Transit Implementation Plan

Prepared for the

City of Manhattan, Kansas

Final Report

Prepared By

TRANSYSTEMS CORPORATION

2400 Pershing Road, Suite 400
Kansas City, Missouri 64108

in association with

ETC Institute, Inc.
725 Frontier Drive
Olathe, Kansas

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Acknowledgement

This implementation plan was produced with the guidance, support, and participation of the following people:

City Commission

Karen McCulloh, Mayor
Ed Klimek
Carol Peak
Bruce Snead
Roger Reitz

Steering Committee

Darwin Abbott	Kathy Marion
Francis Begnoche	Junell Norris
Kirby Chapman	Terry Olsen
Dave Colburn	Bruce Snead
Steve French	Edith Stunkel
Dick Hayter	Mike Toy
Mo Hosni	Jim Van Sickel
Greg Luttrell	Monty Wedel
John Maberry	Jake Worcester

Technical Committee

Diane Stoddard, Assistant City Manager
Karen Davis, Director of Community Development
Jerry Petty, Director of Public Works
Eric Cattell, Assistant Director for Planning
Gary Fees, Communications Manager/City Clerk

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Section 1: Introduction

This plan is intended to guide the City of Manhattan in the implementation of a public transit system. The plan will also serve as a focal point for community discussion on the merits of implementing such as system. This plan contains the following:

- Background on the planning process
- Overview of the Service Plan
- System Management
- System Marketing
- Funding Overview including pro forma budget
- Start-Up Check List
- Detailed Operating Plan including schedules, route descriptions, vehicles and facilities.

Background

In April 2000, the City of Manhattan adopted its first long-range transportation plan, *Manhattan Area Transportation Strategy: Connecting to 2020* (MATS). The study process that produced the plan included a preliminary determination of the feasibility of citywide transit service and the identification of potential service plans. At the same time, studies at Kansas State University showed that parking deficiencies were going to become much more severe as campus development continued. Options to mitigate this problem included expanding transit services. This latter option was recently adopted as the preferred strategy being selected over building parking structures.

The City of Manhattan in cooperation with Kansas State University engaged TranSystems Corporation to determine the feasibility and support for transit service as outlined in MATS. Based on that assessment, this transit service implementation plan was developed. This plan refines the MATS service plan by determining the level of financial and political support existing in the community for its implementation.

Planning Process

The implementation planning process had these basic steps:

1. **Determine the market conditions for transit**. This step identified the people who traditionally use transit, where they live and where they want to go. This built upon the MATS work.
2. **Review preliminary service concepts including fixed route, demand response, and deviated fixed route services.** This step determined how service should be delivered. This also builds upon the MATS work.

3. **Determine the size and shape of transit.** This step attempted to discern what the design of service should be as well as how much service should be provided.
4. **Develop a "street-ready" plan.** This step transformed the community transit preference and lays out what needs to be done to actually implement the service. Schedules, routes, vehicles, and costs will be discussed in the plan.

The keys to this planning process were:

- The formation of a Steering Committee, representing a cross-Section of Manhattan.
- Conduct of market research including:
  - Focus groups with civic/business leaders, Kansas State University (KSU) students, and the general public.
  - Community surveys statistically valid for the community as a whole and for KSU students.[1]
- Holding of two sets of Open Houses to obtain community input as two key stages of the planning process. The first set was held near the middle of the process where the general community and KSU people reviewed data and preliminary service concepts. The second set was held near the end of the process where the same audiences reviewed the preferred service concept.

Implementation Plan Overview

This basic plan calls for a three-route public transit system to operate in the City of Manhattan. Two routes would be citywide in nature with the third route operating exclusively on the campus of Kansas State University. This third route, tentatively called the Bramlage Park and Ride Shuttle, would be operated by the City but paid exclusively by the parking division of Kansas State University. In addition, a special service tentatively called the Aggieville Special, would operate during the school year on Friday and Saturday nights. This service would be a "flexible route" and operate from about 10:00 PM to 2:00 AM. See Figures 1, 2, 3 and 4.

The transit system would operate seven days per week, with varied frequencies and begin and end times consistent with expected demand for service. See Table 1 for a summary of operating statistics.

The plan calls for the City of Manhattan to contract with an outside vendor for the provision of services. That vendor would supply system management and operating personnel as well as some capital equipment necessary to operate the service. The City would provide contract oversight as well as secure revenue vehicles and key passenger amenities such as passenger waiting shelters. The vendor could be a private entity or a

[1] Findings from the focus groups and community surveys can be found in separate documents.

public body such as the Manhattan-Ogden School district. Strategies for securing these services are outlined in the Start-Up Plan Section.

Table 1: Summary of Operating Statistics

Days of Operation	Approximate Hours of Service	Service Frequency
All Year		
Two Route System	6:00 AM to 6:00 PM	30 minutes
Monday through Friday	6:00 PM to 10:00 PM	60 minutes
Saturday	6:00 AM to 10:00 PM	60 minutes
Sunday	10:00 AM to 7:00 PM	60 minutes
Academic Year (August to May)		
Aggieville Special		
Fridays and Saturdays	10:00 PM to 2:00 AM	60 minutes
Bramlage Park and Ride Shuttle		
Monday through Friday	6:00 AM to 6:00 PM	10 minutes (7AM to 10AM and 2PM to 5PM) 20 minutes (other times)

Finally, the estimated costs for services are summarized in Table 2, following Figure 4. The total cost for all services would be about $1.4 million. Funding would come from these sources:

- Passenger Fares
- KSU Student Fees
- KSU Parking Division
- Federal Transit Administration
- State of Kansas
- City of Manhattan

The costs in Table 2 are explained in more detail in Section 3 of this plan.

