days to respond. We are unaware of any process for allowing that request.

The Code requires the Board to report to the Mayor and City Council, in the form of a board audit report, within sixty days of receiving the final audit report. Based on the Code our report is due no later than May 4, 2012. However, the Code also requires the Board's findings to be based on the Report AND the response of the auditee. Since we do not have access to the response we are unable to comply with the Code. The following Recommendations of the Audit Advisory Board are therefore based only on our reading of the Report.

Audit Advisory Board Report

I. As required by L.M.C. Section 4.66.040 (d) (1) the Board noted the following findings:

A. <u>Compliance Issues</u> –

1) Handi-Van must discontinue the practice of requiring an adult accompany a child under 12 to be in compliance with the ADA since there is no comparable policy on fixed route service.

2) Handi-Van does not meet the ADA Span of Service requirements. Handi-Van needs to extend complementary service hours to the same hours as fixed route.

3) Handi-Van does not meet the ADA Capacity/Scheduling requirements.

4) Auditee did not respond within 30 days as required by Code.

B. Revenue Issues – There were no findings as to the improper collection, depositing or accounting for revenues.

C. Resource Issues –

1) Maintenance shop has inefficient physical layout.

2) Customer service at StarTran is slightly below average compared to similar municipal bus systems.

3) Customer service activities are less than desirable.

4) Access to Bus garage is not secured.

D. Administrative Procedures and Practices –

1) There were no findings as to operating and administrative procedures and practices, accounting internal control systems, or internal management controls, established by StarTran management.

II. As required by L.M.C. Section 4.66.040 (d) (2) a copy of the final audit report is attached. The auditee's response was not included as it has not been received by the Board. Attached is the response from the StarTran Advisory Board for your review.

III. Listing of any irregularities or failures to comply with legal or administrative policies as required by L.M.C. Section 4.66.040 (d) (3):

See Item I of this Report.

IV. Board's recommendation as required by L.M.C. Section 4.66.040 (d) (4):

A. The Board notes that the major objective of the consultant's engagement per section 1.2 of the RFP was to "reduce the amount of funding provided to StarTran by the City". It is the opinion of the Board that the report prepared by the consultants may not adequately address this objective. Attached is a copy of the RFP for your consideration.

B. The Board believes the two key recommendations from the consultant are:

1) The Mayor and City Council should quickly act to establish a clear policy and mission for the operation of public transit services within Lincoln. At the beginning of each budget preparation period any revisions to the mission should be articulated so that operations can be adjusted to meet current expectations.

2) The Mayor should clarify the roles and responsibilities of the StarTran Advisory Board to establish clear policy direction and reporting requirements. Options include:

a) Limit the Board to advise on service policies that impact passengers.

b) Have the Board increase activities to advocate for transit within the community.

c) Expand the Board role to include budget, service and performance oversight with more direct ties to City Council.

C. To increase StarTran operating revenues, the Board recommends:

1) Pursuing UNL ridership through various means, as identified in the report, as well as investigating changing the downtown hub to a location closer to campus so as to more effectively capture the student ridership, as recommended verbally to the board by the consultant.

2) Raising the cost of the low income pass to be more comparable with peer city rates.

3) Provide a system for verification of income to qualify for a low income pass.

D. If the determination is that StarTran must decrease costs, the Board agrees that the items in Section 11 of the Report are appropriate measures for consideration by StarTran and the StarTran Advisory Board to reduce costs. These items include:

a) Reduction of Service Area

b) Elimination of Routes

c) Change hours of Saturday Service

The best opportunities to increase local revenues are to modify services to attract additional riders or to increase passenger fares. Making significant service adjustments will begin to diminish the effectiveness of the service overall directly impacting large numbers of current riders.

CITY OF LINCOLN
NEBRASKA
MAYOR CHRIS BEUTLER
lincoln.ne.gov

StarTran
Public Works and Utilities Department
710 "J" Street
Lincoln, Nebraska 68508
402-441-7185
fax: 402-441-7055

April 16, 2012

Michael Justus
Chair
Lincoln City Audit Advisory Board

Mr. Justus:

The Star Tran Advisory Board is pleased with many of the conclusions found within the SRF Consulting Group's Final Report issued March 5, 2012. For example, SRF's report describes Star Tran as more efficient than its peer municipal bus systems.

Though the Report does describe Star Tran as less effective, meaning Star Tran ridership falls below its peers, Star Tran is pleased that ridership is up about 10% so far this fiscal year after increasing about 10% last fiscal year. The Advisory Board was also heartened to learn from Larry Worth at last month's meeting that Star Tran's administration has already implemented many of the Report's recommendations and has deployed labor resources to study the others.

However, the Star Tran Advisory Board is disappointed that specific requirements within the RFP may not have been adequately addressed in the SRF Consulting Group's Final Report. Examples include RFP Sections:

1. 1.2 on Page 1 – "The major objective of this RFP is to reduce the amount of funding provided to StarTran by the City".
    a. Although the current service efficiency was evaluated favorably compared to peers, the report did not comment on potential new sources of revenue beyond the UNL service expansion and raising Low Income Passes closer to peer averages. Nor did the report identify specific efficiencies that might help Star Tran become even more favorably compared to peer systems.

2. 4.1 on page 4 – "Performance Analysis Requirements"
    a. With the exception of shifting a portion of the paratransit service currently provided by StarTran to the contract company, the report did not identify ways to provide existing services at less cost. We appreciate that numerous issues were studied (e.g., part-time drivers, contracted phone answering services), but would have expected more potential for delivering adequate service at less investment.

3. 7.1 on page 4 – "Make recommendations on how to improve efficiency of the management and operational structure"
    a. Though we had hoped for groundbreaking findings in the report that would lead to large savings, we are pleased that the report looked at some job responsibilities that can be adjusted for minor savings. The Board infers that many of these ideas are already part of Star Tran's efforts to implement the Report's suggestions. The lack of groundbreaking findings seems to indicate that StarTran's efficiency is in line with peers, but that its effectiveness may only improve with a change in community attitude toward using mass transit.

4. 10.1 on pages 4&5 – "Additional Evaluation Requirements"
    a. Of the seven specific questions required in Section 10.1 of the RFP, we feel that the first and third, related to outsourced advertising and marketing, were not adequately addressed by the Final Report.
        i. Item 10.1.2 requires comment on the viability of lowering the 50% sales commission enjoyed by StarTran's current ad vendor. The Report only summarizes conversations with three other bus systems that outsource their advertising, and states that this is industry practice. No evaluation was made of the potential to increase 'net' revenue from advertising by using an in-house approach.
        ii. Item 10.1.3 requires comment on outsourcing all of StarTran's marketing activities. The Report only summarizes current in-house marketing activities with no assessment of achievable savings or added costs in the event outsourcing was adopted.

The Star Tran Advisory Board would like to offer our expertise in the event that unaddressed RFP requirements remain of interest to the Audit Advisory Board.

The Audit Advisory Board should note that all RFP issues were addressed to some degree and that additional opportunities for improved efficiencies were very modest without considering either cuts in service or increases in fares.

We believe, most importantly, that a clear policy and mission for the operation of public transit services is needed. As included in the 'Oversight and Guidance' Findings on page 2-15 of the report, "Should StarTran manage operations to increase riders or maximize user revenues" or pursue some mix of these and other goals? The same report section also recommends that the roles and responsibilities of the StarTran Advisory Board be clarified to establish clear policy direction and reporting requirements. We also offer our willingness to participate in these important policy decisions.

We thank the Audit Advisory Board for soliciting our comments on the SRF Report.

Sincerely,

Kim Phelps by pst

Kim Phelps
Chair, on behalf of the StarTran Advisory Board

cc John Baylor – StarTran Advisory Bd Member
Beatty Brasch – StarTran Advisory Bd Member
Mike DeKalb - StarTran Advisory Bd Member
Stephen Speicher - StarTran Advisory Bd Member

Larry Worth – StarTran
Miki Esposito – Director PW/U

REQUEST FOR PROPOSALS
CONSULTING SERVICES
FOR
FINANCIAL, MARKETING, MANAGEMENT AND OPERATIONAL ANALYSIS
OF
CITY'S BUS SERVICES KNOWN AS STAR TRAN

1. INTENT

1.1 The City is soliciting proposals from qualified firms and intends to retain a professional firm to perform a comprehensive and detailed Performance Analysis, Marketing Research, Current Management and Operational review and review the options for implementing a Transit Authority.

1.2 The major objectives of these Analyses are to:

1.2.1 Ensure revenue sufficiency to meet the Operation and Maintenance (O&M)

1.2.2 Plan for current and future revenue stability to provide for adequate operating and capital reserves and for the overall financial health

1.3 It is intended to select a firm based on qualifications, recommended study approach and practical applications which will accomplish the objectives of the Analysis while incorporating innovative and cost effective methods.

1.4 Any other or future additional services would be negotiated at a future date and at the sole discretion of the City.

1.5 All questions in regard to this RFP are to be directed, in writing, to the individual listed below:

Vince M. Mejer, Purchasing Agent
City of Lincoln Purchasing Division
"K" Street Cpm[plex, Suite 200 (SW Wing)
Lincoln, NE 68508
FAX 402-441-6513
Email vmejer@lincoln.ne.gov

1.6 Verbal responses and/or representations shall not be binding to the City.

2. GENERAL BACKGROUND

2.1 MISSION

2.1.1 It is our mission to provide the citizens of Lincoln a convenient, reliable, comfortable, safe and affordable public mass transit system

2.2 STATEMENT OF VALUES

2.2.1 The StarTran Division prides itself in being a highly dedicated, knowledgeable and talented team known for its honesty and flexibility.

2.2.2 We will continue to efficiently serve the public with the highest standards of quality, safety, and responsiveness while working with great commitment to increase the public trust and the community's quality of life.

2.3 STARTRAN SYSTEM FACTS

2.3.1 StarTran is the only mass transit carrier in the City of Lincoln.

2.3.2 StarTran is fully owned and operated by the City as a municipal service through the administration of the Lincoln Public Works & Utilities Department.

2.3.4 Service Hours
Weekdays . . . . . 5:15 a.m. - 7:10 p.m.
Saturdays . . . . . 5:55 a.m. - 7:10 p.m.
No Sunday Service

2.3.5 Annual Ridership 2009-2010
Fixed Route 1,753,777
Special Transportation Svcs 55,769
TOTAL1,809,546

2.3.6 Annual Revenue Miles Traveled 2009-2010
Fixed Route 1,433,533
Special Transportation Svcs . . .. .335,918
TOTAL 1,769,451

2.3.7 Funding Sources Budgeted 2010-2011
Operating
Federal $2,457,670
State $ 300,000
City $5,330,123
Users Fee $1,577,022

2.3.8 Annual Operating Budget 2010-2011
$9,664,815

2.3.9 Fleet

2.3.9.1 Full Size Coaches
1997 Gillig 11
2001 Gillig 20
2004 Gillig 10
2006 Gillig 15
2010 Glaval 3
Total 59

2.3.9.2 HandiVans:
2008 Uplander 1
2010 Glaval 10
Total 11

2.3.9.3 Bus Routes - (All Accessible)
Regular Line Service - 16
Downtown Circulator - 1

2.3.9.4 Special Transportation Services Include:
HandiVan/Brokerage Service

2.4 Special Programs:

2.4.1 **"**Big Red Express" Husker Football Shuttle: Big Red Express service begins two hours prior to kick-off with continuous shuttle service to the east stadium. Last buses will leave these lots to the stadium approximately 45 minutes prior to kick-off. Buses will return to the lots immediately after the game.

2.4.2 Bike and Bus

2.4.3 Handi-Van Program: door-to-door transportation service created to help meet the transportation needs of individuals who experience disability and who, because of that disability, are unable to ride the regular fixed-routed city bus.

2.4.4 Ride for $7.50 - Low-Income Bus Pass Program: If you are low-income, you can purchase a StarTran 31-Day Pass for only $7.50 ($15 for HandiVan-eligible patrons)

2.4.5 Star Pass - Summer Youth Bus Pass: The "Star Pass" is for youth ages 5-18, valid from June 1-August 31, 2010. This pass offers unlimited rides on StarTran buses and special discounts from nineteen participation sponsors all summer long.

2.4.6 Stuff the Bus: StarTran, in cooperation with North Wal-Mart, South Wal-Mart, East Wal-Mart, Sam's and Three Eagles Communications, is sponsoring a "Stuff the Bus" promotion for Friendship Home. We are asking Lincolnites to "Stuff the Bus" by donating new items needed by women and children at Friendship Home.

2.4.7 FTE's
75 Bus Operators
35.28 other Employees in various classifications
2.10 Employees paid out of Grant-in-aid fund

3. GENERAL REQUIREMENTS AND SERVICES

3.1 The following describes the general extent of services to be provided by the selected firm.

3.1.1 The information presented is not necessarily all-inclusive and the selected firm shall include in their proposal any tasks and services deemed necessary to satisfactorily complete the project.

3.1.2 City will rely on the firm's competence and experience to develop a final scope of services identifying all necessary tasks, meetings, and deliverables.

3.2 Basic Overall Study Services

3.2.1 Initially meet with City Designee, to review the scope of required services, study criteria and expectations, obtain background information and establish tentative schedule for completion.

3.2.2 Conduct necessary visits and site investigations review existing background information and review related data.

3.2.2.1 Cooperate with other City private contractors and service providers as necessary while performing work on this project.

3.2.3 Prepare and present final detailed report to City Designee Team, Mayor, City Council and other interest groups as outlined and described in this RFP and final study memorandum.

3.2.4 Submit ten (10) printed copies of Final Study Report and one (1) electronic copy in acceptable electronic formats (MS Word and Adobe Acrobat.pdf files)

4. PERFORMANCE ANALYSIS REQUIREMENTS

4.1 Financial Efficiency Review, including but are not limited to:

4.1.1 Identify areas within StarTran (Operations and Management) that are financially inefficient.

4.1.2 Identify cost savings with time management changes, operations changes, route changes, or equipment changes.

4.1.3 Identify ways to provide existing services at less cost.

4.1.4 Make recommendations regarding StarTran's rate structure.

4.1.5 Present alternate revenue funding source.

5. MARKETING RESEARCH ANALYSIS:

5.1 Review the StarTran and StarTran Advisory Board's Marketing Research Plan.

5.2 Define an appropriate marketing approach

5.3 Determine efficiencies and effectiveness of the current marketing efforts.

6. DETERMINE IF STARTRAN IS SERVING ITS CLIENTS EFFECTIVELY AND EFFICENTLY

6.1 Review StarTran's plans and give suggestions for improvements.

7. REVIEW STARTRANS CURRENT MANAGEMENT AND OPERATION STRUCTURE

7.1 Make recommendations on how to improve efficiency of management and operational structure.

8. REVIEW THE OPTION OF IMPLEMENTING A TRANSIT AUTHORITY

8.1 Give us pros, cons, cost, groups affected, and funding of any changes.

9. ADDITIONAL EVALUATION REQUIREMENTS

9.1 Following is a list of recommendations that various City and private citizens have developed:

- 9.1.1 Review and comment on each of these recommendations in addition to any other recommendations that may be presented. (Provide the pros, cons, cost, groups affected, and funding.)
- 9.1.2 Lower sales commission on bus wraps by working with local media sales to generate more revenue.
- 9.1.3 Outsource all StarTran's Marketing (save $25,000 by eliminating marketing position at StarTran).
- 9.1.4 Reduce Saturday Service during off peak hours.
- 9.1.5 Reset bus fares. (Consider free fares, 25¢ fares, and $1.00 fares)
- 9.1.6 Evaluate Administrative Staff Cuts.
- 9.1.7 Evaluate the elimination of one bus route. (The South Pointe route could possibly save $150,000).
- 9.1.8 Don't provide bus service to new development areas to save money.

10. CITY'S RESPONSIBILITIES

10.1 Assign City contacts to coordinate work activities of the City designated team, Consultant, and other affected City Departments.

10.2 Provide pertinent data for use by interested firms.

10.3 Provide all policy and budgetary decisions so as to allow timely completion of the work.

10.4 Supply pertinent existing records, and other available information.

10.5 Provide the contractor with copies of section 4.66 of the Lincoln Municipal Code (LMC) that sets out the duties and responsibilities of the City Audit Advisory Board.

11. TENTATIVE PROJECT SCHEDULE

11.1	Advertise Proposals	April 27, 2011
11.2	Receive Proposals	June 6, 2011
11.3	Review Proposals	
11.4	Interview and Select Firms	June 13, 2011
11.5	Finalize Contract	July 20, 2011
11.6	Begin Study Work	August 1, 2011
11.7	Complete and Submit Draft Study	
11.8	Present Final Study & Report	

12. PROPOSAL CONTENTS

12.1 Describe and outline the timeline and key work elements of the **Firm's Approach** to performing the work required by this project.

12.1.1 Include implementation plan describing project phases, key work elements to meet critical project dates, and a recommended schedule of meetings to provide for timely input by City Designee team.

12.2 Outline the **Proposed Project Schedule** to meet the project schedules previously outlined in the RFP.

12.2.1 Provisions for meaningful input from City Designee team during the initial and final phases of the study, and of various portions of the project are essential and shall be addressed.

12.3 Delineate the **Project Team and Organization** for this project.

12.3.1 Include names of key individuals to be assigned to, and work directly on, the project.

12.3.2 Describe specific areas and limits of responsibilities for each of the team members and proposed sub-consultants to be utilized.

12.2.3 Include a project team organizational chart showing lines of responsibility and extent of involvement for sub-consultants. Include resumes for project team members, key individuals, and sub-consultants.

12.4 Describe the **Ability of the Firm to Meet the Intent of Required Services** Outlined in this RFP, including:

12.4.1 Time availability of team members to meet the tentative project schedule.

12.4.2 Quality Assurance and Quality Control (QA/QC) review procedures to be utilized on this project.

12.4.3 Cost estimating and cost control procedures used by firm on similar projects.

12.4.4 A statement of general qualifications and background experience of the firm and project team members, including sub-consultants in this type of project and work.

12.4.5 In addition to information provided in response to RFP provide further detailed statement of general qualification and background experience of the firm and project team members, including sub-consultants proposed for this type of project and work.

12.4.5.1 A comparison to similar projects including a copy of similar size and capacity and cost.

12.4.6 Listing of types of anticipated assistance that may be required from Owner.

12.4.7 Submit four contacts of former clients (to include contact person, title, and telephone number) for which your firm was engaged with the past five (5) years to perform similar financial analysis, cost of service and rate studies.

12.4.8 Proposals shall be provided on plain white paper; limited to 25 pages in length; and, stapled in the upper left corner. This does not include cover letter and resumes.

13. EVALUATION CRITERIA

13.1 Understanding of the requirements of this project.

13.2 Relevance and suitability of the project approach and schedule to meet the needs of the City.

13.3 Qualifications and expertise of the key personnel to be assigned to this project.

13.4 Background experience of the firm and the project team as it directly relates to this project.

13.5 Record of past performance on similar projects.
13.6 Comments and opinions provided by references.
13.7 Quality and cost control procedures to be used on this project. Identify personnel responsible for these controls.
13.8 Resources of the firm to conduct and complete this project in a satisfactory manner Factors to be considered include: current work load (including current work with the City); schedule for completion; and, ability and willingness to commit the key personnel to complete the projects by the scheduled dates outlined in this RFP.
13.9 Clarity, conciseness, and organization of proposal.
13.10 Proposals will be reviewed, evaluated and short listed/ranked (e.g.: 1, 2, 3) in accordance with the City's selection process and procedure.
13.11 The top ranked firm will be invited to scoping and contract negotiation meetings.
13.12 Fees will be part of evaluation.

14. SUBMITTAL PROCEDURES

14.1 Submit five (5) copies (one (1) original and four (4) copies) of your proposal to Vince M. Mejer, Purchasing Agent, City of Lincoln, 440 South 8th Street, Suite 200, Lincoln, Nebraska, 68508, **no later than the date and time stated in this Request for Proposals.**
14.2 Mark the outside of the container with the name of the project. Proposal must be submitted in a sealed envelope or container.

15. ESTIMATED FEES

15.1 The City will rank the proposals based on the criteria outlined in the RFP and determine a short list.
15.2 The selected firm shall submit a detail scope with a proposed fee structure for negotiation, to include hourly rates.
15.3 If the City is unable to arrive at a mutual agreement with the top ranked firm, the City retains the sole right to move on to negotiations with the second (then third, etc.) ranked firm.

16. INSURANCE

16.1 Successful firm shall obtain all insurance required and approved by the City Attorney for the City of Lincoln. Standard Certificate of Insurance requirements can be found on the City website at: www.lincoln.ne.gov/city/finance/purch/index.htm
16.2 All certificates of insurance shall be filed with the City of Lincoln on the standard Accord Certificate Of Insurance form showing the specific limits of insurance coverage required in Sections A, B, C, D, and showing the City of Lincoln as named additional insured.
17.6.1 Such certificate shall specifically state that insurance policies are to be endorsed to require the insurer to provide the City of Lincoln thirty days notice of cancellation, non-renewal or any material reduction of insurance coverage.
16.3 Successful firm shall use the standard City of Lincoln contract form and language found on the City Attorney's website at www.lincoln.ne.gov/city/attorn/contract/contents.htm

Advertise X time
Wednesday, XXXXXX, 2011

City of Lincoln/Lancaster County
Purchasing Division
REQUEST FOR PROPOSALS

Sealed proposals will be received by the Purchasing Agent of the City of Lincoln/Lancaster County, Nebraska **BY ELECTRONIC PROCESS** until: **12:00 pm, XXXXX, XXXXX, 2011** for providing the following:

CONSULTING SERVICES
FOR
FINANCIAL, MARKETING, MANAGEMENT AND OPERATIONAL ANALYSIS OF CITY'S BUS SERVICES KNOWN AS STAR TRAN
Bid No. 11-XXX

Submitters must be registered on the City/County's E-Bid site in order to respond to the above request. To Register go to: lincoln.ne.gov (type: e-bid - in search box, then click "Supplier Registration")

Upon e-mail notification of registration approval, you may go to the E-Bid site to respond to this bid. Questions concerning this bid process may be directed to City/County Purchasing at (402) 441-8313 or (402) 441-7410 or *vmejer@lincoln.ne.gov*

StarTran Financial, Marketing, Management, and Operational Analysis

Final Report

February 2012

SRF Consulting Group, Inc.
Bourne Transit Consulting
Jack Doolittle
MWR & Associates

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1.0 Introduction

The City of Lincoln commissioned a financial, marketing, management, and operational analysis of the StarTran transit system. Information for the analysis was compiled during a series of on-site meetings and through assistance of StarTran staff. This document provides an overview of the transit system, as well as results from the detailed review of the system, including recommendations to improve the system.

History

With the arrival of the first horse-drawn streetcar lines in the 1880s, the City of Lincoln, Nebraska began the first steps in the creation of a city-wide public transportation system. By 1906 the horse-powered vehicles had been replaced by electric streetcars. The introduction of the first motor buses in 1926 triggered a steady transition from a mixed streetcar and bus system to a bus-only system in 1945. This also coincided with the city's peak annual ridership of 11,674,000. At this time, the system was operated by Lincoln City Lines using 63 buses on 11 routes with 125 employees.

Following national trends after the rise of the automobile as a more dominant transportation option, Lincoln City Lines saw a sharp decline in ridership with 10.6 million annual rides in 1950, 3.8 million rides in 1960, and 1.9 million rides in 1970. In 1971, Lincoln City Lines was officially absorbed by the City of Lincoln and renamed the Lincoln Transportation System. An overhaul of the system in 1989 included improved schedules and a renaming of the system to StarTran.

In 2008, StarTran made substantial changes to its route network based on recommendations from the 2007 Transit Development Plan. Some of the changes included restructured routes and increased frequency on routes serving downtown. Since the modifications were implemented, ridership has remained steady- around 1.8 million per year. StarTran's mission is, "to provide the citizens of Lincoln a convenient, reliable, comfortable, safe and affordable public mass transit system. "

Current Transit Service

StarTran operates 16 daytime fixed routes, 13 of which provide service on Saturday. StarTran also operates a downtown circulator, Star Shuttle. Weekday service operates between 5:15 a.m. and 7:20 p.m. Saturday service operates between 6:30 a.m. and 6:55 p.m. Currently, no service is provided on Sunday. Figure 1.1 and Figure 1.2 show the weekday and weekend bus routes. The current service pattern follows the recommendations from the most recent Transit Development Plan (TDP) completed by a consultant team in August 2007. The study included an assessment of existing transit service and demographic characteristics of the Lincoln area, a peer group and trend analysis, and a public outreach component. Service analysis was performed at the route level and concluded with a series of recommendations for StarTran staff. As part of the analysis component, the consultants proposed a series of service quality standards for StarTran to strive for. These standards provided the base performance indicators that StarTran would use in its annual performance report.

In compliance with the Americans with Disabilities Act of 1990 (ADA), StarTran provides paratransit service to individuals who cannot use fixed route bus service. The StarTran operated service is called Handi-Van. StarTran also provides a portion of the paratransit service through a brokerage service operated by Transport Plus.

Figure 1.1: StarTran Weekday Bus Routes

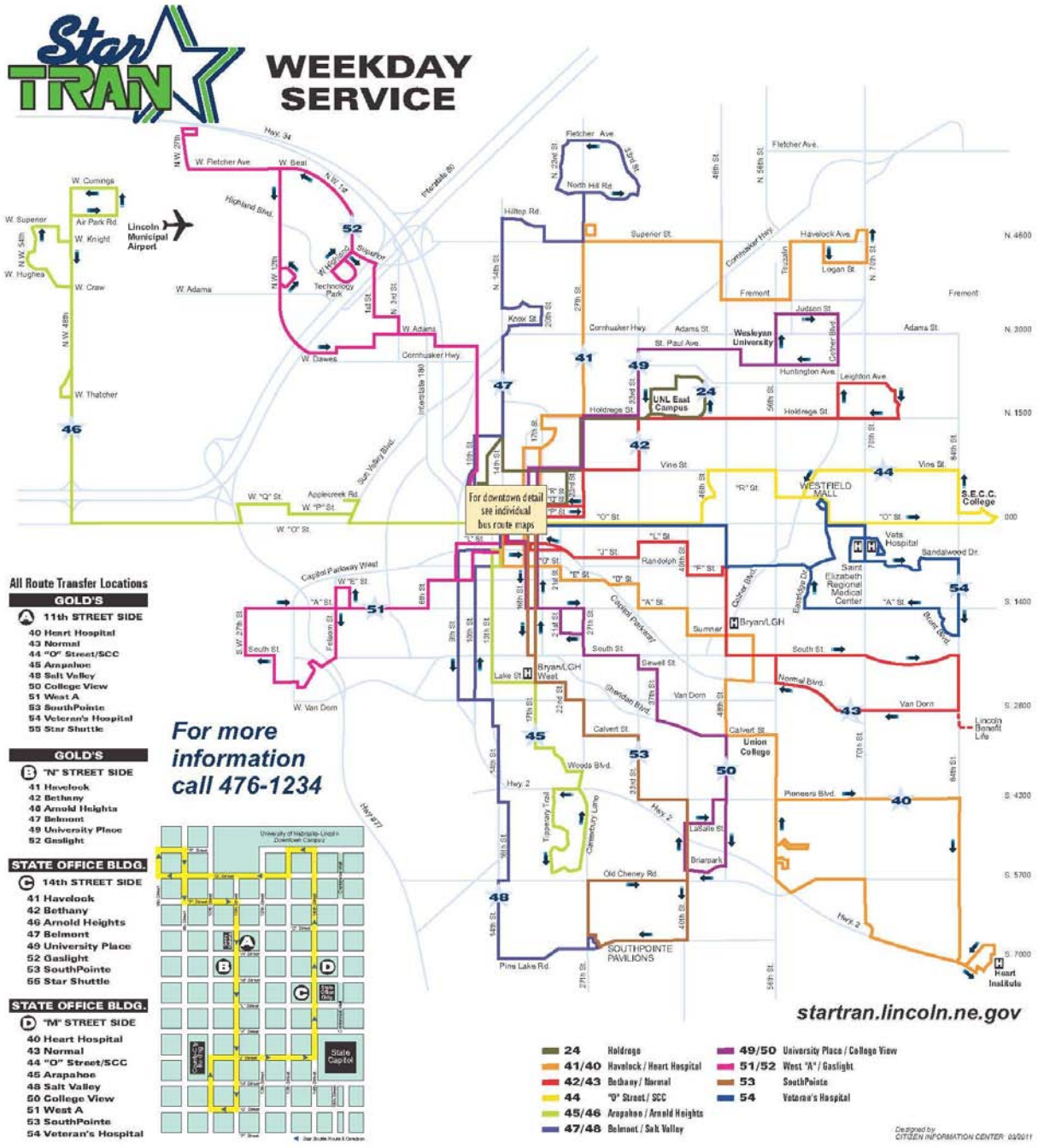
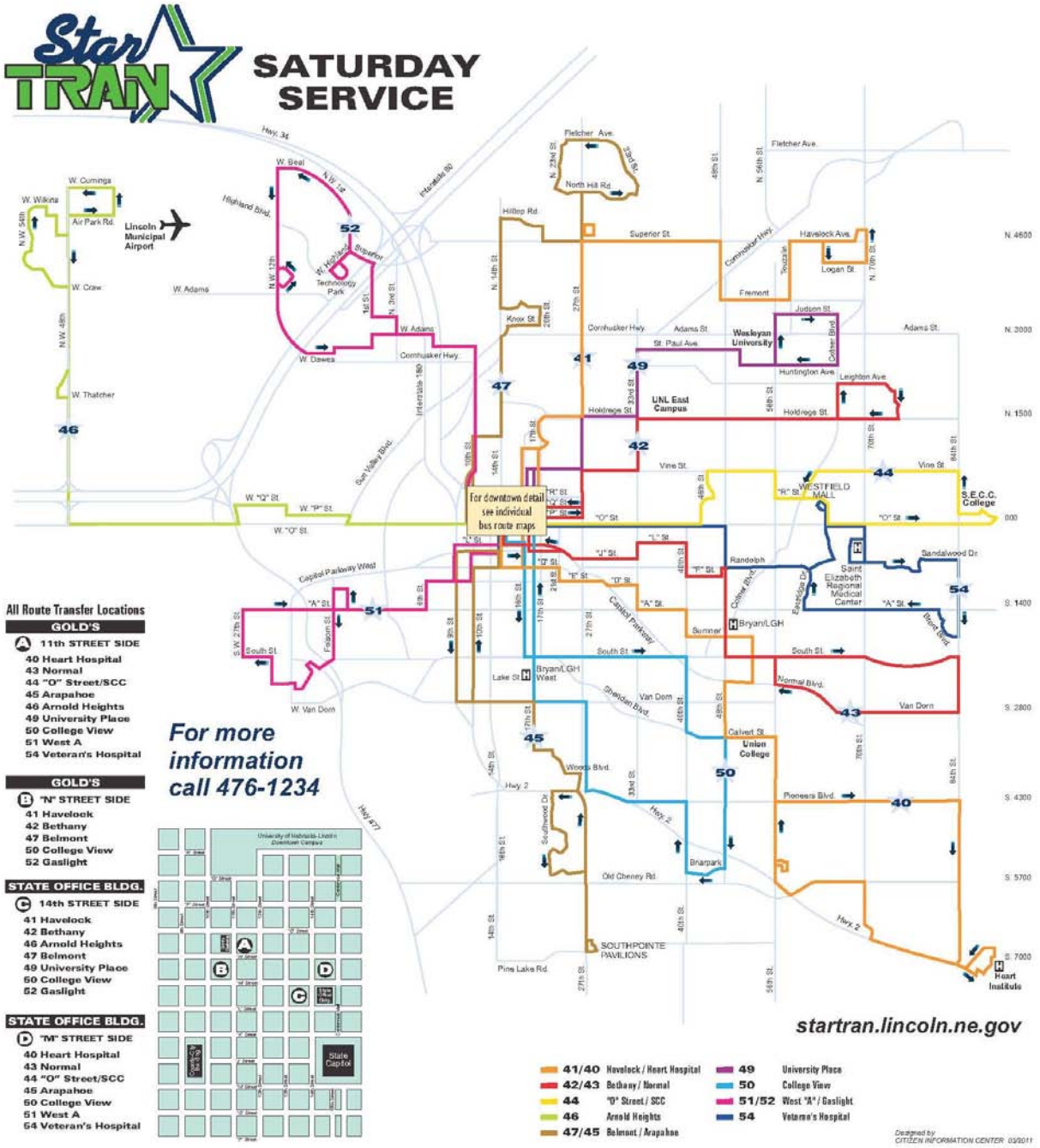


Figure 1.2: StarTran Saturday Bus Routes



2.0 Oversight and Guidance

This section of the report identifies the agencies, stakeholders, and processes that influence the overall direction and operation of public transit services within Lincoln.

Municipal Code

The Lincoln Municipal Code, Chapter 2.38, establishes within the Department of Public Works a division known as StarTran. StarTran exists under the general control and supervision of the Director of Public Works and provides public transit services within the City of Lincoln.

According to the municipal code, StarTran shall be managed by a general manager appointed by the Director of Public Works, or by a firm or individual under contract to the City. Currently, StarTran is managed by a general manger, who is a division head in the Department of Public Works and Utilities.

Municipal code established the StarTran Advisory Board, consisting of seven members who are electors of the City and appointed by the Mayor with the approval of the City Council. The principal function of the Advisory Board is to advise the Mayor, City Council and Director of Public Work concerning StarTran operations, including initial review of transit-related studies and plans, route studies and evaluations, performance indicators, rates, fares, and schedules. The Advisory Board is charged with annually reviewing the performance of transit services using established measures and standards, and forwarding any recommendations to the Director of Public Works. The Advisory Board has no authority to review salaries, employee benefits, or the system for selection, promotion, and retention of employees or managers of the system.

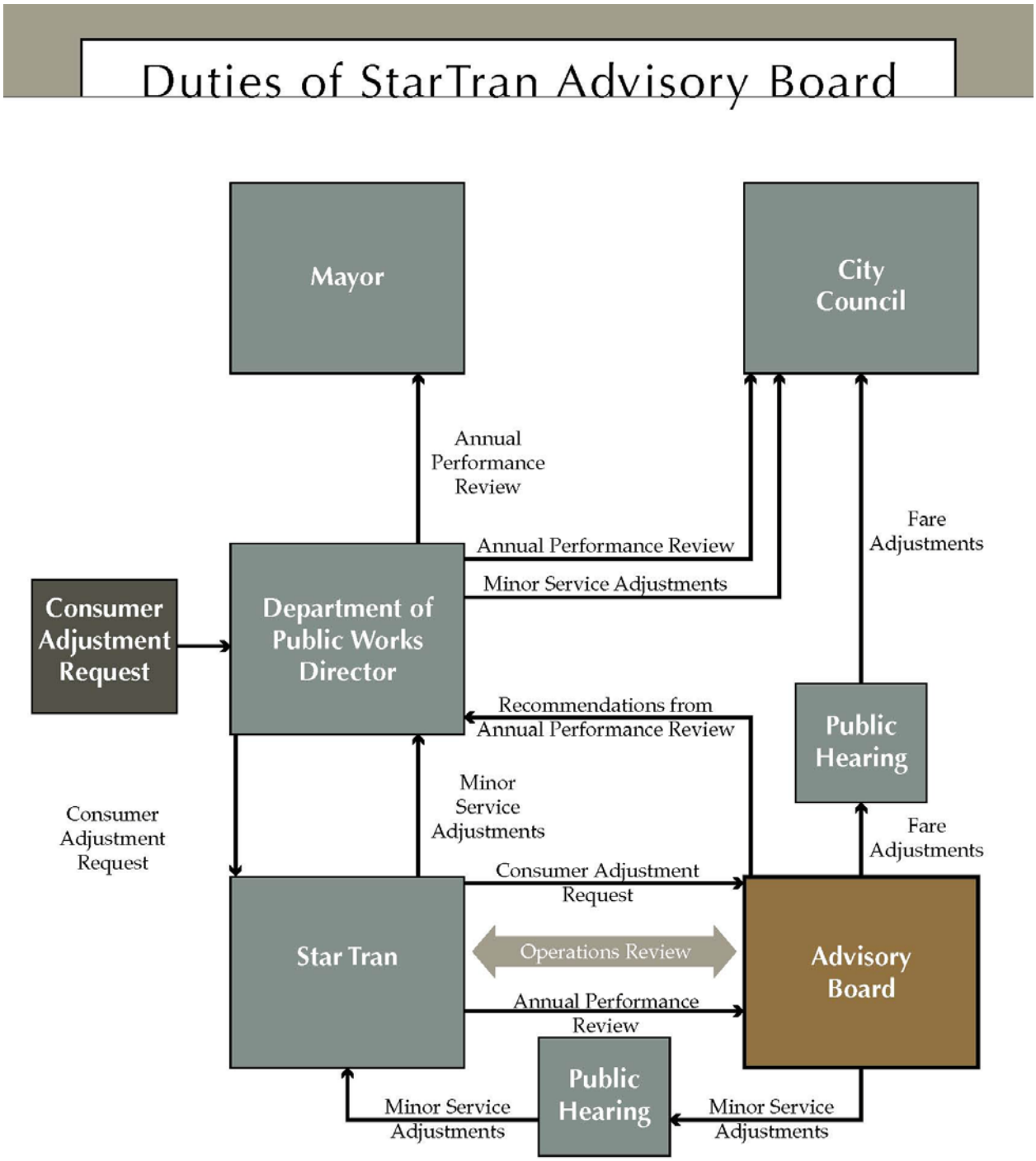
The Advisory Board shall, by official action after public hearing, make recommendations to the City Council on rates and fares. The Advisory Board may, after public hearing and without further action by the Council or Mayor, make adjustments to trips, schedules, routes and promotional fares.

The relationships of the key stakeholders are shown in Figure 2.1.

Ongoing Monitoring

The StarTran Advisory Board is tasked with reviewing the performance of the StarTran system in matters such as transit-related studies and plans, route studies and evaluation, performance indicators, rates, fares, and schedules. System performance is evaluated on an annual basis with the StarTran Annual Surveillance Report. More frequent reviews are conducted with the StarTran Monthly Operating Report. All evaluations are intended to compare current system performance against the service and performance goals detailed in the StarTran Transit Development Plan (TDP).