Figure 1: Route 1—Candlewood/Northview

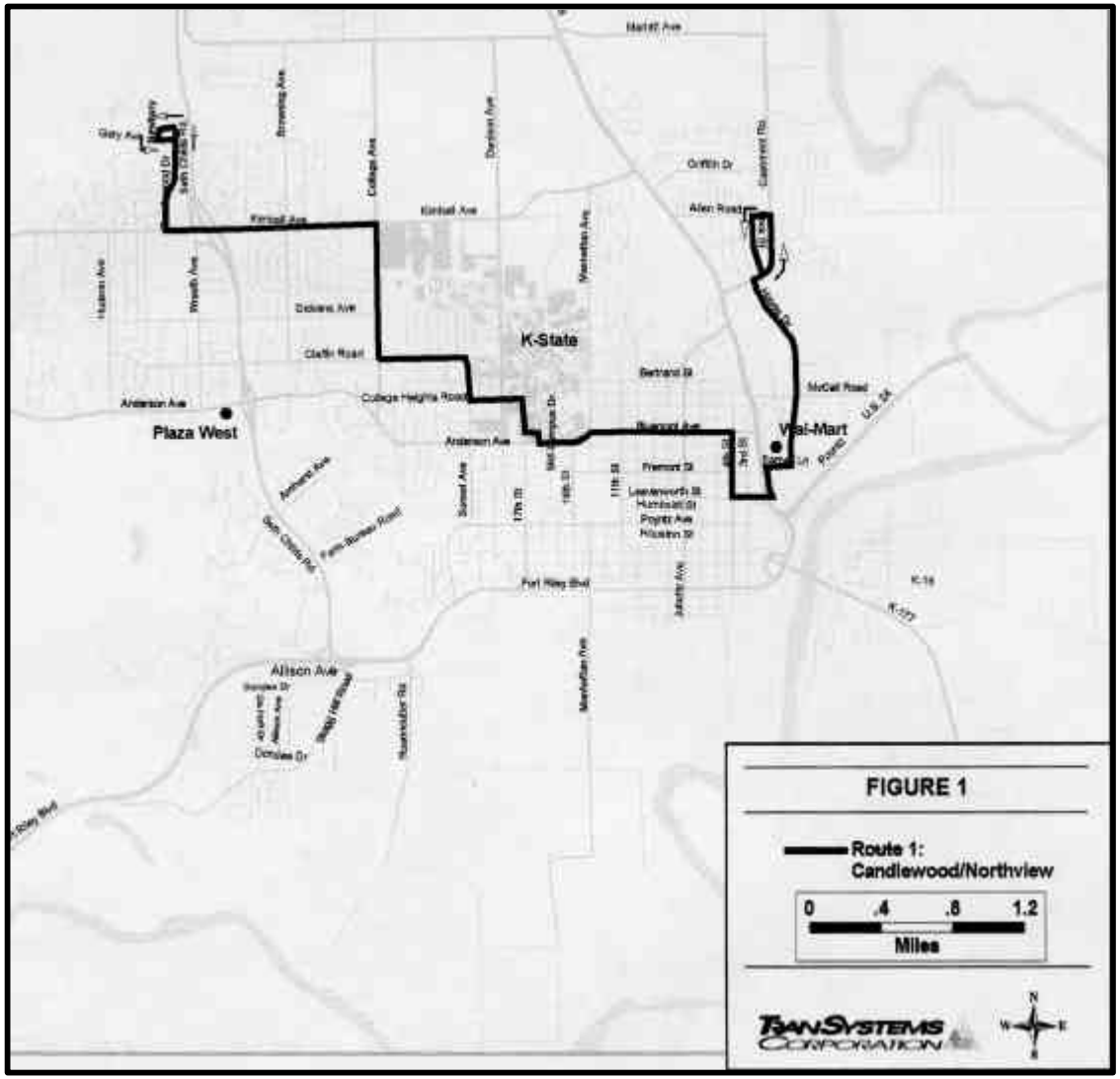


Figure 2: Route 2—Stagg Hill/Wal-Mart

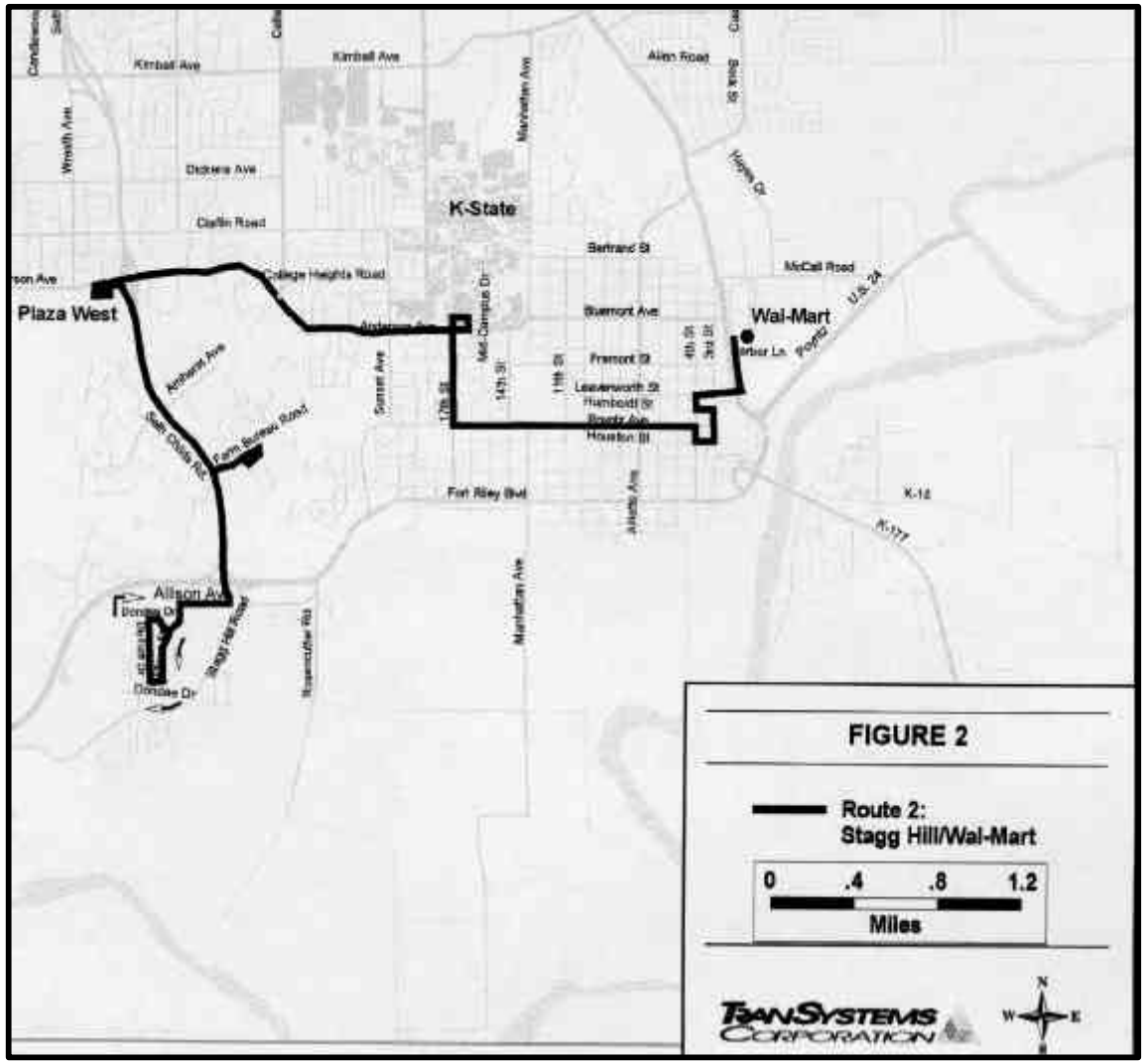


Figure 3: Bramlage Park and Ride Shuttle

Figure 4: Aggieville Special

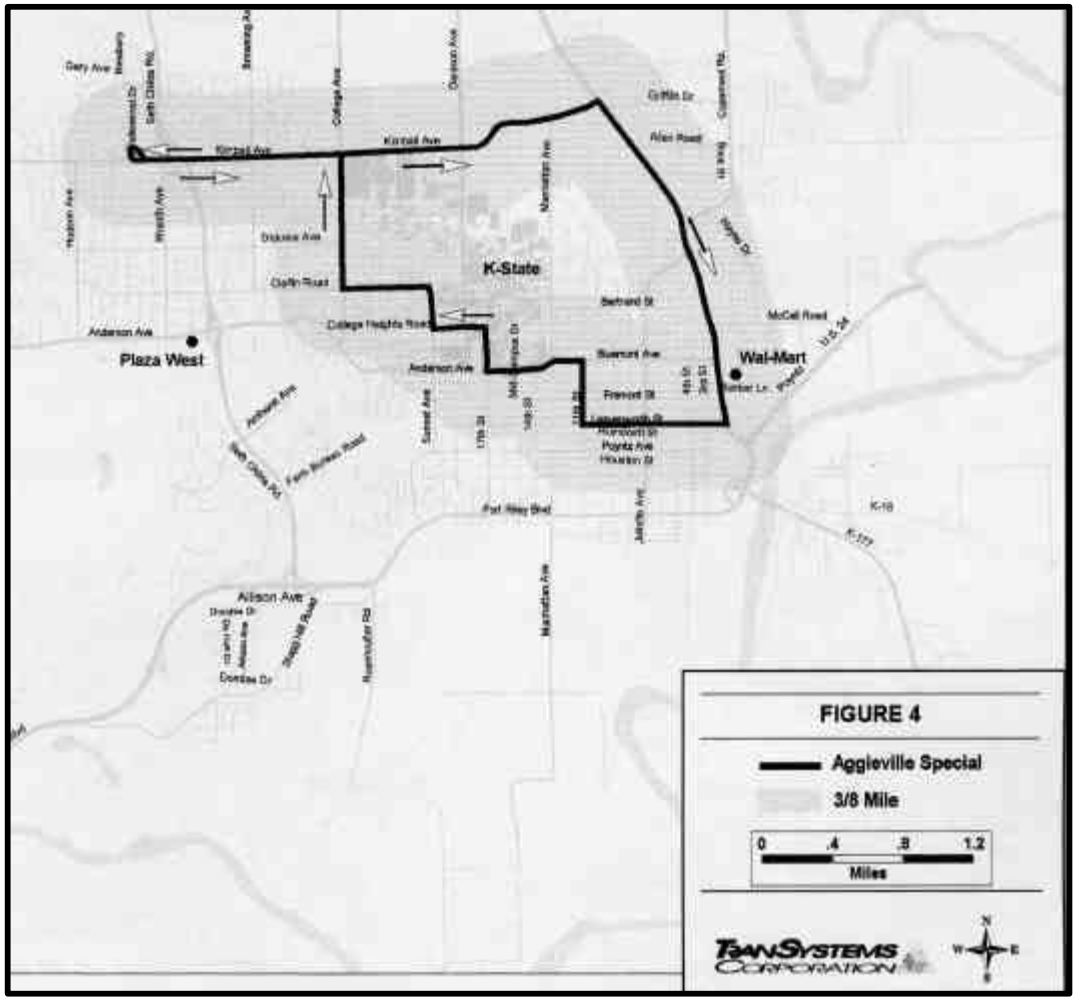


Table 2: Estimated Annual Costs and Funding for Services

Item	Citywide	Bramlage	Total
Costs			
Annual Operating Costs	$988,602	$195,862	$1,184,464
Annualized Capital Costs	181,240	53,665	234,905
Total Annualized Costs	$1,169,842	$249,526	$1,419,369
Funding			
Passenger Fares	$ 61,000	$ -	$ 61,000
KSU Student Fees	$ 350,000	-	350,000
KSU Parking Division		249,526	249,526
Federal Transit Administration	425,000	-	425,000
State of Kansas	150,000	-	150,000
City of Manhattan	260,000	-	260,000
Total Funding	$ 1,246,000	$ 249,526	$ 1,495,526
Surplus (Deficit)			
	$76,158	$0	$76,157
% of Costs	6.5%	0.0%	5.4%

Section 2: System Management

This Section discusses these elements of system management:

- System Management
- System Marketing
- System Financing

System Management

This Section discusses how the system should be operated as well as administered. There are operation, administration, and institutional aspects to system management. System operation refers to the actual provision of services—identifying who is responsible for the actual on-street operation. System administration refers to the so-called "backroom" functions such as grant management, marketing and over system oversight. Institutional arrangements refer to the relationship between the City and external stakeholders.

System Operation

There are three basic operating management options in setting up a transit operation. Examples of each are presently in use in the State of Kansas.

1. Direct City management and operation.[2]
2. Contracted management, but with City personnel and assets.[3]
3. Turnkey, contracted operation[4]

Direct City Management and Operation: Under this option, the City would hire a transit manager and all necessary employees. Equipment, primarily vehicles, would be acquired and operated by the City as well. In essence, the transit system would be a city department as is fire community development, or parks and recreation. A variation in this would be a Riley County operation. The system would then be a *county* department.

The advantage of direct operation is that the City would have control over the quality of the transit operation. The City could see to it that its standards of performance are made part of the operation. There would be no misunderstanding on the part of the transit operator as to the City's expectations. Another advantage could be in improving the productivity of certain municipal functions such as fleet maintenance. More vehicles and mechanics may allow functions now done out-of-house to be done in-house.

[2] Topeka Transit is an example of this as is the Unified Government of Wyandotte County and Kansas City, Kansas. Transit in the UG is a true municipal department, while Topeka has been set-up as a metropolitan transit authority. However, both are "direct" operations in that employees and assets are owned and operated by the municipal entity.

[3] Wichita Transit is an example of this type of operation. First Transit of Cincinnati, Ohio is the parent firm providing this service.

[4] Johnson County Transit and the City of Lawrence use this method.

A disadvantage in direct operation is the challenge in hiring expert personnel to manage the operation. This could potentially increase the cost of service. Further, transit personnel (especially drivers) tend to be unionized. This could add an additional challenge to City management in administering labor contracts.

Contract Management: Contract management would involve the City hiring a firm to manage the system. Personnel and equipment are usually employed by the City. Firms specializing in transit management have access to experienced personnel and can draw upon expertise that is often needed, but too expensive for the City to obtain on its own. For example, federal government reports, labor issues, and operating issues have a unique nomenclature. Management firms are well versed in these issues and may respond more effectively than a single transit manager hired by the City.

A disadvantage is that contract management may be higher in cost than a lone manager. Further, the City still has issues relating to driver personnel and the potential for unionization.

Turnkey Operation: A turnkey operation involves the City hiring an outside organization to set up, run, and manage the transit system. This is the option used in the cost estimates in Section 3 of this report. Typically, a private firm would provide such a service. However, another public or non-profit organization could also be a contractor. An example would be using the school district to operate services.

Here, full responsibility of the operation rests with the contractor. The City would competitively acquire the services of such a firm or organization. Through the procurement process, the City could ensure high accountability and attention to service quality; presumably companies wanting the service would be inspired to do a good job and keep prices down. Costs and innovation may be superior with an outside entity that has a stake in the successful operation of the service. Further, a contracted operation may limit the City's exposure to federal labor protection regulations (which would come with the receipt of federal transit funds). These regulations, commonly referred to as "Section 13(c)," can place high financial burdens upon the City. In short, if the City made efficiency improvements in its operation and eliminated transit jobs, then the City would have to pay affected personnel full wages and benefits for up to six years. A competitive process in acquiring transit operations could successfully avoid such a situation. A disadvantage is that there would still need to be some city oversight.

Table 3 summarizes these options.

Table 3: System Management Options

Option	Definition	Advantages	Disadvantages
Direct City Operation	City hires a transit manager, all necessary employees, acquires all equipment, primarily vehicles. *Kansas City, Kansas and Topeka, Kansas use this option.*	• Direct control over the quality of the services provided. • Potential "economies to scale" with other City functions by pooling resources such as vehicle maintenance. • Avoid overhead and profit costs associated with an outside vendor.	• Challenge in hiring a manager experienced in transit operations. • Potential for unionized workforce. • Potential liability of federal labor protection regulations. • Potentially "politicizes" service decisions.
Contract Management	City hires a firm to manage the system. Personnel and equipment are supplied by the City. *The City of Wichita uses this option.*	• Obtain needed expertise on a contract basis. • Have a potential "bench" of management talent and other expertise. • Maintain the advantages of the "direct City operation" method.	• Can be a higher cost than a manager hired directly by the City. • Retain some of the disadvantages of the direct City operations option.
Turn-Key Operations	A turn-key operation involves the City hiring an outside organization to set up, run, and manage the transit system. The City might have title to the buses, but the operator would bring in all other assets (e.g., office equipment, garage, tools, etc.). *Johnson County and Lawrence, Kansas use this option.*	• Provides City with an easy "exit" strategy for transit. • Diminishes federal labor protection regulations. • Effective in keeping costs down through periodic procurement. • Potential for deeper resources and a more specialized pool of managerial talent. • "De-politicizes" service decisions.	• Would be somewhat dependent on the expertise of the operator for service decisions. • Does not avoid dedicating staff to overseeing the operation. • Diminished day-to-day control of service quality.

Recommended Method

It is recommended that the City of Manhattan pursue contracted operations. One variation to the example given above is that the City acquires revenue vehicles and leases them to the private operator.

The reasons for this recommendation are:

- Provides the City with expertise in setting up and operating a system. By hiring an outside entity, that expertise would be acquired quickly.
- Provides the City with an easier "exit" avenue in the event the transit system fails to meet community expectations.
- It is recommended that the City owns vehicles so that it has the ability to take over service itself in the event it wishes to operate services directly or change vendors.

System Administration

In addition to hiring an outside vendor to operate services, the City's interests need to be managed by City staff. The City transit system will be a significant operation as service would be a seven-day a week, 16 hour a day operation. With an annual cost of over $1 million, it will be a full time job to make sure services are provided according to contract, customer needs are addressed, and that the requirements of various funding sources are met. Appendix A contains a proposed job description for a transit manager. Figure 5 shows a sample organization chart. Appendix B outlines a management audit program that would be at the heart of the transit manager's duties.

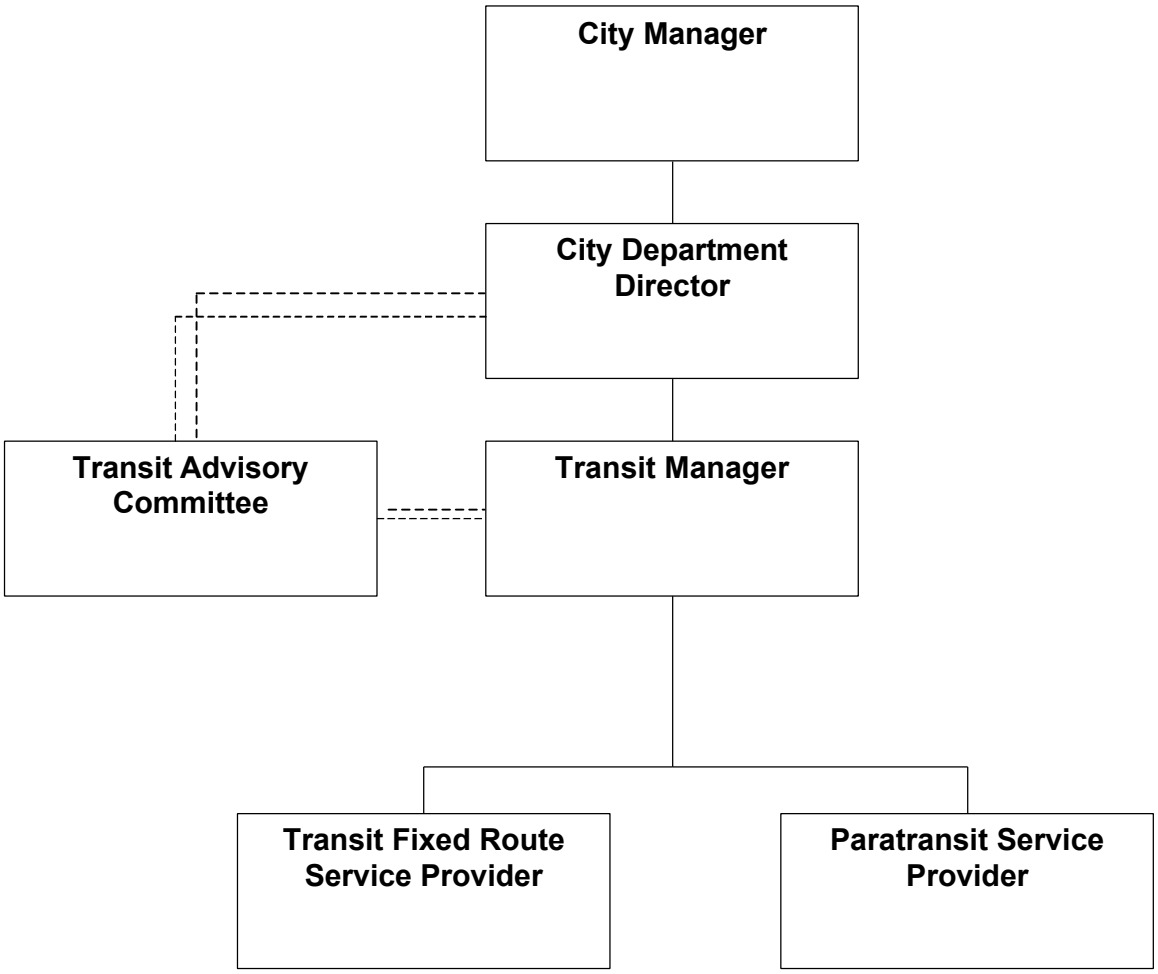
The suggested pay range for this person is about $35,000 to $45,000.