Figure 2.1: StarTran Stakeholders Flow Chart



StarTran Annual Surveillance Report

The StarTran Annual Transit Surveillance Report (TSR) is presented to the Advisory Board each June and evaluates the performance of the system over the past year. Performance indicators are based on the proposed service standards detailed in the TDP and are grouped into four primary categories: service coverage, patron convenience, fiscal condition, and passenger comfort. A summary of the standard measures and indicators is shown in Table 2.1. A more detailed summary of the StarTran performance standards and current and historic StarTran performance results can be found in the Fixed Route Operations chapter.

Table 2.1: StarTran Surveillance Report Performance Indicators

Category	Standard
Service Coverage	- Availability - Frequency - Span - Directness
Patron Convenience	- Speed - Loading - Bus Stop Spacing - Dependability - Road Call Ratio
Fiscal Condition	- Fare Structure - Farebox Recovery - Productivity (Pass/Mile)
Passenger Comfort	- Waiting Shelters - Bus Stop Signs - Revenue Equipment - Public Information

StarTran Monthly Operating Report

In addition to the Annual Surveillance Report, the Advisory Board is also presented with a Monthly Operating Report at each monthly regular board meeting. The report covers topics such as ridership numbers, operating statistics, and updates on ongoing issues or projects. The consultant reviewed the operating reports for the months of June, July, and August of 2011. Topics covered in these reports included the following:

- **Marketing**: The marketing section of the report includes information on sales counts for various pass programs and discounts, an update on the Trip Planner program in development by City CEIS staff and UNL students, and updates on customer outreach efforts such as middle school open houses.
- **Operations**: This section is simply a table showing the monthly road calls since September, 2010.
- **StarTran/UNL Transportation Program**: This section consists of two tables. The first summarizes monthly ridership on the Route 24, the UNL Circulator broken down by UNL Pass riders and all other riders. The second table summarizes monthly ridership by UNL Pass holders on the Route 24, and on all other routes.
- **Ridership Review**: This section summarizes year-to-date ridership for fiscal year 10-11 and compares this to ridership over the same time period from fiscal year 09-10. Ridership is broken

into groupings of Paid, Unpaid, UNL, and Special Event ridership. Low Income ridership is also summarized for these time periods.

The remaining sections of the report include summaries of County/City employee bus passes, the American Recovery & Reinvestment Act of 2009 program, Handi-Van trip requests, the Gold's Building passenger/terminal location crime prevention program, the bus advertising/wrap program, the Lincoln-Lancaster County 2040 Comprehensive Plan update, the City Audit Advisory Board examination/audit and operations of bus charter services.

Finally, the report also includes route-level passenger and operating statistics for the current month, year-to-date, and the same time periods for the previous year. The information covered includes total passengers, revenue hours, revenue miles, passengers per revenue hour, and passengers per revenue mile.

To improve the information flow throughout upper management channels, StarTran should look to develop an ongoing report of key statistics and measures to indicate current performance and changes over time. Blending current performance markers with longer trend information will provide upper management with key information. A sample report is shown in Table 2.2.

Table 2.2: Sample Performance Measure Summary

Performance Measures	Budget/ Target	Current Month	YTD	YTD-Last Year	3 or 5 Year Average
Operations					
Passengers					
Revenue Miles					
Revenue Hours					
Total Expenses					
Riders per Mile					
Revenue Miles per Revenue Hour					
Cost per Passenger					
Average Fare per Passenger					
Cost per Revenue Hour					
Driver Pay Hours to Platform Hours					
Passengers per Complaint					
Miles Between Preventable Accidents					
Maintenance					
Vehicle Maintenance Cost per Mile					
Miles per Maintenance-Related Road Calls					
Fuel Cost					

Advisory Board Interaction

The consultant observed the StarTran Advisory Board meeting on October 27, 2011. The packet of information prepared for the Board was examined before the Board meeting.

Board Packet Information

Board packet information prepared by staff was adequate to make informed decisions for the three route changes that were presented, but did not use all available information. The presentation by staff was causal, and without strong data to support the recommended changes. Some of the arguments provided by staff were contradicted by available schedule adherence data.

Board packet information could be improved with a standardized format for staff recommendations. A sample form for proposed service changes is shown in Figure 2.2. A more formal presentation of information would include an appropriate written background for the issue to be discussed in the first section. Alternatives would be developed in the second section that would summarize the cost, schedule implications, and revenue projections. This quantitative analysis would be detailed in a service change analysis form, as shown in the sample in Figure 2.3. This section could also include a discussion of the social impacts, if any, of the proposed change. The third section would include staff recommendation on the preferred option.

Figure 2.2: Sample Service Change Proposal Form

StarTran Service Change Proposal Form Item No. 2012-001

MEMO TO: StarTran Advisory Board
FROM: Larry Worth, Transit Manager
DATE: January 1, 2012
SUBJECT Rate Setting Resolution

BACKGROUND:
In April 2011, the Advisory Board approved…

INFORMATION:
With the completion of the fare and service analysis study in October 2011, the board voted to make two modifications to bring the budget in line with higher expenses:

1. Internal Savings
2. Fare Increases

As part of the approved budget modifications, a 20-25% increase in fare categories…

It is anticipated that these fare changes with provide StarTran with approximately $112,000 in additional revenue…

ALTERNATIVES:

1. Approve the new 2011-2012 rates, which would reflect a 20-25% increase in most fare categories, effective January 1, 2012
2. Modify rates per board priorities.
3. Do not approve a change in new 2011-2012 rate structure.

STAFF ANALYSIS:

- Operations: <Department staff may make statement about impact of proposed change, or simply state, "No anticipated impact.">
- Budget: …
- Planning: …
- Marketing: …
- Maintenance: …

RECOMMENDATION:
The Transit Manager recommends approving **Alternative #1** to generate additional revenue…

ATTACHMENTS:

- Service Change Analysis
- <Other items as necessary>

Figure 2.3: Sample Service Change Analysis

StarTran Service Change Analysis

Item No. 2012-002: Holiday Service Elimination

Service Change Description: Eliminate all routes on three holidays: Memorial Day, 4th of July, Labor Day.

RIDERSHIP		ANNUAL	6 MO.
Existing Ridership:		5,322	2,661
Projected Ridership Impact:		-5,322	-2,661
Important Factors:	1) Impacts residents that are dependent on transit 2) Dial-A-Ride service would also not operate		

REVENUES		ANNUAL	6 MO.
Projected Fare Revenue Increase/Decrease:		-$1,021	-$510

Revenue Change Details:

	Avg Fare	Ridership Change	Fare Revenue
Free	$0.00	-3,753	$0.00
Pass Fares	$0.84	-645	-$541.80
Cash Fares	$0.69	-642	-$442.98
Reduced Fare Ticket	$0.50	-18	-$9.00
Full Fare Ticket	$1.00	-27	-$27.00
Transfers	$0.00	-237	$0.00
TOTAL		**-5,322**	**-$1,020.78**

OPERATING COSTS/EFFICIENCIES		ANNUAL	6 MO.
Total Net Operating Costs Change:		-$21,336.22	-$10,668
Annual Route Costs Increase/Decrease:	-$22,357.00		
Annual Route Revenue Increase/Decrease:	-$1,020.78		
Factors:			
Number of Days Operated per Year:	3		
Avg Cost/Hour:	$32.30		
Daily Revenue Hours of Service:	320		
Avg Cost/Mile:	$1.78		
Daily Revenue Miles of Service:	3,850		
Efficiency Evaluation:			
Route Passengers/Revenue Hour:	16.6		
System Avg Passenger/Revenue Hour:	49.2		

CUSTOMER IMPACT		ANNUAL	6 MO.
Existing Customers - Rides Impacted:		5,322	2,661
New Customers - Rides Impacted:		-	-
Total Rides Impacted:		5,322	2,661
Factors:			
Miles from StarTran Route:	5 *miles*		
Avg time to Walk 1 mile:	20 *minutes*		
Walking Time/Passenger:	100 *minutes*		
Additional Wait Time:	n/a *minutes*		
Walking Impact - Nearest Route:	Walking Time/Passenger x # Passengers	8,870 *hours*	
Equity Impact:	Impacts Title VI (low-income and minority population. Less service would be available on Dial-A-Ride.		

SUMMARY	ANNUAL	6 MO.
Annual Savings Goal	$500,000	$250,000
Annual Net Savings (Payroll Cots + Maint. Costs - Fare Revenues - Grant Revenues)	$21,336	$10,668
Annual Ridership Change	-5,322	-2661

Development of the Board packet recommendations would require slightly more staff time than is currently used. An example of how this new interaction might take place follows:

- The Accountant and Planner would develop the cost and revenue implications, as well as a comparison to the system standards. System standards are set at the beginning of the fiscal year. Proposed service changes would be analyzed against system standards.
- The Planner would also provide information available from the Automated Passenger Counting (APC) system regarding on-time performance and passenger boardings for the segment in question. He would also present information regarding current on-time performance for the route and the segments in question.
- The Bus Operations Superintendent would provide information on staffing levels, schedule adherence implications, and bus stop locations.
- The marketing department would provide information on passenger implications. For a service reduction, this would include a profile of passengers by demographic information such as Lincoln Public School students, elderly, disabled, and other demographic information. Individual passenger profiles would also be provided.
- For a service expansion, demographic information and transit propensity would be presented by the Planner. Marketing would provide information on proposed information distribution plans. For a small project, there may be no information provided; for a large project, appropriate media strategies would be selected.

Board Observation

During attendance at the board meeting, the scope of duties of the Advisory Board was unclear. The Board members did not exhibit clear direction in discussion of issues before the Board. Without clear direction, a Board will typically focus on the interests of the individual Board members and will not always focus on what is the best direction for the transit system as a whole.

Individual Board members acted, at times, as auxiliary staff; and, at other times, as Board members developing and implementing policy decisions. It is the Transit Manager's responsibility to direct staff and to allocate their time for Board-related activities. Board members should not be directing staff in conflict with the Manager's direction. The inconsistency of Board members' approach to the discussion topic makes it difficult for staff to adequately prepare information or understand the direction that the Board desires.

Focusing the Board

There are several ways to focus the direction of the Board:

1) Limit the Board to primarily **advise on service policies** that have impact on the passengers.
2) Ask the Board to have greater involvement and **advocate for transit service improvements** so the Board would become the local transit spokesperson.
3) Invest specific **budget and management review powers** to the Board, subject to City Council oversight. This requires significantly more time of individual Board members and greater community involvement.

Option One: Advise On Service Policies. A transit board operating within this guidance would focus on specifically defined tasks which affect the quality of service provided to passengers. Typically, these would be routes, bus stop locations, schedules, fares, and hours of service. Decisions made by this type of transit board would be forward to the City Council for final approval.

The purpose of this Board would be to solicit input from the public, analyze that input, and consolidate it into a recommendation to the City Council. Board members would be expected to represent their constituencies and would be expected to solicit input from specific community groups and organizations. Board members would not be involved in specific staff tasks that implement the recommendations. All recommendations would be forwarded to the City Council for final approval at the next scheduled City Council meeting.

Board members would commit to one Board meeting per month and would be expected to spend two to three hours per month communicating with constituent groups regarding routes, fares, and schedules.

Option Two: Advocate for Transit Service in Lincoln. A transit board operating within this guidance would perform the tasks in Option One as well as additional tasks to advocate and promote transit service in Lincoln. Board members would be expected to participate in advocacy activities such as meeting with state and federal legislators regarding state and federal policies and funding that affects transit service in Lincoln. One or two members would be expected to have a higher profile in the community and be available for media opportunities that would promote transit service.

Most Board members would be expected to devote three to five hours per month, on average, to transit activities. Some Board members, who would provide the higher media profile, would be expected to devote five to eight hours per month.

Option Three: Formalized Board with Budget/Service/Performance Responsibilities. The most formal Board structure would allow members to assist staff in developing guidance for the development of StarTran. In addition to the activities in Option Two, Board members would be provided additional information on system performance and financial condition. Typically, this type of Board would have sub-committees that would meet as needed to review their subject area. Sub-committees could include budget, marketing, operations, capital development, legislative, and/or planning.

Sub-committees would meet on an "as needed" basis. The budget committee would meet two or three times before the budget is submitted to the City Council, and once or twice during the fiscal year to review budgetary performance. The marketing committee may meet as often as monthly if there is a serious financial commitment to marketing activities and they would review advertising programs as well as basic market research. The planning committee and capital development committee may only meet once or twice per year depending on the planning activities and capital needs of the system.

StarTran staff would provide a higher level of detailed information to the Board and its sub-committees. This type of Board tends to be dynamic and require additional staff time to provide information to make decisions. Frequent interaction with City Council members would be needed periodically to advance the goals of the StarTran Board. Final decisions on operating and capital budgets would remain with the City Council.

All Board members would be expected to attend monthly Board meetings and legislative meetings as outlined in Option Two. Additionally, depending on committee assignment, Board members may be asked to devote up to five hours per month in committee work. Total time commitment would vary by month but could be up to 15 hours per month during some months.

A decision on the role of the Advisory Board will provide staff with guidance as to the level and authority of the Board. Presentations by transit staff to the Board will be appropriate to the authority of the Advisory Board.

FTA Triennial Review

Per United States Code, chapter 53 of title 49, the Federal Transit Administration (FTA) is required to conduct a review and evaluation of recipients of Urbanized Area Formula Grants at least once every three years. The previous three FTA reviews of StarTran were completed in 2004, 2007, and 2010. The review evaluates 23 areas of performance such as financial reporting, facility maintenance, and procurement practices. Deficiencies in any of the areas require immediate corrective action according to a timeline determined by the FTA. Deficiencies found in the 2004 and 2007 reviews were corrected to the satisfaction of the FTA.

Procurement Systems Review

Following the 2010 FTA review, deficiencies were found in seven areas: Financial, Technical, Maintenance, Procurement, Buy America, Drug & Alcohol Program, and EEO. As many of these areas were also found to be deficient in the 2004 and 2007 reviews, the FTA determined that a more in-depth review of StarTran was required. Many of the deficiencies related to StarTran's procurement processes,

prompting the FTA to conduct a Procurement Systems Review in early 2011. The FTA review, as well as a review of the City's procurement practices by an independent accountant identified specific issues concerning vendor certification and other necessary documentation to verify compliance.

Following the completion of these reviews, a number of procurement procedures were revised by StarTran and City-County Purchasing Division staff. A revised program-specific procurement manual was submitted for approval to the FTA in February, 2011. The FTA has approved these revised procedures and StarTran is currently in compliance with the requirements of the Triennial Review.

Department of Public Works and Utilities

Additional guidance and performance benchmarks can be found in two documents produced by the City of Lincoln's Department of Public Works and Utilities: The Strategic Plan and The Operations Overview. The full documents include information concerning the following departments within the division: Business Office, Engineering Services, Special projects Development, StarTran, Wastewater and Solid Waste, Water System, and Watershed Management.

Strategic Plan

Within the StarTran section of the Strategic Plan a set of issues affecting StarTran performance are described. For each issue, long-term goals for handling the issue are established, performance objectives are defined, and actions and strategies are outlined for meeting the objectives. The most recent Strategic Plan for fiscal year 2011-12 details five major issues related to StarTran service:

1. **Service Limitations vs. Growth in Public Need:** StarTran has seen an increase in requests for additional evening and weekend service, but is unable to provide this service due to limited funding levels. StarTran seeks to maintain 100 percent of current service and increase funds for evening downtown shuttle service by partnering with downtown businesses, Haymarket Arena, and other groups. StarTran also seeks to increase evening and weekend service by 10 percent or two routes by exploring cooperative arrangements with UNL and special transportation providers.
2. **Overcoming Stereotypes of the Typical StarTran Customer:** A common stereotype of StarTran customers is that they are Elderly, Disabled, and/or Low-Income. StarTran seeks to overcome these stereotypes and increase ridership on fixed route service by 1.14% by June 2012. The strategies for attaining this goal include developing surveys to determine public understanding, awareness, and acceptance of the StarTran system, promoting StarTran service to UNL, other local colleges, and retirement communities, and exploring new media outlets for advertising and promotion.
3. **Lack of Consistent Funding:** StarTran competes for funding annually with other City services such as police, fire, and road building programs. StarTran seeks to increase both the level and consistency of state and local funding while continuing to secure available FTA funding. StarTran's goal is to increase by 3 percent the dedicated public transit funding from the FTA and state and local sources.
4. **Increasing Operating Costs:** Operating costs, particularly those associated with fuel, insurance, and operator salary/benefits, are growing faster than farebox revenue. StarTran seeks to reduce operating costs 5 percent by the end of fiscal year 2012, increase operating revenue per mile by 2.28 percent by the end of fiscal year 2013, and to maintain the average usage of 350,000

gallons per year of alternative fuels. The strategies for reaching these goals include continuing agreements with alternative fuel organizations, securing EPA funding associated with clean diesel and alternative fuels, and promoting the environmental benefits of public transportation to the general public.

5. **Transit Amenity Maintenance and Upkeep:** Unclean shelters and benches reflect poorly on StarTran service. Survey data show that 15 percent of customers are unsatisfied with the cleanliness of transit amenities. StarTran seeks to reduce by 50 percent the number of shelters which are unsightly or pose health and safety risks by increasing the review of shelters and holding planning sessions with cleaning service personnel to determine the best solutions to these maintenance issues.

Operations Overview

The StarTran chapter of the Operations Overview divides StarTran staff into three distinct sections: Administration, Operations, and Maintenance. Each section presents a list of general tasks that the section is responsible for. Within each task is a summary of the output and performance measures for the previous year and any standards or benchmarks relevant to the task. An example of this for the Maintenance section Inventory Management task is performance measures of number of maintenance parts & supplies, number of parts processed per average day, and approximate amount of inventory in stock. The standard for this task is to maintain an inventory stock under $300,000. A summary of the responsibilities assigned to each section are shown in Table 2.4.

Table 2.3: StarTran Section Responsibilities

StarTran Section	Section Responsibilities
Administration	- Manage Drug and Alcohol Program - Manage and Interpret Labor Contract - Marketing to General Public and Businesses - Manage Public Information - Media and Public Relations - Program Development and Administration - Financial Oversight - Budgeting - Maintenance of Personnel Records - Transit Reporting - Preparation of FTA and State Required Documentation - Carry Out Transit Related Plans and Studies - Administrative Activities
Operations	- Oversee Bus Operators & Dispatchers/Field Supervisors - Monitor Bus Routes and Handi-Van Operations
Maintenance	- Inventory Management - Vehicle and Facilities Maintenance - Coordinate the StarTran Safety Program - Manage Building and Capital Projects

Budgeting Process

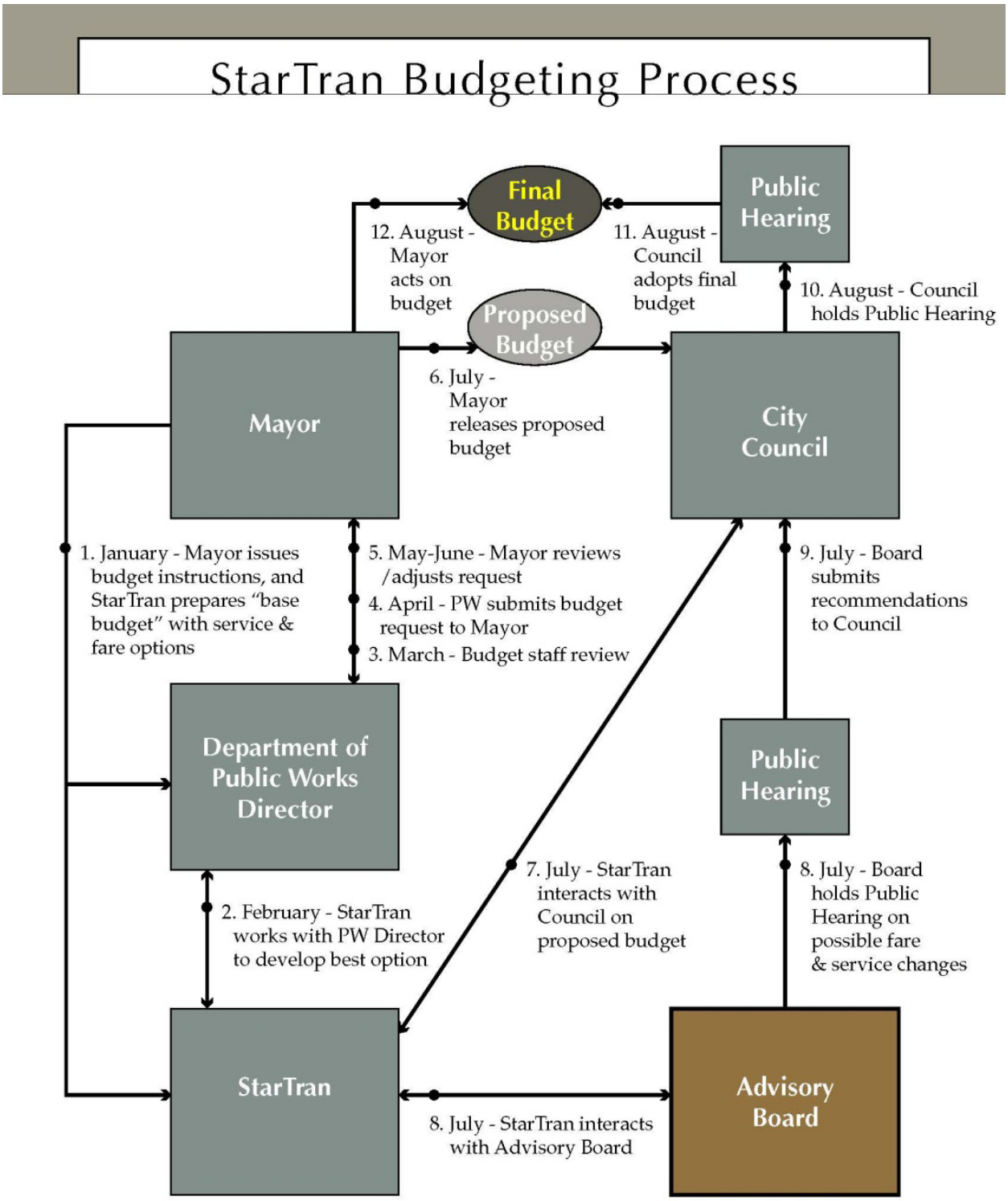
Local funding of StarTran service is provided through the City budgeting process. The budget cycle has historically been conducted annually; however a two-year budget cycle will be initiated beginning fiscal year 2011-12. Each cycle, StarTran competes for funding against other public services such as police and fire departments.

The budgeting process begins in January with a set a budget instructions issued by the Mayor. These instructions are based on the overall financial issues of the City such as projections of sales and property taxes and if needed, include a key instruction to reduce spending by a set percentage of the previous approved budget. StarTran then prepares a base budget based on the anticipated costs of maintaining existing services. This base budget is compared to the Mayor's instructional budget to calculate the cost savings or new revenue required to close the gap.

In February, StarTran staff consults with the Director of the Department of Public Works (DPW) to select options for reaching the mandated budget instructions. In April, after a review with department budget staff, the DPW sends a budget request to the Mayor. The Mayor then reviews budget proposals from all departments. During this time new budget options may arise, leading to late adjustment calculations and impacts. In July, the Mayor then publically announces a proposed budget to the City Council.

After a series of interactions between the City Council, StarTran, and the Advisory Board and public hearings for possible service and fare changes, the Advisory Board submits its recommendations to the Council. The Council then holds its own public hearing before adopting the final budget. A flow chart of the StarTran budgeting process is shown in Figure 2.3.

Figure 2.4: StarTran Budgeting Process Flow Chart



Findings

1. Mission of the organization is not clear to staff due to unclear policy direction
   - What takes precedence— controlling deficit or capturing new riders?
   - Should StarTran manage operations to increase riders or maximize user revenues?

2. Relationships are unclear as StarTran management reports via three ladders:
   - Mayor and Public Works Director
   - City Council
   - Advisory Board

3. Advisory Board does not exhibit a clear understanding of its role and responsibilities
   - Staff appears to defer to Advisory Board on issues that may not be part of Advisory Board charge
   - Unclear how much policy direction Advisory Board gets from Mayor or Council

4. Significant amounts of planning and financial data are already produced
   - Data submitted at reasonable intervals up the chain but does not appear to be regularly used to help guide investment decisions
   - Annual Surveillance Report provides a reasonable review of performance but the basis for some of the standards could be more clearly defined
   - Opportunities to improve the flow and usefulness of information by establishing a clearer set of reporting standards to meet expectations of city administration

5. Findings of the Federal Transit Administration (FTA) Triennial Review are straightforward
   - Purchasing issues will need to be resolved by StarTran and City Purchasing staff
   - A 2010 city audit(CAFR) of compliance requirements noted deficiencies in federal program procurement practices but that a revised process manual has already been prepared

6. It is unclear how the Strategic Plan developed by the Department of Public Works is used to guide the annual budgeting process or influences on-going operations.
   - Stated targets appear to be presented without basis
   - No evidence of monitoring on-going performance relative to stated targets

7. The Transit Development Plan (TDP) completed in 2007 did a thorough job of system review and identification of options for future service changes.
   - Some service concepts envisioned did not prove successful (crosstown neighborhood connections), but staff did adequate job of implementation
   - An update to the TDP should be undertaken over the next 2 to 3 years with the intent of repeating the update process every 5 to 7 years

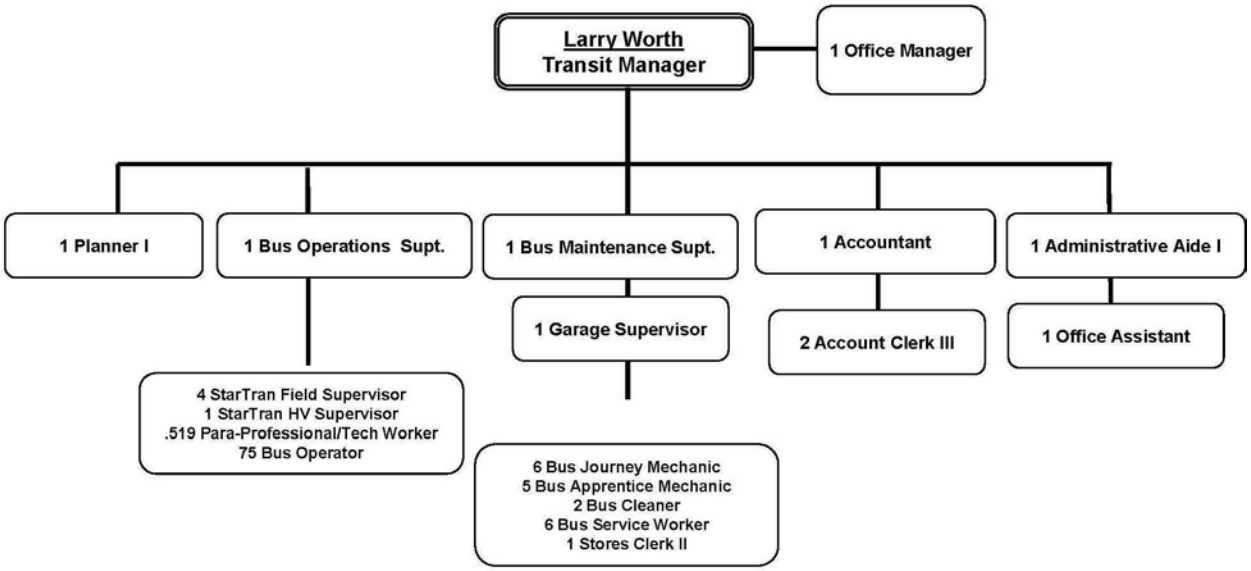
8. The budgeting process used to develop annual StarTran operating budgets requires StarTran to interact with the Mayor, City Council, and the Advisory Board with potentially differing policy directions being generated
   - Mayor and City council should clarify intended role of the Advisory Board in this process.

3.0 Management and Organizational Structure

This chapter provides observations on the organization structure, staff activity, and workload of StarTran staff.

StarTran staff levels for fiscal year 2011-2012 are 111.52 full time employees. This is the same as in fiscal year 2010-2011. Figure 3.1 shows the current organization structure for StarTran.

Figure 3.1: StarTran Organization Chart



Staff Structure and Observations

The consultant visited with administrative personnel, dispatchers, supervisors, drivers, and the ATU Executive Board during a visit on October 24 through October 27, 2011. The purpose of this visit was to evaluate organization structure, staffing levels and overall performance. Performance appraisal of individual staff members in the discharge of their duties is not included in this document. Observations on staff performance were presented to the Transit Manager on October 27, 2011.

In general, almost all employees are in a comfort zone with their duties due to their long tenure with city. There is little pressure from the city to excel in individual performance or to expand the scope or performance of the transit system.

Staff Organization

The existing organization chart as shown in Figure 3.1 was reviewed. Personnel are generally reporting to their proper chain of command as listed in the chart. Often, the Office Manager will be the direct supervisor of office staff and the professional staff will report directly to the Transit Manager. At StarTran, the Office Manager has no direct reports. The two clerical staff that provide accounting functions report to the Accountant and the Office Assistant reports to the Administrative Aide I. While this structure is slightly unusual, the structure of the organization did not appear to present any problems with assignment of tasks or the ability of employees to perform their duties.

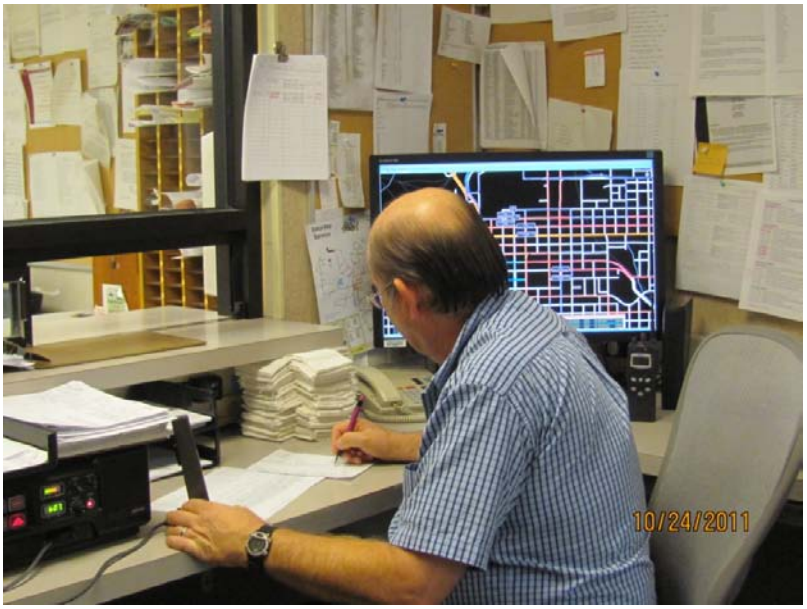
Staff Activity

While employees were generally busy, it is important to examine the value to the organization for the tasks that are performed. Staff members were reasonably busy in carrying out their duties, although some inconsistencies were observed. It appears that there is adequate staff to allow the system to grow without the need for additional support staff. However, the question of whether there is excess staff is more difficult to analyze. The productivity of individuals is also difficult to analyze.

Dispatcher

In the transportation function an example of unused technology is the manual calling of transfers through the office dispatcher. Drivers who have a transferring passenger call the Dispatcher on a closed radio channel. The Dispatcher then calls the other bus to wait. The Dispatcher has another tool available that could speed up the process, but which is not used. An automatic vehicle locator (AVL) system shows the location of all buses. Because there have been software glitches, the dispatcher does not use the AVL system, even when it is working correctly. The radio call procedure is cumbersome and time consuming. As a result, the dispatcher is busy, but not necessarily productive.

Figure 3.2: Dispatcher Manually Recording Transfers with AVL Monitor in Background



StarTran has also purchased the technology to allow drivers to communicate through their Mobile Data Terminals. This would allow bus-to-bus data communication and eliminate the current process of a call to the Dispatcher, the Dispatcher recording the call on paper, and a Dispatcher call to the receiving bus. StarTran's reason for not using Mobile Data Terminals to record transfers is that it would be considered texting by the Driver. Many bus systems with this technology require that the Driver initiate the data call when the Driver is stopped in traffic, either at a service stop or at a traffic light. There is little risk of an accident when the bus is stopped and the Driver has applied the foot brake. Utilization of this existing technology would allow the Dispatcher to perform other functions that have a higher value in supporting the service provided by the Drivers.

Account Clerk III

There are two Account Clerk III positions. The Low Income Fare (LIF) Program requires a significant amount of time for one of the positions. A database is used to enter the names and addresses of all participants in the LIF Program. Some sales locations are allowed access to the database and others are not. The Account Clerk III enters information provided by those locations that are not allowed access to the program. With the elimination of verification of low income status and the resultant increase in participants, the workload of this position has increased. It is questionable whether a database is needed if there are no verification requirements. Reforming the LIF Program could reduce this workload.

A reduced workload would allow the Clerk to perform duties that are important to StarTran as well as for other divisions of Public Works. There may be an opportunity to combine this clerical position with other clerical positions within Public Works and reduce overall staffing by one person. The clerical workload of other divisions would need to be carefully analyzed before this staff change could occur.

Office Assistant

The workload of the Office Assistant is difficult and she makes mistakes due to multiple inputs with no assistance. As the point of all public information, she often engages in relatively long conversations with passengers attempting to use the system to reach a destination that they are unfamiliar with. She also sells passes and maintains the lost and found. More importantly, she receives and documents complaint calls.

When she is on lunch break or vacation, another person (rotating schedule) sits at her work station. However, the relief person does not answer information calls. They only answer the business line, sell passes, and provide lost and found service. Information calls are routed to Executive Answering Service (EAS) which charges 45 cents per minute to answer general information calls regarding next bus or routing information. In the last 12 months, EAS billed StarTran $7,330. Requiring the relief person to answer the phone would result in a modest savings with no additional labor cost.

Technology in many offices allows direct phone lines to office personnel which would reduce some of the workload for the Office Assistant. She would no longer answer the business line and route the calls to the appropriate person. Direct dial information for business calls would reduce the volume of phone calls that she answers each day.

It would be more reasonable to transfer complaint calls to the Superintendent of Transportation rather than have them funnel to the Office Assistant. This would reduce the Office Assistant workload and allow for a more thorough conversation with the complainant.

Other employees' duties are structured to have a reasonable workload. Some employees could provide assistance to other employees but opportunities to do so appear generally avoided. Most employees focus on completing their assignments and do not make efforts to voluntarily help each other.

Administrative Aide

The Administrative Aide I functions as the Marketing Assistant. The job, as currently structured, is performing necessary functions adequately, but does not provide measurable benefit to the organization as a whole. Performance of assigned duties is done in an acceptable manner, but the assigned duties do not focus on maximizing ridership. There are too many projects without a consistent focus. Projects tend to be event focused.

Bus Operations Superintendent

The Bus Operations Superintendent position is an important position in any transit organization. An effective superintendent will be involved in assuring the delivery of high-quality service, will understand the performance of drivers and supervisors, and direct and guide most operating employees. This position is typically the second most important position after the Transit Director in terms of influencing driver behavior and performance. While the position is critical to StarTran, the current assignment and responsibilities are unclear.

Mobile Supervisor

There is one road Supervisor in the morning and one in the afternoon. A road Supervisor was laid off two years ago due to budget limitations and there is no road supervision on some afternoons and Saturdays. The consultant rode with a driver who is a temporary morning Supervisor due to injury of the regular Supervisor. The consultant also rode with the regular afternoon Supervisor.

Both Supervisors were comfortable with their positions and duties. It appears that they are both operating under guidance that was implemented by previous administrations. In-vehicle technology is available for the AVL system, but has not been installed in Supervisor vehicles.

The Supervisors respond to passenger problems on buses and accidents and they appear to understand the importance of the activity. Other chores are less important and could be accomplished through better communication with drivers or other divisions in Public Works.

A more effective supervisory plan would be to insure that the passenger experience is usually positive. The current system puts the burden of solving late bus problems completely on the drivers. A cascading effect can occur when one bus waits for a late bus and then has a transfer to a third bus.

A systems approach to this problem analyzes the causes of late buses and provides external support to the drivers for problems that are beyond their control. A slow train, fire event, traffic accident, or malfunctioning traffic lights are typical causes of one-time events that make buses late. When the cascading effect occurs, one event can cause several buses to be late for several hours.

Another concern is repetitive late buses that occur on a frequent basis. High passenger volumes, high auto traffic volumes, and long traffic light cycles often cause delays that are predictable times in predictable locations.

There are several strategies to restore late buses. For infrequent, non-repetitive, late buses, a mobile Supervisor in a minibus, similar to paratransit buses, is the best solution. Some systems use a lead driver for this position; some use a rotating supervisory position; and some use a dedicated position with separate job description for the position. The purpose of the position is to restore service, irrespective of how it is staffed.

The person in this position would be trained in drug and alcohol observation procedures and would be required to immediately report any observations that may indicate drug or alcohol use by employees and follow StarTran procedures to protect passengers and the public from possible dangerous behaviors. This person would also respond to accident/incident locations and would be trained in proper procedures for accident/incident response.

The function of the position will be to determine the best strategy to minimize service disruptions. Many options are available to mobile supervisors. They can wait for late transfers and deliver the passengers within a defined radius of the central transfer point. Alternatively, they may cover a low ridership portion of a route and allow the regular bus to bypass portions of the route.

Other Office Positions

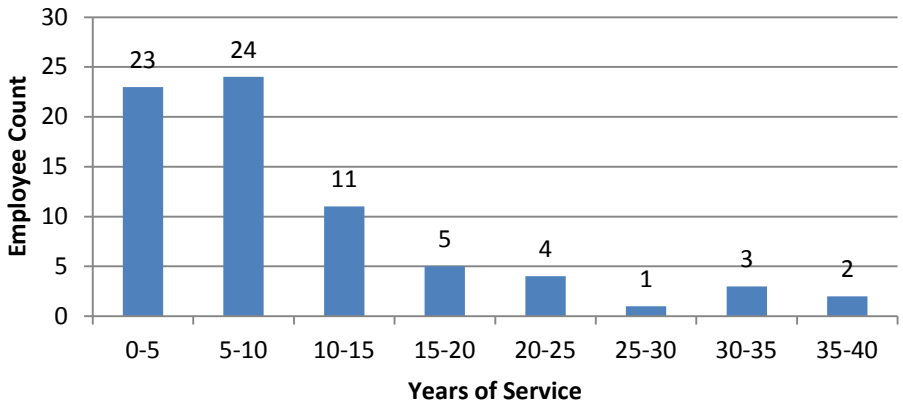
The remaining administrative positions – Accountant, Account Clerk, Planner, and Office Manager are all positions that are important in the delivery of high-quality transit service. No noticeable economies of job consolidation were obvious in the review of their duties.