Transit Advisory Committee

As an adjunct to the Transit Manager, the City should establish a "transit advisory committee." The purpose of the committee is to provide stakeholders (riders and non-riders) and opportunity to given feedback and advice on the transit operation. Reaction to marketing and service plans, system monitoring, and other initiatives can keep the transit operation informed as to what its constituents think about the service.

This committee should be limited to 8 to 10 people. The City Commission could appoint the committee. Its composition might mirror the Transit Service and Implementation Plan steering committee. Finally, the committee might meet monthly in the beginning of service, eventually dropping to quarterly.

Figure 5: City Transit Organization Chart



System Institutional Arrangements

As will be discussed in more detail in System Financing below, the City will likely have a number of "partners" in the provision of service. Such relationships will need to be formalized in the way of operating and funding agreements.

Likely partners with the City will be:

- Kansas State University Student Governing Association (SGA)
- Kansas State University Parking Division (Parking Division)
- Federal Transit Administration (FTA)
- Kansas Department of Transportation (KDOT)

The relationship between the City and the SGA will be a funding as well as an operating one. The City will need some agreement that ties the provision of transit service to the flow of funds from the University. The SGA may want a specified level of service and specific route placements in exchange for the funding. The City will need to balance such desires with the needs of the overall community. The structure of the agreement needs to anticipate that the SGA may elect to change its funding (increase or decrease) at any time. This would involve a specified notification period between funding changes and consequential service changes. Normally, it would take 90 to 120 days to affect a service change due to a major change in funding. Under federal regulations, the City will need to hold public hearings on significant service changes.[5]

The relationship between the City and the Parking Division would also be contractual and have the same concerns as with the SGA.

The FTA and KDOT would have funding agreements with the City. Specific services do not necessarily need to be spelled out as the relationships with the University. However, adherence to various regulations and reporting relationships will be required. These funding agreements will specifically spell out those requirements in affect at the time of consummation.

System Marketing

There are two areas most critical to marketing a transit system. The first are system promotion efforts. The second is the provision of customer service functions. Both of these activities should be methodically considered and included in a marketing plan. This sub-Section outlines a marketing plan as well as specifies minimum activities associated with marketing the transit system.

In addition, this Section also describes customer service functions that should be part of the City transit operation.

[5] The FTA gives local units of government leeway in defining what constitutes a major service change.

Marketing Plan

A marketing plan has these basic elements:

- *Plan objectives and goals* – include measurable outcomes of the marketing program. Targeting a ridership level is one obvious goal, but could also include a number of information inquiries received, outcomes of various promotions in terms of users participating or revenue received.
- *Plan Strategy* – how the goals and objectives would be achieved. These would embody marketing tactics described next.
- *Marketing Tactics* – are specific actions with assignments and deadlines used to execute the given strategy.

Initial Objectives and Goals

Suggested initial objectives for a Manhattan transit system would be:

- Ridership level for KSU Students and general public. The ridership level for this plan should be a three-year target. Thus, with 675 daily boarding targeted (about half KSU students, half general public) the first year target could be 225, second 450, and third 675.
- Achieve system awareness among at least 90 percent of the K-State students and at least 50 percent of the general city population. Awareness is defined as people know about the City bus systems and would know how to obtain information about its services.
- Create positive image of bus system as a worthy, well-operated City service.

Plan Strategies

These strategies are suggested:

Building Awareness through continual communication with key rider groups and the general public.

Create Positive Image through community partnerships and appropriate publicity.

Increase ridership through providing good customer service and monitoring of system use.

Plan Tactics

Suggested tactics to implement the strategies are:

Building System Awareness[6]

- At least ten to twelve months before system operation begins, establish a system identity[7]. This includes:
  - Systems name (CAT? "City Area Transit"?)
  - System color scheme (purple?)
  - Bus stop sign design
  - Graphic design standards for printed materials such as route schedules and maps, fare media (monthly passes, e.g.), letterhead, and transfers, etc.

- Four to six months before operations begin, prepare system information pieces. These include public time schedules, maps, "how to ride" information, and fare media. It can also include the establishment of a web site with similar information available.

- One to three months before system operations begin, publicize the start-up through the following activities:

  - Direct mail of free ride tickets along with route and schedule information flyer to households along routes.
  - Newspaper and radio articles on start-up and "how to ride" articles. (See if this can be run twice before start-up).
  - Place route and schedule information at the public library and key places on campus as well as at Town Center Mall, Wal-Mart and Dillon's.
  - Identify apartment complexes along routes and encourage leasing agents to distribute information and free ride ticket to new tenants.
  - Establish link on City web site. Link should contain basic schedule and routes along with the fare policy and rate structure.
  - Work through social service agencies (including senior citizen high-rises and youth oriented agencies and schools) to direct information to their clients. City staff could hold "how to ride" sessions with clients hosted by the agency.
  - Work with KSU to distribute information to students, faculty, and staff. Students can be reached through an information Table at the union with two staff members conducting "how to ride" demonstrations.

[6] The City might work with Kansas State University Business School to either have a class project on these market elements and/or hire a marketing consultant. Another alternative is to contact one of the larger transit systems who have a full time marketing department to get ideas and, possibly, use sample materials as a basis.

[7] This time is needed to allow buses to be ordered with the color scheme. Buses can take up to nine months to be delivered.

- Work with chamber and visitors bureau to distribute bus information via "welcome" packets.
- Establish dedicated "bus information" phone line and and widely publicize the number.

♦ Ongoing communication

- Work with KSU to distribute bus route and schedule information to student via registration materials and new student orientation.
- Work with social service agencies to distribute.
- Maintain communication links established before service start-up.
- Use on-board information such as passenger bulletins.
- Create and maintain web site link on K-State site to City transit web page.
- Maintain a City staffed "complaints" line. Deal with complaints promptly and, as much as feasible, solve in favor of rider.

Create Positive Image in Community

♦ Publicize community activities conducted by transit. This includes announcing ridership statistics, route changes, service announcements (such as starting and ending Aggieville Special or Bramlage Park and Ride).
♦ Publicize cooperative promotions that might happen with worthy causes such as in support of parks and recreation programs.
♦ Maintain accurate service information.
♦ Conduct customer surveys every two years to track opinion of service quality.
♦ Conduct general public surveys every two years to determine image and awareness levels.
♦ Adhere to high performance standards (see Appendix B).
♦ Seek cooperative arrangements with high profile events (sports shuttle, special event transportation, etc.).

Increase Ridership

♦ Review ridership statistics on a regular basis (weekly at first, then monthly). Track use by time of day, day of week, and segment of the route. Be prepared to make fine tune adjustments to services.
♦ Maintain service performance standards.
♦ Maintain communication program and actively work in the community.

Customer Service

Customer service refers to activities that make the transit system user friendly. These include:

- Providing information
- Selling fare media
- Handling customer complaints and suggestions

Providing Information

The prior Section on the marketing plan discussed a number of tactics to get schedule and route information into the hands of potential riders. The information function of customer service refers more to an on-going ability to provide assistance to new and current riders. This is typically handled through a telephone call center.

Given that the system will be fairly small, this function will be relatively easy to handle. It is suggested that the operating vendor supply this service.