Seniority

For unionized positions such as Bus Operators and Maintenance Workers, employee seniority often plays a critical role in the assignment and selection of shifts, opportunities for promotion, and other job-related issues.

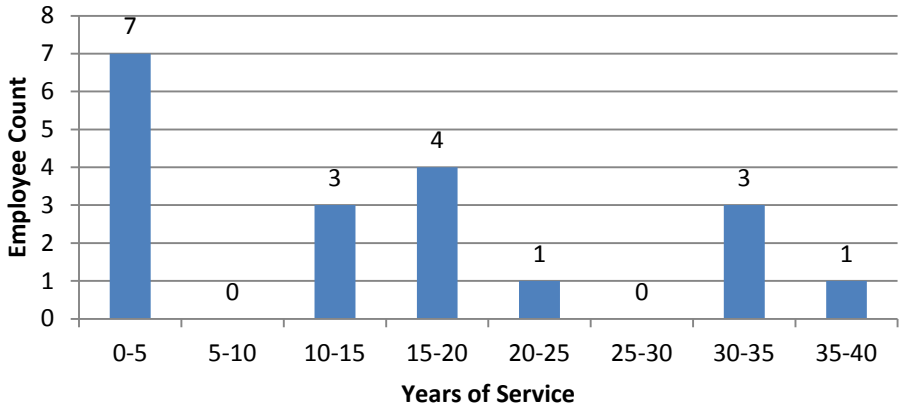
For the bus operators currently providing service for StarTran, the average number of years of service is 10.6. Operators with less than 10 years of service comprise 64 percent of the operator roster. The most experienced operator has 37.1 years of experience and five operators have 30 or more years of service.

Figure 3.3: Bus Operator Years of Service



For the maintenance workers in StarTran's service, the average number of years of service is 14.5. Approximately one third of the maintenance workers have less than five years of service. Four maintenance workers have 30 or more years of service.

Figure 3.4: Maintenance Worker Years of Service



Job Descriptions

StarTran provides a written job description for a number of positions. Each description lists a series of essential and non-essential job responsibilities as well as the actions necessary to meet each of these responsibilities. In addition, each job responsibility is ranked with a priority level of 1-10, 10 being the highest priority and 1 being the lowest. A review of StarTran's job descriptions finds them to be in line with the job descriptions of similar positions in other mid-sized transit systems. StarTran provides job descriptions for the following positions:

- Account Clerk III - A/R, A/P
- Account Clerk III – Payroll
- Accountant
- Administrative Aide I – Marketing
- Apprentice Mechanic
- Bus Cleaner
- Bus Operations Superintendent
- Bus Operator
- Bus Service Worker
- Field Supervisor
- Garage Supervisor
- HandiVan Supervisor
- Journey Mechanic
- Maintenance Superintendent
- Office Assistant
- Office Manager
- Planner I
- Stores Clerk
- Transit Manager

Internal Communication

During the process of collecting information for this report, observations were made regarding internal communication among StarTran employees. There were several complaints from drivers about confusing or inconsistent enforcement of operating policies.

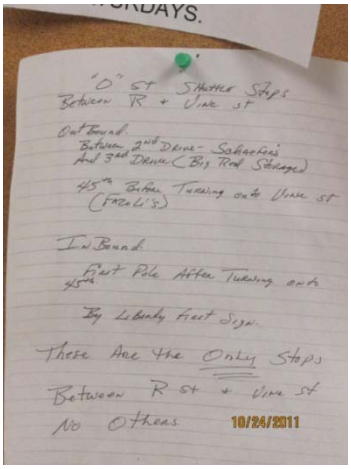
Drivers complained that Supervisors enforce operating policies differently and they are forced to make decisions based on who is working as a Supervisor. The most common complaint was safe bus stop locations. Some Supervisors will state that a location is safe while others will tell them that the same location is not safe. This is confusing to drivers as well as passengers.

The Driver's side of the dispatch area is chaotic with memos scattered throughout the area. There is no consistent format for memos and they are not removed and incorporated into the driver's manual or in a format that drivers can easily access.

Figure 3.5: Driver's Bulletin Board

There is no logical progression of memos and it is difficult to determine the relative importance of memos. Memos are not always dated or signed by management which makes it difficult to determine the authority behind each memo. Some memos are handwritten.

Figure 3.6: Hand-Written Memo



There is an area in the memo boards that is controlled by the union. The union posts memos in this area and the subject matter contains some content that is traditionally the responsibility of management. If an accident or lawsuit would occur as a result of actions taken by a driver, it would be difficult to trace the responsibility and decision making of the policy in question.

The current driver's manual that was provided to the consultant has a cover date of 1998. While the content of driving training is based on Transportation Safety Institute standards, the remainder of the manual is not current. Policies have changed and not all current policies are included in the manual.

The current union contract specifies discipline based on the number of preventable accidents. Preventable accidents are posted by date. Fortunately, there are very few accidents and it would be logical to assume that some drivers would know who was involved in an accident on a specific date. Posting the results of the accident review committee could be interpreted as a basis for a personnel action. In general, personnel actions are confidential information that should not be shared or posted by management.

Findings

1. The system is generally well run, but there are opportunities for improvement
   - Staff is attentive to detail and fully committed to perform their jobs
   - Because they are uncertain of the future, staff avoid taking risks to change the system
   - As a result, there is little incentive to look at things differently
   - Staff does not look to the Advisory Board for policy clarity

2. The administrative staff level at StarTran is not excessive, peers have similar or lower levels
   - Administrative employees are generally busy but technology could improve efficiencies
   - Lots of city administrative support services provided to StarTran that are not in transit budget
   - There is some room to grow services without adding administrative staff
   - Reassignment of some duties may improve effectiveness

3. StarTran is not at the bargaining table throughout labor contract negotiations
   - Transit management not able to propose or make the case for StarTran specific issues
   - Current labor agreement does not have excessive wage concessions and is comparable to other similar-sized cities
   - Terms of the contract in force if private operator takes over

4. Customer service activities are less than desirable
   - Inadequate telephone coverage during Office Assistant breaks
   - Little customer interaction from supervisors and senior staff

5. Complaints processed by Office Assistant may give appearance of diminished importance
   - Office Assistant who is forced to multi-task may not be able to devote adequate time to record the incident

6. Technology pieces not fully utilized or integrated
   - New technology has been tried but has not proven fully effective
   - Staff did some work with vendors to resolve initial problems with limited results
   - Underutilized components (AVL,APC, schedule master, garage wireless) could improve effectiveness

7. Internal staff communications processes should be clarified
   - Provide consistent directives to drivers for operations such as bus stop locations
   - Better organize driver's bulletin board communications
   - Ensure driver's manual is up to date with current policies and procedures
   - Do not post results of the Accident Review Committee

8. The performance objectives for several staff positions should be clarified
   - Establish focus of primary marketing activities for the Administrative Aide
   - Clarify roles and responsibilities of the Bus Operations Superintendent
   - Establish clear plan for Mobile Supervisors

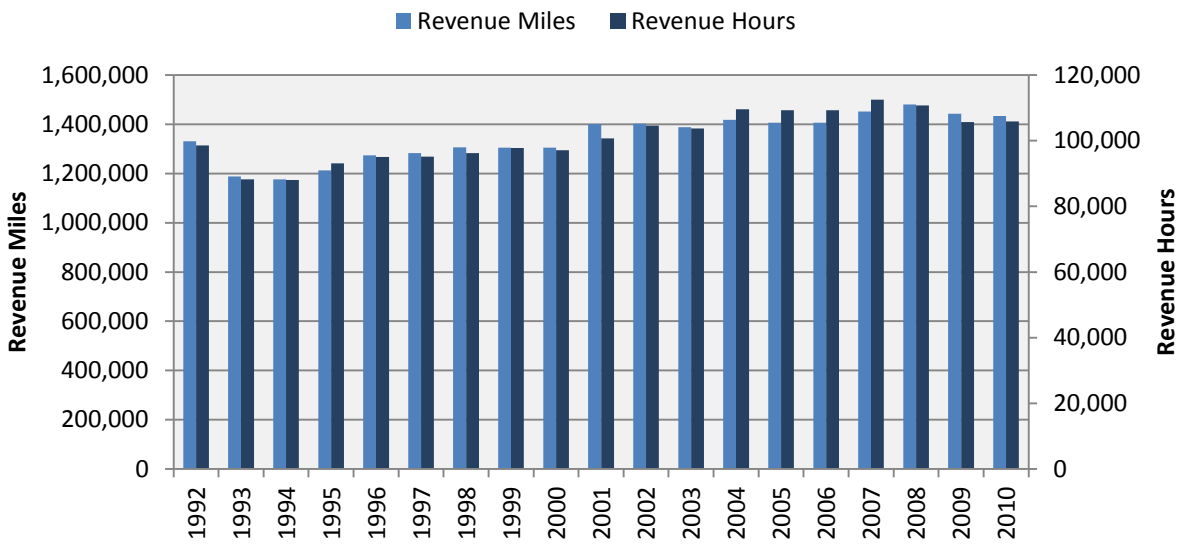
4.0 Fixed Route Operational Analysis

StarTran operates 16 daytime fixed routes, 13 of which provide service on Saturday. StarTran also operates a downtown circulator, Star Shuttle. This chapter analyzes the service details and performance of StarTran's fixed route system.

Service and Ridership

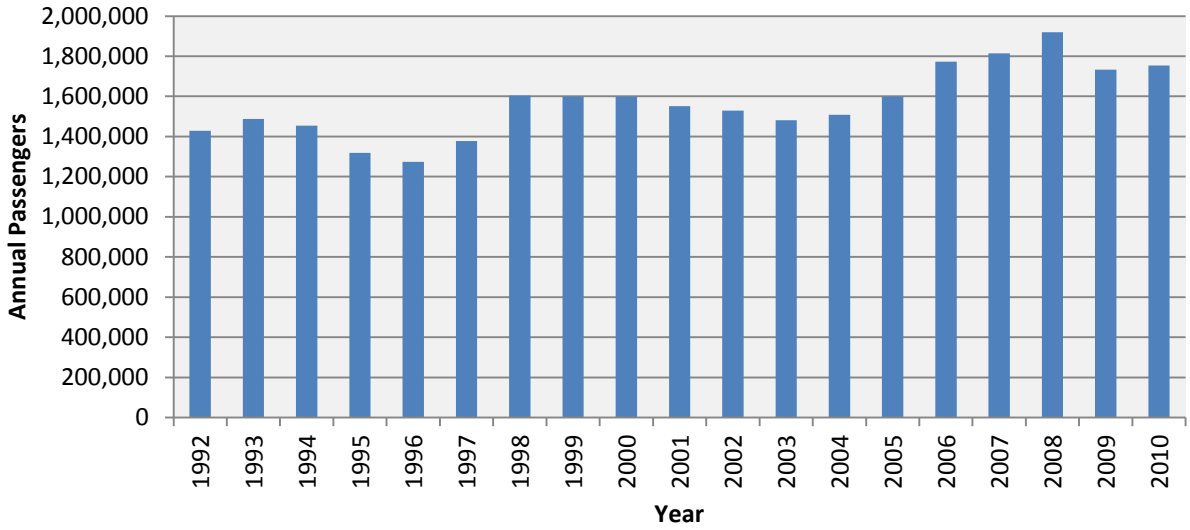
In 2010, StarTran provided 1.8 million total passenger trips. In 2010, StarTran operated 1,443,312 revenue miles and 105,925 revenue hours on its fixed route service as shown in Figure 4.1. The system's hours and miles have increased moderately over the last 18 years. The 2010 levels of hours and miles represent only a 7.7 percent and 7.5 percent increase over 1992 levels, respectively.

Figure 4.1: Fixed Route Revenue Hours and Miles



In 2010, nearly 1.75 million passenger trips were made using the fixed route service, as shown in Figure 4.2. In 1991, average ridership was 6,000 passengers per day. In 2011, average ridership is 8,000 per day when the University of Nebraska- Lincoln (UNL) is in session and 6,000 per day when it is not.

Figure 4.2: Annual Fixed Route Passenger Trips, 1992-2010



Level of Service Assessment

The level of service (LOS) assessment examines six factors related to StarTran's quality of service. The LOS assessment can serve as a "report card" to gauge the system's performance relative to a set of national benchmarks. Each factor affects either the availability of transit service to a passenger, or the comfort and convenience of the passenger during a transit trip:

Availability	Service coverage Hours of service Service frequency
Comfort/Convenience	Passenger load On-time performance Transit-auto travel time

Each quality-of-service factor measured in this analysis is important to StarTran's operations, as each directly influences how passengers perceive the quality of a transit trip. Levels of service are graded on an A-F scale according to a traveler's point of view, with A representing an optimum condition and F representing an undesirable condition.

The levels of service and methodologies employed in this analysis are derived from the *Transit Capacity and Quality of Service Manual* (TCQSM), TCRP Report 100. It is important to note that the LOS assessment is not a definitive rating of the system's performance and local decision makers should employ their own locally developed standards to rate service. LOS assessments are often used to measure year-to-year improvements in the service provided.

Service Coverage

The coverage of a fixed route transit system measures the ability of the system to provide service to a broad range of users. It can be measured in a number of ways, including geographical area, population, or even more specific criteria such as the transit supportive areas discussed below.

It is common in the transit industry to use 1/4 mile as the average maximum distance a person will be willing to walk to access bus transit. Using this standard, a 1/4-mile buffer was applied to all of StarTran's fixed bus routes and the resulting coverage measure located within the catchment area provides the degree of coverage that the system provides to the region.

In the analysis of total area served, the Lincoln City limits were defined as the base area for measurement. Lincoln's total area is roughly 58,112 acres. Of this area, approximately 33,001 acres are within 1/4-mile of a fixed bus route for coverage of 57 percent. However, much of this acreage may be area that is not densely populated or generally suited for transit ridership.

A more detailed analysis of service coverage can be completed by defining certain areas within the city limits as transit supportive areas (TSA). The definition of a TSA used in recent consultant team evaluations is a minimum of 3 housing units per acre, 4 jobs per acre, or 3 college students per acre. A combination of 2010 Census data and Longitudinal Employer Household Dynamics (LEHD) was used for this analysis. Under this definition, 21,094 acres (36 percent) of the city is classified as a TSA. Of this TSA area, StarTran provides service to 17,071 acres (81 percent). Area summarizes the service area coverage provided by StarTran fixed route service. The City of Lincoln, its TSAs, and StarTran's 1/4-mile fixed route service area are shown in Table 4.1.

Table 4.1: StarTran Service Area

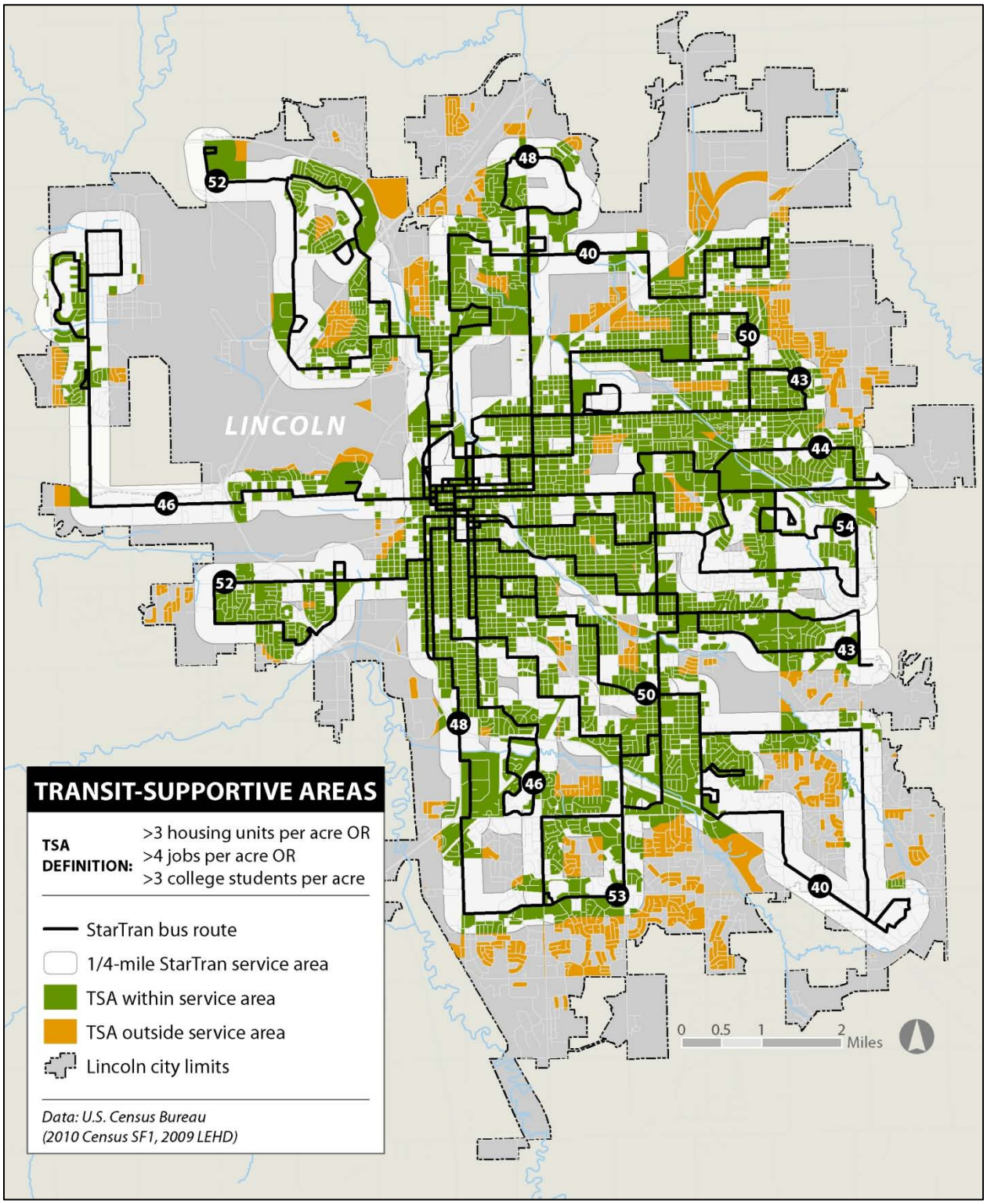
StarTran Service Area Coverage	Acres	Percent
Lincoln City Limits	58,112	100%
Areas within 1/4 mile of StarTran Service	33,001	57%
Lincoln Transit Supportive Area (TSA)	21,094	36%
TSA within 1/4 mile of StarTran Service	17,071	81%

Alternatively, the fixed route coverage area can be measured as the total number of dwelling units within 1/4-mile of fixed route transit service. This can provide a more accurate measure of total population served by transit. As of 2000, the City of Lincoln contained 95,199 housing units. Approximately 80 percent of Lincoln's dwelling units are located with the 1/4-mile service area.

Table 4.2: Fixed Route Service Coverage LOS Assessment (TCQSM)

LOS	% TSA Covered	Comments
A	90.0–100.0%	Virtually all major origins & destinations served
B	**80.0–89.9%**	**Most major origins & destinations served**
C	70.0–79.9%	About ¾ of higher-density areas served
D	60.0–69.9%	About two-thirds of higher-density areas served
E	50.0–59.9%	At least ½ of the higher-density areas served
F	<50.0%	Less than ½ of higher-density areas served

Figure 4.3: Service Coverage Area (Acreage)



Span of Service

Span of service is a measure of the number of hours during the day when a customer could potentially make a trip using the bus. Hours of service are calculated by subtracting the time of the last outbound departure from the first departure, adding one hour, and rounding down any fractions of hours. Only routes that provide at least hourly service are included in the analysis.

StarTran's system as a whole provides weekday service from 5:15 a.m. through 7:20 p.m. with each route's span of service ranging from 11 to 13 hours. Saturday service is provided from 6:30 a.m. through 6:55 p.m. with each route's span of service ranging from 10 to 11 hours. Figure 4.4 summarizes the hours of service for each StarTran fixed route.

Figure 4.4: Fixed Route Hours of Service

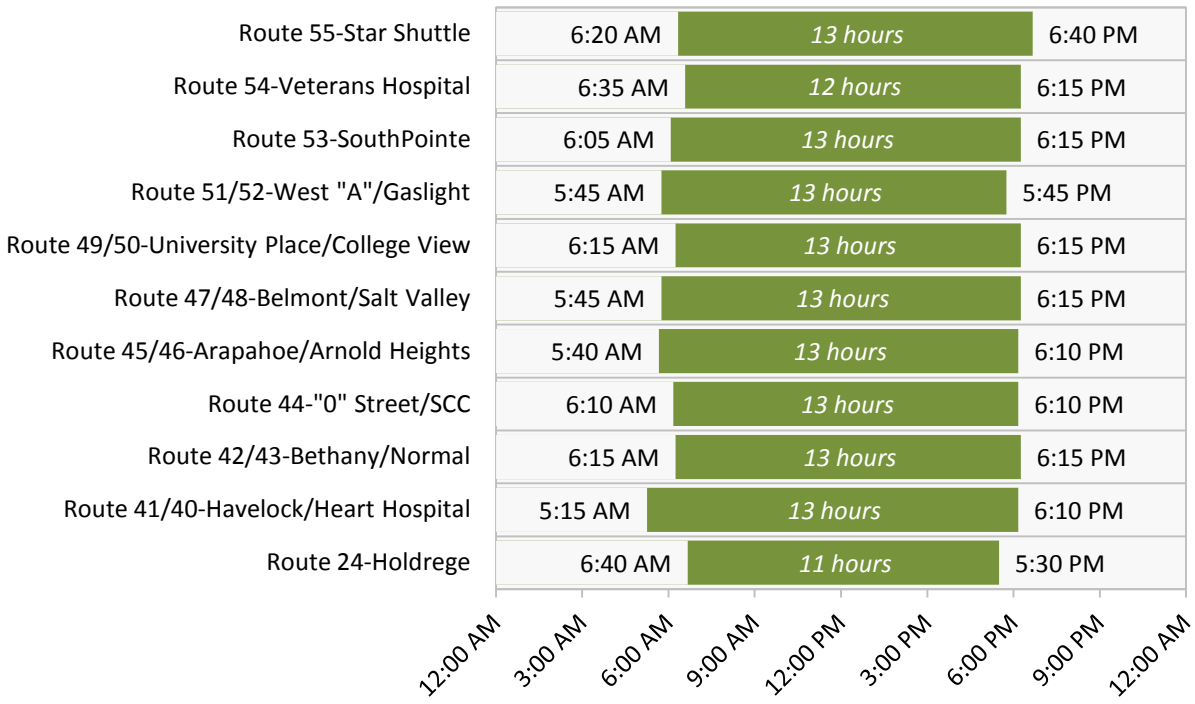


Table 4.3: Hours of Service LOS Assessment (TQSM)

LOS	Hours of Service	Comments
A	19–24	Night or "owl" service provided
B	17–18	Late evening service provided
C	14–16	Early evening service provided
D	**12–13**	**Daytime service provided**
E	4–11	Peak hour service only or limited midday service
F	0–3	Very limited or no service

Service Frequency

Service frequency is a measure of how many times an hour a user has access to bus service, given reasonable service coverage and hours of service that make a transit trip possible. Route frequency often changes throughout the day to match the levels of demand. Typically more frequent service is provided during the peak hours and less frequent service is provided during the off-peak hours. Like many other transit agencies StarTran defines their peak service periods as from 6:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 6:00 p.m. The majority of StarTran's fixed route service is operated using a 30-minute peak and 60-minute off-peak frequency. The most frequently operated service is the Route 24 at a 10-minute all-day frequency. The least frequently operated service is the Route 51/52 at a 60-minute peak, 120-minute off-peak frequency. Table 4.4 summarizes the approximate peak and off-peak frequencies for StarTran's routes.

The average weekday peak frequency of 30 minutes corresponds to a D level of service. The average weekday off-peak frequency of 60 minutes corresponds to an E level of service. Frequencies for routes that operate on Saturday are 60 minutes with the exception of Route 51/52 which operates at a frequency of 120 minutes. StarTran's Saturday service is given an E level of service.

Table 4.4: Weekday Headway/Frequency by Route

Scheduled Headway (min) Peak/Off-Peak	Vehicles per hour Peak/Off-Peak	Routes
10	6	24
20	3	55 (Star Shuttle)
30/60	2/1	40/41, 42/43, 45/46, 47/48, 49/50,
35/70	1/<1	44, 53, 54
60/120	1/<1	51/52

Table 4.5: Headway/Frequency LOS Assessment (TCQSM)

LOS	Average Headway (min)	Vehicles/hour	Comments
A	<10	>6	Passengers do not need schedules
B	10-14	5-6	Frequent service, passengers consult schedules
C	15-20	3-4	Maximum desirable time to wait if bus/train missed
D	**21-30**	**2**	**Service unattractive to choice riders**
E	**31-60**	**1**	**Service available during the hour**
F	>60	<1	Service unattractive to all riders

Passenger Load

Extensive data on vehicle loads was not available for this analysis, as StarTran does not regularly collect this data. The load factor was instead estimated based on field observations, and anecdotal evidence from passengers and agency staff. During off-peak periods, most trips operate at an A or B level of service, with a load factor of less than 0.75. However, vehicles become full to slightly overloaded during peak periods. StarTran is given a range of grades from A to C for load factor, as noted in Table 4.6.

Table 4.6: Passenger Load LOS Assessment (TCQSM)

LOS	Load Factor (p/seat)	Comments
A	**0.00–0.50**	**No passenger need sit next to another**
B	**0.51–0.75**	**Passengers can choose where to sit**
C	**0.76–1.00**	**All passengers can sit**
D	1.01–1.25	Comfortable standee load for design
E	1.26–1.50	Maximum schedule load
F	>1.50	Crush load

On-Time Performance

On-time performance measures the ability of a transit service to adhere to its schedule. Customers rely on the dependability of a transit system for making scheduled appointments and for the ability to reliably transfer to other scheduled routes. StarTran's Transit Development Plan (TDP) defines "on-time' as a bus that departs a stop no earlier than zero minutes before the scheduled departure and no later than five minutes later than the scheduled departure time. However, the data used for this analysis originated from a StarTran on-time performance report which defined "on-time" as a bus that departs a time point no earlier than one minute before the scheduled departure time and no later than seven minute later than the scheduled departure time.

The percentage of on-time departures for the system as a whole is 78 percent as shown in Table 4.7. This is a very low level of on-time performance and needs to be evaluated further. Route 51 and the Star Shuttle each score the highest percentage of on-time departures at 90 percent. The lowest performing route in the system is route 54 with an on-time performance rate of 59 percent.

Table 4.7: On-Time Performance

Route	Route Name	Total Dep	Total On-Time	Total Early	Avg Early (m:ss)	Total Late	Avg Late (m:ss)	Avg Dev (m:ss)	% On-Time
24	Holdrege	4,451	2,958	1,461	3:14	32	-40:11	0:19	66%
40	Heart Hospital	7,448	5,721	547	3:23	1,180	-8:38	-2:14	76%
41	Havelock	7,832	6,048	866	3:23	918	-8:42	-1:43	77%
42	Bethany	4,575	3,562	787	3:29	226	-7:45	0:26	77%
43	Normal	6,229	5,168	555	2:54	506	-8:03	-1:29	82%
44	O St-SCC	7,244	5,619	333	4:00	1,292	-9:54	-2:55	77%
45	Arapahoe	6,169	5,273	488	3:27	408	-7:44	-1:22	85%
46	Arnold Heights	4,523	3,758	401	3:16	364	-8:06	-1:09	83%
47	Belmont	3,975	3,226	441	3:29	308	-8:26	-1:08	81%
48	Salt Valley	5,101	4,124	545	2:45	432	-11:36	-1:42	80%
49	University Place	5,285	3,903	154	2:29	1,228	-9:58	-3:21	73%
50	College View	8,058	6,255	496	2:50	1,307	-9:37	-2:41	77%
51	West A	3,295	2,974	142	3:31	179	-8:22	-1:25	90%
52	Gaslight	2,859	2,216	322	2:38	321	-8:42	-1:34	77%
53	Southpointe	5,533	4,335	911	3:57	287	-7:50	0:46	78%
54	Vets Hospital	7,409	4,271	227	5:06	2,911	-9:31	-4:45	59%
55	Star Shuttle	8,978	8,091	672	2:56	215	-7:43	0:56	90%
Total		**98,964**	**77,502**	**9,348**	**3:19**	**12,114**	**-9:17**	**-1:34**	**78%**

Table 4.8: On-Time Performance LOS (TCQSM)

LOS	On-Time Percentage	Comments[1]
A	95.0–100.0%	1 late transit vehicle every 2 weeks (no transfer)
B	90.0–94.9%	1 late transit vehicle every week (no transfer)
C	85.0–89.9%	3 late transit vehicles every 2 weeks (no transfer)
D	80.0–84.9%	2 late transit vehicles every week (no transfer)
E	**75.0–79.9%**	**1 late transit vehicle every day (with a transfer)**
F	<75.0%	1 late transit vehicle at least daily (with a transfer)

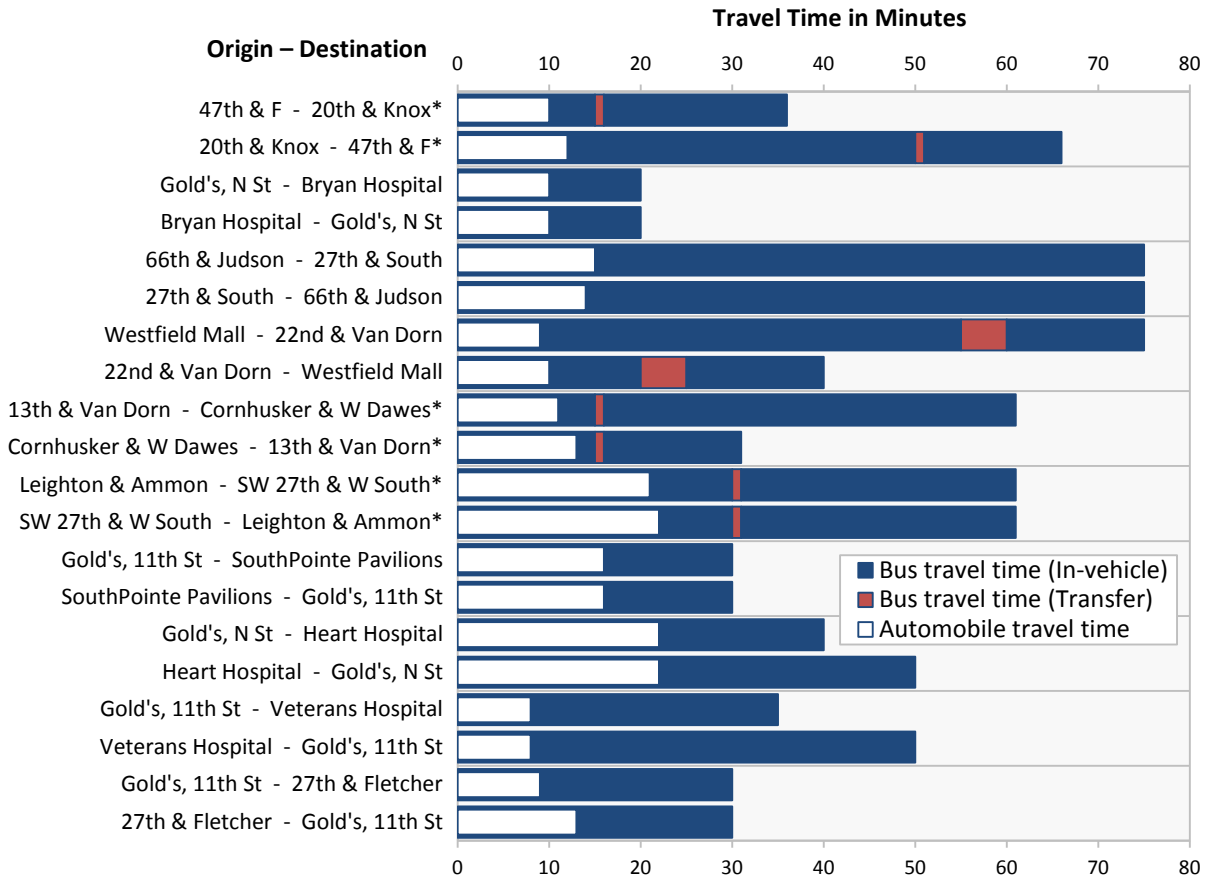
[1] Based on individual's perspective, given 5 round trips per week

Transit-Auto Travel Time

Transit travel time relative to auto travel time is important because most choice riders will prefer to drive their own cars unless transit travel time is competitive with the car. To compare scheduled bus travel times with auto travel times, a number of trips across the Lincoln area were analyzed. The selection of trips includes a combination of one-seat rides and trips requiring one transfer. StarTran route schedules were used to plan trips between two time-points. In each case, trips were planned during the midday period, and one hour of time was allotted between arriving at the destination and departing to complete a round trip. For transfers with scheduled head-on meets (the first bus is scheduled to arrive at the time point at the same time the second bus is scheduled to depart) it was assumed that the second bus was held for the transferring passenger. A one minute transfer time was used to account for physical transfer time from one bus to the next. Google Maps driving directions were used to estimate comparable auto travel times.

Figure 4.5 summarizes the travel time analysis. The blue bars represent time spent in a bus, while the red bars represent the transfer time between connecting buses. Origin-Destination pairs with a "*" denote transfers with scheduled timed-transfers. The average trip takes more than twice as long by bus than by auto. For the selected trips, the average one-way travel time using bus is 46 minutes, compared to an average auto travel time of 14 minutes. The average travel time difference for these trips is 32 minutes, including an average transfer penalty of 2 minutes.

Figure 4.5: Travel Time Comparison



Based on the TCRP level of service assessment shown in Table 4.9, StarTran receives a D grade for travel time competitiveness.

Table 4.9: Transit-Auto Travel Time LOS (TCQSM)

LOS	Travel Time Difference (min)	Comments
A	≤0	Faster by transit than by automobile
B	1–15	About as fast by transit as by automobile
C	16–30	Tolerable for choice riders
D	**31–45**	**Round-trip at least an hour longer by transit**
E	46–60	Tedious for all riders; may be best possible in small cities
F	>60	Unacceptable to most riders

Other Service Design Measures

Spacing

Route spacing is the average distance between routes at a given location. StarTran's Transit Development Program guidelines recommend a range of route spacing based on population density and the percentage of households that do not own automobiles. The recommended spacing ranges from 1/4-mile at the most dense to 1-mile at the least dense. At the 1-mile route spacing level paratransit is also considered a viable alternative to fixed route service. Table 4.10 summarizes StarTran's recommended guidelines for fixed route spacing. Figure 4.6 displays the location of StarTran routes as they relate to the route spacing guidelines.

Table 4.10: StarTran Route Spacing Guidelines

% of Zero-Car Households	Population Density (Persons/Sq. Mi.)			
	> 6,400	4,500-6,400	2,500-4,449	< 2,500
Over 15.0%	1/4 mile	1/4 mile	3/8 mile	1/2 mile
10.0-15.0%	1/4 mile	3/8 mile	1/2 mile	1 mile or paratransit
5.0-9.9%	3/8 mile	1/2 mile	1 mile or paratransit	-
Below 5.0%	1/2 mile	1 mile or paratransit	-	-

Congruency

Where coverage refers to the location of transit routes near customer home locations, congruency refers instead to the location of transit routes near major attractions such as employers, hospitals, educational institutions, and shopping centers. Figure 4.7 displays the location of StarTran routes as they relate to regional centers of attraction. A large number of the regions attractions are located either directly adjacent to or within 1/4 mile of a fixed route.