Selling Fare Media

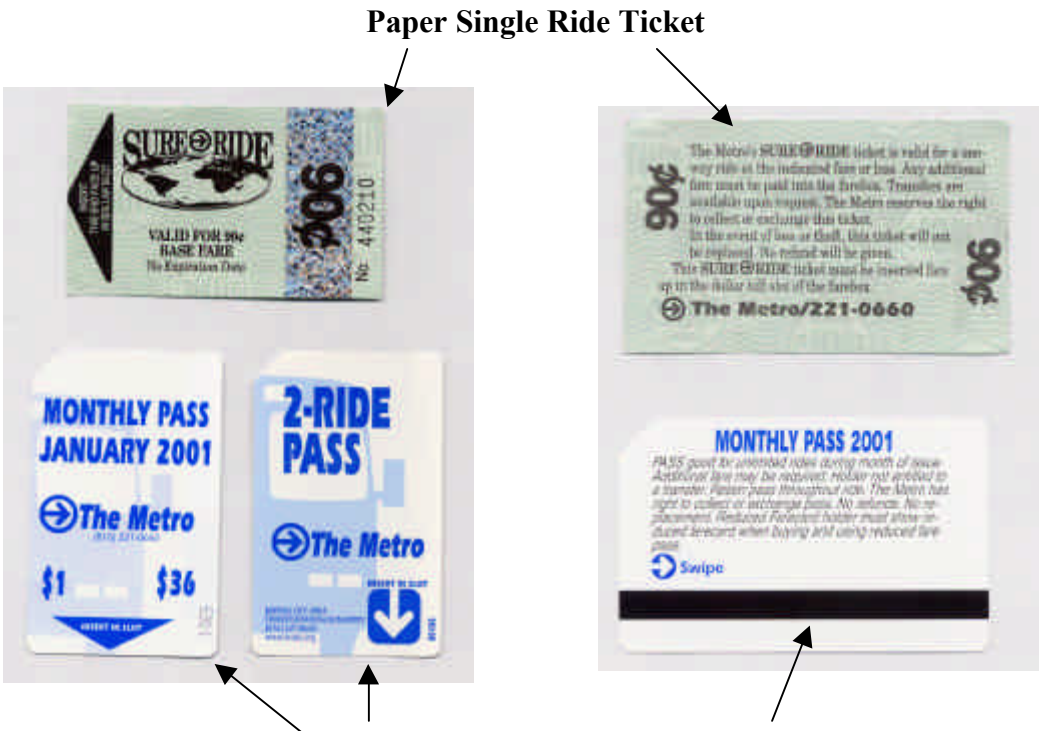
Fare media includes tickets and passes. It allows riders to pay fares in advance (i.e., "prepaid fares") and is offered as a convenience to the rider. Prepaid fares also builds system loyalty. Once a given fare medium is bought, the rider is more likely to feel obligated to ride the system for the life of the mechanism than someone who routinely pays cash only. In addition, prepaid fare media is one way for employers and social service agencies to help subsidize employees and clients. Employers and agencies may agree to pay some portion of the media's cost and the recipient the balance. Often this subsidy can be an incentive to ride the system.

These are typical fare media:

- Single Ride Tickets -- allows purchaser to ride the bus upon presentation of the ticket.
- Multi-ride tickets or punch cards-- similar to the single ride ticket, but allows multiple rides. The rider either tears off a ticket and gives to the driver or a card is "punched" deducting a ride.
- Weekly and/or monthly passes -- where the holder is allowed to ride during a time period specified on the pass.

See Figure 6 for samples of these media.

Figure 6: Samples of Various Prepaid Fare Media



Bus drivers can sell these media on the vehicles. More typically they are sold through "outlets" such as City Hall, retail locations such as grocery stores, drug stores, and banks sometimes participate. Fare media are usually priced at a discount versus the equivalent number of rides paid with cash. The discount is usually larger on the greater value media (such as monthly passes). For example, a monthly pass is usually equivalent to 42 monthly rides (21 days, two rides a day). At a fare of $.50 this is worth $21 per month. The system might sell a bus pass for $18, a $3.00 discount (14.3%) versus the cash payment.

Setting up outlets can be challenging for both the system and the outlet itself. Accounting procedures for sold and unsold media, collection of payments, and the degree of burden perceived by the outlet are issues to overcome. However, prepaid fares are valuable to any system. Sometimes outlets are given a "commission" of maybe 1 or 2 percent of the value of media sold. This provides some additional incentive to carry the media.

Given that most riders will likely be KSU students (who would use their ID for rides) the number and type of fare media should be minimal. A single ride ticket for full and half fares, and a monthly pass for full fares should be sufficient to start off with.

Customer Complaints and Inquiries

System complaints and inquiries should be directed to City staff. It will be a mechanism for the City to ensure the quality provision of service. A standard form should be developed that will list the date of the complaint, name of person lodging the complaint, information regarding the nature of the complaint (e.g., fare related, driver courtesy, safety, maintenance), and when and where the incident took place. As much as possible, specific information should be gathered. The staff should keep track of the number of complaints and by type. This information should be part of routine system reporting and performance monitoring.

As with any other customer service function, complaints should be addressed promptly with the caller given the benefit of the doubt. A response in writing within 48 hours would be a good standard.

System Financing

No transit system in the United States completely pays for its operations from fares. All receive some kind of subsidy. There are six basic sources of funding available to the City of Manhattan, including:

- City of Manhattan and/or Riley County
- Kansas State University student fees and/or parking fees
- Kansas State University general fund
- City/University Project Funds
- State funds

- Federal funds

Once a transit system is in operation, advertising and contract services are potential revenue sources although they typically generate an extremely small percentage of funding needs.

City of Manhattan and/or Riley County: The needed subsidies could be paid through appropriations from either the City or County. The source of revenue could be general funds or through a special tax levied by either governmental unit. Property or sales tax levies are examples. According to market research done for this plan, there is strong support for a tax increase. See Figure 7.

KSU Student Fees and/or Parking Fees: A potential source of funding would be through KSU. A university/city partnership in support of public transportation would be beneficial to all parties. KSU has a perceived parking problem. A municipal bus system could help KSU free up spaces and reduce the need for additional parking. Since the university would be a significant destination, the partnership should be viewed as a win-win. According to market research done with this implementation plan, there is strong support from students to support a transit fee. See Figure 8.

KSU General Fund: Instead of a direct fee to students, faculty, and/or staff on campus, funds could possibly be budgeted through the general operating program of the university.

City/University Project Funds: A public transportation system deemed beneficial to both the City and University would certainly be eligible for this program.

State Funding: Potential funding from the state has been virtually non-existent in the past. The 1999 Comprehensive Transportation Act did increase state funding of public transportation from $1 million per year to $6 million per year. Approximately one-third of that amount would be made available to rural areas and cities under 50,000 population.

Figure 7: Support for Public Transit Tax

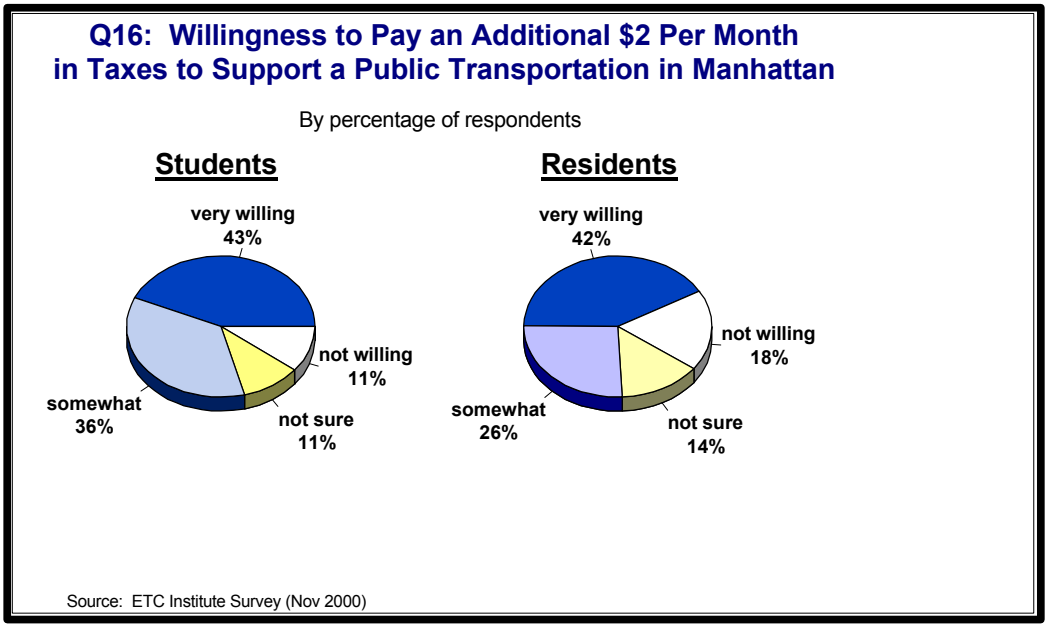
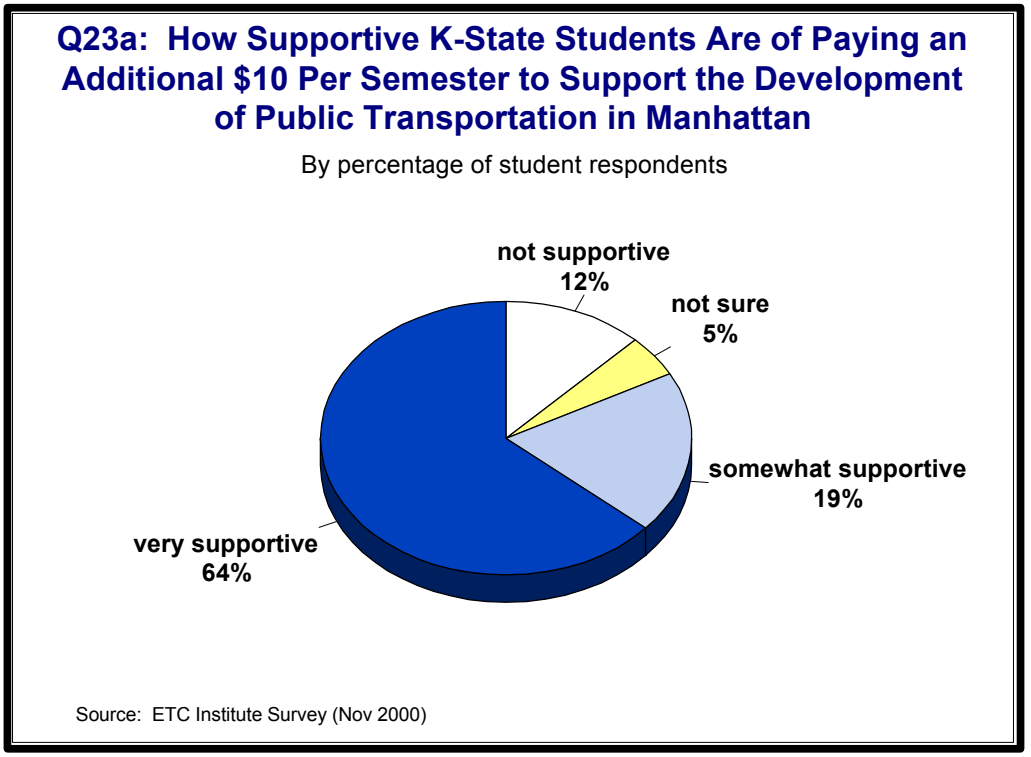