Figure 4.6: Route Spacing Guidelines

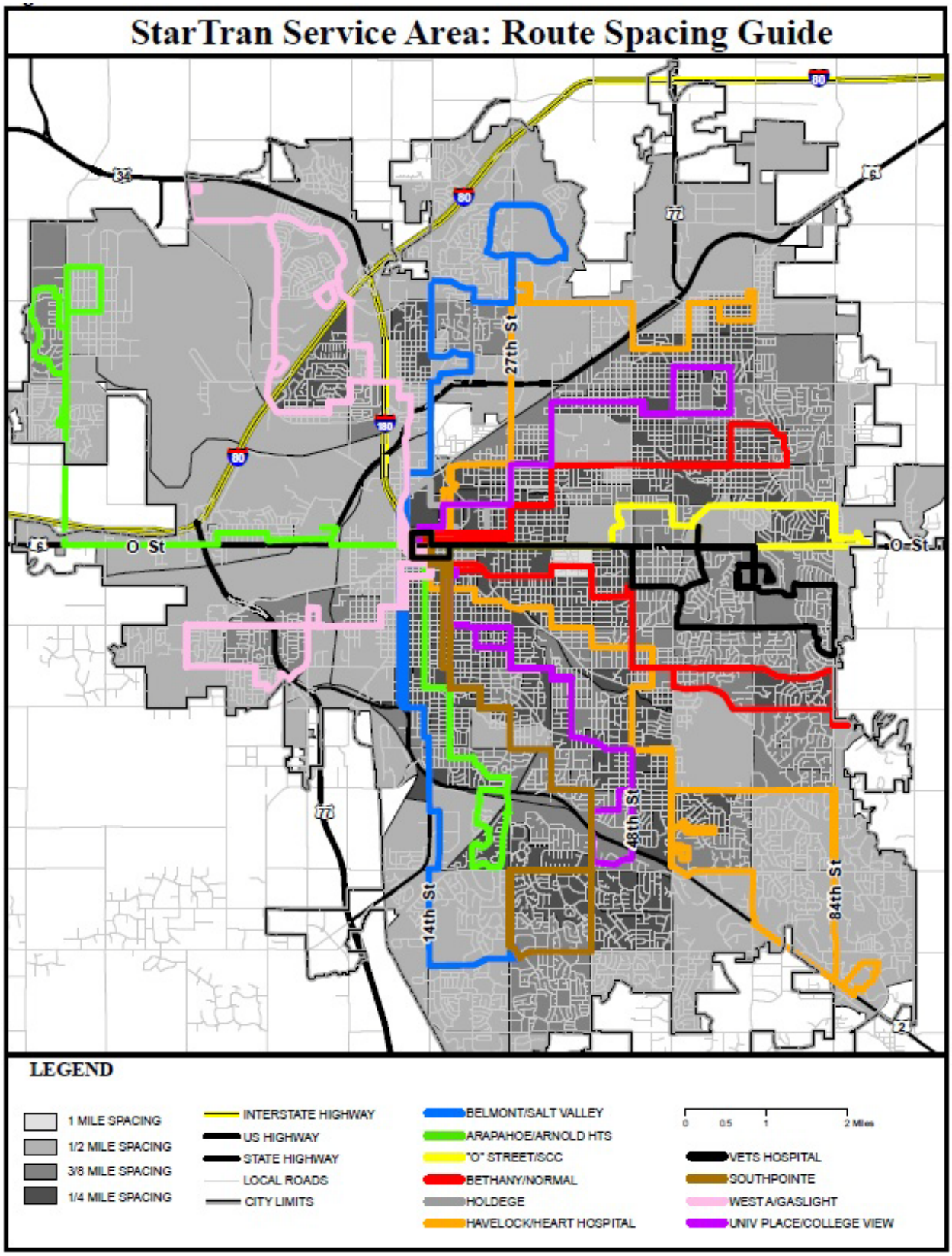
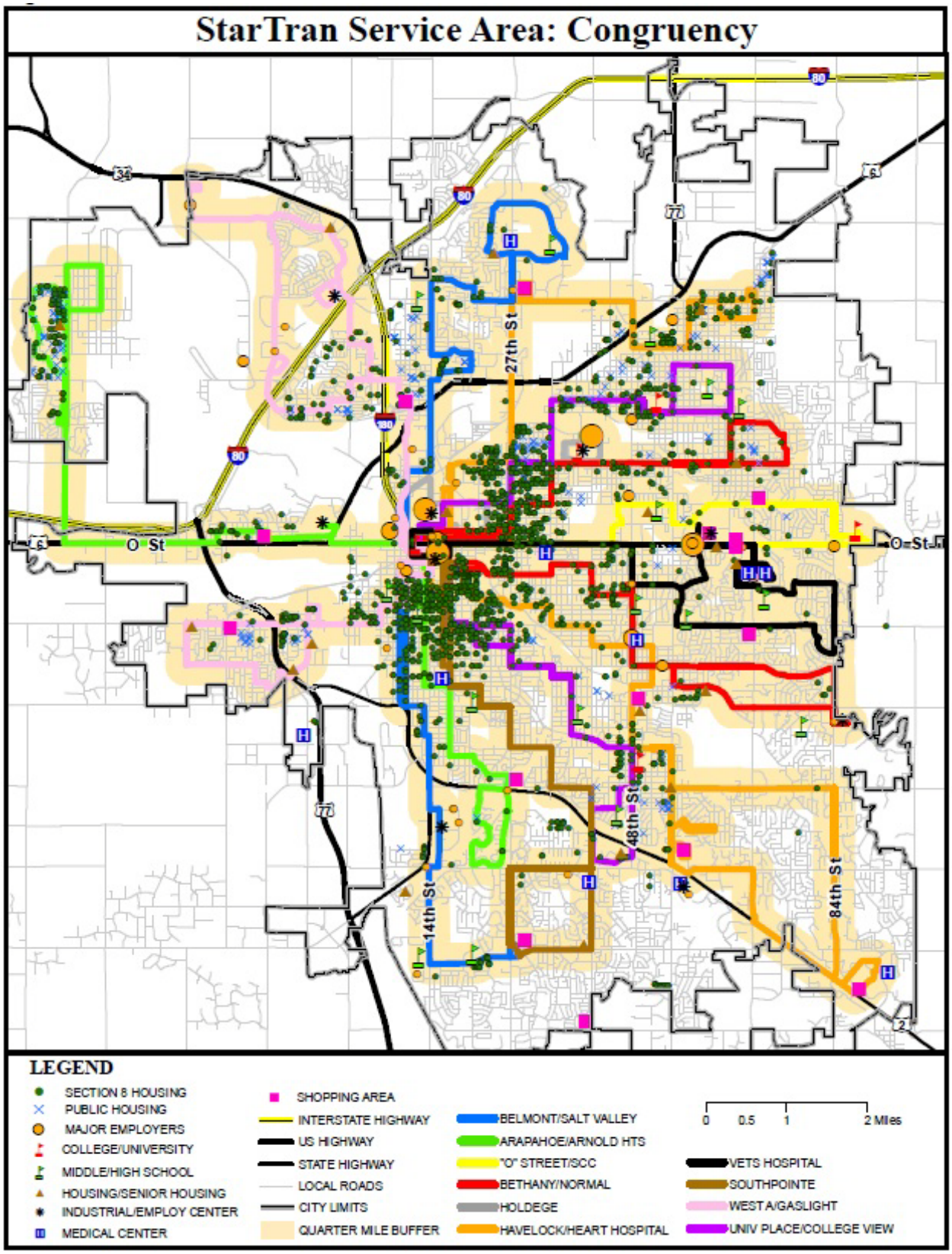


Figure 4.7: Congruency



Fixed Route System Performance

Transit system performance is gauged using a variety of benchmarks to assess individual performance components such as system effectiveness, efficiency, and route-level productivity. These benchmarks are used to evaluate the transit system as a whole as well as each route and component individually. Each benchmark can then be compared and contrasted against the same benchmarks for similar peer systems in order to assess the performance level of the system and to identify areas for potential improvement.

Route-Level Performance

Table 4.11 summarizes some basic performance indicators of StarTran fixed route service at the route level. The indicators include annual passengers, revenue hours, revenue miles, and the corresponding measures of passengers per revenue hour and passengers per revenue mile. The routes are also grouped by regular route service, public school booster service, and special service such as the Big Red Express. StarTran staff indicated that the special services comply with FTA regulations regarding charter operations but this was not verified in this review.

Table 4.11: Route Level Annual Performance Statistics

Route #	Route Description	Passengers	Rev-Hours	Pass / Rev-Hour	Rev-Miles	Pass / Rev-Mile
REGULAR ROUTE SERVICE						
14	West Van Dorn	3,695	234	15.8	2,734	1.35
24	Holdrege	300,227	7,215	41.6	86,366	3.48
40/41	Heart/Havelock	265,451	15,414	17.2	251,892	1.05
42/43	Bethany/Normal	149,589	10,497	14.3	151,306	0.99
44	O Street	143,987	5,603	25.7	76,475	1.88
45/46	Arapahoe/Arnold HTS	186,314	11,071	16.8	182,891	1.02
47/48	Belmont/Salt Valley	145,067	9,695	15.0	170,122	0.85
49/50	Uni/College View	233,953	10,505	22.3	156,566	1.49
51/52	West A/Gaslight	80,181	5,186	15.5	72,096	1.11
53	Southpointe	85,279	5,090	16.8	77,763	1.10
54	Vets Hosp	73,530	5,048	14.6	80,261	0.92
55	Star Shuttle	60,843	2,984	20.4	26,857	2.27
	REGULAR ROUTE TOTAL	**1,728,116**	**88,542**	**19.5**	**1,335,329**	**1.29**
BOOSTER SERVICE						
10	Culler BST	21,646	668	32.4	3,161	6.85
11	Schoo BST	5,257	312	16.8	2,558	2.06
12	Arnold BST	29,452	1,002	29.4	27,745	1.06
18	Lux BST	28,853	1,169	24.7	7,199	4.01
19	SW BST	1,938	251	7.7	2,327	0.83
27	Scott BST	11,700	501	23.4	3,526	3.32
	BOOSTER TOTAL	**98,846**	**3,903**	**25.3**	**46,516**	**2.12**
SPECIAL SERVICE						
	Big Red Express	37,426	1,082	34.6	11,372	3.29
	Boo at the Zoo	3,018	51	59.2	918	3.29
	Taste of Home	161	15	10.7	41	3.93
	4th of July	632	21	30.1	210	3.01
	SPECIAL TOTAL	**41,237**	**1,169**	**35.3**	**12,541**	**3.29**
GRAND TOTAL		**1,868,199**	**93,614**	**20.0**	**1,394,386**	**1.34**

Route 24 carries the largest number passengers annually, despite operating only when UNL is in session. Within the regular route service category, route 24 also has the highest measure of passengers per revenue hour and mile at 41.61 and 3.48 respectively. Excluding route 14, the route with the lowest number of passengers is route 55, the Star Shuttle. Route 42/43 operates with the lowest measure of passengers per revenue hour at 14.25, while route 47/48 operates with the lowest measure of passengers per revenue mile at 0.85. Overall regular route service operates with average passengers per revenue hour of 19.5 and average passengers per revenue mile of 1.29.

Within the public school booster service route 12 (Arnold BST) carries the largest number of passengers at 29,452, while route 19 (SW BST) carries the lowest at 1,938. In terms of passengers per revenue hour and mile, route 10 (Culler BST) scores the highest at 32.4 and 6.85 respectively while Route 19 (SW BST) scores the lowest at 7.7 and 0.83 respectively.

The vast majority of special service passengers are carried by the Big Red Express service with a total of 37,426 annual passengers. However, the highest measure of passengers per revenue hour is experienced on the Boo at the Zoo service at 59.2, and the highest measure of passengers per revenue mile is experienced on the Taste of Home service at 3.93.

Operating Expenses

For National Transit Database (NTD) reporting purposes, operating expenses are broken down into four sub-categories: Vehicle Operations, Vehicle Maintenance, non-Vehicle Maintenance, and General Administration. Currently StarTran spends 63.5 percent of its operating expenses on vehicle operations. An additional 21 percent is spent on vehicle maintenance, and the remainder is spent on non-vehicle maintenance and general administration. This is shown in Table 4.12.

Table 4.12: Fixed Route Operating Expense Allocation

Category	Percent
Vehicle Operations	63.5%
Vehicle Maintenance	21.0%
Non-Vehicle Maintenance	1.4%
General Administration	14.1%

In 2010, the total expenses for StarTran fixed route bus service were $7,691,426. Since 1992, total operating expenses have risen at an average growth rate of 3.9 percent. Operating expenses are grouped into four primary categories: vehicle operations, vehicle maintenance, non-vehicle maintenance, and general administration. General Administration expenses have seen a higher than average growth rate of 5.0 percent, followed closely by vehicle operations at 4.2 percent. Non-vehicle maintenance has seen almost no growth, rising only $2,774 from the 1992 levels of $101,835. A significant portion of the growth in General Administration has been due to a shifting of the cost of utilities from Non-Vehicle Maintenance to General Administration per FTA comments. Growth in General Administration has also risen due to significant increases to liability insurance.

Table 4.13: Operating Expense Historic Growth

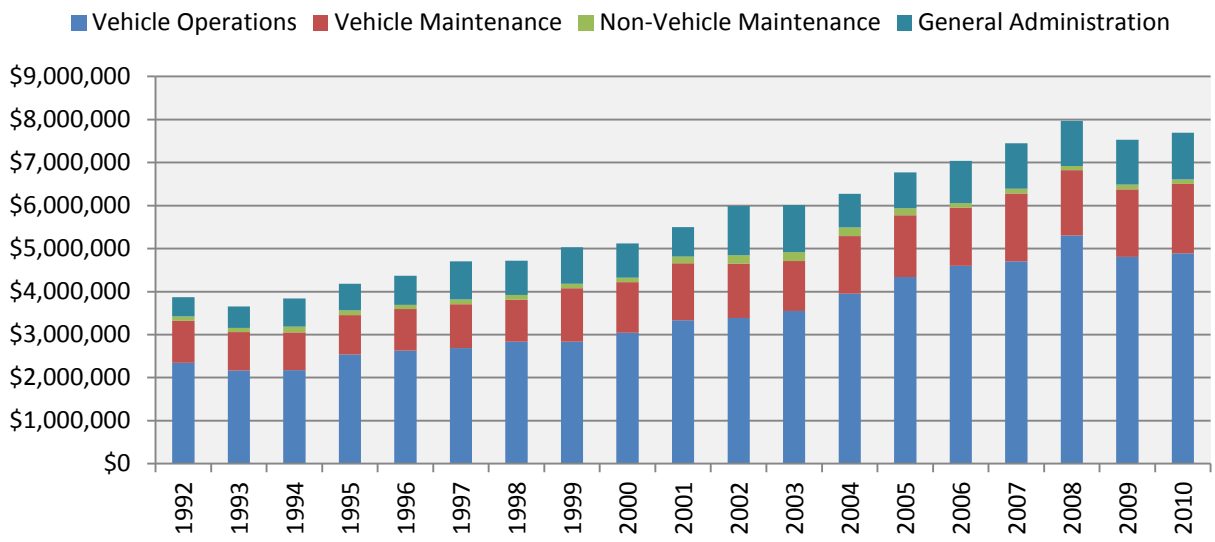
Expense Category	1992	2010	Growth Rate*
Vehicle Operations	$2,347,375	$4,886,207	4.2%
Vehicle Maintenance	$971,274	$1,616,380	2.9%
Non-Vehicle Maintenance	$101,835	$104,609	0.1% a
General Administration	$450,303	$1,084,230	5.0% a
Total Operating Expenses	$3,870,787	$7,691,426	3.9%

*Annually Compounded Average Growth Rate

[a] *Utilities charges switched from Non-Vehicle Maintenance to General Administration per FTA comments*

Operating expenses have generally risen slightly each year. However, from 1992 to 1993 and from 2008 to 2009, operating expenses fell. These drops in operating expenses correspond to similar drops in operating revenue experienced during the same time periods. Figure 4.8 displays the change the operating expenses by category for years 1992 through 2010.

Figure 4.8: StarTran Fixed Route Operating Expenses, 1992-2010



Surveillance Report

The StarTran Transit Surveillance Report (TSR) is an annual report compiled for the StarTran Advisory Board to evaluate the performance of StarTran service as it relates to a series of service standards and goals. The four categories of performance evaluated in the report are service coverage, patron convenience, fiscal condition, and passenger comfort.

A summary table of each performance measure goal and result, as reported in the StarTran TSR for June 2010 through June, 2011 is shown in Table 4.14. Results for 2009-2010 and 2008-2009 were also reviewed to assess potential historic performance deficiencies and trends. Results were also compared against the proposed standards from the 2007 TDP.

Table 4.14: Surveillance Report Summary (From StarTran Transit Surveillance Report; June 2010 - June 2011)

Category	Standard	StarTran Results
Service Coverage		
Availability	Residential Areas - high density areas within ¼ mile of a bus route - Route spacing guide presented on page 6 - Major activity centers - Employers or employment concentrations of 200 or more employees - Health centers - Middle and high schools - Colleges/universities - Shopping centers of over 25 stores - Social service/government centers	- 79.96% of population is located within a quarter mile of a bus route - Routes meet spacing guide - Most activity centers served
Frequency	Arterial Routes - 30 minute peak - 60 minute off-peak Crosstown/neighborhood/shuttle services - 60 minute all day service	- 15 out of 17 weekday routes meet peak & off-peak standard - 11 out of 13 Saturday routes meet standard
Span	-5 AM to 10 PM on weekdays -6 AM to 7 PM on Saturdays	- The weekday routes operate until 7:10 PM, which does not meet the standard. Based on current funding expanding the service span to 10:00 PM is not feasible at this time - All Saturday routes meet standard
Directness	- Maximum 25% of transfer rate	- 35.5% transfer rate, does not meet standard
Patron Convenience		
Speed	-Regular routes maximum of 15 MPH -Maximum of 10 MPH for Downtown Shuttle -12-18 MPH for outlying services depending on layout	-Regular routes slightly exceed standard - Star Shuttle meets standard.
Loading	-25% standees for short periods acceptable	- Meets standard
Bus Stop Spacing	- 5 to 7 stops per mile in core (every other block) - Fringe 4 to 5 per mile	- Meets standard
Dependability	- No missed trips -95% on-time service (0 to 5 minutes late) - No trips leaving early	- 100% of all trips operated 7 of 17 routes do not meet standard
Road call ratio	- 4,000 to 6,000 miles per road call	- 5,210 miles per road call. Meets standard

Table 4.14 (continued)

Category	Standard	StarTran Results
Fiscal Condition		
Fare structure	- Qualitative criteria	- Meets standard
Farebox Recovery	- Significantly alter routes less than 60% of average (16% is average) - Review and modify routes between 60% and 80% average	Below 60% - Routes 42/43, 47/48 & 55 Between 60% and 80% - Routes 41/40, 45/46, 53 & 54
Productivity (Pass/Mile)	- Significantly alter routes less than 60% of average (1.3 pass/mile is average) - Review and modify routes between 60% and 80% of average	Below 60% none Between 60% and 80% - Routes 41/40, 42/43, 45/46, 47/48, 54
Passenger Comfort		
Waiting shelters	- 25 or more boardings	-Evaluated annually and shelters provided within funding parameters
Bus Stop Signs	- Denote StarTran, contact info, and route #	Route numbers are included on approximately 90% of signs
Revenue Equipment	- Clean and good condition	- Meets standard
Public Information	- Timetable, maps, advertising	- Meets standard

Service Coverage

According to the performance result summaries, for the past three years, StarTran routes have met the route spacing guidelines and have served "most" activity centers. Currently 79.96 percent of the population is located within ¼-mile of fixed route service. This is down slightly from 81.89 percent in 2009-2010 and 81.61 percent in 2008-2009. However, these do not meet the standard defined in the TDP of covering 90 percent of the population within ¼-mile of a bus route.

Two weekday and two Saturday routes do not currently meet the frequency standard. The result summaries for 2008-2009 and 2009-2010 report one weekday and one Saturday route not meeting the standard. Due to funding difficulties, no weekday routes have met the span of service standard for the past three years. The past three result summaries report all Saturday service meeting the span of service standard. However, recent reductions in Saturday service have resulted in no Saturday service meeting the standard.

The most recent result summary shows a 35.5 percent transfer rate which exceeds the standard threshold rate of 25 percent. However, the two previous result summaries show transfer rates of 2.4 percent and 2.87 percent. This measure need to be clarified by staff as a review of recent ridership data does not support such a high transfer rate.

Patron Convenience

The summaries report that StarTran has met its service goals for speed, loading, and bus stop spacing for the last three years. The summaries also report that 100 percent of all scheduled trips have been operated for the last three years. However, this last figure is regarded with a degree of skepticism as it is rare for a transit system to meet all scheduled trips due to issues such as vehicle breakdowns, driver absence, and roadway incidents. Many transit agencies typically set a goal of between 98 and 99 percent of scheduled trips operated.

In the most recent result summary, 7 of 15 routes were reported as not meeting the on-time performance goal of 95 percent. This is the most recent year for which Automatic Vehicle Location (AVL) technology was available to prepare on-time performance statistics. Within the TDP, "on-time" is defined as a bus departing a stop no earlier than zero minutes before and no later than five minutes after its scheduled departure. However, an on-time performance report provided to the consultant for the months of July, August, and September defines "on-time" as no earlier than two minutes before and no later than seven minutes after its scheduled departure. Additionally, within the July-September on-time performance report, no routes were reported as meeting the TDP standard of 95 percent on-time departures. A more detailed look at on-time performance can be found in the On-Time Performance section of this chapter.

Fiscal Condition

Per the TDP, routes qualify for significant alteration if either their farebox recovery or passengers/mile falls below 60 percent of the current average. Routes also qualify for review and modification if these measures fall between 60 and 80 percent of the current average. In the most recent result summary, StarTran reports three routes (42/43, 47/48, 55) meeting the criteria for significant alteration and four routes (40/41, 45/46, 53, 54) meeting the criteria for review and modification under the farebox recovery condition. Under the passengers/mile condition, no routes meet the criteria for significant alteration and 5 routes (40/41, 42/43, 45/46, 47/48, 54) meet the criteria for review and modification. Route 55, the Star Shuttle has been listed in the significantly alter category under the farebox recovery

condition for the past three years. This is mostly likely due to the route having a discounted base fare of $0.25.

Passenger Comfort

The most recent result summary reports that passenger shelters are evaluated annually based on the TDP standard and provided within funding parameters. However, it is not reported to what extent StarTran is currently meeting this standard. The result summary also reports that 90 percent of bus stop signs include bus route numbers. All StarTran bus stop signs include the StarTran logo and telephone contact information. Standards for revenue equipment and public information are reported as being met for the past three years. However, the standards are ambiguous in their description of the standard requirements.

Peer Review

The purpose of the peer group analysis is to gain insights as to the general efficiency and effectiveness of a transit system, compared to a group of similar systems elsewhere, and then to use those insights to guide the more detailed and specific assessment of the system's financial and operating performance.

The only industry research that has been conducted on the subject of creating a "statistically valid" peer group was done several years ago at the Massachusetts Institute of Technology when the national transit database was first organized. That research concluded that the inclusion of any combination of at least 12 randomly selected systems would produce a satisfactory level of statistical validity.

While it is reassuring to analysts that there is a satisfactory level of statistical validity of any peer group that includes 12 or more systems randomly selected, it is rarely easy for a group of lay officials and observers to accept the conclusions of a peer group that includes transit systems ranging from a six bus operation like Beloit, Wisconsin to New York City with its several thousand buses.

For purposes of this comparative analysis of StarTran performance, it is possible to create a peer group of 12 systems that makes intuitive sense to policy makers and reviewers with a respectable level of statistical validity.

National Transit Database (NTD)

All of the data used in this analysis are from the NTD reports from fiscal year 2009. This database is produced from reports of operating and financial data that each federally funded transit system must submit each year.

The data in this database have been checked first by the agency's external auditors, and then again by the Federal Transit Administration after the data are submitted by the agency and before the reports are compiled and made available for public use. The database is the only such compendium of financial and operating statistics for the industry.

The fact that the data are for 2009, rather than for more recent years, is not materially problematic for this kind of review of comparative performance. The operating statistics and financial data for most transit systems changes very little from year to year, and tend to change in unison from system to system. Using 2011 data—if it were readily available—would not be likely to have a material impact on the averages, nor on the results of comparisons of StarTran results to the average.

Candidate Peer Groups

Four different peer groups were initially considers for use in this analysis:

- Cities with population similar to Lincoln's
- Cities with metropolitan area (SMSA) populations similar to Lincoln's SMSA population
- The peer group used in the 2007 StarTran TDP
- A peer group based on "likeness factors" as defined by the Florida Transit Information System, a data analysis tool that utilizes the National Transit Data Base. These factors include:
    - Urban area population
    - Total miles operated
    - Total operating budget
    - Population density
    - Service area type
    - State capital
    - Percent college students
    - Population growth rate
    - Percent low income
    - Percent service demand response
    - Percent service purchased
    - Distance from site

The four original candidate peer groups are listed in Table 4.15.

Table 4.15: Candidate Peer Groups Considered

City Population Peer Group	SMSA Population Peer Group	2007 TDP Peer Group	FTIS "Likeness" Peers
Anchorage AK	Boulder CO	Anchorage AK	Cedar Rapids IA
Baton Rouge LA	Bristol TN/VA	Fargo ND	Charleston WV
Buffalo, NY	Charleston WVA	Lafayette LA	Evansville IN
Chandler, AZ	Columbus GA	Lansing MI	Fort Wayne IN
Chula Vista CA	Fort Collins CO	Lexington KY	Green Bay WI
Cincinnati OH	Fort Smith AR/OK	Little Rock AR	Lexington KY
Fort Wayne, IN	Green Bay WI	Springfield MO	Lubbock TX
Greensboro, NC	Huntington WVA	Tallahassee FL	Rockford IL
Henderson NV	Lubbock, TX	Waco TX	South Bend IN
Jersey City NJ	Naples FL		Springfield IL
Laredo TX	Roanoke VA		Springfield MO
Lexington KY	South Bend IN		Tallahassee FL

The original recommendation was to use the peer group based on the population of the overall SMSA because of its intuitive good sense, and because of the weaknesses of the other groups:

- The city population peer group is compromised by the fact that the City of Lincoln represents a high percentage (85%) of the population of its SMSA. The average population of the primary city to overall SMSA population for the group is 34%. In addition, several of the cities in this population group are part of much larger SMSA's. These areas are much more urban than Lincoln and their transit systems are significantly different from those in the SMSA peer group.
- The systems in the 2007 TDP group tend to be quite small and include many cities that are too dissimilar from Lincoln, even though several cities with major universities are represented. The inclusion of university cities may be misleading because of the vastly different approaches to the levels of on-campus residence compared to commuting and student car ownership, and the different approaches taken to serving university populations by local transit services.
- The FTIS "likeness" peer group is based on the apparent similarity of peers to the performance characteristics of StarTran. Use of this group will tend to mask both the good news and the bad news of the system's results and present challenges in the interpretation of results.

Labor Peer Group (City HR Department)

The original recommendation for the peer group presented to the City in August was the SMSA population based peers group. The use of this group became impossible after it was discovered that the NTD did not include the data for several of the systems in that group. At the same time, the management of StarTran pointed out that the City Human Resources staff uses six Midwestern transit systems in their collective bargaining analysis and planning. These systems are:

- Cedar Rapids, Iowa
- Des Moines, Iowa
- Madison, Wisconsin
- Omaha, Nebraska
- Sioux Falls, South Dakota
- Springfield, Missouri

Recommended Peer Group

The final recommendation melds the members of the SMSA group with the labor peer group used by the City's HR department as follows:

- Fort Collins, CO
- Cedar Rapids, Iowa
- Des Moines, Iowa
- Madison, Wisconsin
- Omaha, Nebraska
- Sioux Falls, South Dakota
- Springfield, Missouri
- Fort Smith, Arkansas
- Green Bay, Wisconsin
- Lubbock, Texas
- South Bend, Indiana
- Roanoke, Virginia

- Charleston, West Virginia

Melding the systems from the SMSA population group for which data were available with the data for the six "labor peer" systems is both statistically reasonable and intuitively logical. The strengths of this peer group include:

- Most of the systems are owned and operated as a part of city government
- Lincoln's SMSA population is close to the average of the group
- The majority of systems operate in states with conservative or moderate labor traditions, with the exception of Madison
- There is a predominance of similar climatic conditions
- Only Wisconsin has a significant level of state subsidies for transit which can affect the quality of service provided

This melded group provides a sound basis for an objective determination of the answer to the question: *"What do transit systems that operate in areas similar to the Lincoln service area tend to look like, and how does StarTran compare to them?"* A number of these cities have a major university system present similar to that found in Lincoln.

Fixed Route Performance Compared to Peers

The following tables list Lincoln's fixed route performance compared to its peers. Table 4.16 summarizes general indicators, Table 4.17 summarizes efficiency measures, and Table 4.18 summarizes effectiveness measures.

Table 4.16: General Indicators, 2009

Indicator	Peer Average	Lincoln	Lincoln / Peer Average
Service Area Population	254,169	235,594	92.7%
Service Area Size (sq mi)	133	82	61.6%
Density (pop/sq mi)	2,554	2,873	113%
Passenger Trips	2,869,740	1,733,188	60.4%
Passenger Miles	11,416,275	5,125,037	44.9%
Vehicle Miles	1,722,394	1,502,913	87.3%
Revenue Miles	1,601,058	1,443,148	90.1%
Vehicle Hours	125,592	109,544	87.2%
Revenue Hours	117,493	105,703	90.0%
Route Miles	266	358	134.6%
Total Operating Expense	$ 9,905,679	$ 7,528,903	76.0%
Total Maintenance Expense	$ 1,989,744	$ 1,677,139	84.3%
Total Full-Time Employees (FTE)	105	93	82.8%
Operating FTEs	78	64	82.8%
Maintenance FTEs	20	16	80.0%
Administrative FTEs	11	8	67.3%
Vehicles Available for Maximum Service	59	60	102.3%
Vehicles Operated in Maximum Service	48	50	105.3%
Spare Ratio (%)	19.0%	16.7%	87.6%

System Efficiency

StarTran performs at better than average efficiency levels compared to its peers, as shown in Table 4.17. This is due to lower unit costs and personnel productivity.

Table 4.17: Efficiency Measures, 2009

Efficiency Measures	Peer Average	Lincoln	Lincoln / Peer Average
COST EFFICIENCY			
Op Expense Per Capita	$38.97	$31.96	82.0%
Op Expense Per Peak Vehicle	$208,540.61	$150,578.06	72.2%
Op Expense Per Passenger Trip	$3.45	$4.34	125.8%
Op Expense Per Passenger mile	$0.87	$1.47	169.3%
Op Expense Per Revenue Mile	$6.19	$5.22	84.3%
Op Expense Per Revenue Hour	$84.31	$71.23	84.5%
Maint Expense Per Rev-Mile	$1.24	$1.16	93.5%
Maint Expense Per Op Expense	20.1%	22.3%	110.9%
OPERATING RATIOS			
Farebox Recovery (%)	22.1%	14.9%	67.4%
Local Revenue Per Op Expense (%)	43.6%	71.4%	163.7%
VEHICLE UTILIZATION			
Vehicle Miles Per Peak Vehicle	36,260.9	30,058.3	82.9%
Vehicle Hours Per Peak Vehicle	2,644.0	2,190.9	82.9%
Revenue Miles Per Vehicle Mile	93.0%	96.0%	103.3%
Revenue Miles Per Total Vehicles	4.5	6.0	131.6%
Revenue hours Per Total Vehicles	2,002.7	1,761.7	88.0%
LABOR PRODUCTIVITY			
Revenue Miles Per FTE	15,285.9	15,517.7	101.5%
Revenue Hours Per FTE	1,121.8	1,136.6	101.3%
FARE			
Average Fare	$0.76	$0.65	84.9%
Base Fare	$1.38	$1.75	126.8%

System Effectiveness

Measures of system effectiveness in transit are usually comprised of statistics evaluating the level of market penetration as measured primarily by system ridership. Ridership is affected by the combination of the attractiveness of the fare structure, the quality and convenience of service, and the effectiveness of the system's marketing and promotion.

StarTran performs at lower than average effectiveness levels compared to its peers, as shown in Table 4.18. Low ridership and the lack of evening and Sunday service are the primary contributors to this performance. Lack of evening and Sunday service also contributes to low per capita measures.

Table 4.18: Effectiveness Measures, 2009

Effectiveness Measures	Peer Average	Lincoln	Lincoln / Peer Average
SERVICE SUPPLY			
Vehicle Miles Per Capita	6.8	6.4	94.1%
SERVICE CONSUMPTION			
Passenger Trips Per Capita	11.3	7.4	65.2%
Passenger Trips Per Revenue Mile	1.8	1.2	67.0%
Passenger Trips Per Revenue Hour	24.4	16.4	67.1%
AVAILABILITY			
Revenue Miles Per Route Mile	6016.1	4027.8	66.9%
Route Miles Per Square Mile of Service Area	2.0	4.4	218.6%

Results

The overall results of StarTran compared to its peers' average results presents a stark contrast between the efficiency of the system and the effectiveness of the system. Virtually every measure of effectiveness at StarTran is lower than average. StarTran has a smaller and denser service area, but its service effectiveness as measured in ridership is demonstrably lower than the peer systems average in every category of effectiveness.

StarTran's efficiency, on the other hand, is demonstrably better than the peer average. Unit costs are lower, and personnel productivity is slightly better, than the average of the peers, in every measure of performance except on a per ridership basis.

These results have meaning for much of the rest of this study. For privatization, it suggests that there are relatively few opportunities for unit cost reduction and productivity improvement in the fixed route system. For the system management and the City as a whole, it suggests the need to reevaluate the basic mission of the system and the expectations of the City for the system. The relatively low levels of ridership suggest that there are untapped markets in the service area that need to be evaluated.

The process of increasing ridership for current level of service and for the current route structure and frequency is a challenging process. Recent efforts to implement the 2007 TDP recommendations demonstrate the difficulty of undertaking changes is service design.

Before any new efforts are made to invigorate the ridership levels, the City administration should evaluate its objectives for the system, and determine whether it wishes to continue its current policies and the expenses associated with them, or whether the City would be better off with a different approach altogether.

Scheduling of Labor

- **Payroll/Platform Ratio**: Based on StarTran's current run summary effective August 18, 2011, the weekday payroll/platform hour ratio is 1.09. The Saturday payroll/platform hour ratio is 1.05.
- **Overtime**: The reported driver overtime percentage for 2010 was 8.80 percent.
- **Absenteeism**: The City-County personnel department reports that the average StarTran sick leave hours requested for calendar year 2010 were 72.33 hours per employee. The average sick leave hours requested for 2011 through August 25th were 55.81 hours per employee.
- **Grievances**: No grievances were filed by StarTran employees in 2010.
- **ATU agreement**: StarTran Operators are represented by the Amalgamated Transit Union (ATU) Local No. 1293. The current agreement between ATU and the City of Lincoln is effective between August 19, 2010 and August 31, 2012. The agreement details all aspects of StarTran employee working conditions including topics such as seniority, discipline, sick leave and vacation, wage rates, and assignment of runs.
- **Supervisors**: StarTran's Supervisors conduct driver performance reviews utilizing on-bus surveillance equipment. These reviews are completed as part of each driver's annual performance evaluation. Additional on-bus surveillance reviews are conducted as necessary as a result of complaints or accidents.
- **Run Summary**: StarTran weekday service currently operates using 64 distinct runs. Of these, 21 are operated as single non-split runs and 42 are operated as split runs between two or more times and/or routes. Four additional operators are available as relief. On Saturday service is operated using 22 distinct runs. Of these, 14 are operated as single non-split runs and 8 are operated as split runs. No operators are scheduled to be available for relief.
- **Operator Vehicle Training**: StarTran operators are trained for the use of both fixed route motorbuses and the demand response HandiVan service. Many operators are responsible for operating each service throughout their daily run.

Cost Estimation

Cost estimation is an important tool for assessing the cost implications of service additions or reductions. StarTran currently utilizes a marginal cost estimation method for service changes. Specific details of this method are discussed below. Additionally, a fully-allocated cost model is recommended which reduces the total operating expenses to unit cost estimates for vehicle miles, vehicle hours, and peak vehicle requirements.

Marginal Cost Estimation for Service Changes

StarTran's marginal service change cost estimation method takes into account costs associated with personnel, overtime, fuel, maintenance, and fare revenue. This method is typical of the marginal cost estimation methods used by other mid-size transit systems. The individual cost components of the method are discussed in more detail below.

- **Personnel**: Personnel costs are dependent on whether the service change requires the hiring of new employees or the elimination of existing employees. The annual and per hour costs of new employees are determined by the estimated starting wage and benefits while the costs of existing employees are based on the current average wage and benefits. If a service change requires the addition or loss of a partial full time employee, overtime hours are used to make up

the difference. The current annual cost for one new employee is $44,290. The current annual cost for one existing employee is $56,780.

- **Overtime**: Overtime costs per full time employee have historically been approximately $7,500.
- **Fuel**: With a budgeted cost for fuel of $1,109,160 and annual service hours of 105,700, the costs for fuel are $14.24 per service hour.
- **Maintenance**: With a budgeted cost for maintenance of $396,130 and annual service hours of 105,700, the costs for maintenance are $3.75 per service hour.
- **Fare Revenue**: The gains or losses in fare revenue are calculated by estimating the changes in ridership and applying a unit cost for average fare per trip. The currently used unit cost is $0.62 per trip.

Fully Allocated Cost Model

In order to accurately analyze the performance of the transit system over time and compare local performance to peers, a fully allocated cost model should be used to generate system information. The recommended cost model relates the NTD reported cost elements into four specific variables of the service. The four components are:

1. Vehicle Operations
2. Vehicle Maintenance
3. Non-Vehicle Maintenance
4. General Administration

It is generally agreed within the transit industry that Vehicle Operations costs are primarily related to the number of vehicle hours operated as driver costs are a prime contributor to overall costs. Vehicle Maintenance costs tend to very primarily with the number of miles operated while Non-Vehicle Maintenance and General Administration costs are system driven and can be best represented by the peak fleet requirement. Figure 4.9 presents the 2010 StarTran fully allocated cost model. Costs related to vehicle hours comprise 63.5 percent of the total cost, those related to vehicle miles comprise 21.0 percent of the total cost, and those related to peak vehicles comprise 15.5 percent of the total cost.

Following these criteria, the fully allocated cost model for 2010 StarTran data is as follows:

$$\begin{aligned} &Total\ Change\ in\ System\ Operating\ Cost \\ &\quad = \$44.45 \times (Veh.Hours) + \$1.08 \times (Veh.Miles) + \$23,776.78 \times (Peak\ Veh.) \end{aligned}$$

Figure 4.9: Fully Allocated Cost Model

Fixed Route Service	
Vehicle Hours	**109,924**
Vehicle Miles	**1,493,272**
Peak Vehicles	**50**

2010 NTD Data Cost Model	Vehicle Operations	Vehicle Maintenance	Non-Vehicle Maintenance	General Administration	Total Cost	Cost per Vehicle Hour	Cost per Vehicle Mile	Cost Per Peak Vehicle
Operator Wages and Salaries	2,636,846				$2,636,846	$23.99	$0.00	$0.00
Other Wages and Salaries	275,380	770,125		489,237	$1,534,742	$2.51	$0.52	$9,784.74
Fringe Benefits	1,157,928	307,917		140,751	$1,606,596	$10.53	$0.21	$2,815.02
Services	8,792	36,352	23,077	35,441	$103,662	$0.08	$0.02	$1,170.36
Fuels and Lubricants	728,338	15,927			$744,265	$6.63	$0.01	$0.00
Tires and Tubes	76,876	538			$77,414	$0.70	$0.00	$0.00
Other Materials and Supplies	2,047	461,705	33,781	2,131	$499,664	$0.02	$0.31	$718.24
Utilities				96,325	$96,325	$0.00	$0.00	$1,926.50
Casualty and Liability				232,684	$232,684	$0.00	$0.00	$4,653.68
Taxes					$0	$0.00	$0.00	$0.00
Miscellaneous		23,816	47,751	87,661	$159,228	$0.00	$0.02	$2,708.24
Expense Transfers					$0	$0.00	$0.00	$0.00
Total Modal Expense					$0	$0.00	$0.00	$0.00
TOTAL	**4,886,207**	**1,616,380**	**104,609**	**1,084,230**	**$7,691,426**	**$44.45**	**$1.08**	**$23,776.78**

	% of Total Cost
Costs assigned to Vehicle Hours	63.5%
Costs assigned to Vehicle Miles	21.0%
Costs assigned to Peak Vehicles	15.5%

Findings

Findings from this chapter are presented and explained below.