Figure 8: Support for K-State Student Transit Fee



Federal Funding: The federal government has participated in financing transit operating and capital needs for nearly 35 years. For urbanized areas with a population of less than 50,000, federal funds flow through the state and are distributed at the state's discretion. Communities larger than 50,000 population are allocated funds directly.

If Manhattan were an urbanized area with a population greater than 50,000, it could receive approximately $400,000 to $500,000 annually under Section 5307. These funds could be used to finance either or both operations and capital costs. Typically, federal funds can only be used to pay for 50 percent of the system subsidy. The funds can fund up to 80 percent of capital costs. Special initiatives such as Job Access (introduced in TEA-21) might also provide grants periodically. Finally, for fiscal year 2002, the State of Kansas is pursuing on behalf of Manhattan over $1 million in federal discretionary funds. Even with federal aid, additional funding sources would be necessary.

Section 3: Service Plan and Budget

This Section discusses the services to be provided as part of a Manhattan public transit system. Presented is a description of services, detailed routes and schedules, a discussion of vehicle type, as well as a description of facilities needed.

The basic elements of the plan are:

- The basic citywide system would consist of two routes as illustrated earlier in the Figures 1 and 2. This service would be proposed to be primarily funded in combination by the City, K-State student fees, as well as federal and state sources.
- "Bramlage Park and Ride Shuttle" would also be operated through the citywide system. The route was shown earlier in Figure 3. The shuttle would be paid exclusively by K-State. The shuttle would operate during the academic year only, Monday through Friday from about 6:00 AM to 6:00 PM at a ten minute frequency from 7:00 AM to 10:00 AM and from 2:00 PM to 5:00 PM with twenty-minute frequency at other times of the day.
- An "Aggieville Special" is proposed to provide transportation from the Aggieville area to the campus as well as areas to the east and west of the campus. See, again, Figure 4. The service would operate as a flexible (deviated fixed route) service, with an hourly frequency. The service would operate during the academic year only, Friday and Saturday evenings from about 10:00 PM to 2:00 AM.

Routes and Schedules

The services are divided into two groups: citywide and campus. The citywide services include two fixed routes, a deviated fixed route named the "Aggieville Special" and paratransit operations provided under compliance with the Americans with Disabilities Act (ADA). With the exception of the Aggieville Special, these services operate seven days a week, year-around. The Aggieville Special only operates Friday and Saturday nights during the academic year. The campus service consists of the Bramlage Park and Ride and would be operated under contract with the Parking Division of Kansas State University. This Section does not discuss the paratransit operation. A complete discussion of the paratransit operation is given in Section 5 of this plan.

Appendix C contains the operating schedules of the two citywide routes, the Bramlage Park and Ride and the Aggieville Special. The appendix also contains "turn-by-turn" descriptions of the routes. The operating schedules show each scheduled trip as well as time points along the trip. A time point is a location used by drivers and riders to estimate the arrival of the bus at any point along the route. It is not the only place where a bus can stop. However, it is a point where significant boardings could occur. A rider waiting for a bus in between time points needs to simply estimate how far he or she is between time points and likewise estimate the bus arrival time.

- Route 1--Candlewood/Northview-- connects the City's northwest area at Candlewood and Kimball with the northeast area at Northview. The route runs through KSU joining the other services at the KSU Union at Anderson and Mid-Campus Drive.
- Route 2-- Stagg Hill/Wal-Mart -- connects the City's southwest area known as Stagg Hill with the east side at Wal-Mart and the East Industrial area. As does route 1, it goes through KSU at the Union.

Routes 1 and 2 are designed to meet at the Union at :20 and :50 past the hour on weekdays between 6:00 AM and 6:00 PM. During evening and weekend operations, services meet either at :20 or :50 minutes past the hour depending on the route and its direction of travel. The Bramlage Park and Ride meets routes 1 and 2 at the Union. When the service is operating at a ten-minute frequency, it will connect at :20 and :50 minutes past the hour with routes 1 and 2. When operating at a twenty-minute frequency, it will meet the other routes at :20 past the hour. It will also arrive on the hour as well as :40 minutes past the hour--providing only a ten-minute transfer wait for the :50 past the hour trips.

Table 4 summarizes key data about each route by day of week.

Table 4: Summary Operating Statistics

Route--Name	Daily Revenue Hours			Daily Revenue Miles		
	Weekday	Saturday	Sunday	Weekday	Saturday	Sunday
1 -- Candlewood/Northview	27:56:00	15:58:00	8:58:00	417	246	134
2 -- Stagg Hill/Wal-Mart	28:00:00	15:52:00	8:51:00	426	243	137
Aggieville Special*	4:48:00	4:48:00		48	48	
Bramlage Park and Ride**	18:08:00			231		
Totals	78:52:00	36:38:00	17:49:00	1,122	537	271

** Friday and Saturday evenings, academic year only.*
***Academic year only.*

Daily revenue hours and miles are shown. Revenue hour and miles are the time and distance operated by the service according to the schedules in Appendix C. For Route 1--Candlewood/Northview, the Table shows that 27 hours, 56 minutes of revenue hours are operated daily Monday through Friday. On Saturdays, just under 16 revenue hours are to be operated. And on Sundays, just under 9 revenue hours are supplied. Similarly, the route drives 417 miles per day, Monday through Friday, 246 miles on Saturday, and 134 miles on Sunday. This data, together with the schedules in Appendix C is crucial for budgeting purposes and should be supplied in any kind of procurement of services.

The citywide services are designed to operate year-around with the campus service operating during the academic year. Table 5 shows the number of annual operating days assumed for each service.

Table 5: Annual Operating Days for Transit Services

Service	Day of the Week/Annual Operating Days		
	Weekdays	Saturday	Sunday
Route 1	255	52	58
Route 2	255	52	58
Aggieville Special	32	32	0
Bramlage Park and Ride	170	0	0

For routes 1 and 2, the Table indicates that they would operate 255 weekdays a year, 52 Saturdays, and 58 Sundays. The Aggieville Special would operate on Friday and Saturday evenings only. This equates to 32 Fridays and Saturdays per year. Finally, the Bramlage Park and Ride only operates weekdays during the academic year or 170 days annually.

On-Street Supervision

On-street supervision is a form of quality control. In a typical business, managers carry out quality control. For many businesses, this is made easier by the fact that managers are typically near their employees. For obvious reasons, drivers on the street, are far from the casual and formal observations of system management. While the vast majority of drivers are conscientious, they can sometimes run into situations that they cannot handle alone. Drivers needs someone to call on for questions and assistance. One method is through the radio dispatcher at the operating facility. Another avenue is *on-street supervision*. This is someone who is actually driving the routes and simply observing driver activity. In addition, this person can personally assist the driver with virtually any problem. In larger operations, this "road supervisor" is a dedicated staff member. In a smaller operation it will likely be the operations manager, though a driver trainer may play the role. In a smaller operation, the supervision need not be continuous. It is important that supervision occur on a regular enough basis to make it a credible function. This Section outlines the functions of road supervision in providing quality control.

Quality control falls into two broad categories: maintaining service reliability and maintaining service professionalism. Reliability covers schedule adherence and service interruptions (as from driver absenteeism, accidents, customer disputes, road and traffic conditions, as well as vehicle breakdowns). Professionalism covers the courteousness of service personnel (typically the driver and road supervisor) as well as the physical appearance of the vehicle and how well personnel perform their duties (such as having proper route signage and wearing seat belts).