1. The key performance indicators contained in the Annual Surveillance Report need to be clarified.
    - Levels of passenger transfers (different years report values ranging from 2 percent to 35 percent)
    - Levels of scheduled trips operated of 100 percent as reported is rarely attained in the industry
    - Window of time considered for on-time departure of scheduled bus trips as detailed in the Surveillance Report is not consistent with the reviewed AVL summaries

2. Staff needs to identify for the Advisor Board the actions taken to address routes qualifying for potential alteration due to failure to meet performance thresholds within the Surveillance Report.
    - Three routes did not reach minimum thresholds (42/43, 47/48, 55)
    - Four additional routes were identified for closer review (40/41, 45/46, 53, 54)

3. Route services cover a reasonable amount of the transit supportive areas within Lincoln as defined by residential densities over 3 dwellings per acre and employment densities over four jobs per acre.
    - 81 percent of transit supportive area within Lincoln is within ¼ mile of transit route
    - There are pockets of unserved transit supportive areas primarily on the north and south edges of the community

4. StarTran fixed route transit service is modest in design and performance.
    - Underperforming in terms of ridership compared to other cities with large university populations

5. The on-time performance of the fixed route service needs additional review.
    - The AVL data used to generate the on-time report needs to be verified and if found to be correct then actions need to be taken immediately to resolve operational and timetable issues.

6. The fixed route service performs at better than average efficiency levels compared to peers.
    - Unit costs are lower
    - Personnel productivity is better

7. The fixed route service performs at lower than average effectiveness levels compared to peers.
    - Low ridership is the primary contributor to this poor performance
    - There is significant upside ridership potential from within existing markets

8. Route performance levels are monitored at reasonable intervals against goals.
    - Very few trips within the schedule with less than two passengers per trip on average
    - Some on-time performance issues both for early and late departures

9. Fixed route personnel operations are generally well run.
    - Low payroll to platform hour ratio (1.06)
    - Absenteeism not a problem
    - Driver overtime not a problem (8.8 percent)

- No grievances filed in 2010
- Driver training program is adequate

10. No use of part-time labor even though labor agreement allows up to 10 percent.
    - Part-timers used previously, not found to produce labor savings as contract requires use of same wage scale

11. The Maintenance Plan is thorough but not fully updated to current practice.
    - Forms need to be updated
    - Check with peers on inspection interval for Gilligs—lesser interval could save on inspection hours
    - StarTran should review Transport Plus maintenance performance

12. Operating costs have grown at a 3.9 percent annual rate since 1992(essentially doubling the total system cost).
    - This generally matches the cost of inflation
    - 48 percent of the total operating expense was in the “drivers seat” in 2010 (wages and fringes)

13. High seniority levels in operations and maintenance.
    - 10.6 years average seniority for drivers
    - 14.5 years average seniority for maintenance employees

14. The allocation of operating expenses across operations, maintenance and administration is comparable to peers.
    - StarTran has slightly higher proportion of expenses in maintenance than peers
    - StarTran has slightly lower proportion of expenses in administration than peers

15. The marginal cost estimating method used to calculate service change costs is reasonable.
    - A fully allocated cost model should be used to conduct year to year and peer reviews of overall service costs
    - The payments for UNL service should be compared to costs derived from a fully allocated cost model to determine what level of cost is being recovered

5.0 Paratransit Service Review

Handi-Van Service Delivery Model

StarTran delivers complementary paratransit service using a combination of directly operated service and purchased transportation. An important component of complementary paratransit service is the eligibility determination process that grants eligibility based upon the criteria established in the Americans with Disabilities Act (ADA). StarTran uses a contractor to handle the associated tasks.

The Handi-Van program is managed by a Supervisor who is responsible for the following tasks:

- Reserving, scheduling and dispatching service
- Complaint investigation
- Contract compliance
- ADA compliance
- NTD data reporting

The Handi-Van Supervisor is the only full time dedicated employee. Fixed route dispatchers are supposed to handle early morning dispatch, evening turn in and answer “where’s my ride” telephone calls outside of normal business hours but this was not able to be field verified. A part-time clerk assists with reservations, “where’s my ride” telephone calls, and post-trip data entry.

Fourteen operators are scheduled on paratransit runs. Assignments are selected based upon seniority and fixed route drivers can select a paratransit run. On weekdays there are six straight runs, three split shifts, and three partial runs that are combined with fixed route. When Lincoln Public Schools are out of session additional hours are added to four paratransit pieces of work. There are two assignments on Saturday. The Handi-Van fleet consists of 13 vehicles with an average age of 1 year.

Transport Plus is the service contractor for Handi-Van and operates sedans and vans that are equipped with two-way radios. Transport Plus charges on a per trip basis at the rate of $23.00 per eligible passenger trip and a $10.00 charge for a companion. There are no extra charges for personal care attendants (PCA) or added charges for wheelchair passengers. The total annual contract value is estimated to be $481,700.

The League of Human Dignity, Inc. is the contractor responsible for the following:

- Processing applications for StarTran Handi-Van and Brokerage Program including eligibility determination, registration and issuance of photo identification cards
- Registration of eligible applicants for the StarTran reduced fare program
- Providing current information to Handi-Van users and the general public regarding the Handi-Van program and other City-funded special transportation programs.
- Maintenance of eligibility records and re-registration of ADA customers.
- Receiving and processing complaints for the Handi-Van program and other City-funded special transportation programs.

The annual charge for this service is $38,506.00.

Americans with Disabilities Act (ADA) Compliance

The Americans with Disabilities Act (ADA) detailed in the *Federal Register* (49 CFR Parts 27, 37, and 38) of September 6, 1991 provides guidelines on how, when, where and for whom complementary paratransit is to be delivered. The law specified **six service criteria** that should be used to determine the comparability of the fixed route and complementary paratransit systems. A summary of the **six service criteria** and a description of how the City of Lincoln and StarTran meet each criterion follow.

Service Area

"The basic bus system service area is a corridor with a width of ¾ of a mile on each side of each fixed route. At the end of a route, there is a semicircular 'cap' on the corridor, consisting of a three-quarter mile radius from the end point of the route to the parallel sides of the corridor." (*Federal Register,* Volume 56, Number 173, p. 45748) If gaps exist in the center of the service area these areas must be included in the overall service.

Complementary paratransit service is provided within 3/4 of a mile on either side of StarTran local routes. Figure 5.1 illustrates the relationship of ADA eligible customers to the fixed route and City boundaries. The figure shows that some customers reside outside the boundaries but inside the city limits. These customers must get to a pick up location within the boundary for service.

Findings

At present Handi-Van service meets the ADA Service Area requirements.

Response Time

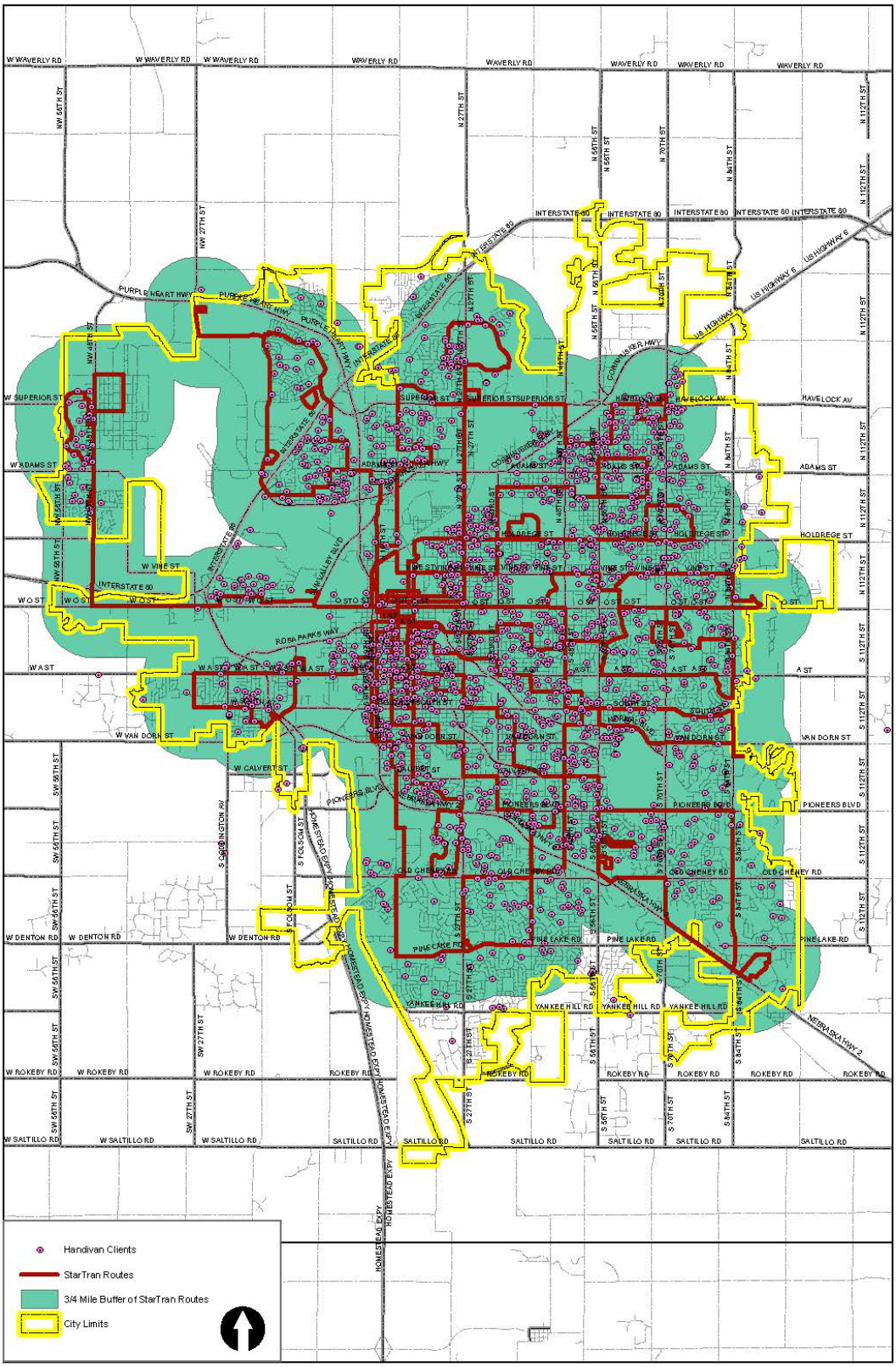
"Under this provision, an entity must make its reservation service available during the hours its administrative offices are open. If those offices are open 9 to 5, those are the hours during which the reservations service must be open, even if the entity's transit service operated 6 a.m. to midnight. On days prior to a service day on which the administrative offices are not open (e.g., a Sunday prior to a Monday service day), the reservation service would be open 9 to 5. Note that the reservation service on any day does not have to be provided directly by a 'real person.' An answering machine or other technology can suffice." (*Federal Register*, Volume 56, Number 173, p. 45749)

Federal Transit Administration (FTA) guidelines require that smaller transit agencies and those without automated call distribution (ACD) technology may have a main number and a few roll-over numbers; lights flash and staff persons pick up the telephone. These transit agencies must monitor telephone hold time in other ways, including:

- Random visits to locations where calls are taken
- Random, statistically significant sampling throughout the days and hours of telephone operation at each location where calls are taken.

If an ACD system is not used, it is important to limit the maximum number of calls that any one reservationist or dispatcher will handle at a time. Typically, each workstation might have a main line and one or two extensions that will enable employees to put one or two calls on hold while they handle another call. Problems can occur if there is more than one main line and two extensions, or more than one active call and two on hold at any given time.

Figure 5.1: Handi-Van Client Locations



City of Lincoln - Urban Development Department

If employees are handling more than one call at a time, they should check frequently with any callers who are on hold—at least once every minute—to let them know that they will be assisting them shortly. The guideline also suggest that "where's my ride" call be given priority and should be on hold the least amount of time.

Findings

Handi-Van offers an advanced reservation for complementary paratransit service up to seven days in advance. Reservations may be made on weekdays between 8:00 a.m. and 4:30 p.m. and on Sunday and holidays reservations may be made during the same hours. But calls will be taken by an answering machine and will be confirmed by the dispatcher the next day.

Handi-Van requests that all trips be scheduled in advance but same day trip requests are accepted, although few are made. Customers may call to request a will call pick-up when they are ready after their medical appointment, all will call requests must be made by 4:30 p.m.

Handi-Van reservation hours meet ADA Response Time requirements. The service does not have an ACD system and does not do random audits of hold times. Although call volume is only an issue in the early morning hours when there are two people available to answer calls. Call volumes can be reduced by increasing the number of subscription reservations and there are no complaints about current practices to indicate there is a problem.

Fares

The ADA provides that complementary paratransit riders can be charged no more than twice the fixed route fare. Eligible riders must be permitted a PCA or aide who rides at no charge. Traveling companions on complementary paratransit may ride on a space available basis and are charged the complementary paratransit fare.

Findings

Handi-Van charges cash fares of $3.50 per trip for eligible complementary paratransit riders. Handi-Van customers can also purchase the following discount passes:

- 31-day Consecutive Ride Pass for $90.00
- 31-day Consecutive "Ride for 16" low income, elderly, or disabled pass for $16.00
- 20 Ride Pass for $33.00

These passes are double the charge for the same fixed route. There is no mention of the free fare for a PCA. Although the traveling companion fare is cited on Handi-Van webpage none of the other fares are cited on the webpage or in the Operating Guidelines.

With the exception of the PCA fare, Handi-Van is in compliance with the fare provisions of the ADA but this information is not well communicated.

Trip Purposes

"This is a simple and straightforward requirement. There can be no restrictions or priorities based on trip purpose in a comparable complementary paratransit system. When a user reserves a trip, the entity will need to know the origin, destination, time of travel, and how many are traveling. The entity does not need to know why the person is traveling, and should not even ask." (*Federal Register*, Volume 56, Number 173, p. 45750)

Findings

Handi-Van neither restricts nor prioritizes requests for service on its complementary paratransit system based upon trip purpose.

Hours and Days of Service

"This criterion says simply that if a person can travel to a given destination using a given fixed route at a given time of the day, an ADA paratransit eligible person must be able to travel to that same destination on paratransit at that time of day. This criterion recognizes that the shape of the service area can change. Late at night, for example, it is common for certain routes not to be run. Those routes, and their paratransit corridors, do not need to be served with paratransit when the fixed route system is not running on them. One couldn't get to destinations in that corridor by fixed route at those times, so paratransit service is not necessary either." (*Federal Register*, Volume 56, Number 173, p. 45750.)

Findings

Fixed route service is available 5:15 a.m. to 7:20 p.m. on weekdays and between 6:30 a.m. and 6:55 pm on Saturday s. A call to Human Dignity stated that the service hours for Handi-Van are from 6:00 a.m. to 6:30 p.m. on weekdays and from 6:30 a.m. to 6:00 p.m. on Saturday. There is no information in the Operating Guidelines or on the webpage about hours service is available.

Capacity Constraints

"..This paragraph prohibits any operational pattern or practice that significantly limits the availability of service of ADA paratransit eligible persons. As discussed under 37.125 in the context of missed trips by passengers, a 'pattern or practice' involves regular or repeated actions, not isolated, accidental, or singular incidents. A missed trip, late arrival, or trip denial now and then does not trigger this provision. Operational problems outside the control of the entity do not count as part of a pattern or practice under this provision." (*Federal Register*, Volume 56, Number 173, p. 45750)

Findings

Handi-Van does not deny trips to eligible complementary paratransit riders who request service the day before travel.

Subscription service can increase capacity and reduce the number of phone calls customers have to make and allow the transit operator to schedule more effectively. Since Handi-Van complementary paratransit has capacity (See section on Operations), it is in the best interest of everyone that subscription service be increased. The ADA prohibits subscription service from consuming more than 50 percent of system capacity at any time of the day. The one exception is if there is capacity and no trip denials.

The FTA guidelines note that subscription service can be beneficial to customers who will need to call in less frequently for a reservation. As a result call volumes decline requiring less people to answer telephones. FTA encourages subscriptions service for systems that do not deny trips.

If subscription trips do exceed the 50 percent it is important that Handi-Van closely tract trip denials and negotiated service. A simple log that records day, time and adjustment to customer requests can suffice.

There was no pattern of excessively long trips or missed trips. However, service does not operate on-time. The FTA standard is a minimum of 92 percent on-time operation for service with a 20 minute

ready window and 95 percent for service that uses a 20-minute window. Handi-Van complementary paratransit service does not meet this standard if early trips are taken into account.

Policies and Practices

Like capacity constraints, policies can create barriers that limit the availability of service and are prohibited by the ADA.

Findings

Handi-Van Operating Guidelines state that "No disabled person under the age of 12 may ride the Handi-Van unless accompanied by an adult." FTA has found that policies limiting the availability of transit service to children may not be imposed solely on the paratransit system. There is no comparable StarTran fixed route policy. FTA has indicated that if there are parallel age limits on all modes, eligibility determinations can consider the functional abilities of children to use fixed route with the assistance of an accompanying adult.

Handi-Van is required to have a Visitors Policy. A call to Human Dignity clarified that a policy exists consistent within ADA guidelines, but it is not on the webpage, nor is it very clearly identified in the operating guidelines. Visitors to the area will likely use the webpage as a way to find out how to access service rather than read through to the number 5 under Appointments in the operating guidelines.

Handi-Van has in place and enforces no show and late cancellation policies. During the week evaluated no shows and late cancels (defined as notice of less than 30 minutes that passenger will not be traveling) account for less than 10 percent of all trips. The national average for both no shows and late cancels is 20 percent.

Handi-Van is in compliance with the on-board ride time standard. This refers to the measure that at least 95 percent of all paratransit trips should be comparable to fixed route travel time with allowances for walking time to and from stops, waiting time at as stop, and transfer times. For example, if fixed route ride time is 15 minutes, a comparable paratransit travel time might be 45 minutes (if 15 minutes walking and waiting time is included at each end of the trip for use of the fixed route system).

ADA Eligibility Determination Process

In addition to the **six service criteria** the Act requires that the local fixed route operator establish a process to screen eligible customers.

Eligibility Standards

"Section 37.123 defines the standards that apply to ADA paratransit eligibility. The law recognizes that 'a person may be eligible for some trips but not others' since 'eligibility does not inhere to the individual or his or her disability, as such, but in meeting the functional criteria of inability to use the fixed route system established by the ADA.'" (*Federal Register,* Volume 56, Number 173, p.45745). This is known as trip by trip eligibility.

Section 37.125 of the Act required every operator of complementary paratransit to establish a process for eligibility determinations. The goal of such a process would be to ensure "that only people who meet the regulatory criteria, strictly applied, are regarded as ADA paratransit eligible."

The eligibility determination process "may not impose unreasonable administrative burdens on applicants." The regulations permit the use of evaluations by physicians and functional assessments as

part of the eligibility determination process, but in the final analysis concluded that "what is needed is a determination of whether, as a practical matter, the individual can use fixed route transit in his or her own circumstances." Such a determination would be "transportation decisions primarily, not a medical decision."

Findings

StarTran uses a paper application with a professional verification to make eligibility determinations for Handi-Van service. Applicants are required to submit to a professional verification along with the application. In rare cases when the League of Human Dignity cannot make a determination applicants are sent for a functional assessment. Madonna Rehabilitation has been the contractor but has decided not to continue and StarTran is in the process of finding a new contractor to perform functional assessments.

The League of Human Dignity processes approximately 40 new and renewing applications each month. Between September 2010 and August 2011 there were 445 applicants. The vast majority was approved and only 3 percent were denied. This is comparable to most other transit systems using the self-certification application with a professional verification.

Applications are available for download from the StarTran website or from the League of Human Dignity. A review showed that determinations were completed within 21 days of receipt as required by the Act. The eligibility determination is made in writing and is granted for a period of three years.

When approved, the applicant is notified of their eligibility for paratransit and must have a photo identification card made. Photo identification cards are issued at the by the League of Human Dignity. The identification cards must be shown when boarding paratransit vehicles. Applicants who are denied eligibility are advised of their right to appeal the determination.

Handi-Van Operations Review

The purpose of this operations review is to look at the overall quality of service and identify areas for improvements.

Handi-Van uses Route Match software to reserve and scheduled service. The software was purchase in 1991 and has not performed the originally intended function. The software manufacturer could not adjust the scheduling algorithms to work in Lincoln. The software does assist in reserving rides and processing the post trip data needed to report for the National Transit Data Base but scheduling is handled manually.

A week's worth of manifests was analyzed to produce a snapshot of recent system performance. Division of service between contracted and directly operated service were reviewed as well as on time performance.

Early in the review it was determined that because of staffing constraints the Handi-Van Supervisor was scheduling service three days in advance. Handi-Van and Transport Plus manifests were printed and trips that were cancelled remained on the driver manifests. Ideally, scheduling should be done the day before service is delivered.

The practice of advanced scheduling has the effect of reducing productivity and driving up the total cost to deliver service. As trips were cancelled in advance, service was not rescheduled to add trips to Handi-

Van service because trips had already been sent to the contractor. The impact is that the total cost of service is higher because capacity on Handi-Van service is not fully utilized. An analysis of this practice showed that between 5 percent and 19 percent of productivity was lost. The implication for the cost of service is significant.

Handi-Van revenue hours do not vary by day of the week, 83.66 hours of service are available Monday through Friday. Saturday revenue hours total 15. Revenue hours do not vary by day but demand does. Figure 5.2 illustrates the variability of trip demand by weekday. The greatest weekday demand is on Wednesday and the least demand is on Monday. Total daily trip requests range from 210 to 241. Saturday trip demand averaged 32.5.

Figure 5.2: Daily Handi-Van Trips

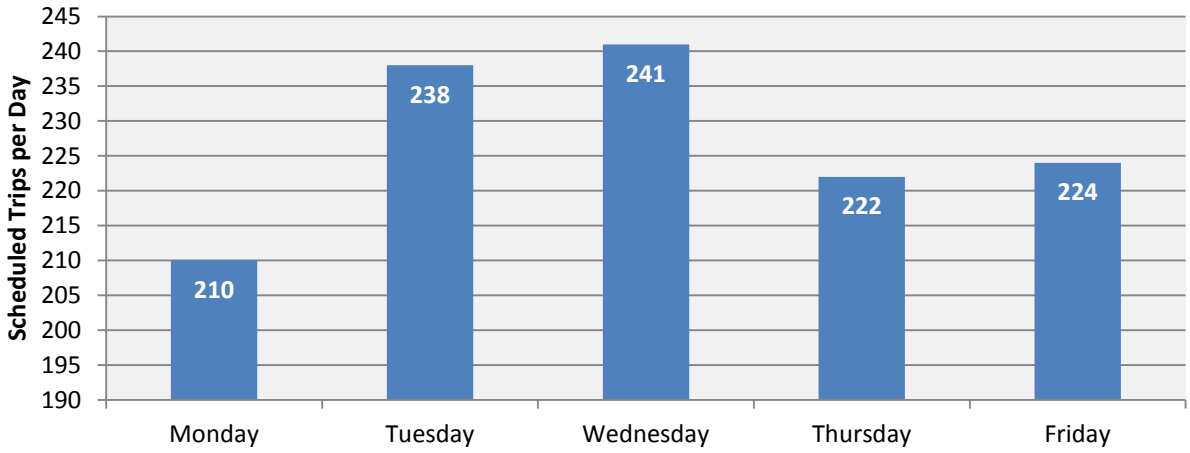
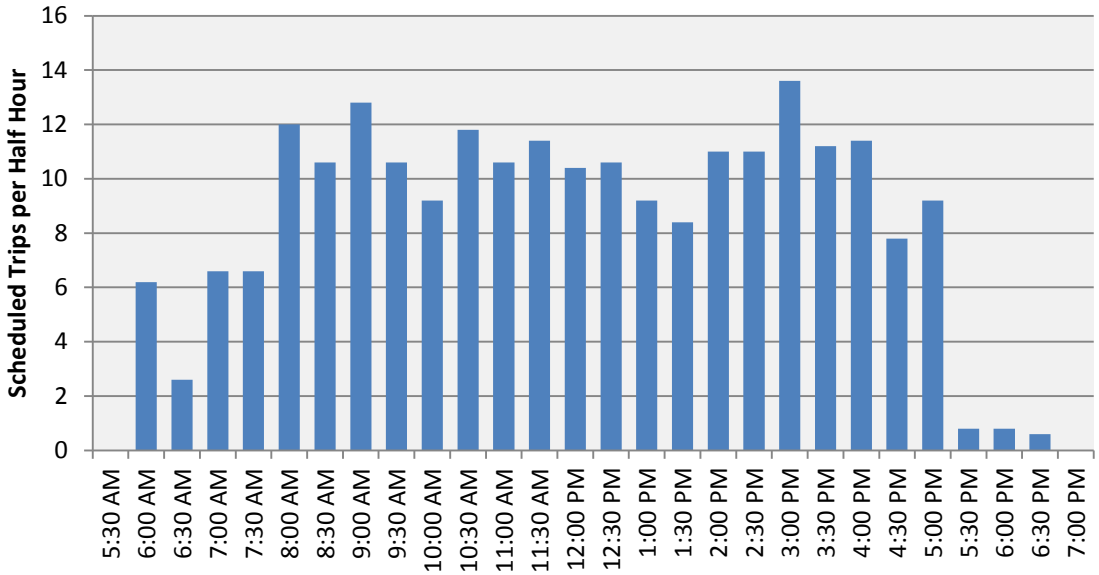


Figure 5.3 illustrates demand by half hour of the day. Unlike many systems that have steep morning and afternoon peaks, Handi-Van peak demand begins at 8:00 a.m. but continues a steady level at or slightly above 20 passengers per hour until 2:30 p.m. when the afternoon peak hour begins and lasts until 4:00 p.m. when demand drops off sharply.

Figure 5.3: Average Weekday Handi-Van Demand by Time of Day

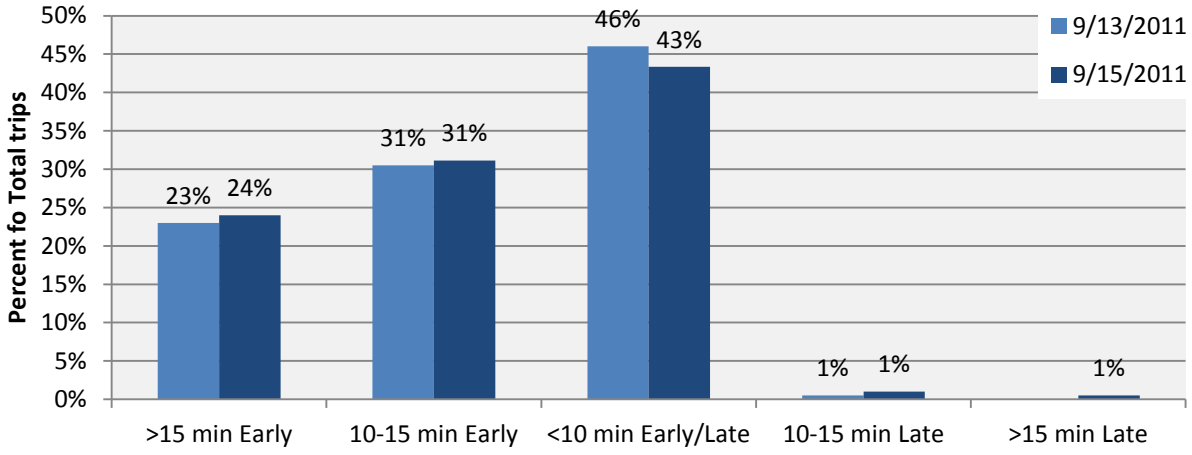


On-time performance is a measure of service quality. On-time operation is directly related to productivity; a higher percentage of on-time pickups will translate into a lower productivity number and conversely higher productivity usually means fewer on-time trips. Balancing cost and customer service is not impossible but requires constant attention to detail.

Handi-Van is considered on-time if a vehicle arrives 15 minutes before or 15 minutes after the pick-up time given to the customer when a reservation is made. The FTA has established a baseline on-time standard of no less than 95 percent of passenger pick-ups should be made within the 30-minute window. When customers provide an appointment time, customers should be dropped off before this time at least 95 percent of the time. The FTA does not consider trips that operate early or before the ready window on time.

Two days were selected for analysis; the results are shown in Figure 5.4. The most desirable pick-up window is no more than 10 minutes before or after the scheduled time. The next best pick-up window is from 10 to 15 minutes before the scheduled time. No trips should be late and very few should be early.

Figure 5.4: Handi-Van On-time Performance



Handi-Van reports on time operations are between 95-99 percent. Using the FTA definition Handi-Van operates on time system wide around 76 percent of the time when early trips or trips that operate greater than 15 minutes before the ready time are eliminated. Transport Plus operated 91 percent and 97 percent on time on Tuesday, September 13 and Thursday, September 15, 2011 respectively.

Some early trips can be explained because customers can call to request an early pick up and no shows can cause a driver to operate early but this cannot explain all trips that operate early. Early pick-ups are an indication that drivers have an excessive amount of time in their schedule. Early arrival at a customer's home or business cause concern because customers feel pressure to leave early even when this is inconvenient. It can also cause customers on board a vehicle to wait.

Service that operates earlier is an indication of poor scheduling but more importantly it indicates there is excess capacity and service hours can be reduced. Overall system productivity is impacted by the operator scheduling practices. The Handi-Van Supervisor should decide how many operator hours and at what times they are needed. At present the Supervisor responsible for fixed route scheduling determines Handi-Van operator and revenue hours.

Despite the early operation Handi-Van customers receive a high level of service akin to taxi service rather than being a shared ride service. Passengers rarely ride with other customers and the time on board the vehicle is minimal. While this is good for the customer it is not in the best interest of the Handi-Van overall.

A change in service delivery to a more shared ride service will also impact operators who are accustomed to a less demanding work load.

Service Hours

There are very few passengers after 5:30 p.m.; the sample week showed no more than four customers requested trips during the evening hours. Service must be available the same hours as fixed route, but it is most cost effective to assign these trips to the contractor.

Eliminating directly operated service on Saturday will save money and passenger demand would have to double in order for directly operated service to be cost effective.

Improved weekday scheduling will conservatively save eight revenue hours a day by eliminating early trips and increasing passenger loads on directly operated service.

The annual cost savings shown in Table 5.1 for the proposed service reductions are based upon an $84.86 operating cost per revenue hour and a contracted cost per passenger of $23.00.

Table 5.1: Service Hour Reduction Annual Cost Savings

Recommendation	Hours	Current Cost	Cost Savings	Net Annual Savings
Operate contract service after 5:30 p.m. on weekdays	2.0	$ 169.72	$ 536.00	$ 29,529.50
Operate contract service on Saturday	15.0	$ 1,272.90	$ 77.72	$ 19,818.60
Reduce Weekday Handi-Van service	8.0	$ 678.88	$ 678.88	$ 173,114.40
Total	**25.0**			**$ 222,462.50**

It may be possible to reduce directly operated service even further once after the first reductions are made. The Supervisor will need time to adjust operator schedules. Fixed route should not dictate operator work schedules and if at all possible fixed route and paratransit should not be linked. Passenger will also need time to adjust to shared ride service and service that does not operate early. Operators will need to adjust to the increased work load.

Contracts

StarTran has two contractors that support the delivery of complementary paratransit service. The bidding process was handled by the City Purchasing Department. The contracts contain references to compliance with ADA requirements but do not spell out all of the measures that must be met for the City of Lincoln to be in compliance.

Findings

The contract with Transport Plus is generic and contains few specific requirements aside from training and operator performance requirements. There is a reference that the contractor has to be incompliance with the current ADA Plan for the City of Lincoln. There are no specific performance requirements such as the definition of on-time or performance standards need to be achieved in order for the City of Lincoln and StarTran to be in compliance with the ADA.

Information presented in the operating section of this report confirms that Transport Plus is a good contractor but the contract with the City of Lincoln is insufficient to ensure that any other contractor will perform up to the standards needed for ADA compliance.

Likewise the League of Human Dignity is a good contractor but there are important measures that need to be monitored and reported. This includes the number of applications that exceed 21 days from receipt and approval.

City and Board Reporting Requirements

The important measures to ensure Handi-Van quality and productivity include:

- Total passengers
  - Handi-Van
  - Transport Plus
- On-time performance by category
  - Handi-Van
  - Transport Plus
- Revenue hours
- Passenger per hour

The City and Board should look for trends and ask questions, like *"if total passengers are increasing, is the number of trips increasing on contract or directly operated service?"* On-time performance should be at 95 percent with the great majority within nine minutes before and after the ready time. There should be no early or late trips.

Revenue hours should be increased or decrease based upon passenger demand. If trip demand is increasing directly operated service productivity should be increasing. If passenger demand is declining trips contract service should have a declining number of passengers.

Findings

Findings from this chapter are presented and explained below.

1. Handi-Van meets the ADA Service Area requirements.
2. Handi-Van meets the ADA Response Time requirements. Handi-Van should consider random audits of telephone hold times to assure ADA compliance. Subscription should be increased as much as possible to reduce the overall call volume and assure that staff is available to handle the call volume.
3. Handi-Van meets the ADA Fare requirements. Handi-Van fare information should be communicated in the Operating Guidelines and on the Handi-Van specific webpage. This information should include the cash fare, pass fare options, Childs fare (Free under 4) and PCA and companion fares and requirements.
4. Handi-Van meets the ADA Trip Purpose requirements.
5. Handi-Van does not meet the ADA Span of Service requirements. Handi-Van needs to extend complementary service hours to the same hours as fixed route. Since fixed route service ends at 7:20 p.m. on weekdays and 6:55 p.m. on Saturday Handi-Van is not in compliance. It is acceptable to state that service must be completed by 7:20 p.m. and 6:55 p.m. respectively.
   - An alternative to extending all service hours anywhere in the service area would be to offer service in corridors only when fixed route service is operated.
   - StarTran needs to establish a practice of adjusting paratransit hours of service when a change on fixed route is implemented.
6. Handi-Van does not meet the ADA Capacity/Scheduling requirements. To be in compliance with the ADA, Handi-Van needs to improve scheduling of trips to eliminate early operation.

7. Handi-Van must discontinue the practice of requiring an adult accompany a child under 12 to be in compliance with the ADA since there is no comparable policy on fixed route service.
8. The Handi-Van visitor policy should be easily identified on the webpage and have a header identifying the policy in the operating guidelines.
9. Given the size of the service area and passenger demand the fact that the Route Match scheduling algorithm does not work has little impact on service productivity. However, since the software is no longer supported by the manufacturer, StarTran must find a way to maintain the integrity of the portions of the software that are used. StarTran should renegotiate with Route Match for some level of support in order to avoid a system failure and a catastrophic loss of data and the ability to produce driver manifests.
10. StarTran must add staff in order to effectively manage the paratransit operation. It is recommended that a full time clerk position be created to handle call taking and reservations, radio dispatch and post trip data entry. This would free the Handi-Van supervisor to manage the overall program and ADA compliance, supervise contractors and schedule service. It is likely that some changes in space and an additional computer terminal would be needed but the added cost would be more than offset by improvements in scheduling.
11. To reduce paratransit operating costs by up to 12 percent consider the following changes:
    - Eliminate directly operated service on weekdays after 5:30 p.m. and assign all trips through the end of the service day to Transport Plus.
    - Eliminate directly operated weekend service and contract all trips to Transport Plus.
    - Reduce directly operated weekday service by 8 hours through improved scheduling.
12. The City of Lincoln Purchasing Department needs to have specific performance measures spelled out in outside contracts.
    - Performance measures should include an on time performance target of 95 percent pick up within the ready window
    - Ride time standards: No passenger should ride longer than 45 minutes. The contractor should report any trips which exceed this standard
    - Future contracts for the service provided by the League of Human Dignity should require the contractor to describe how they will ensure that applications are processed within 21days
13. The StarTran Handi-Van Operating Guidelines are outdated and it is difficult to find the important information. All references to effective dates before and after 1992 should be eliminated and information needed for ADA compliance as recommended in other section of this report should be updated. Headings that help locate important information should be included for ease of use.

6.0 Revenue

The National Transit Database (NTD) groups operating funding sources into five categories: fares, federal, state, local, and other. An analysis of the peer systems shows a large degree of variability in the proportions of funding received in each category. Each system is unique, with some receiving almost 75 percent of their funding from local sources, some receiving over half of their funding from federal sources and a negligible amount from fares, while others present a more balanced approach with funding more evenly distributed between all sources. Because of each systems individual situation and approach to transit funding, it is difficult to identify an ideal or standard distribution of operating funding sources.

StarTran service is funded through a variety of sources with the local share currently contributing over half of all operating funds. In general, StarTran uses a greater proportion of local and other funding than its peer systems. For the proportions of funding from fares, federal, and state, StarTran ranks 8th or 9th out of 13, as shown in Table 6.1. The proportion of funding from fares and state sources is lower than the peer average while the proportion of funding from federal sources is higher than the peer average.

Table 6.1: Operating Funding Sources

Funding Source (2010)	Min	Max	Peer Avg	Lincoln %	Lincoln $	Rank
Fares	1.3%	39.9%	22.5%	12.7%	$1,215,213	9
Federal	9.8%	60.4%	22.7%	27.6%	$2,635,499	8
State	0.0%	35.4%	16.7%	3.9%	$376,756	8
Local	20.6%	73.2%	36.5%	52.7%	$5,035,780	3
Other	0.3%	4.3%	1.6%	3.0%	$287,558	4
TOTAL					**$9,550,806**	

Table 6.2: Operating Funding Source Peer Ranking

Peer Ranking	% of Funding Fares	% of Funding Federal	% of Funding Local	% of Funding Other	% of Funding State
1	Lubbock, TX	Fort Smith, AR-OK	Fort Collins, CO	Roanoke, VA	Madison, WI
2	Des Moines, IA	Roanoke, VA	Charleston, WV	Lubbock, TX	South Bend, IN
3	Roanoke, VA	Green Bay, WI	Lincoln, NE	Fort Collins, CO	Green Bay, WI
4	Madison, WI	Sioux Falls, SD	Sioux Falls, SD	Lincoln, NE	Roanoke, VA
5	Green Bay, WI	Springfield, MO	Springfield, MO	South Bend, IN	Fort Smith, AR-OK
6	Charleston, WV	Cedar Rapids, IA	Cedar Rapids, IA	Fort Smith, AR-OK	Lubbock, TX
7	South Bend, IN	Lubbock, TX	South Bend, IN	Charleston, WV	Cedar Rapids, IA
8	Fort Collins, CO	Lincoln, NE	Des Moines, IA	Sioux Falls, SD	Lincoln, NE
9	Lincoln, NE	Des Moines, IA	Madison, WI	Cedar Rapids, IA	Des Moines, IA
10	Springfield, MO	Charleston, WV	Fort Smith, AR-OK	Springfield, MO	Springfield, MO
11	Cedar Rapids, IA	South Bend, IN	Green Bay, WI	Madison, WI	Sioux Falls, SD
12	Sioux Falls, SD	Madison, WI	Roanoke, VA	Green Bay, WI	Charleston, WV
13	Fort Smith, AR-OK	Fort Collins, CO	Lubbock, TX	Des Moines, IA	Fort Collins, CO

Historical Trends

From 1992 to 2010 total StarTran operating revenue grew from $4.9 million to $9.6 million at an annual growth rate of 3.8 percent (Table 6.3). Fare revenue over this time grew at a rate of only 1.8 percent and showed the slowest growth of all revenue sources. Federal and State revenue grew at a higher rate than the total at 4.8 percent and 4.1 percent respectively. Local revenue grew at a rate only slightly less than the total. Other revenue experienced the largest growth rate at 14.9 percent, but comprises only roughly 3 percent of the total revenue sources.

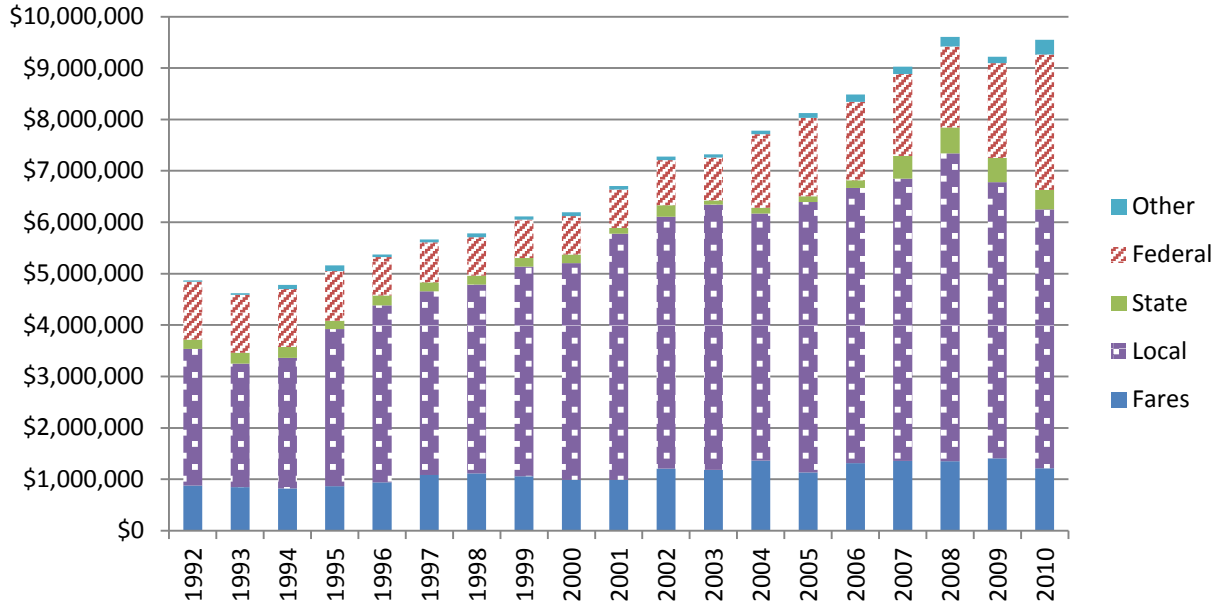
Table 6.3: Historic Revenue Source Growth

StarTran Revenue Category	1992	% of Total	2010	% of Total	Growth Rate*
Fares	$876,217	18.0%	$1,215,213	12.7%	1.8%
Federal	$1,128,028	23.2%	$2,635,499	27.6%	4.8%
State	$182,670	3.8%	$376,756	3.9%	4.1%
Local	$2,656,495	54.6%	$5,035,780	52.7%	3.6%
Other	$23,593	0.5%	$287,558	3.0%	14.9%
Total Revenue	**$4,867,003**	**100.0%**	**$9,550,806**	**100.0%**	**3.8%**

**Annually Compounded Average Growth Rate*

Overall growth in funding has not been consistent over the years. Total revenue has experienced steady growth over the last 18 years, but twice has dropped from one year to the next. The first drop occurred from 1992 to 1993, while the second occurred from 2008 to 2009. Each drop in Total revenue was primarily the result of a roughly 10 percent drop in Local revenue. Local revenue also dropped from 2003 to 2004 and 2009 to 2010, but in each of these cases Federal revenue experienced significant growth which offset the drop in Local revenue.

Figure 6.1: Historic StarTran Revenues by Source



Peer History

StarTran's peer systems have experienced a growth in average Total revenue of 4.6 percent, nearly 1 percentage point higher than the StarTran's Total growth rate (Table 6.4). The peer average Federal revenue growth rate has also been higher at 6.7 percent and the State growth rate has been smaller at 3.0 percent. While peer system average proportion of Local revenue is lower than the StarTran proportion, the peer systems have experienced a larger average growth rate of 5.3 percent. Other revenue has actually experienced negative growth with a rate of -4.1 percent. However, this category makes up only 1.6 percent of peer average revenue for year 2010.

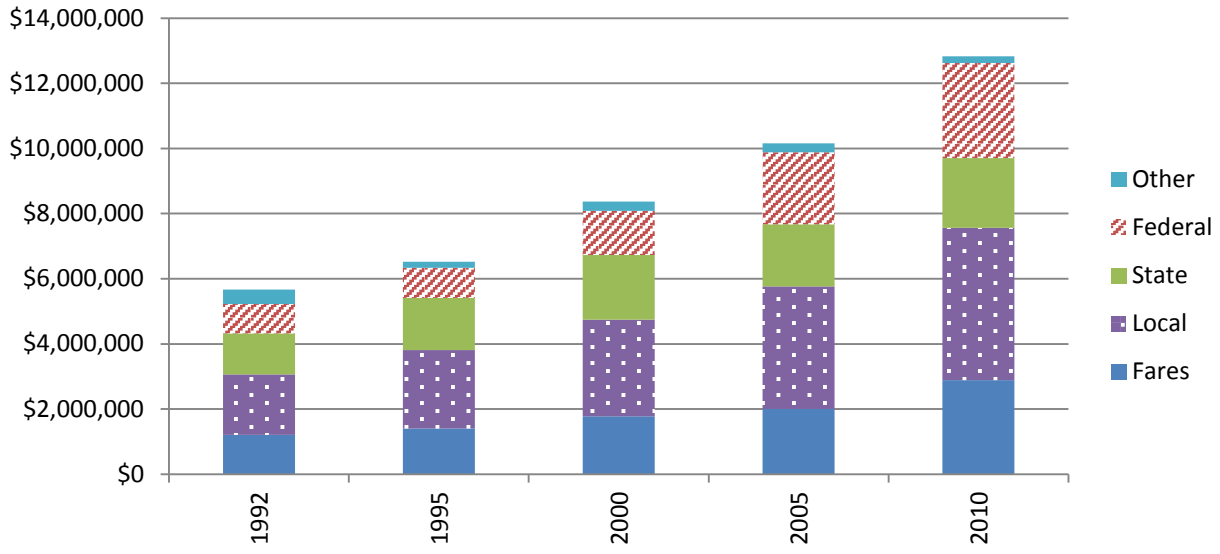
Table 6.4: Peer Average Historic Revenue Source Growth

Peer Average Revenue Category	1992	% of Total	2010	% of Total	Growth Rate*
Fares	$1,209,152	21.3%	$2,889,115	22.5%	5.0%
Federal	$900,561	15.9%	$2,915,777	22.7%	6.7%
State	$1,262,605	22.3%	$2,135,085	16.7%	3.0%
Local	$1,850,422	32.7%	$4,676,339	36.5%	5.3%
Other	$440,968	7.8%	$206,152	1.6%	-4.1%
Total Revenue	**$5,663,708**	**100.0%**	**$12,822,468**	**100.0%**	**4.6%**

**Annually Compounded Average Growth Rate*

Historical trends in the peer systems show that the proportion of total revenue from Fares has remained relatively constant at roughly 22 percent. The greatest growth in the proportion of total revenue has been from Federal sources, rising from 15.9 percent to 22.7 percent. Local revenue sources also grew to be a greater proportion of total revenue, rising from 32.7 percent to 36.5 percent. At the same time, the proportion of revenue from Other sources dropped from 7.8 percent to 1.6 percent.

Figure 6.2: Historic Peer Revenues by Source



Fares and Passes

The following tables list the current passenger fares for fixed route service and paratransit service.

Table 6.5: Fixed Route Cash Fares

Category	Fare
Cash fare	$1.75
Elderly (62+), Disabled, Medicare	$0.85
Star Shuttle	$0.25
Transfer	Free
Children (under 4)	Free

Table 6.6: Fixed Route Passes

Pass Category	Fare
31-day Pass	$45.00
31-day Pass, Low-Income Uses	$8.00
20 Ride Pass	$33.00
20 Ride Pass, Elderly, Disabled, Medicare Pass	$16.00

Table 6.7: Paratransit Fares

Pass Category	Fare
Cash fare	$3.50
Handi-Van 20-ride Pass	$66.00
Handi-Van 31-day Pass	$90.00
Handi-Van 31-day Pass, Low-Income	$16.00

Customers whose income is less than 200 percent of the poverty threshold are eligible for the "Ride for $8" 31 Consecutive Day pass for fixed route service and the "Ride for $16" 31 Consecutive Day pass for Handi-Van service.

Historic Fare Policy, 1996-2011

In 1996, StarTran's base fare was set at $0.85, the 31-Day Pass was $25, and the Low Income 31-Day Pass did not yet exist. Since that time there have been four instances of fare increases to one or all of the fare types. In 2005 the "Ride for $5" Low Income 31-Day Pass program was initiated, providing greatly discounted service to low income customers meeting the eligibility requirements. Despite increases to the cash and 31-Day Pass fares, StarTran saw a ridership increase of 10.8 percent between 2005 and 2006, likely the result of the new fare option. All fares were significantly increased again in 2008 with the cash fare rising 40 percent, the 31-Day Pass rising 29 percent, and the Low Income 31-Day Pass rising 50 percent. This fare increase coincided with a drop in ridership of 9.4 percent from 2008 to 2009.

Table 6.8: Historic Fare Prices (Fare Changes Eff. Oct. 1st)

Fare Type	1996	2001	2005	2008	2011
Cash	$0.85	$1.00	$1.25	$1.75	$1.75
31-Day Pass	$25.00	$30.00	$35.00	$45.00	$45.00
Low Income 31-Day Pass	N/A	N/A	$5.00	$7.50	$8.00

$0.25 Fare Trial

In an effort to raise awareness of the public transit system, StarTran implemented a reduced-fare trial period. For the entire month of February, 2010 fixed-route service fares were reduced to $0.25 with senior citizen fares reduced to $0.10. Handi-Van fares were also reduced to $0.50. Ridership for the first two weeks of February, 2010 was 64,728, an increase of 16 percent from the 55,832 rides taken over the same time period in 2009.

Elasticity of Demand

The transit industry for years has used a rule of thumb for estimating the ridership impacts of rising fares. The common assumption was that a transit system should expect a 0.33 percent decrease in ridership for every 1.00 percent increase in fares.

StarTran has had two recent experiences with changing fares which have provided sufficient information to be able to calculate the actual elasticity of demand within Lincoln to use for future budget analysis work.

1. In 2009 the base fare was changed from $1.25 to $1.75, a 40 percent increase. The 2008 ridership of 1,919,373 fell to 1,733,188 in 2009, a 9.7 percent decrease. The actual elasticity of demand could then be calculated by dividing -9.7 by 40, resulting in a **0.24** percent decrease for every 1.00 percent increase in fares.
2. The $0.25 fare trial in 2010 provided a second look at elasticity of demand in Lincoln. The average fare per passenger dropped during the trial period from $0.65 to $.25, a 61.5 percent decrease. The ridership during the trial period increased 16 percent. The actual elasticity of demand could then be calculated by dividing 16 by -61.5, resulting in a **0.26** percent increase for every 1.00 percent decrease in fares.

Ridership Detail

StarTran customers use the transit service for a variety of reasons. Some use the service as a means of daily commuting, while others may use the service only occasionally as a backup transportation option. Additionally, many customers may use the service as means of accessing special events such as University of Lincoln-Nebraska Husker football games. Table 6.9 shows an analysis of StarTran customer ridership by fare payment used. At nearly half of all ridership, the largest proportion of StarTran rides is taken by customers utilizing the Low Income 31 Day Pass. The next highest proportion of rides is taken by students using the UNL Pass. StarTran offers a number of specialty fare programs including the Senior/Go For Less, Ride ‘n’ Shop, Ride Tickets/20 Ride/Two Ride, Downtown Fare, and Senior Punch. In total these programs account for 5.4 percent of total StarTran ridership.

Table 6.9: Ridership and Revenue by Fare Payment

Fare Category	Ridership	%	Fare Revenue	%	Avg Fare/ Pass
Full Fare	145,273	7.7%	$260,356	19.7%	$1.79
Free Ride (Sen. Wed, Free Child, etc.)	28,496	1.5%	$0	0.0%	$0.00
Special Event Service	40,444	2.2%	$135,765	10.3%	$3.36
Full Fare 31-Day Pass	181,849	9.7%	$202,343	15.3%	$1.11
Low Income 31-Day Pass	855,544	45.5%	$203,529	15.4%	$0.24
Transfers	41,111	2.2%	$0	0.0%	$0.00
Senior/Go For Less	21,339	1.1%	$18,138	1.4%	$0.85
Ride 'n' Shop	17	0.0%	$9	0.0%	$0.53
Ride Tickets/20 Ride/Two Ride	60,990	3.2%	$101,041	7.7%	$1.66
Downtown Line	1,037	0.1%	$259	0.0%	$0.25
Senior Punch	17,366	0.9%	$13,893	1.1%	$0.80
UNL Pass	484,827	25.8%	$384,126	29.1%	$0.79
TOTAL	**1,878,293**	**100.0%**	**$1,319,459**	**100.0%**	**$0.70**

By excluding the UNL Pass and Special Event Service ridership, the proportion of Low Income 31-Day Pass Users rises to 63.2 percent. The next highest proportions are for Full Fare 31-Day Pass at 13.4 percent and Full Fare at 10.7 percent.

Table 6.10: Ridership and Revenue by Fare Payment (Regular Service Only)

Fare Category (Regular Route Only)	Ridership	%	Fare Revenue	%	Avg Fare/ Pass
Full Fare	145,273	10.7%	$260,356	32.6%	$1.79
Free Ride (Sen. Wed, Free Child, etc.)	28,496	2.1%	$0	0.0%	$0.00
Full Fare 31-Day Pass	181,849	13.4%	$202,343	25.3%	$1.11
Low Income 31-Day Pass	855,544	63.2%	$203,529	25.5%	$0.24
Transfers	41,111	3.0%	$0	0.0%	$0.00
Senior/Go For Less	21,339	1.6%	$18,138	2.3%	$0.85
Ride 'n' Shop	17	0.0%	$9	0.0%	$0.53
Ride Tickets/20 Ride/Two Ride	60,990	4.5%	$101,041	12.6%	$1.66
Downtown Line	1,037	0.1%	$259	0.0%	$0.25
Senior Punch	17,366	1.3%	$13,893	1.7%	$0.80
TOTAL	**1,353,022**	**100.0%**	**$799,568**	**100.0%**	**$0.59**

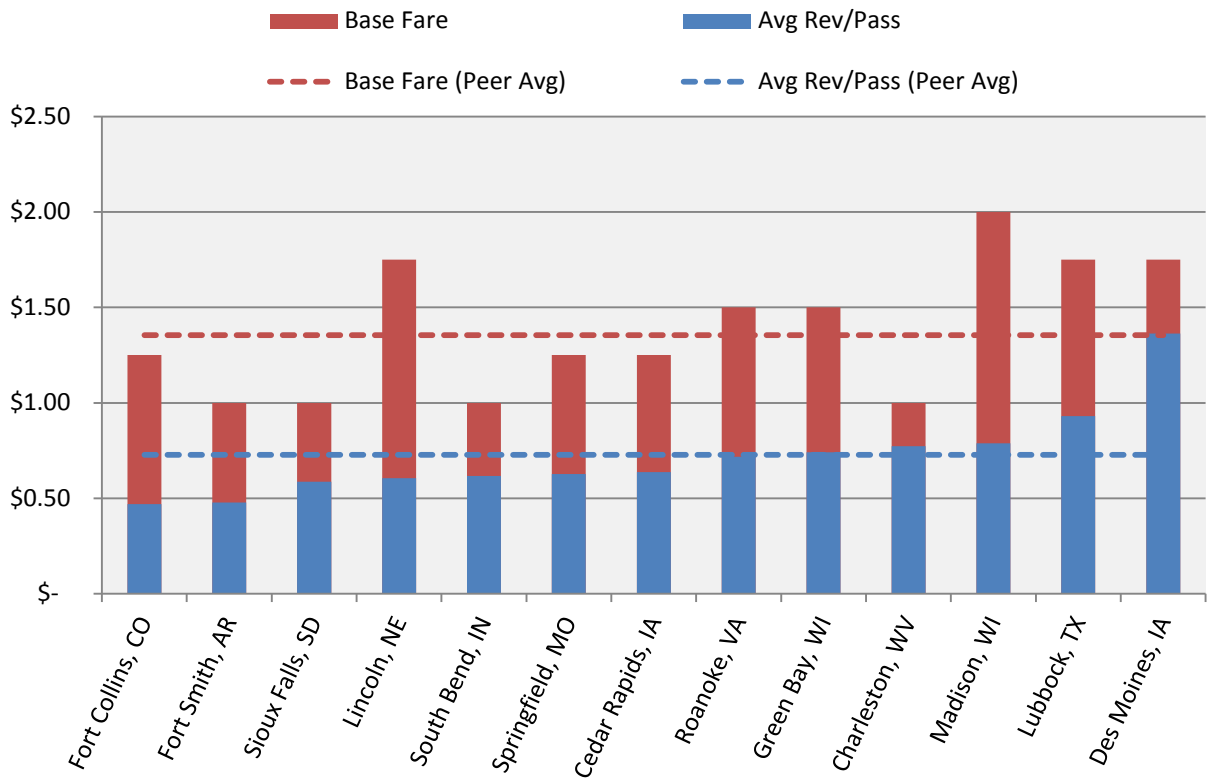
Average Fare per Passenger

The average fare collected for each user varies greatly. For all users in 2011, the average fare per passenger was $0.70. Within the subcategories of fare payment type the average fare per passenger ranges from a low of $0.24 for the Low Income 31-Day Pass to a high of $3.36 for the Special Event express service. This excludes the Transfer and Free Ride categories which have an average fare per passenger of $0.00.

Among its peers, StarTran has the lowest proportion of average fare per passenger to base fare at 34.6 percent. This is primarily due to the exceptionally discounted low income pass which is used by 45.5 percent of the total ridership, yet accounts for only 15.4 percent of the fare revenue. In contrast, the Special Event service is used by only 2.2 percent of the total ridership, yet accounts for 10.3 percent of the fare revenue.

Compared to its peers, StarTran's base fare of $1.75 matches Lubbock and Des Moines, and is exceeded only by Madison at $2.00. Its average fare per passenger is the fourth lowest after Fort Collins, Fort Smith, and Sioux Falls.

Figure 6.3: Average Revenue per Passenger and Base Local Fare (2010)



Since 2002, StarTran has had a historic average fare per passenger of $0.69 with a low of $0.61 in 2010 and a high of $0.83 in 2004. Because StarTran serves a large contingent of low income riders, the average fare per passenger has been most sensitive to changes in the in fare structure of the Low Income 31-Day Pass. When the discounted pass was first introduced in 2005, average fare per passenger dropped from a high of $0.83 to $0.65. Despite the drop in fare revenue and ridership following the fare increases in 2008, average fare per passenger actually held constant at $0.65 from 2008 to 2009. With the most recent change in Low Income 31-Day Pass fare from $7.50 to $8.00, the average fare per passenger has already shown an increase of 16 percent from 2010 to 2011.

Table 6.11: Historic Fare Revenue per Passenger

Year	Fares	Ridership	Fare/Pass
2002	$1,124,981	1,529,340	$0.74
2003	$1,075,008	1,481,211	$0.73
2004	$1,256,606	1,508,073	$0.83
2005	$1,037,869	1,599,218	$0.65
2006	$1,206,606	1,772,712	$0.68
2007	$1,242,481	1,815,085	$0.68
2008	$1,241,576	1,919,373	$0.65
2009	$1,122,878	1,733,188	$0.65
2010	$1,062,360	1,753,777	$0.61
2011	$1,319,459	1,878,293	$0.70

Value of Low-Income Pass Discount

The low-income pass is a very popular instrument for StarTran users. The current pass discount is $37.00 per pass per month ($45.00 regular pass price less $8.00 low-income pass price). On average there are 2,900 low-income passes sold each month for an annual discount of about $1.3 million. With an average utilization of 32 trips per month, low-income pass users make roughly 1.1 million trips per year. This results in a program discount of about $1.18 for each trip taken by a low-income pass user above the regular monthly pass user discount.

Reducing Base Fare

The base fare for StarTran fixed route service is quite high compared to its peers at $1.75 per trip. Only one peer system (Madison, WI) has a higher base fare. If the base fare level were reduced, there would be a corresponding increase in ridership expected, but also a reduction in passenger revenue. The following table presents the potential ridership and revenue changes that would result from changing the base fare level assuming an elasticity of demand of approximately -0.25 as calculated previously and ridership and revenue levels for current full-fare customers as shown in Table 6.12

Table 6.12: Base Fare Reduction

Base Fare	% Reduction	Ridership Increase	Total Ridership	Revenue Decrease	Total Revenue
$1.75	--	--	145,273	--	$260,356
$1.50	-14.3%	5,188	150,461	- $34,664	$225,692
$1.25	-28.6%	6,053	151,326	- $71,198	$189,158
$1.00	-42.9%	7,264	152,537	-$107,819	$152,537

Although reducing the base fare will likely generate additional system riders, it will not be able to generate any additional passenger revenues.

Maximizing Revenue and Ridership

It is extremely difficult to estimate where base and pass program fare levels should be set to maximize both the program revenues and system ridership. The current base fare of $1.75 is near the top of the range of peers already. The elasticity of demand exhibited in Lincoln, a 0.25 percent drop in ridership for each 1.00 percent increase in fares indicates that there may be some opportunity to increase the average fare revenue per passenger by adjusting the most heavily discounted program, the low-income pass. The current average fare revenue per trip made by low-income pass users is about $0.25. The following is an estimate of how revenues and ridership might vary if the average revenue per trip were

modified by increase the monthly low-income pass cost assuming ridership and revenue levels for current low-income pass customers as shown in Table 6.13.

Table 6.13: Low-Income Pass Increase

Fare Revenue per Low-Income Pass User Trip	% Increase	Ridership Decrease	Total Ridership	Revenue Increase	Total Revenue
$0.25	-	-	855,544	-	$202,343
$0.30	20.0%	-42,777	812,767	$41,487	$243,830
$0.35	40.0%	-85,554	769,990	$67,153	$269,496
$0.40	60.0%	-128,332	727,212	$88,542	$290,885
$0.50	100.0%	-213,886	641,658	$118,486	$320,829

Cash Handling

Cash handling procedures in the garage were examined during the on-site review. A detailed audit of cash handling was not performed and no observations were made of driver/passenger interaction and fare collection practices.

It appears that the farebox emptying procedures are consistent with good practices at other transit systems. Service workers pull the fareboxes in a consistent manner and drop the cash into a secure vault. Farebox paper jams in the bus vaults have occurred and the evening shop supervisor indicated that good procedures are used when a jam does occur. The number of farebox jams in the last year was not checked against mechanic time sheets. The reporting system for jammed fareboxes was not analyzed.

Farebox jams can cause lost cash revenues. However, with four service workers and a Supervisor on duty during farebox pulling hours, it is unlikely, though possible, that cash is being diverted from the main vault. A cash revenue per passenger statistic after each farebox pull could show an acceptable range of variation. If cash revenue per passenger declines over time, it would indicate that there is a diversion of cash that is not reaching the large safe or not being properly deposited. The Accountant or Accounting Clerk should prepare this statistic for the Transit Manager.

Figure 6.4: Cash Handling Procedures Involving Several People in a Secure Room

Cash counting procedures are consistent with good practice. Three people are involved in the cash counting and there is a camera in the room. Video from the camera and camera operations were not observed for clarity by the consultant. From casual observation, it appears that there is not a high risk of cash leakage. A more detailed cash audit should be performed by the city finance department to determine if there is any leakage of cash.

Rotation of employees who bundle the dollar bills would also provide a statistical basis to determine if there is collusion in diverting cash. Using the average cash revenue per passenger for each farebox pull and comparison to who is in the vault room counting the money would show if there is a possible cash leakage.

The consultant offered observations on personal protective devices for the cash handlers and the sanitization of work surfaces.

It is recommended to add statistical analysis of cash receipts compared to ridership. Rotate all office employees into the cash counting process and include some randomness in the assignment so that the same three people are not counting cash each time.

Service Agreements and Funding Partners

The only realistic funding partners in the region are University of Nebraska-Lincoln (UNL), UNL students, and Southeast Community College (SCC). Additional state transit assistance is unlikely in the next few years. FTA increases are unlikely; and, if they occur, will be restricted to capital expenses.

Student and institutional transit needs should be identified and partnerships developed to meet those needs. Subsidy requirements may increase but the outside funding will leverage the local tax commitment so that the overall city perspective will be a two- or three-fold multiplier in service for each tax dollar invested.

StarTran currently provides service to UNL through the route 24. This route provides 10-minute frequency service between the UNL's City Campus and East Campus. The original agreement became effective beginning August 21, 2009 for the duration of one year and the provision of renewal for two additional one-year periods. The agreement was most recently renewed on August 21, 2011 effective through August 20, 2012 with a revised cost of operation of $524,784, up from the original cost of operation of $352,800. As part of the agreement, StarTran provides "no-fare" service to UNL students, faculty, and staff on all StarTran regular fixed route service throughout the year.

StarTran also provides booster service to a number of Lincoln public schools. This service is generally in the form of a single AM and single PM trip corresponding to the start and end of the school schedule. Unlike the UNL route 24, this booster service is provided without a formal agreement between StarTran and the public schools.

StarTran also provides "Big Red Express" service to UNL Husker football home games during the football season. Service is provided between the UNL Stadium and five park and ride lots throughout the region. Fares for the service are $4 each way, or $40 for a season pass. Like with the booster service, StarTran has no formal agreement with either UNL or the park and ride lot locations for this service.

Advertising Revenues

StarTran current contracts advertising services to Houck Transit Advertising. Houck is a full service advertising company that operated exclusively in bus advertising for over 90 years. Houck provides advertising services to 28 transit systems throughout Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, and Wisconsin.

The current contract was initiated on June 20, 2007 for a term of three years with the option of three one-year renewal periods. In June, 2011 the contract was extended for an additional six month period ending December 17, 2011. The contract currently provides StarTran with 50 percent of gross revenue with a minimum guarantee of $125,000 per year. This type of contract is characteristic of those used by other mid-size transit systems that do not provide in-house advertising services.

Other Revenue Sources

The Federal Transit Administration provides a number of formula based grant programs that address specific transportation issues. Funding recipients may use these funds to provide additional service or to fund existing service that qualifies under the eligibility requirements.

Job Access and Reverse Commute (JARC)

The JARC program was established to provide additional transportation options to low income individuals seeking employment. Many entry-level jobs suitable for this population are located in suburban locations and/or require off-peak or weekend work shifts that are not best served by traditional transit service. JARC funds may be used for capital, planning, and operating expenses for projects that seek to address this issue.

New Freedom

The New Freedom program was established to help Americans with disabilities overcome barriers to participation in the workforce and society by providing additional transportation options. New Freedom funds may be used for capital and operating expenses for projects that seek to address this issue.

Urbanized Area Formula

The Urbanized Area Formula was established to provide resources to urbanized areas for transit operating and capital expenses as well as transportation planning. Funds may be used for planning, design, and evaluation of transit projects such as capital investment in buses, crime prevention, and the construction of maintenance and passenger facilities.

Alternative Funding Strategies

Other strategies for funding transit service successfully used in other communities include the following:

- Vehicle Registration/Leasing/Rental Fees
- Employer/Payroll Taxes
- Concessions from leases of transportation facilities
- General Sales Taxes
- Cigarette Taxes
- Parking Fees and Fines
- Property Taxes
- Utility Fees
- Transportation Development Districts

These sources may be considered if the current local funding source, the general fund, is no longer deemed the preferred funding source.

Findings

Findings from this chapter are presented and explained below.

1. Since 1992 Federal revenues have grown at 4.8 percent per year, the fastest of all revenue sources
   - Local revenues grew at a 3.6 percent annualized rate since 1992
   - Fare revenues grew at a 1.8 percent annualized rate since 1992

2. The average fare generated per passenger has remained essentially unchanged since 2004 even though the base fare has increased from $1.00 to $1.75 over that period
   - Average fare over all passenger trips is around $0.70
   - Average fare per trip for Low Income Pass users is $0.24
   - Compared to peers the base fare is high but the average fare per passenger is comparable
   - The Low Income Pass is used by 46 percent of all riders but generates only 15 percent of passenger revenue
   - Elasticity of demand vs. 2009 fare increase was a 0.25% drop in ridership for every 1.0% increase in fare(national levels typically at 0.33% drop per 1.0% increase)

3. The $0.25 fare trial in February 2010 was successful in increasing ridership by about 16%
   - Elasticity of demand vs. fare decrease was a 0.25% increase in ridership for every 1.0% decrease in average fare($0.70 average fare dropped to $0.25 during trial)
   - Net cost of the fare trial was $63,000($42,000 in reduced fares, $21,000 in promotion)

4. The best opportunities to increase future operating revenues will be through UNL, its students and Southeast Community College.
   - Additional state assistance unlikely
   - Lincoln Public Schools does not contribute any revenue for the Booster service
   - Any federal increases likely to be tied to capital expenses

5. The UNL service connection has the potential to be a bigger revenue source if StarTran can increase the level of contracted services
   - UNL needs to choose its future course—continue to operate or move to StarTran
   - Current agreement expires August 21, 2012, termination for convenience capability a potential concern
   - Basis of capital cost contribution should be tied to percentage of vehicle cost

6. StarTran has been successful in obtaining expanded federal transit revenue from competitive programs including:
   - Job Access Reverse Commute
   - New Freedom
   - American Recovery and Reinvestment Act

7. There are no significant untapped revenue sources to contribute to the local share
   - Changing local revenue source will require comprehensive city discussion
   - The city has retained municipal advertising firm(Active Network) that may be able to identify new revenue streams but it is unlikely that advertising revenues can significantly reduce current property tax contribution
   - Lincoln currently using about 50% of its taxing authority

8. Contract with outside firm for transit advertising is common in the industry
   - Contract with Houck in place since 1996
   - Bid process last used in 2007, 3 bids received
   - Return is comparable to peers

9. Implement a sampling procedure calculation of cash revenue per passenger to minimize the risk of potential cash handling diversions
   - No issues detected during on-site review, but this simple technique can reassure that cash handling procedures are sound.
   - Rotate all office employees into the cash counting process and introduce some randomness in staff assignments.

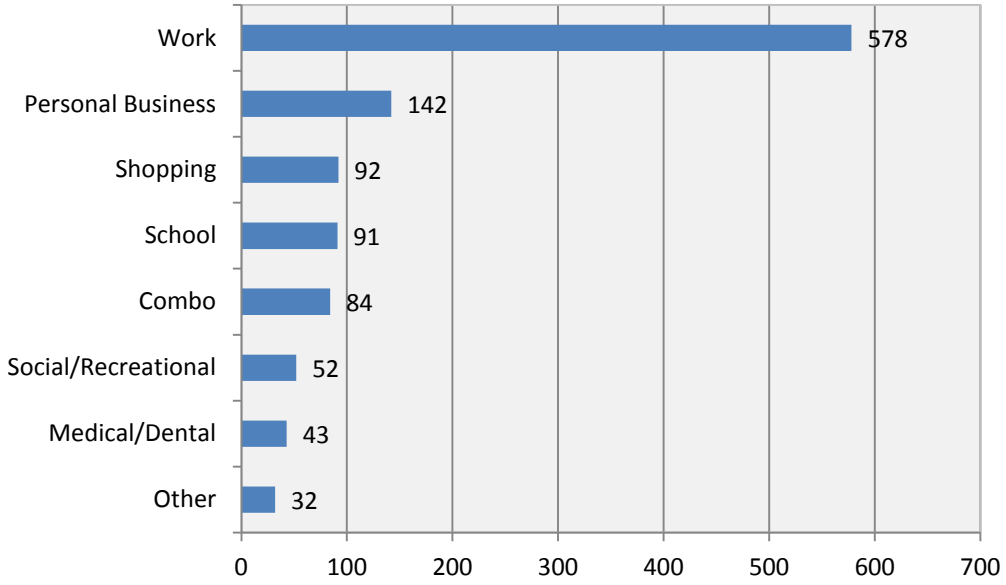
7.0 Customer Service and Marketing

Customer service is a vital part of any transit system. Customer satisfaction usually translates into higher ridership, newly attracted customers, and a more positive public image. This chapter summarizes the results of the 2011 Customer Survey, as well as additional customer comments on the StarTran system. The last section of the chapter suggests some recommendations on how to improve customer service.

2011 Customer Survey

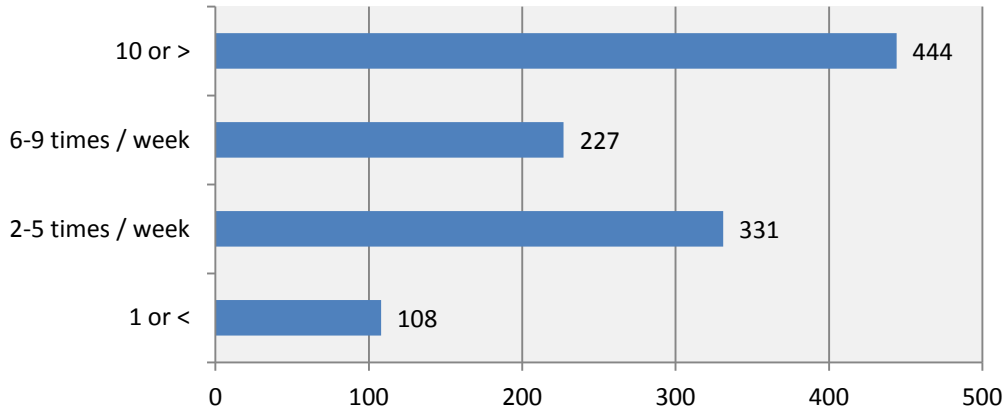
A recent passenger survey was conducted by StarTran in 2011. The survey was handed out to customers as they boarded buses. Customers were asked to fill out the survey and return it to the driver as they exited the bus. The survey addressed a number of questions including demographic information such as ethnicity and income, and ridership purpose and experience. The following figures summarize key finding of the survey.

Figure 7.1: What is the purpose of your trip?



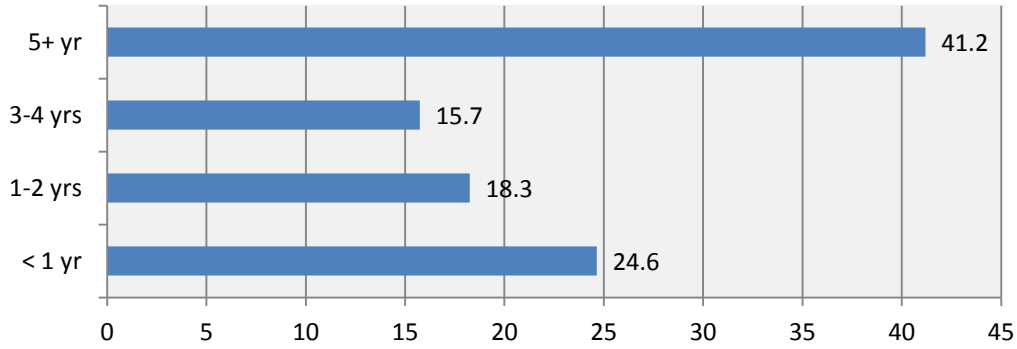
Over 50 percent of riders surveyed indicated they rode the bus that day to go to work.

Figure 7.2: How many trips per week do you make using the bus?



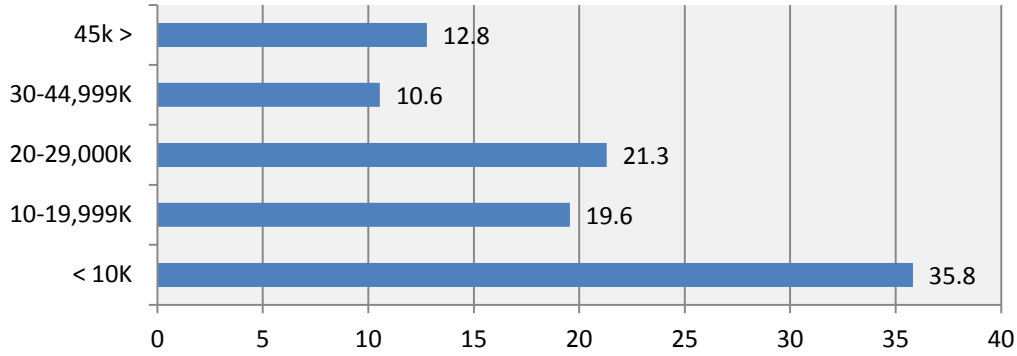
Over 60 percent of rides make 6 or more trips per week on the bus.

Figure 7.3: How long have you been a StarTran Rider?