One of the key indicators of reliability is “schedule adherence.” Also known as “on-time performance," schedule adherence is one of the more immediate facets of bus service that the everyday rider notices. While safety is always a concern for bus operations, riders want service that operates on time. One of the major roles of the road supervisor is to make sure vehicles operate on time. Monitoring the reliability of service should be done by formal and informal time checks. Formal time checks are normally based on random sampling of key time points to determine actual versus scheduled arrival times. Data from all observations should be compiled and reviewed to determine trouble spots or operators that have repetitive problems. Appropriate actions can then be taken. For example, drivers who are running late or early could be counseled or, as needed, retrained.

Through the normal course of duty, it is the supervisor’s job to observe operations and to react to unfavorable events, such as a late bus. Once a trip is late, the supervisor has a number of options depending upon the reasons for the late trip and where on route the bus is located. She or he can allow the driver to recover the schedule at the end of the line, or he can short turn the bus and reassign another vehicle to cover the remainder of the route. In Manhattan, this later action may not always be possible, but can be a tactic used during off-peaks service times (such as weekends and evenings).

Service professionalism refers to customer service skills as well as safe driving skills. In difficult customer disputes requiring personal intervention by the road supervisor, the supervisor can get a first hand assessment of the driver’s customer skills. Drivers with repeated issues may be candidates for retraining or discipline and termination. Safe driving habits can also be observed through following the bus on its route or actually riding in the bus with the driver. Watching to see the driver using signals for lane changes, following other vehicles at the appropriate distance, and observance of traffic control devices is among the things the supervisor would look for in a safe driver.

In contracting for services, Manhattan should pay attention to how a vendor provides these road supervision services. In addition, the City transit administrator should also take time to provide observations of operations. The road supervision function is important but can also be easily avoided by managers who perceive that they cannot leave the office.

Operating Revenue and Fare Policy

Operating revenue are cash in-flows to the system from services. This includes the fares collected from riders. But it can also include ancillary revenue from chartering buses and advertising.

Fare Policy

Fare policy consists of not only the amount to be charged for the service, but how people should pay, and when.

The proposed fare structure is in Table 6.

Table 6: Fare Structure

Category	Amount	Comments
Adult	$1.00	Primarily residents of Manhattan who are not KSU Students. Would include faculty and staff. Monthly passes would be sold that would effectively discount fares to $.50 a ride for pass users.
Youth (6 to 18)	$0.50	Potentially an important market.
Senior Citizens and Persons with Disabilities	$0.50	Under federal law, must be no more than half-adult fare during off-peak periods of travel.
KSU Students	Free upon presentation of ID	Non-KSU students would pay adult fare.
Children Under 6 years of age	Free	Normally, a fare-paying customer is expected to accompany the child.
Transfers	Free	A transfer is a receipt that allows the holder to ride another route without paying an additional fare. Time limit on its use; allowed for travel in any direction.

Fares are typically paid upon boarding. Transfers are usually issued at that time as well. Prepaid fare mechanisms can substitute for cash fares. Normally, fares are deposited by the rider into a farebox and not usually handled by the driver. Fares need to be exact, no change given.

The fare structure in Table 6 would be expected to generate about $61,000 in revenue. Alternative fare structures are shown in Table 7 along with estimated revenue. There are two changes in fares shown. The changes: adult fares is $1 with no discounted prepaid fares; a fare at half the amounts in Table 6 (with no discounted prepaid fares assumed). One alternative scenario shows the impact of the fare increase with no discounting of prepaid fare media[8]. The second shows the impact with a 50 percent reduction in the later fare.

Table 7 shows that revenues, compared to the base case, would increase under with the $1 fare (no discount passes) structure alternative. However, ridership is also likely to decrease. The Table also shows a lower fare, with conversely higher ridership.

Ancillary Revenue

[8] See Section 2, System Marketing under customer service for a discussion of prepaid fare media.

The City can generate revenue from the chartering of its vehicles as well as through the selling of advertising. Chartering is generally restricted under federal regulations. Federal regulations prohibit systems from soliciting charters directly to end-users. However, it is permissible for private companies to contract with municipal systems for the use of the systems vehicles. The revenue generated from that relationship could be a source of funds for the City. It is difficult to estimate how much revenue the City could secure through such an arrangement.

Table 7: Estimated Revenue from Alternative Fare Structures

Category	**Low Fare Option** No discounted prepaid fares	**High Fare Option** No discounted prepaid fares	**Proposed Fare** with 50% discounted prepaid fares
Adult	$0.50	$1.00	$1.00
Youth (6 to 18)	$0.25	$0.50	$0.50
Senior Citizens and Persons with Disabilities	$0.25	$0.50	$0.50
KSU Students	Free upon presentation of ID	Free upon presentation of ID	Free upon presentation of ID
Children Under 6 years of age	Free	Free	Free
Transfers	Free	Free	Free
Estimated Annual Revenue	$40,000	$70,000	$61,000
Estimated Annual Ridership	163,000	148,000	153,000

In addition, revenue can be generated from the sale of on-bus advertising. This involves placing signage on the exterior and interior of the vehicles. Some exterior advertising can be quite creative using "wraps." Wraps essentially dress up the entire vehicle using colorful graphics, such as making the bus look like a football or some other object. Typically, systems will work through a vendor to sell advertising on the vehicle. According to one such vendor, Manhattan could generate about $15,000 to $20,000 annually from bus advertising. If beer advertising were allowed, the revenue would jump from $40,000 to $50,000. In addition, advertising space on passenger shelters could be sold for about $3,000 to $4,000 annually per shelter. The downside of shelter advertisement is community aesthetics. There are also conflicts with sign ordinances as well.

If the City were to pursue bus or shelter advertising, Manhattan, in concert with the University, should consider an advertising policy that allows control over content before any advertising is sold. An advertising policy is legally challenging for public entities as First Amendment issues can come in conflict with community values.

Vehicles

The basic vehicle recommended for the fixed route operation is a forty to forty-five passenger capacity, heavy-duty, ten-year bus. The bus used for budgeting purposes is Blue Bird's CSRE 3904 model made by the Blue Bird Corporation of Macon, Georgia. See Figure 9 for a similar vehicle. However, other firms make comparable vehicles.[9]

The general specifications for the Blue Bird vehicle are[10]:

- Altoona-tested as a ten-year, heavy-duty bus[11]
- Wheelchair lift equipped (standard wheelchair lift)
- Two wheelchair tie-down positions.
- Rear-engine, diesel[12]
- Air Suspension
- 100 gallon fuel tank capacity
- Length: 477.4 inches
- Width: 96 inches
- Height: 120 inches
- Wheel Base: 277 inches
- Interior height: 76 inches
- Interior width: 90.5 inches
- Floor Height: 38.35 inches
- Step Height: 13.8 inches

The Blue Bird specification is intended for descriptive purposes only and not to be considered a product endorsement by TranSystems Corporation. It is not intended to exclude vehicles with different features but with similar performance results. Delivery time for vehicles is about six to nine months.

In addition, a "cut-a-way" vehicle similar to the Champion Crusader model is recommended for the paratransit operation. That type of vehicle is about 22 feet long, 7 feet wide, and can carry up to 14 ambulatory people. With four-wheelchair tie down positions, about four ambulatory passengers can be carried. Delivery time is about four to six months from time of order. See Figure 10.

CNG Powered Vehicles

[9] Among them are: Thomas Built Buses, Inc. Of High Point, North Carolina and El Dorado National of Salina, Kansas.
[10] From 1997 promotional brochure produced by the Blue Bird Corporation.
[11] Altoona Testing is a requirement for vehicles acquired or leased with federal funds.
[12] CNG engines are also available. Rear engine is not mandatory, though it allows more space for boarding and exiting the bus.

There are three types of fuel sources under consideration for Manhattan transit. The first is diesel powered, which is typical for bus transit operations. The second is electric and hybrid electric. The third fuel type is "compressed natural gas" or CNG. The assessment of electric and hybrid electric is being conducted for the City by Santa Barbara Electric Transportation Institute under contract to the Electric Power Research Institute (EPRI)[13]. These sub-sections compare CNG fueled buses with diesel fueled buses.

CNG Background

Though the main fuel source for transit buses is diesel fuel, CNG is a popular alternative fuel for transit systems in the United States. According to the American Public Transportation Association (APTA), out of 4,069 non-diesel fueled vehicles operating among APTA members, over half are CNG powered.[14]

In addition, the City of Manhattan has made an investment in CNG power for some of its municipal vehicles. It has a fueling station located at Juliette Street and Fort Riley Boulevard and has collected a good knowledge base for this type of fuel. The balance of this discussion on CNG will focus on the transit application of that fuel source.

[13] EPRI is associated with electric power utility companies.

[14] *Public Transportation Fact Book, 51st Edition*, American Public Transportation Association (March 2000), Table 50, page 90. According to the same source, about 93 percent of surveyed transit systems (representing 67 percent of all buses) are diesel powered.