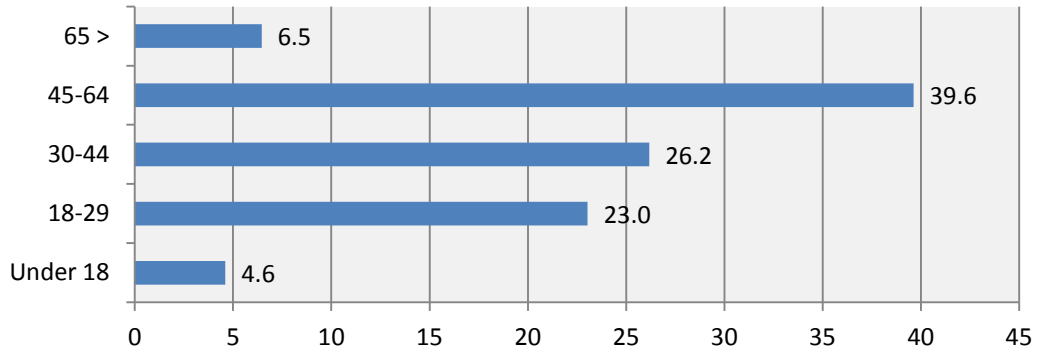
StarTran has a relatively high turnover in its customer base, similar to most mid-size transit systems. Nearly 25 percent of riders responded that they had been riding StarTran for less than one year. Approximately 41 percent responded that they had been riding for more than five years.

Figure 7.4: Respondent Income



The median income range of survey respondents was $10,000-19,999k per year. One third of survey respondent reported an annual income of less than $10,000 per year.

Figure 7.5: Respondent Age



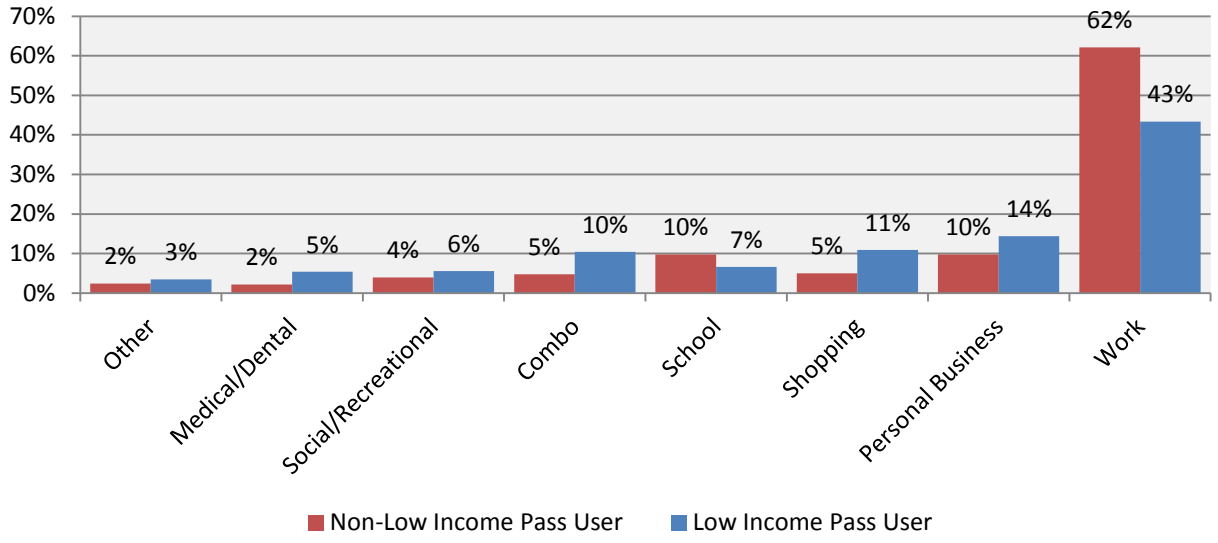
The median age range of survey respondents was 30-44 with nearly 45 percent of riders reporting an age of 45 or greater.

Low Income Pass User Trip Purpose

One question of the StarTran Customer survey asked if the customer used the "Ride for $7.50" monthly low income bus pass. With more than half of the respondents answering that there were low income pass users, it is important to assess differences in travel behavior between low income pass and non-low income pass users. Figure 7.6 summarizes responses to the question "What is the purpose of this trip today?" for each sub group.

Overall, low income pass users were less likely to use StarTran for work or school trips. However, they were much more likely to use StarTran for personal business, shopping, social, medical, or a combination of trips.

Figure 7.6: Trip Purpose, Low Income Pass vs. Non-Low Income Pass Users



Complaints/Compliments

StarTran provided the consultant with a table of customer complaints and comments for January through September of 2011. Each record in the list details the date of incident, vehicle type, route number, driver, and customer comments. Additionally, the complaint is classified as either valid or not valid. However, many of the complaints were not classified in either category. A summary of the customer complaints and comments is shown in Table 7.1.

A total of 89 complaints and 8 compliments were received over the nine month period. Of the 8 complaints received, 21 were classified as valid, 32 were classified as not valid, and 36 remained unclassified. In general, the complaints could be classified into one of five categories:

- **Driver Behavior**: Complaints of the driver being rude to passengers and/or other vehicles.
- **Early/Late**: Complaints that the bus left earlier or significantly later than its scheduled departure time, potentially causing a missed trip.
- **Operations Error**: Complaints primarily associated with the bus driving on an incorrect routing.
- **Passed Passengers**: Complaints that the driver did not stop for waiting customers.
- **Unsafe Operation**: Complaints that the driver engaged in unsafe driving behavior such as running red lights or driving at excessive speeds.

The majority of customer complaints were related to driver behavior and vehicle operation. Together, these complaints account for over 60 percent of all complaints. However, nearly half of these complaints were also classified as not valid. The fewest number of complaints were related to operations error. The greatest number of complaints classified as valid were related to early or late departures.

Table 7.1: Jan-Sep, 2011 Customer Complaints/Compliments

Complaint Type	Complaint Classification			Total
	Not Valid	Valid	Unclassified	
Driver Behavior	11	3	13	27
Early/Late	3	7	5	15
Operations Error	1	3		4
Passed Passengers	4	3	8	15
Unsafe Operation	13	5	10	28
Complaint Total	**32**	**21**	**36**	**89**
Compliment		**3**	**5**	**8**

Staffing Observation

Customer service at StarTran is slightly below average compared to similar municipal bus systems. Employees could perform their duties to provide better customer service without an increase in cost. Improved customer service will generally lead to higher customer satisfaction, longer customer retention, and increased farebox revenues. The customer experience with StarTran has not been analyzed or reviewed by StarTran staff.

Telephone Information

Currently the Office Assistant is the only person who provides customer information. She estimated that she answers 150 to 180 phone calls per day. In addition, she sells passes and handles lost and found requests, answers all business calls, and routes the calls to the proper person. She also has some specific clerical duties.

Answering the phone is a key element in customer service. An examination of the Office Dispatcher indicates that that position could also answer the phone before the Office Assistant starts work at 8:00 a.m. and after she finishes her workday. During the busy check-in time in the morning, it would be difficult for the Dispatcher to handle the additional work. However, by 7:00 a.m., most of the morning activity is done. Expanded phone service for the customer could operate from 7:00 a.m. to 6:00 p.m. by using the Dispatcher in the early morning and late afternoon and the relief person during the lunch break.

Complaint Processing

One duty that the Office Assistant does is to gather information from people who are making complaints about service. Often, these types of complaints may take several minutes to gather all pertinent information and allow the complainant to vent their feelings about the incident. She indicated at busy times, she may not gather all information correctly. It would be more appropriate for her to route the call to the Bus Operations Superintendent or the Administrative Aide I (Marketing Assistant) who performs marketing activities. A strong marketing program reviews all complaints. Either person would have adequate time to interact with the customer and gather all the facts needed to investigate the complaint further.

Driver Observation/Customer Interaction

The Bus Operations Superintendent indicated that he does not ride buses or interact with drivers in their operating environment. Most of his interaction with drivers is during disciplinary processes or in the dispatch office. He indicated that he evaluates drivers by observing camera video, usually after an accident, incident, or complaint.

This process is typical of some municipal bus operations. However, the more successful systems have a Superintendent who observes drivers during normal operations and who interacts with customers. The current procedures of the Bus Operations Superintendent are adequate, but opportunities for improvement exist, including implementing guidelines for advising procedures on how to achieve higher-quality service.

Public Works Standards for Customer Interaction

There are many opportunities for customer interaction in a transit service. However, as a division of Public Works, StarTran should be consistent with the desired interaction level established by Public Works management.

An example is the recent decision to eliminate most morning outbound trips to save some costs associated with low ridership in the early morning. With more interaction from staff, a picture of the impact of the service elimination could have been developed. When the social impact of a decision is understood, the Advisory Board would have more information in their decision making.

The Advisory Board decision may have eliminated access to jobs for low-income people, or there may have been no significant impact on the early morning customers. Without face-to-face customer

interaction, it is difficult to weight the social costs of eliminating service compared to raising fares, asking for additional tax revenue, or making service cuts in some other area of service.

Future standards for customer interaction should be established by Public Works, and these standards should be consistent with the customer satisfaction standards of other divisions of Public Works.

Marketing Plan

StarTran's marketing plan provides a list of the programs and special services offered to StarTran customers. These include reduced fare programs for seniors, disabled citizens, and low income riders, the employee bus pass program, and Big Red Express service. The plan also details seven independent goals, the target audience for each goal, the strategy for attaining each goal, and a list of activities which are being undertaken to support reaching the goal. A summary of the seven goals in the marketing plan is shown below:

1. To provide discounted monthly passports to low income citizens.
2. To increase ridership on StarTran by downtown employees and encourage employer subsidization of bus passes for employees by all major employers in the city.
3. To increase ridership on StarTran by the senior citizen population.
4. To increase choice riders to utilize StarTran.
5. To increase ridership on football express routes as well as regular route service on home football game days.
6. Promote existing services and improve StarTran Customer Service and public image as a whole.
7. To increase ridership on StarTran by Elementary and Junior High students which will carry on when they leave school to enter college and the work force.

The marketing plan also provides a rough overview of the marketing budget. For fiscal year 2010-11, the marking budget consisted of $35,000 allotted to advertising and $36,000 for printing. A summary of the planned budget items for fiscal year 2010-11 is shown in Table 7.2. The largest budget single budget item was the "Bike and Bus" bike rack promotions. This budget item was to promote the addition of bike racks to all StarTran buses, opening the service to a new group of users. The second largest single budget item was for the Big Red Express service. Despite carrying only 2 percent of total ridership and accounting for less than 10 percent of farebox revenue, Big Red Express promotion makes up nearly 18 percent of the total marketing budget. The Miscellaneous Promotions and Printing budget item includes magnetic fare devices, Mayor's Bike to Work Week, and the Boo at the Zoo event.

Table 7.2: Marketing Planned Budget Items, FY 2010-11

2010-11 Planned Budget Item	Budget	% Total Budget
"Bike and Bus" - Bike Rack Promotions	$19,000	26.8%
"Star Pass" - Summer Youth Bus Pass	$7,000	9.9%
All Route Weekday & Saturday Maps	$10,000	14.1%
Big Red Express	$12,500	17.6%
Miscellaneous Promotions and Printing	$22,500	31.7%
Total	**$71,000**	**100.0%**

System Marketing

Marketing of the StarTran system involves media placement of promotional advertisements such as radio, print, theater slides, and bus signage. Examples of recent advertisements are shown below.

SUMMER YOUTH BUS PASS
SUMMER YOUTH BUS PASS
STARPASS
VALID 6/1/11 - 8/31/11 ★ AGES 5 - 18
ONLY
$15
★ Unlimited rides for 3 months
★ For youth 5 - 18
★ Valid from June 1 to Aug. 31, 2011
★ Discounts from participating sponsors
Star TRAN
476-1234
startran.lincoln.ne.gov

Take Star Tran's
"BIG RED EXPRESS" to HUSKER FOOTBALL
$4 EACH WAY!
Season tickets ONLY $40
a $16.00 savings
Holmes Lake Park - 70th & Normal, north side of Holmes Lake
Southeast Community College - 88th & "O" Streets
Westfield Shoppingtown Gateway - 61st & "O" Streets
North Star High School - 6 blocks east of N. 27th & Folkways Blvd.
SouthPointe Pavilions - 27th & Pine Lake Rd.
Purchase at the lots on game day; at the StarTran Office, 710 J Street; SouthPointe Pavilions Office; Lincoln Scheels or print order off website at startran.lincoln.ne.gov
Star TRAN
For more information call
402-476-1234

Houck Transit Advertising

StarTran currently contracts advertising services to Houck Transit Advertising. Houck is a full service advertising company that operated exclusively in bus advertising for over 90 years. Houck provides advertising services to 28 transit systems throughout Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, and Wisconsin.

The current contract was initiated on June 20, 2007 for a term of three years with the option of three one-year renewal periods. In June, 2011 the contract was extended for an additional six month period ending December 17, 2011. The contract currently provides StarTran with 50 percent of gross revenue with a minimum guarantee of $125,000 per year. This type of contract is characteristic of those used by other mid-size transit systems that do not provide in-house advertising services.

The consultant conducted brief interviews with other transit agencies using Houck for their advertising needs. These systems included the Duluth Transit Authority, St. Cloud Metro Bus, and Cedar Rapids Transit. All three agency contacts responded that they had been using Houck for years and were pleased the value and quality of the services provided. The contracts between the agencies and Houck resembled those with StarTran, including the 50/50 split of gross revenue (one agency's contract specified a 60/40 split) and guaranteed minimums. The agencies responded that they currently receive between $50,000 and $100,000 per year from the deal, less than the guaranteed minimum provided for in the StarTran contract.

Marketing Observations

During the October visit, the consultant discussed marketing with the Administrative Aide I (Marketing Assistant). While the marketing employee is conscientious and concerned, there appears to be several areas where the marketing function could improve.

It appears that she is engaged in traditional marketing activities that are standard in the transit industry. She performs these routine functions well, such as making presentations to schools or special interest groups. An advanced marketing program would include the current functions as well as basic market research.

Before an advanced marketing program can be produced, it is necessary to have a very good product to sell. Improvements to the fixed-route network to address operating deficiencies will improve the overall product. Schedule improvements would provide a much stronger product that will meet more travel needs and will be easier to sell. However, it is unlikely that there will be frequency or span of service improvements without greater involvement of UNL or SCC

With an understanding that there are many new riders to the transit system each year (about 25 percent turnover each year), the StarTran marketing department needs to review all of its public information for readability and understanding. The manner in which people access information varies as widely as does the ridership base. Some passengers have difficulty reading or comprehending the bus service, while others are very tech savvy. A good marketing program embraces this wide range of differences and addresses them in different ways.

Route Maps and Schedules

The system route map is difficult to understand if you are not familiar with Lincoln. Often, first-time passengers are not familiar with the area, and need greater detail on the map is needed to determine

where they are and where they need to go. A more detailed map with more cross streets would help orient first-time passengers to the overall system.

The individual route maps also need clearer definition with individual streets and possibly more buildings/business marked on them. If StarTran adopts a program of marked bus stops, they should be placed on the individual route map folders

Nearby and connecting routes are not shown on the individual maps. A person new to the system may have two or more choices of routes if they live between routes and may find that an adjacent route meets their needs better than the route shown on the map they have. Transfer connections outside of downtown should also be shown on each route map.

Emerging Ideas for Marketing

- Wrapped buses: for StarTran, Public Works, co/multi-sponsor buses
- The use of game show events on buses similar to *Cash Cab* or *Battle of the Sexes*
- Monitors on buses where StarTran information would be played and advertisements could be sold to generate revenue
- A program to reward full-fare choice riders

Findings

Findings from this chapter are presented and explained below.

1. Customer profiles indicate the following:
   - Over 50 percent of current customers earn less than $20,000 per year
   - Over 50 percent of current customers ride to/from work
   - Over 55 percent of current customers have been riding for more than three years
   - Over 60 percent of current customers ride three or more days per week.

2. Customer service activities are less than desirable
   - Inadequate telephone coverage during Office Assistant breaks
   - Little customer interaction from supervisors and senior staff

3. Complaints processed by Office Assistant may give appearance of diminished importance
   - Office Assistant forced to multi-task may not be able to devote adequate time to record incident

4. Contract with outside firm for transit advertising is common in the industry
   - Contract with Houck in place since 1996
   - Bid process last used in 2007, 3 bids received
   - Return is comparable to peers

5. Develop consistency of customer interaction between StarTran and comparable levels with Public Works Division

6. Improve readability of StarTran maps
   - Greater Detail need for newcomers
   - Adding cross streets to help understand locations
   - Improve both system and route maps

8.0 Equipment and Facilities

Vehicles

StarTran's bus fleet consists of 45 Gillig 32-seat buses, 13 Gillig 26-seat buses, 10 Glaval 14-seat paratransit buses, and 3 Glaval 17-seat paratransit buses. Gillig buses are used on all StarTran fixed route service. The Glaval buses are used to provide HandiVan service. The average age of the Gillig buses is roughly 6 years. Over one third of the fixed route fleet is comprised of 10 year old buses which are nearing the end of their economically useful life of 12 years. A summary of the bus types, age, and average miles is shown in Table 8.1.

Table 8.1: Bus Fleet Roster

Bus Make and Year	Count	Age	Average Miles
2001 Gillig 32 Seat	20	10	305,256
2004 Gillig 32 Seat	10	7	229,967
2006 Gillig 32 Seat	15	5	163,301
2010 Glaval 17 Seat (HandiVan)	3	1	13,563
2010 Glaval 14 Seat (HandiVan)	10	1	27,342
2011 Gillig (26 Seat)	13	0	13,339

A unique aspect of StarTran's bus operation is its nationally acknowledged alternative fuel programs. Since 2008, all of StarTran's full-size buses have been powered by a diesel/biodiesel mix (95% diesel, 5% biodiesel). Prior to this, from 2005 to 2008 the entire fleet was powered using a diesel/ethanol mix (92% diesel, 8% ethanol). The average miles per gallon achieved by StarTran fixed route service in 2011 was 5.0. This figure is up from 4.6 mpg in 2006 and 4.4 mpg in 2004.

Bus Sizing Issues

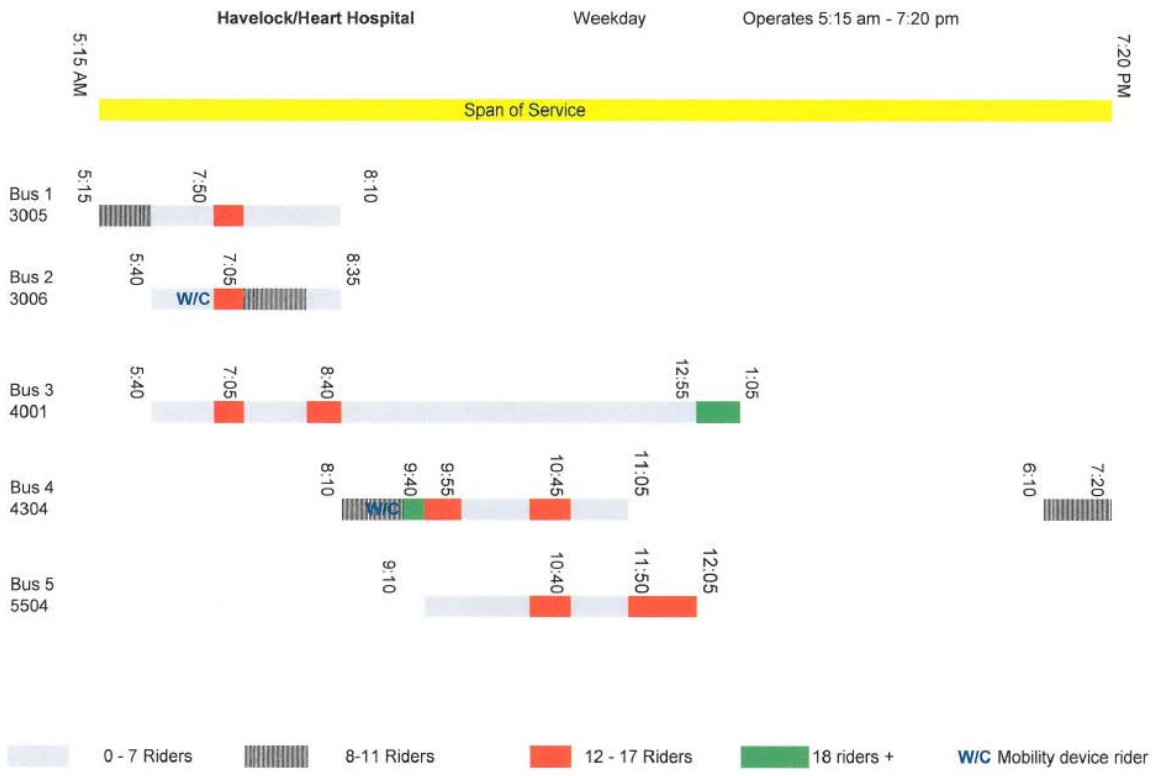
In April of 2009 StarTran was asked to conduct a study to assess the potential for using smaller buses on its fixed routes. This request was in response to concerns that many fixed route buses often operated at minimal capacity and that more cost efficient service could be provided using more appropriately sized buses.

StarTran performed an analysis of the passenger load on each bus and each route throughout a single day for both weekday and Saturday service. The results of the study were presented in a figure showing the span of service for each bus and the number of riders on each bus over five minute increments. The number of passengers was divided into three categories:

- **12-17 and 18+ riders:** A passenger load of this magnitude would exceed the capacity of the smaller 12-passenger buses.
- **8-11 riders:** This category is identified as a segment where a 12-passenger bus would be suitable in the near term, but could potentially exceed capacity if ridership grows by only a small amount.
- **0-7 riders:** With a passenger load in this category, a smaller 12-passenger bus would be suitable for providing service.

An example of the bus load charts produced is shown in Figure 8.1.

Figure 8.1: Bus Load Chart Example



The StarTran study found that very few fixed routes presented significant portions of service which could be substituted with the smaller buses. The two routes that were identified as being the best candidates for small bus substitution have since been eliminated due to low ridership. The study found one bus trip with a three hour period in which a small bus could have been used, but the difficulty and time-consuming nature of performing a “change-up” of a bus mid trip lead StarTran staff to recommend the continued use of full size buses on the trip.

Technology Applications

StarTran office employees use a large amount of outdated technology. Paper and pencil reporting is common, although there is a reasonable amount of computer usage. Streamlining of accounting functions could reduce some of the time that staff members spend entering data from paper forms that have been completed by other employees.

One example is the bar code inventory in the shop. Bar coding with electronic reading was installed but was not effective in inventory control when software problems developed. While the staff should be applauded for purchasing bar coding, the necessary follow-through when problems arose should have been conducted. An effective inventory control program with electronic assistance can reduce the amount of time employees spend writing inventory usage on a paper form and then entering it in an inventory data base. There have been several iterations of inventory software since the original system was installed at StarTran and a purchase of new software, consistent with other Public Works inventories, would be appropriate.

An example of unused technology in Operations is the manual calling of transfers through the office dispatcher. An automatic vehicle locator (AVL) system shows the location of all buses but the dispatcher does not use the AVL system, even when it is working correctly because there have been software glitches.

StarTran has also purchased the technology to allow drivers to communicate through their Mobile Data Terminals. This would allow bus-to-bus data communication and eliminate the current process of a call to the Dispatcher, the Dispatcher recording the call on paper, and a Dispatcher call to the receiving bus. StarTran's reason for not using Mobile Data Terminals to record transfers is that it would be considered texting by the Driver.

Storage and Maintenance Facility

The StarTran Storage and Maintenance Facility currently in use today was originally constructed as a bus facility in 1938 to replace a horse/streetcar facility. After a number of expansions and additions, the facility now consists of four buildings totaling approximately 60,400 square feet at ground level with an additional 6,000 square feet of second level office space. The out of date buildings and the piecemeal fashion in which they have been expanded has created an inefficient system for bus maintenance and it has minimal security. The facility is ideally located in the community to minimize excessive bus deadheading.

Although there are no pressing reasons to relocate this facility at the present time, the city should consider conducting a Feasibility and Needs Study to identify potential courses of action.

Bus Stop Amenities

An important improvement for StarTran operations is the creation of marked bus stops at all locations. The downtown stops are marked, but buses will stop at a "safe" location outside of the downtown area. This creates confusion between drivers and passengers as each person may have a different definition of a safe location.

The benefits of a marked bus stop program are many. The passengers know where to wait and the passenger/driver conflict of stopping in a safe location is eliminated. While some passengers are cognizant of safe locations, others may not be. Without firm guidelines, each driver is allowed to determine a safe location.

Bus stops in transit-supportive urban areas typically are spaced at six to eight stops per mile. In suburban areas, the spacing may be slightly wider. In the urban core, stops may be closer together where there are higher passenger densities. A well-designed bus stop program will involve traffic engineers, bus drivers, supervisors and StarTran management. Research and practice in other locations provides a wealth of information on safe bus stop locations.

The Transit Cooperative Research Program (TCRP) Report #19: Guidelines for the Location and Design of Bus Stops is the most commonly used document for bus stop design.

Standards for bus stop safety and accessibility are available from Easter Seals at:

- http://projectaction.easterseals.com/site/PageServer?pagename=ESPA_BusStopToolkit

Two other examples of bus stop guidelines are:

- Omnitrans (San Bernardino, CA): http://www.omnitrans.org/about/BusStopGuidelines_10-04-06.pdf
- WMATA (Washington, DC): http://www.wmata.com/about_metro/board_of_directors/board_docs/111909_3CBusStopPresentation.pdf

The University of South Florida has produced a document "Safer Stops for Vulnerable Customers" that addresses a variety of issues associated with bus stops at: http://www.nctr.usf.edu/pdf/473-13.pdf

Additionally, StarTran should embark on a gradual program of upgrading each bus stop location. The minimum standard at each stop would be a hard surface pad that conforms with ADA standards where there is adequate space. If there are locations where passengers who use wheelchairs are regular riders, these would be the highest priority stops.

Bus stop benches should be located at high boarding locations and shelters should be installed where passengers have random and unpredictable arrival times at the stops. Typically, these are near commercial locations where people have variable arrival times. One route per year should be upgraded.

Findings

Findings from this chapter are presented and explained below.

1. The fixed route fleet composition is appropriate for the service operated
   - Smaller capacity vehicles not appropriate during most times as there are periods of heavy use
   - Average fixed route fleet age is appropriate at just over 6 years but some buses are approaching the end of their useful life so replacements need to be identified in the TIP

2. Maintenance shop has inefficient layout but that does not significantly affect costs or outcomes
   - Consideration of moving the facility needs must include costs of non-revenue mileage
   - Cost of new facility may outweigh possible layout and energy efficiency gains
   - As a first step in understanding the potential needs for an updated facility the City should consider conducting a Feasibility Study

3. Technology pieces not fully utilized or integrated
   - New technology has been tried but has not proven fully effective
   - Staff did some work with vendors to resolve initial problems with limited results
   - Underutilized components (AVL,APC, schedule master, garage wireless)

4. All bus stop locations for the system should be marked
   - Creates safe locations for drivers and passengers
   - Improves schedule reliability
   - Defines service for customers
   - Install benches at high-use stops

9.0 Privatization of Public Transit

Privatizing transit was a hallmark of the transit policy of the Federal Government in the 1990s. During that time, a number of public-private initiatives of various kinds were undertaken across the country under federal sponsorship. The idea of privatizing public services such as transit generally arises out of the notion that private sector management practices will lead to cost reduction through some combination of improved management and operating practices as well as improved market penetration. In Lincoln, some local advocates have suggested that StarTran be privatized. This chapter will describe the various transit privatization options as well as whether these options are viable alternatives for Lincoln to consider.

Privatization Models

There are many models of privatization in the United States and elsewhere. The privatization options fall into to these broad categories:

- Fully investor controlled, regulated or unregulated, profitable and subsidy free
- Investor owned, regulated or unregulated, and profitable but partially subsidized for specific services
- Contract private management with private employment of personnel
- Contract private management with public employment of personnel

These options are described in more detail in the following sections.

Fully Investor Controlled Profitable Private Firms

One type of privatization model is the complete private ownership and operation of a system with no subsidy or municipal role. This kind of privatization is found mostly in major urban areas where longer distance commuting for a reasonable fare provides an adequate profit and is economically sound for the carrier and riders. In these cases, the private systems are usually an independent component of a regional system run by a public agency.

Many of these private companies also have substantial charter or tour businesses that produce revenues to subsidize their own urban transit services and still produce a profit overall. Such charter and tour operating rights are often conditioned on the carrier providing some level of regular route service.

These systems are founded by a local entrepreneur that is independent from any public transportation organization. They sometimes evolve around other private development like entertainment or sports facilities or tourist attractions, and in major metropolitan areas may serve relatively long distance travel between points that are not otherwise served by a public transit system.

These carriers are typically financially independent of any public support. Their profitability is usually assured through a state regulatory rate-setting process in which they are more or less guaranteed a positive operating ratio.

Fare increases are often designed to meet a statutory or regulatory return on investment target in which total operating revenues are allowed to rise a set percentage above total operating expenses. These targets are made easier to achieve by some regulatory agencies that allow non-cash expenses – such as depreciation on facilities and rolling stock - to be included in operating expenses when calculating the

operating ratio in approving fares. This results in positive cash flow in excess of profit levels allowed under normal operating ratio levels.

Over the years, this allowance has been further weakened by a common practice among regulatory agencies which allows the extension of depreciation schedules from an initial period of years – usually 12 years for new buses - to a longer period after the initial period is over. This allows increases in non-cash expenses to continue to a point where life-cycle depreciation exceeds the cost of replacement, and without the requirement that the resulting cash be used for replacement. The results of this is a positive cash flow, tax-free income, and with no funds to replace equipment and facilities when these funds are distributed to the ownership or used in other investments.

These carriers are responsible for their own service policies, fare policy, terms and conditions of employment under the National Labor Relations Board (NLRB), with no public investment, subsidy, or policy control - with or without regulation as to market entry or rates.

Urban transit systems used to be a major cash cow for investors who used the cash and non-cash expenses as a source of investment in other industries. Minnesota Industries, which used to own Twin City Lines, is a good example of this in the Midwest. They used Twin Cities transit revenues, largely from non-cash expense and depreciation allowances, to buy a piece of Texas International Airlines and then the Tropicana Casino.

While these companies predominate in the tourist and charter business, they are very rare as major actors in the urban transit commuter market outside of the ten or so most populous metropolitan areas in the country. Not many investors have been active in this business in medium or small urban areas since the 1960s.

Subsidized Private Ownership

Another type of privatization is when a public agency contracts with a pre-existing private carrier to continue under a public subsidy to operate service that it had previously provided for a profit. The subsidy usually comes in the form of operating funds or capital assets such as rolling stock.

In most cases, subsidized operating contracts are provided to a pre-existing carrier to continue to provide service after its economic viability has expired and the community wishes the carrier to continue the service. In other cases, service is contracted for competitively by a company other than the pre-existing carrier.

This type of private participation is common in Massachusetts, which requires that the several regional transit authorities - except for Boston – contract for services with private companies as a condition of state financial assistance. Virtually all of the urban transit services in the ten or so “out-state” urban areas in Massachusetts are operated by private companies under contract with one of the regional transit authorities in cities such as Springfield, Worcester, Pittsfield, and Brockton.

At the outset of these regional transit agencies in the mid-1970’s, the private carrier was almost always the pre-existing private company. Over the years, there has been a transition through the competitive bidding process to companies other than the pre-existing carrier.

Under contracts for this kind of privatization, authorities specify the routes, service levels, fare structure, and specific performance standards to be achieved. There are many different specific terms and conditions from one contract to another, but payments are usually based on a fixed cost per mile or

hour of scheduled service, with various penalties and bonuses for variations from the prescribed service standards.

In some cases, these services are operated in a manner similar to a public agency with an operating budget for revenues and expenses, and the loss is guaranteed by the public agency and handled as a part of the budget of the agency. Capital facilities and rolling stock are sometimes provided by the agency, and sometimes by the contract carrier. In general, the capital investments are made by the public agency taking advantage of local, state, and Federal funding.

These contracts are usually for three years, with two one-year options, as allowed by federal procurement regulations. Transit agencies and municipalities with these kind of contract services all have at least a small staff that is responsible for planning the service, preparing federal grant applications, monitoring service, reviewing and approving vouchers for payment, providing marketing and public relations, oversight of the contractor's service, qualifying riders for ADA service and similar activities.

Contract Management with Private Operating Employees

Contract management is an arrangement under which a private company contracts with a public agency to provide an on-site management team to manage the transit services of a local transit agency. The division of responsibilities between the agency and the contract manager vary greatly, according to the interests of the public system.

In this form of contract management, a firm is competitively chosen to take over the management of the transit services of a publicly owned system, and provide all of the internal management functions and to employ all employees, under the policy direction and with the financial support of the agency in question.

The operating personnel are private sector employees whose labor relations and collective bargaining are governed by the NLRB. Depending on the specific provisions of the local labor agreement, the public agency may or may not have any residual responsibility for the employees in the event that the management contract ends.

The financial support for operating subsidies, and the public purchase of rolling stock and facilities, usually comes with a variety of policy, operating, and financial oversight and direction activities, and with service and fare mandates. The best current example of this is Oahu Transit in Honolulu.

The contracting agency usually has a staff that provides a variety of administrative functions, including grant management, service planning, capital planning, marketing, risk management, or whatever other administrative and management functions that it chooses not to require of the contract carrier.

Under these contracts, the carrier works with an operating budget much like a regular city department, and is reimbursed for 100 percent of the expenses plus a fee for the management team. Capital is provided by the agency and other public sources such as state and federal funds, and local matching funds provided by the contacting agency.

A significant amount of the urban transit service sponsored by the Denver Regional Transit District is operated under contracts of this kind. Las Vegas also provides a large portion of transit services in this manner.

Contract Management with Public Operating Employees

Under this form of contract management, often erroneously thought of as privatization, the agency retains a private transit management firm to provide senior staff of approximately one to five people to provide the key leadership and technical skills needed to manage the transit system. StarTran was managed under this kind of contract until 1993.

The employees of these systems are public employees, and may or may not be members of a union. In some cases they may also be protected by a civil service system. The employees' rights and responsibilities under the collective bargaining agreement usually continue regardless of whether the management company's contract expires or is cancelled. The public agency usually retains the residual obligations of the employer under the prevailing labor agreement.

The pre-existing agency administrators and operating employees remain in their pre-existing public employment status, with or without a union, and all service and fare policy decisions are mandated by the client agency. This arrangement can be for one or more modes, while some cities have one contractor for fixed route service and another for paratransit.

The role of the private management in this kind of contracting varies according to the needs and intent of the contracting agency. Generally, the resident contract manager reports to an agency chief, and works full time on-site and manages the functions assigned to the contract company. The contract management team is usually responsible for the transportation and maintenance functions, including operator scheduling, parts management, safety and training, hiring, personnel, labor relations, compliance with the routes, schedules, and fares specified by the agency.

Currently, there are over 50 transit systems with such contract arrangements in place in the United States. At least four national companies compete for such contracts. These contracts tend to be competed for every three years and have a tendency to create multi- contract competitive renewals if the contractor is performing satisfactorily.

Privatization of Transit in Lincoln

The likelihood of creating a true "privatized" operation in Lincoln with an investor owned and profitable company is not high. The economics of StarTran are such that operating the current system—or even a reasonable facsimile—makes turning a profit virtually impossible.

There is a vibrant market of transit carriers and contractors in most every segment of the market in the United States. There are several hundred companies in Nebraska alone that are passenger carriers authorized by the Public Service Commission (PSC) to operate in Nebraska. It is highly unlikely however, that Lincoln would be able to attract a company to assume, at its expense, the ownership and operation of Lincoln's transit system to match the current level of service and fares. In fact, there is probably no circumstance under which even a basic route structure and market-appropriate fare would produce a profit.

Although the internal efficiency of StarTran compares reasonably well with similar public transit systems in other parts of the country, its economics are beyond the reach of profitability. The underlying economics of StarTran suggest that there is very little prospect of converting the system to a self-sustaining, profitable undertaking while at the same time providing a useful public service.

Viable Strategy for StarTran

It is evident that all privatization options except for the first option, Fully Investor Controlled Profitable Private Firms, are administratively viable options for application at StarTran. Although the three remaining privatization options are theoretically viable for StarTran, all entail increased expense, decreased service, increased fares, organizational and administrative turmoil along with the potential reduction of local control over the quality of service.

An alternative course of action for StarTran would be to adopt and adapt to management practices that are closer to those of the private sector on both the cost control and fare generation sides of the ledger. It is apparent that the current system operates at an efficiency level that can be improved marginally, but there are no major self-evident savings that would transform the economics of the system.

It is apparent that the effectiveness of the system – measured in ridership of the system - is in need of major improvements, and that there are opportunities for such improvements represented by the University students at Nebraska and the community college. Both the marginal improvements in efficiency and the major improvements in effectiveness could be achieved under public management.

The possibility of significant cost reduction and revenue increases under any other ownership is minimized by these factors:

- The unit costs of the current operation are well within “expected” values for a system of this size and the effectiveness of the service is compromised by the relatively low density, high automobile ownership, dispersed residential and commercial land development, and underdevelopment of the university student market
- The collective bargaining agreement that governs the terms and conditions of employment of the current operators and mechanical staff would be binding on any successor management
- A private investor operating without City support would need to replicate the several administrative and support functions currently provided by the City. These include legal, procurement, human resources, accounting, planning support, information systems, adding materially to the company’s expenses.

Testing the Market

It may be that the most direct means of determining the viability of any of the privatization options is to undertake an actual three step procurement process to determine the level of interest and qualifications of potential contractors. The three steps would include:

1. Request for Letters of Interest
2. Request for Qualifications
3. Request for Proposals

This process could be designed to include all four types of privatization, or a sequence involving just one type at a time. Requests for Letters of Interest for all four would help to shape the optional futures for the system at the outset, and could be handled relatively quickly. The Requests for Letters of Interest should include:

- A statement of policy and intent of the City with respect to what it anticipates achieving
- A scope of services for the contractor or carrier for each optional approach
- A set of financial statements for StarTran
- A plan for the current and future capital assets of the system
- A copy of the collective bargaining agreement
- A plan for resolving any Federal grand contract restrictions on the use of the Federally funding assets
- A plan for resolving any market entry processes that might be necessary

The process should include a period for potential providers to ask questions, and for the City to prepare answers, after which a pre-proposal meeting should be held for any interested competitor to attend. The city should prepare a substantial presentation of its options, answer any questions, and gauge the level of interest among potential competitors for each option. The City should then reassess its options, considering the apparent level of interest in each option, and make whatever changes in its approach that seems likely to create the greatest level of interest in each option while still preserving the likelihood of achieving its objectives.

Findings

1. The strongest potential for privatization rests primarily in the paratransit service. A significant portion of the current demand responsive services of StarTran are currently being provided by a local private company.

2. The City terminated the former private sector fixed route transit management firm contract in 1993 when the arrangement no longer met city expectations.

3. Bidding fixed-route service out for contract management could add a layer of expense as city provided administrative services would need to be covered by contractor.

4. Maintaining the current quality of service and operate at a profit is not financially feasible.

5. The cost efficiency of StarTran is similar or better than peers suggesting that opportunities for significant cost reductions through pursuit of privatization options are not likely.

6. If the City wants to further explore privatization options, a “test the market” approach would provide an opportunity to identify interest from the private sector. Such an approach would gauge vendor interest at different steps without entering a formal contract stage. The following could be issued and vendor responses measured:

    - Request for Letters of Interest
    - Request for Qualifications
    - Request for Proposals

10.0 Creating a Transit Authority

The creation of regional transit authorities is a common method for operating and funding public transit in the United States. Authorities are most common in larger sized metropolitan areas where travel patterns extend across several municipal borders. Other types of transit organizations include state owned and operated systems, county owned and operated systems, multi-purpose transportation agencies, and municipal governments. While most of these systems are purely public agencies with only public employees, many also use private management companies to provide senior management personnel.

Transit Authorities are typically single or multi-purpose regional agencies created under state authorizing legislation to assume the management and operation of public transit. Some also manage and operate other functions such as airports, seaports, metropolitan planning functions, and even sewer systems. In most cases, these authorities have taken over a pre-existing public transit system that had been owned and operated by a county of city, or by a private company.

In some states – notably Texas and California – these authorities are created by referendum, which also authorizes a sales tax to support the system. In other cases, the authorities are formed by state legislation or by the actions of the local governments in the service area of the authority.

Many of these regional authorities have a power to tax – often sales taxes – or are supported by various arrangements that include state appropriations of general funds, state funds dedicated to transit, appropriations from member governments, or some combination of these sources of funds for capital and operating expenses

State legislation prescribes the powers and duties of such agencies. Membership in these agencies can be voluntary, or may be prescribed by state legislation. Various arrangements provide for withdrawal from membership under specific terms and conditions. If the agency was created by referendum, another referendum is usually required to permit withdrawal. In some cases, a municipality that withdraws may have a residual financial obligation to retire expenses incurred during the time it was a member of the agency.

The advantages of such an organization include the ability to plan and operate the system on a regional basis and the ability to share the costs of the system on a regional basis. The may be some economies of scale resulting from the creation of a regional agency, particularly if there are several separate pre-existing agencies being folded into the authority. Another consideration is that the debt of transit authorities is usually not counted as a part of the debt of the member municipalities, particularly in cases in which the agency has its own taxing power.

The disadvantages of regional authorities include the loss of decision making authority by the prior municipal owner, the political need to add service in the outlying sectors of the region where service can be less effective because of lower population densities, the likelihood of diverse and perhaps opposing points of view with respect to the policies of the agency, and disagreements on cost sharing among the member municipalities.

Nebraska Transit Authorities Law

Under Nebraska law, any city classified as "metropolitan class" may create by ordinance a transit authority. The transit authority may also extend its services adjacent counties, cities, and villages following approval from their respective governing bodies. Transit authorities are considered public corporations and governmental subdivisions of the State of Nebraska. They are operated under the direction of a five-member board. The authority of the board extends to determining routes, service levels, and fares. The authority is authorized to levy taxes for funding and may issue bonds and enter into agreements for grants and other public funding.

Currently, Lincoln does not meet the metropolitan class minimum population threshold of 300,000. The only city in Nebraska to meet the threshold is Omaha. Lincoln is defined as a city of "primary class", and is the only city designated as such. For Lincoln to organize under the current Nebraska statutes, the definition of "metropolitan class" would need to be revised.

The key Nebraska statutes which relate to the establishment of transit authorities are statutes 14-1801 through 14-1826. The following is a brief summary of the scope and purpose of each statute:

- 14-1801 – Provides the basis for creating transit authorities in cities of metropolitan class to alleviate traffic congestion.
- 14-1802 – A definition of the terms used in the statutes
- 14-1803 – Details the appointment, jurisdiction, compensation, and delegation of powers and duties for the five-member board
- 14-1804 – Establishes the authority as a corporation and governmental subdivision
- 14-1805 – Details the general powers of the authority
- 14-1805.01 – Retirement plan reports
- 14-1806 – Establishes the power to borrow and issue bonds and certificates for reconstructing, extending, or improving the transportation system
- 14-1807 – Defines the extent of the obligation for the repayment of revenue bonds and certificates
- 14-1808 – Details the procedure for the sale of bonds and certificates
- 14-1809 – Defines bonds and certificate issued by the authority as securities
- 14-1810 – Establishes tax-exempt status for the authority
- 14-1811 – Establishes the extent of equipment purchasing power
- 14-1812 – Defines the authority as being named "The Transit Authority of _____"
- 14-1813 – Details the appointment, term, vacancy, oath, and removal process for authority board members
- 14-1814 – Details requirements for board action and keeping of public records
- 14-1815 – Repealed
- 14-1816 – Prohibits board members from having private financial interest in authority business
- 14-1817 – Repealed
- 14-1818 – Details the board's responsibilities in handling receipts and keeping accurate books of account
- 14-1819 – Details the creation of an annual operating budget
- 14-1820 – Details the requirements for an annual financial statement of operations, assets, and liabilities
- 14-1821 – Establishes taxing power for the authority

- 14-1822.01 – Expired
- 14-1823 – Establishes a depreciation policy to maintain a modern and attractive transportation service
- 14-1824 – Repealed
- 14-1825 – Details the board's ability to enter into labor contracts
- 14-1826 – Defines Sections 14-1801 through 14-1826 as "Transit Authority Law"

Considerations in Creating a Transit Authority in Lincoln

In considering whether to create an authority for transit in Lincoln, several factors need to be considered.

- The population of the City of Lincoln is 85 percent of the population of the Standard Metropolitan Statistical Area. This means that there is an unusually small number of people who live in the SMSA outside of the city, and the pool of other local governments for cost sharing with Lincoln is relatively small. By comparison, the population of the other cities in the StarTran peer group as a percent of the total SMSA population range from as low as 5.6 percent to as high as 41 percent, with seven cities at 10 percent or less.

- The opportunity for cost reduction of current services as a result of creating an authority is negligible:

    - The authority would be bound by the current StarTran collective bargaining agreement.

    - The City of Lincoln currently provides a significant amount of administrative support to StarTran which is not accounted for in StarTran's budget. These services include legal, procurement, accounting, payroll, planning, and information technology. An authority would have to replace these functions or contract with the city to continue to provide them, and add their costs to their budget. The costs of these services could add at least three to five percent to the operating expenses of the authority, but could then be an offset to the current underlying city budget for these functions.

- Transit authorities are often founded as a means to expand services into the outlying communities of the region and to share the costs of the overall system with the neighbors in the region. There are two issues that present themselves on this point.

    - First, the city has informally defined the core service area of StarTran as the area encompassed by the current service area on the west, Havelock/Superior on the north, 70th Street on the East, and Pioneers Boulevard on the south. This area covers 60 percent of the dwelling units in the city. Extending materially beyond this core area of the city would involve considerable expense.

    - Second, expanding even further into areas outside of the city boundaries into new service areas would further increase costs.

If legislation were created that enabled Lincoln to organize a transit authority, the City would pass the control and direction of StarTran to this authority. The City of Lincoln could become the sole member of the authority, with the Mayor appointing the Board subject to the approval of the City Council, and at least in the case of the initial board, the approval of the County Board as well.

The local share of the deficit would then become the responsibility of the Transit Authority of Lincoln (TAL). The TAL would have the unilateral authority to impose a levy of a minimum of $0.03 per $100 of assessed value on the residents of all member municipalities, regardless of the amount of service or the net costs of the services to the member authorities. TAL would also have the authority to impose a levy of up to $0.10 per $100 of assessed valuation with the amount above $0.03 being subject to the approval of the participating municipalities.

The legislation stipulates that member municipalities are only required to pay a minimum of $0.03 per $100 of assessed value. Any amount in excess of $0.03 would be subject to the approval of the participating municipalities. According to the 2007 TDP, the local funding share apportioned to StarTran amounted to $0.0386 per $100 of assessed value. The $0.03 unilateral levy would not produce sufficient revenue to support the current local share of the StarTran deficit. The increment needed to cover the full local share would require City Council approval.

If Lincoln were to be the only member municipality, the taxpayers of the City would continue to pay the costs of the deficit, but through the separate tax levy rather than through the City's general fund. If other municipalities joined the TAL, these cities and towns would be subject to the same levy. Other municipalities that might desire transit service from the TAL but do not want to become members could enter into interagency service agreements. Similarly, the TAL could negotiate an interagency agreement with the City to continue providing its current administrative assistance. It may be advisable for the TAL to retain its own attorney.

Although the TAL would be an independent agency, and would be able to impose its 3 mill levy without the specific approval of the City or other agency members, the board would be heavily influenced by the Mayor and City Council through the board appointment process.

An amendment to the current Nebraska Metropolitan Transit Authority legislation would be required to enable the creation of an MTA in Lincoln. However, the creation of a transit authority should only be considered under the following conditions:

- The selection and appointment of Board members should include clear policy guidance from the City to the nominees with respect to the management and operation of the system.
- Services to towns and cities outside Lincoln which do not want to be members of the MTA should be provided under purchase of service agreements that reflect the actual costs of those services, including the costs of the mileage between current service terminals and the beginning of service in the contracting municipality.
- If such contract fixed route services incur the need to provide for ADA mandated paratransit services, the costs of those services should also be borne by the contracting municipality
- If such a potential contracting municipality chooses to join the MTA, then these conditions need not be implemented when the town of city joins the MTA, assuming that the mill levy in that municipality will be adequate to cover the full costs of the services which are beyond the current level of service provided by the prospective MTA.

Findings

1. Creation of a regional transit authority under an amended version of the current state statute would remove local transit funding from the City general fund by allowing separate transit taxing authority. While the 3 mill minimum levy would provide a more stable funding source than the current general fund, an additional amount would be required from current funding sources to maintain current level of transit services.

2. The current Transit Authority legislation allows a unilateral taxing levy of no less than $0.03 per $100 of assessed value for taxable property. An authority can seek a levy of up to $0.10 per $100 of assessed value but any amount above the initial $0.03 is subject to the approval of the participating municipalities. According to the 2007 TDP, the City-allocated StarTran funding amounted to $0.0386 per $100 of assessed value in the 2006-2007 budget. The legislation also allows the issuance of bonds to raise revenue.

3. Current state law does not allow Lincoln to form a transit authority as the legislation allows creation of authorities only in “metropolitan” class cities. Lincoln is a “primary” class city and Omaha is a “metropolitan” class city.

4. If the City seeks to create a transit authority it should seek passage of separate legislation allowing authorities to be created in “primary” class cities and to include all other provisions of the current legislation. This would allow consideration of future amendments without the need to involve Omaha in Lincoln matters.

5. Many functions such as accounting, payroll, purchasing, pension plan management, legal services, and risk management are currently provided to StarTran by the City. The 2007 TDP values these functions at $102,000 annually. As a transit authority, these functions would need to be provided by the authority through procurement from the private sector, or under contract with the City, thereby increasing the operating budget of the system.

6. The Mayor and City Council would exercise power over the transit authority board through the board member appointment process. If all provisions of the current legislation are carried forward to new legislation allowing transit authority creation in “primary” cities, the County Board will also have approval of the initial transit authority appointments.

11.0 Cost-Saving Service Change Alternatives

The purpose of this chapter to estimate the total cost savings and customer impact of a variety of severe service reduction strategies. The service changes assessed include a reduction of the overall StarTran service coverage area, the elimination of entire routes, and the elimination of all Saturday service.

Many of the cost reductions assessed in this chapter utilize the fully-allocated cost model developed in the Fixed-Route Operations chapter. This basic model uses 2010 National Transit Database (NTD) data to assign various operating costs into one of three categories: cost per vehicle hour, cost per vehicle mile, and cost per peak vehicle. These per unit costs were then applied to the estimated changes to the three categories for each service change alternative as shown below.

$$\begin{aligned} &Total\ Change\ in\ System\ Operating\ Cost \\ &\quad = \$44.45 \times (Veh.Hours) + \$1.08 \times (Veh.Miles) + \$23,776.78 \times (Peak\ Veh.) \end{aligned}$$

In addition, this analysis takes into consideration the lost revenue for each service reduction to calculate the total net change in system costs. Unless specified otherwise, the lost revenue was calculated assuming an average fare per passenger of $0.70 per passenger based on 2011 data.

Reduction of Service Area

One of the service performance standards set forth in the 2007 Transit Development Plan (TDP) was to provide service to a minimum of 80 percent of all dwelling units in the City of Lincoln. StarTran has successfully maintained this level of coverage for many years.

As with most metropolitan areas, transit ridership tends to be highest in the denser downtown urban core and steadily decreases as routes extend into less transit-supportive areas. One cost reduction strategy is to reduce or eliminate service on the less production portions of routes. The proposed strategy assessed in this section is to reduce StarTran's coverage area from 80 percent of dwelling units to 60 percent of dwelling units. The extent of the proposed coverage area compared to the location of existing StarTran routes is shown Figure 11.1.

The current length of each route was measured using GIS software. The length measurements consist of the distance travelled by a bus in each direction to complete a single trip cycle. The proposed length was measured in a similar fashion using the boundaries of the new service area to define the extents of the routes. In lieu of total vehicle miles and hours, revenue miles and hours were used as a proxy due to the availability of data. The percent reduction in route length was applied to the existing revenue miles and hours to calculate the reduction in each category. The route 51/52 was found to have the majority of its service fall outside the bounds of the new service area. Because the remaining service on this route would be duplicated by other routes, it was assumed that the route 51/52 would be eliminated entirely.

Using this approach, it is estimated that a reduction in service area of this magnitude would result in a reduction of 20,228 revenue-hours and 313,991 revenue-miles. The reduction in service for each route is summarized in Table 11.1.

Table 11.1: Revenue Mile and Hour Reduction

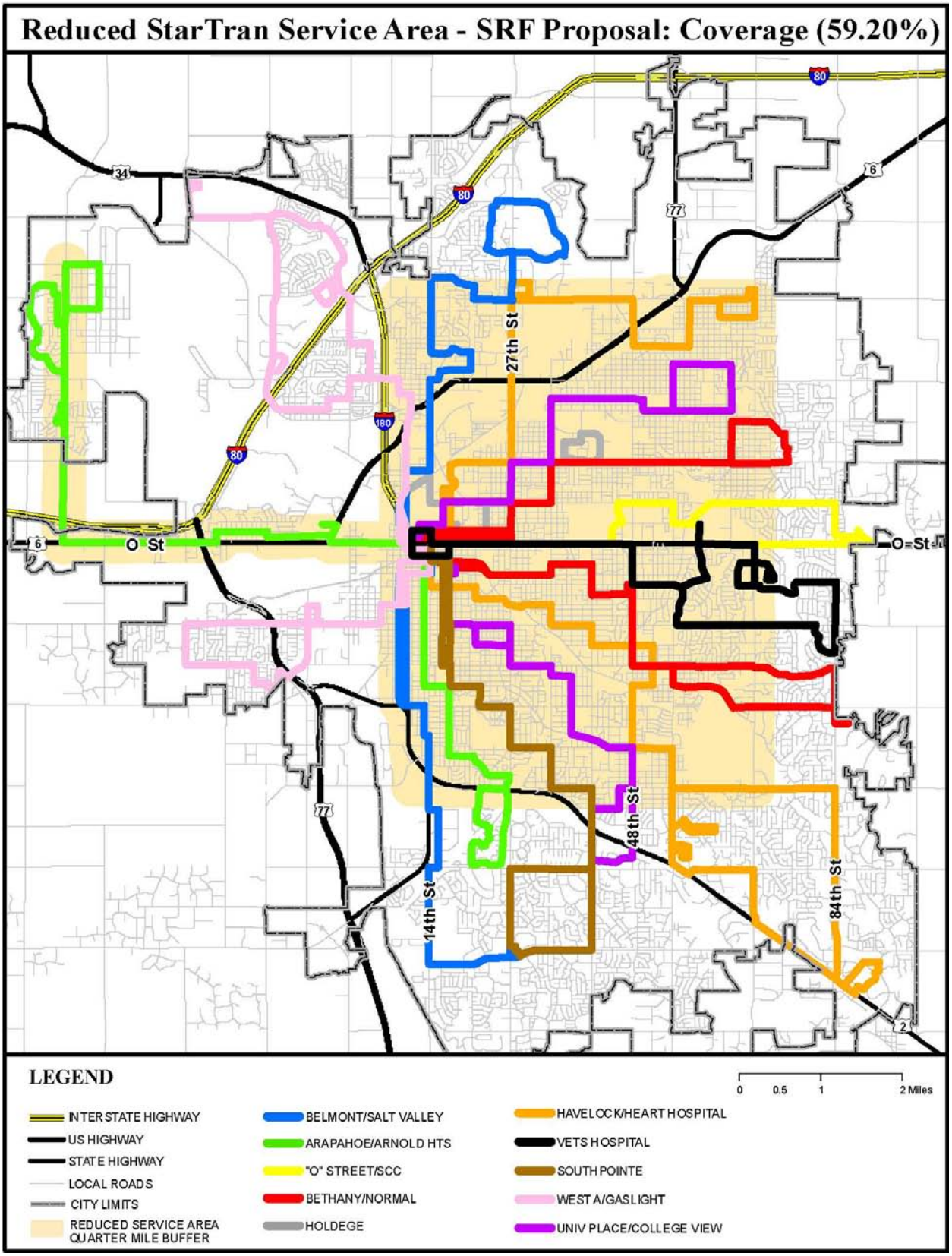
Route	Current Length (miles)	Proposed Length (miles)	Percent Reduction	Existing Rev-Hours	Existing Rev-Miles	Rev-Hours Reduced	Rev-Miles Reduced
24	6.3	6.3	0.0%	7,215	86,366	0	0
40/41	45.1	32.6	-27.7%	15,414	251,892	-4,272	-69,815
42/43	28.3	25.3	-10.6%	10,497	151,306	-1,113	-16,040
44	14.5	11.8	-18.6%	5,603	76,475	-1,043	-14,240
45/46	31.9	25.9	-18.8%	11,071	182,891	-2,082	-34,400
47/48	31.4	20.7	-34.1%	9,695	170,122	-3,304	-57,972
49/50	27.2	25.3	-7.2%	10,505	156,566	-753	-11,224
51/52	27.9	0.0	-100.0%	5,186	72,096	-5,186	-72,096
53	16.7	10.7	-35.9%	5,090	77,763	-1,829	-27,939
54	17.2	15.0	-12.8%	5,048	80,261	-646	-10,266
55	2.7	2.7	0.0%	2,984	26,857	0	0
TOTAL	**249**	**176**	**-29.3%**	**88,308**	**1,332,595**	**-20,228**	**-313,991**

The peak bus requirement refers to the number of buses needed to operate service during the peak travel periods. Current peak bus requirements were calculated by dividing the scheduled peak cycle time by the scheduled peak headway. From the scheduled cycle time and the measured route length, an average speed was calculated for each route. This average speed was then applied to the proposed route length to calculate an estimated cycle time for the reduced service. This proposed cycle time was then divided by the scheduled peak headway to estimate the peak vehicle requirements for the proposed service. All values were rounded up to the nearest whole number to account for partial bus requirements. The reduction in service area results in a reduction of peak buses required by 4. The peak bus requirements for existing and proposed service are summarized in Table 11.2.

Table 11.2: Peak Bus Reduction

Route	Current Length (miles)	Scheduled Cycle Time (min)	Peak Head-way	Peak Buses	Avg Speed (mph)	Prop. Length (miles)	Est. Cycle Time (min)	Est. Peak Buses	Est. Peak Buses Rounded
24	6.3	40	10	4	9.5	6.3	40	4.0	4
40/41	45.1	180	30	6	15.0	32.6	130	4.3	5
42/43	28.3	120	30	4	14.2	25.3	107	3.6	4
44	14.5	70	35	2	12.4	11.8	57	1.6	2
45/46	31.9	120	30	4	16.0	25.9	97	3.2	4
47/48	31.4	120	30	4	15.7	20.7	79	2.6	3
49/50	27.2	120	30	4	13.6	25.3	111	3.7	4
51/52	27.9	120	60	2	14.0	0.0	0	0.0	0
53	16.7	70	35	2	14.3	10.7	45	1.3	2
54	17.2	70	35	2	14.7	15.0	61	1.7	2
55	2.7	20	20	1	8.1	2.7	20	1.0	1
TOTAL				**35**				**27**	**31**
							Peak Bus Change		**-4**

Figure 11.1: Reduced Service Area



Inputting the variables calculated above into the fully-allocated cost model equation results in a reduction in service costs of $1,333,352.

$$\$44.45 \times (20{,}228) + \$1.08 \times (313{,}991) + \$23{,}776.78 \times (4) = \$1{,}333{,}352$$

The net costs savings are also impacted by the loss of fare revenue from the reduced service. To estimate ridership loss, it was assumed that the drop in ridership would be proportional to the drop in dwelling units served. With the service area dropping from 80 to 60 percent of dwelling units (a 25 percent drop in the number of dwelling units served), it was assumed that total ridership would also drop by 25 percent. The current annual ridership on fixed route service is 1,724,421. A 25 percent reduction in service area would therefore result in a loss of 431,105 rides. Applying the average fare of $0.70 per passenger to the lost ridership results in total lost revenue of $301,774 and a total net cost savings of $1,031,578.

Elimination of Routes

One service change alternative is the complete elimination of specific routes. The routes chosen for this analysis include route 53 (SouthPointe), route 54 (Veterans Hospital), and route 55 (Star Shuttle). Routes 53 and 54 were chosen for elimination due to low ridership levels and lower than average productivity measures such as passengers per in service hour. For this analysis it was assumed that passengers will not complete trips using alternative routes and that the loss in ridership will be equivalent to the total ridership of each route.

Route 55 performs at a higher than average productivity level, but collects a small amount of revenue due to the discounted downtown shuttle fare. Much of the service provided by route 55 is also duplicated by other routes. Because of this duplication of service, it was assumed that the route 55 ridership will continue to use StarTran service, but at the system-wide average fare of $0.70. It was also assumed that only 50 percent of the current ridership will continue to ride StarTran due to the increased fare. Using this method, it is estimated that eliminating routes 53 and 54 would result in a net cost savings of approximately $315,000 each and eliminating route 55 would result in a net cost savings of approximately $193,000. The impact to cost savings, ridership, and revenue for each route is summarized in Table 11.3.

Table 11.3: Cost Savings for Route Elimination

Route	Rev-Hours	Rev-Miles	Scheduled Cycle Time (min)	Peak Headway	Peak Buses	Modeled Cost Savings	Annual Ridership Change	Annual Revenue Change	Net Cost Savings
53	5,090	77,763	70	35	2	$357,788	-85,279	-$42,640	$315,149
54	5,048	80,261	70	35	2	$358,619	-73,530	-$42,647	$315,972
55	2,984	26,857	20	20	1	$185,421	-30,422	$7,910	$193,331
TOTAL	**13,122**	**184,881**			**5**	**$901,828**	**-189,231**	**-$77,377**	**$824,451**

Elimination of Saturday Service

Due to a lack of available detailed information for Saturday service, the evaluation of cost reductions related to elimination of Saturday service will be summarized using a marginal cost savings estimate developed by StarTran staff. The marginal cost method takes into consideration costs for labor, overtime, fuel, maintenance, and lost farebox revenue. This evaluation also accounts for the elimination of Saturday HandiVan service. The summary of cost savings is shown in Table 11.4.

Table 11.4: Cost Savings for Elimination of Saturday Service

Revenue-Hours (Fixed-Route)	8,788
Revenue-Hours (HandiVan)	832
Driver FTEs	5.0
Supervisor FTEs	0.0
Maintenance FTEs	1.0
Payroll Savings	$320,923
Overtime Savings	$14,000
Other Savings	$146,568
Annual Cost Savings	$481,491
Annual Ridership Change	-89,350
Annual Revenue Change	-$60,758
Net Savings	$420,733

Alternatively, the cost savings for fixed-route service alone can be estimated using the fully allocated cost model if it is assumed that the ratio of revenue-hours to revenue-miles is constant between weekday and Saturday service. For weekday service the ratio between these measures is 15.09 revenue-miles for every revenue-hour. Applying this ratio to Saturday revenue-hours results in an estimated 132,611 Saturday revenue-miles. The elimination of Saturday service does not result in any reduction to peak vehicle requirements. The cost savings can then be estimated as before:

$$\$44.45 \times (8{,}788) + \$1.08 \times (132{,}611) + \$23{,}776.78 \times (0) = \$533{,}846$$

By subtracting the estimated farebox revenue loss of $60,758, the resulting total net cost savings estimate for fixed-route service is $473,088.

Findings

1. Reducing the fixed route service area to a "core" bounded by Superior/Havelock on the north, 70th Street on the east, Pioneers Boulevard on the south and Northwest 48th Street on the west side would provide transit service to about 60 percent of the city compared to current levels around 80 percent coverage. Service would be eliminated to:

    - Southeast Community College
    - North Star High School
    - Southwest High School
    - Scott Middle School
    - Wal-Mart
    - Heart Hospital

    Restructuring the service in this manner would:

    - Reduce annual operating costs by $1.3 million(about 14% of total costs)
    - Reduce passengers by 430,000 per year(about 24% of system ridership)
    - Reduce passenger revenues by $0.3 million per year(about 25% of fare revenues)
    - Produce an annual net cost savings of $1.0 million

    Limited service, perhaps express type service, could be reinstated to the main generators if deemed necessary, but this will reduce the desired level of cost savings.

2. Route eliminations are a quick way to reduce operating costs, but have the following impacts:

    - Elimination of route 53 would reduce costs by $360,000 per year, affect 85,000 annual passenger trips, and reduce revenues by $43,000 per year
    - Elimination of route 54 would reduce costs by $360,000 per year, affect 74,000 annual passenger trips, and reduce revenues by $43,000 per year
    - Elimination of route 55 would reduce costs by $185,000 per year, affect 30,000 annual passenger trips, and decrease revenues by $8,000 if customers do not choose to use alternative service

3. Elimination of Saturday service would reduce operating costs by $500,000 per year, affect 90,000 annual passenger trips, and reduce revenues by $61,000 per year.

12.0 Recommendations

A summary of the recommendations developed throughout the review follows. The recommendations are grouped into six categories: Oversight, Guidance and Management; Service Design, Operations, and Performance; Paratransit; Costs and Revenues; Customer Service and Marketing; and Equipment and Facilities. Most of the recommendations are intended to correct current deficiencies and shortcomings and as such should be considered for immediate implementation.

Oversight, Guidance and Management

1. The Mayor and City Council should quickly act to establish a clear policy and mission for the operation of public transit services within Lincoln. At the beginning of each budget preparation period any revisions to the mission should be articulated so that operations can be adjusted to meet current expectations.
2. The Mayor should fill any future vacancies on the Transit Advisory Board as quickly as possible to maximize opportunities for community input on potential service and fare changes.
3. The Mayor should clarify the roles and responsibilities of the Transit Advisory Board to establish clear policy direction and reporting requirements. Options include:
   - Limit the Board to advise on service policies that impact passengers
   - Have the Board increase activities to advocate for transit within the community
   - Expand the Board role to include budget, service and performance oversight with more direct ties to City Council
4. The Mayor, with City Council oversight, should reconfirm policy intent on fare levels and service standards for all transit user groups before any significant service or pricing adjustments are made.
5. The Mayor and City Council should provide clear policy direction for frequency of StarTran performance and management reporting. StarTran should develop a straightforward set of statistics and measures to report current performance as well as long term trends (minimum of 5 years) to the Director of Public Works, Mayor and City Council to gauge the overall health of the system.
6. StarTran should be at the bargaining table throughout labor contract negotiations to be able to deal with transit specific issues.
7. StarTran should develop and utilize a standard analysis format when presenting proposed fare and service change information to the Advisory Board and other stakeholders. The standard form should include information such as background, alternatives considered (cost, revenue, impacts to schedule of each), and a staff recommendation.
8. StarTran should refine the approach to internal communication for drivers and maintenance employees to provide clearer, more consistent and updated policy direction.
9. The City should only pursue establishment of a regional transit authority if it is critical to separate local funding from the general fund. Doing so would provide limited fiscal and managerial benefits. If the City does pursue establishment of a transit authority it should seek

an independent statute that is modeled after the Omaha statute but is directed toward cities of the "primary" class.

10. The City should initiate a test of private sector interest using a three-step procurement process if it wants to further evaluate the prospects of privatization:
    - Request for Letters of Interest
    - Request for Qualifications
    - Request for Proposals
11. StarTran management should work with the Director of Public Works to clarify the intended roles and responsibilities of the:
    - Administrative Aide
    - Bus Operations Superintendent

Service Design, Operations and Performance

1. StarTran should begin immediate discussions with the University of Nebraska-Lincoln (UNL) on the potential for an expanded role in campus transit service. Campus transit service should be expanded as opportunities arise.
2. The city should work with the University of Nebraska Lincoln to clarify if the university wants to continue to operate a portion of the campus and intercampus transit service or if it would prefer to purchase all of its services from StarTran.
3. StarTran should establish a working relationship with Southeast Community College (SCC) to identify needs and potential service.
4. StarTran should calculate on-time performance of the paratransit services separately for StarTran provided services and Transport Plus services. This calculation also needs to better account for trips rescheduled to earlier pickups.
5. StarTran should evaluate its fixed route on-time performance more regularly to identify areas for schedule adjustments.
6. StarTran should standardize its definition of the "on-time" window to match surveillance report analysis to available AVL data.
7. StarTran should reevaluate its approach to road supervision.
8. StarTran should re-instate its safe driver awards program. The modest cost will generate substantial benefits within the driver ranks.
9. StarTran should update the Maintenance Plan to fit with current practices.
10. StarTran should keep the Driver's Manual updated to current procedures.
11. StarTran should not post the result of the Accident Review Committee
12. StarTran should revise the Transit Development Plan (TDP) in two to four years to reflect any changes to policy goals and performance thresholds.

Paratransit

1. StarTran should conduct random audits of telephone hold times to assure ADA compliance.

2. StarTran should communicate fare information in the Operating Guidelines and on the Handi-Van specific webpage.

3. StarTran should extend complementary service hours to the same hours as fixed route.

4. StarTran should establish a practice of adjusting paratransit hours of service when a change on fixed route is implemented.

5. StarTran should improve scheduling of trips to eliminate early driver arrivals.

6. StarTran should discontinue the practice of requiring an adult accompany a child under 12.

7. StarTran should update its visitor policy to be easily identified on the webpage and have a header identifying the policy in the operating guidelines.

8. StarTran should renegotiate with Route Match for some level of support in order to avoid a system failure and a catastrophic loss of data and the ability to produce driver manifests.

9. StarTran should add staff in order to effectively manage the paratransit operation. It is recommended that a full time clerk position be created to handle call taking and reservations, radio dispatch and post trip data entry.

10. StarTran should reduce the amount of directly operated paratransit service and assign additional service to Transport Plus to reduce annual operating costs:
    - Eliminate directly operated paratransit service on weekdays after 5:30 p.m.
    - Eliminate directly operated weekend paratransit

11. The City of Lincoln Purchasing Department needs to have specific performance measures spelled out in the outside paratransit contracts:
    - On time performance target of 95 percent
    - No passenger should ride longer than 45 minutes.
    - Applications for service to be processed within 21 days.

12. StarTran should update its Handi-Van Operating Guidelines as they are outdated and it is difficult to find the important information.

Costs and Revenues

1. The City should simplify its fare structure by discontinuing special programs that contribute few riders for the level of effort expended on marketing and administration. Program elements to reconsider are:
   - Seniors go for less
   - Senior punch
   - Ride and shop
2. If a primary goal of the City is to increase passenger revenues:
   - It should consider first raising the low-income monthly pass price before making other fare adjustments. Elasticity of demand indicates a doubling of the price will add about $70,000 in revenue annually, but will reduce ridership by roughly 260,000 trips per year.
   - It is not recommended to reduce the existing base fare as increased ridership will not measurably increase revenues.
3. StarTran should work with administrative staff to better embrace technology to streamline accounting functions.
4. City staff and StarTran staff responsible for procurement should develop better understanding of FTA regulations and requirements related to grants management.
5. StarTran should conduct a detailed analysis of the costs and potential benefits of utilizing part time labor to determine whether or not this strategy should be pursued to lower operating costs or whether it might be better to negotiate that capability out of the next labor contract.
6. StarTran should conduct a statistical analysis of cash receipts compared to ridership on a regular basis to ensure there are no cash handling concerns.
7. StarTran should rotate and introduce randomness to the staff assignments for cash counting.

Customer Service and Marketing

1. StarTran should maintain a list of customer requests for service changes throughout the year and review during budget preparation time for possible service adjustments.
2. StarTran should route all customer complaint calls to the Superintendent of Transportation or the Marketing Assistant instead of the Office Assistant.
3. The Public Works Division should establish division-wide standards for customer responsiveness and satisfaction levels.
4. StarTran should encourage the Bus Operations Superintendent to have more direct interaction with bus drivers and customers in the field.
5. StarTran should have the Office Assistant lunch relief person answer customer telephone calls instead of having those called rolled over to an outside answering service.
6. StarTran should evaluate its current procedure of selling Low-Income passes only at the primary StarTran facility. Relocation of the point of sale should consider more public alternative

locations such as City Hall. This relocation would relieve current StarTran staff, allowing them to focus on other responsibilities.

Equipment and Facilities

1. The city should not change the size of its transit vehicles as fleet replacements occur as most vehicles are properly sized for current loadings. The size of the buses is appropriate for the current peak loading requirements and safety standards. Mixing of the fleet would increase training needs, parts inventories and overall maintenance costs.

2. StarTran should update its advance technology plan to refine the concept of operations, procure missing components and fix inoperable system so they can be fully integrated into operations.

3. StarTran should evaluate whether to allow drivers to communicate directly with each other through mobile data terminals (MDT's) to call out transfers instead of making hard radio call to the supervisors.

4. StarTran Street Supervisors should utilize the automated vehicle location (AVL) system to monitor bus on time performance from supervisory vehicles.

5. The city should conduct a feasibility study to look at the options to rebuild the maintenance facility to provide an improved layout and potentially reduce maintenance costs before consideration of relocating the operating and maintenance facilities. If rebuilding is not feasible, then the city should consider relocation of the facility in a centrally located spot to prevent an increase in non-revenue miles.

6. StarTran should establish a program to mark the location of all bus stops across the system to provide customers direction to safe boarding locations

7. StarTran should locate bus benches at all high use bus stops and shelters should be provided where passengers have random or unpredictable arrival times

Conclusions

Overall, StarTran's performance is a little more efficient but a lot less effective than its peers. The system is generally well run with respect to personnel but there are a number of opportunities for improving operational performance.

A summary of the top ten conclusions from this analysis and evaluation is shown below:

1. The mission of StarTran is not entirely clear as management and staff appear to receive mixed policy directions from Mayor, City Council and Advisory Board regarding desire to maximize riders vs. holding the line on local funding.
2. The role of the Advisory Board has begun to shift from its original direction created in city code as it takes on more budget related and operational topics. The Mayor and City Council should re-establish the role of the Board to fit current oversight and advisory intentions.
3. The performance of StarTran fixed route transit service is slightly more efficient but less effective than peers. Paratransit service is generally well run but some components of its service do not fully meet ADA requirements.

4. There are no significant operating cost components of StarTran currently out of line with industry practice or peer systems. Modification of current operations and practices to improve efficiencies will generate modest operational cost savings(less than 5% of total budget).
5. The best opportunities to increase local revenues are to modify services to attract additional riders or to increase the average fare per passenger. The best opportunities for increasing ridership are to increase frequencies on the best performing routes or to reconfigure how the UNL market is served. The most effective way to increase the average fare would be to increase the cost of the monthly Low Income Pass. For each 1% increase in the cost of the Low Income Pass there would be a corresponding 0.25% decrease in pass user ridership (currently 42% of total ridership).
6. Privatizing current StarTran operations will not generate significant cost savings as the current labor agreement provisions will need to be carried forward and some administrative services currently provided through the city at no cost to StarTran such as human resources administration would need to be transferred to the private operator. There is no prospect of attracting a private operator to assume control in hopes of turning a profit. Private sector interest levels and approximate fee structures can be gauged by conducting a Request for Letters of Interest, Qualifications and Proposal process.
7. Creating a transit authority to oversee StarTran operations and funding is currently not an option under state law. If the law is modified allowing creation of the authority a significant cost savings would not be expected. Costs may actually increase as the current labor agreement provisions will need to be carried forward and some administrative services provided through the city at no cost to StarTran such as human resources administration would need to be transferred to the authority. The authority could become the taxing agent for the local share of transit operations thereby removing that component from current general fund obligations.
8. Making significant service adjustments such as complete removal of Saturday service or all midday service or removing one or two entire routes can generate moderate cost savings (up to 5% of total operating budget for each major action) but will begin to diminish the effectiveness of the service overall and directly impact large numbers of current transit riders of whom 75% say they have no car available.
9. Replacing a portion of the current fleet with smaller buses will not significantly reduce operating costs and may have the opposite impact in the short term as additional parts inventories and training would be needed to support the new vehicles. The peak period utilization along the best performing routes warrants the current vehicle size.
10. A report should be generated by StarTran on a regular basis to better inform the Mayor, City Council, Advisory Board, Division Director and the public of overall performance. Key measures should include passengers per hour, passengers per capita and overall ridership over a 3- to 5-year period along with an indication of whether the measure is within expected range and what is being done about performance outside of desired range.