Figure 9: Sample of Heavy Duty, Ten-Year Bus

Figure 10: Sample of "Cut-A-Way" Paratransit Vehicle

CNG: Advantages and Disadvantages for Transit Operations[15]

For transit operations, CNG has these advantages:

- Low emissions
- Plentiful and readily available fuel source
- Easily adapTable to bus applications
- Until recently, fuel prices on a per gallon basis was lower with CNG than diesel. According to the City of Manhattan, when it first opened the CNG station, the fuel cost was an equivalent of $0.50 per gallon. Estimated diesel fuel cost was approximately $1 including federal taxes (but excluding state fuel tax).
- Engine durability has been reported to be similar to an equivalent diesel engine.
- Widely used in the transit industry, thus is a somewhat proven source of fuel.

CNG has these disadvantages:

- Capital expense for a fueling station is high. The City facility cost is about $260,000. Because of space limitations, the facility was not designed accommodate buses. It is not certain whether site modifications could be made for buses.[16]
- Acquiring a larger bus with CNG engine adds about $20,000 to $25,000 to the cost of the vehicle. The smaller paratransit vehicle CNG engine would be an additional $2,500 to $5,000.
- Fuel prices (in 2001) are higher for CNG. Per the City of Manhattan, recent purchases of CNG fuel run an equivalent per gallon cost of $1.58 versus $1.19 for diesel.
- Equivalent "miles per gallon" on CNG for transit bus has been slightly lower than for a diesel bus.
- Engine maintenance costs have been reported to be the same, and in many cases, slightly greater than for a diesel engine.

Passenger Amenities and Operating Facilities

This sub-section discusses key, non-bus capital items. These include passenger amenities and an operating facility. The discussion for both of these items is broad.

[15] This discussion is derived from *TCRP Report 38: Guidebook for Evaluating, Selecting, and Implementing Fuel Choices for Transit Bus Operations*, Transportation Research Board, 1998, pages 11 through 24, *en passim*.

[16] Another alternative is the use of mobile fueling sources. However, no firm has that capability in Manhattan. It would likely require the purchase of a mobile fueling system.

Passenger Amenities

There are three main types of amenities: passenger waiting shelters, benches, and information devices. The purpose of these amenities is to make the experience of using the bus service as "user-friendly" as possible. Bus stops with shelters and benches increase the comfort of waiting for the bus. Information devices such as kiosks and information signposts give the rider knowledge in how and where to use the system, making the experience less intimidating.

Shelters and Benches

Shelters come in a variety of sizes and designs. Figure 11 illustrates different shelter types and one bench type from one manufacturer.[17] All shelters require concrete or other hard surfaces. A hard surface pathway from the shelter to the curb and from the shelter to a sidewalk is also recommended. See Figure 12 for an example of a bus stop layout with a shelter.

The following paces are recommended for shelters along with approximate shelter size in feet:

1. Sarber and Hayes (Wal-Mart) –4 feet by 10 feet
2. KSU Union – 5 feet by 12 feet
3. Plaza West – 4 feet by 8 feet
4. Stagg Hill (Allison/Don Dee) – 4 feet by 10 feet
5. Kimball/College (eastbound on Kimball) – 4 feet by 8 feet
6. Sunset/Platt (hospital)— 4 feet by 10 feet

Some possible bench locations include:

1. 11th and Poyntz (both directions)
2. 4th and Leavenworth (both directions)
3. Allen and Beck (westbound direction)
4. 12th and Bluemont (westbound side)

Information Devices[18]

Information devices include kiosks and information signposts. Figure 13 shows a typical signpost. They typically contain arrival and departure times at the specific location. They can also contain a route map, fare information, as well as general "how to ride" information. Signposts can accompany shelter locations as well as other places.

[17] As with the bus discussion, the use of a specific manufacturer is for illustrative purposes and not intended as a product endorsement by TranSystems Corporation.

[18] As with the bus discussion, the use of a specific manufacturer is for illustrative purposes and not intended as a product endorsement by TranSystems Corporation.

These are recommended signpost locations:

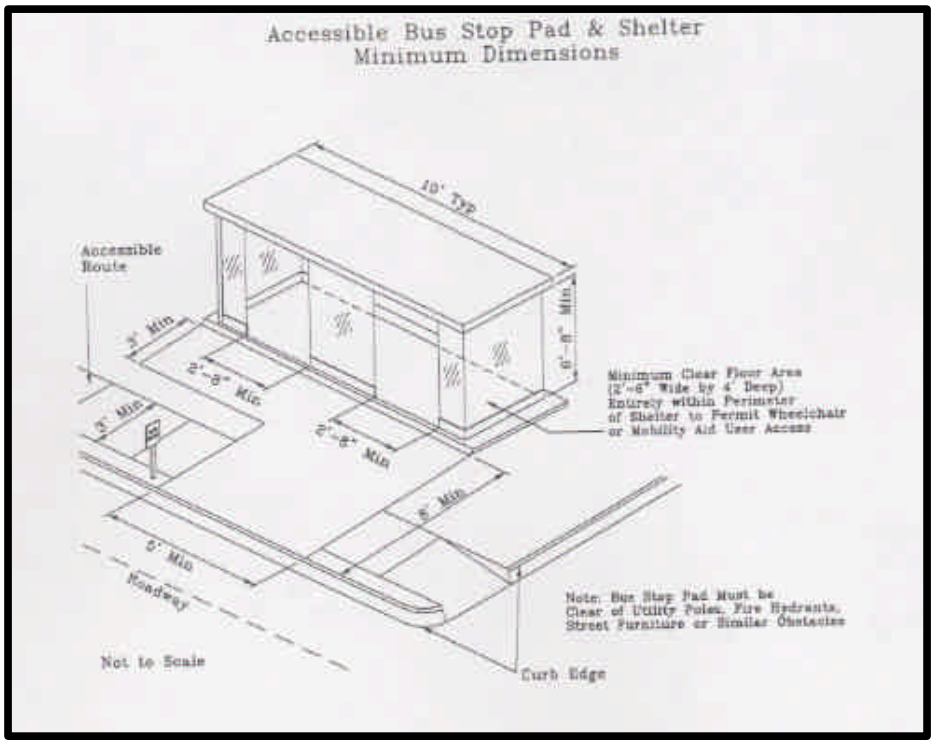
1. KSU Union (three-sided Kiosk)—Anderson at Mid-Campus Drive
2. Allen Road/Hayes Drive
3. Hays Drive/Sarber (Wal-Mart)
4. 4th Street and Leavenworth
5. Claflin and College
6. College and Kimball
7. Abbey and Candlewood
8. 3rd and Poyntz (Manhattan Town Center Plaza area)
9. 11th and Poytnz
10. Plaza West Shopping Center
11. Red Bud and Seth Childs
12. Allison and Don Dee
13. Bramlage Stadium
14. Kimball and Denison
15. College Heights and Denison
16. 12th and Bluemont (westbound)

Most locations would have two signposts (one for each direction). These would have one at the location: Abbey and Candlewood; Red Bud; Allison and Don Dee; 12th and Bluemont.

Figure 11: Illustration of Passenger Waiting Shelter and Bench

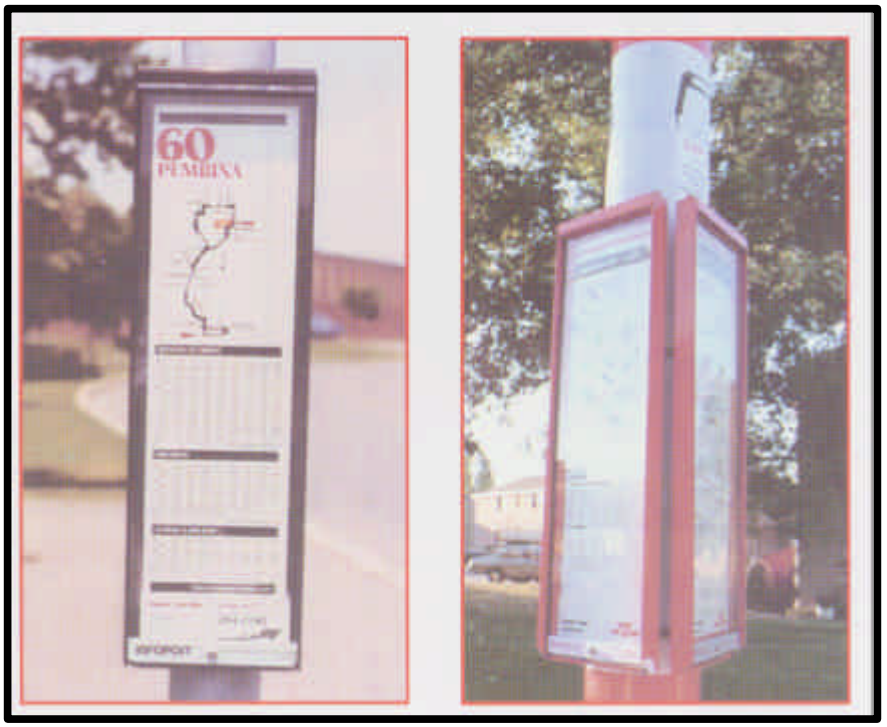
Source: Daytech Manufacturing Inc.

Figure 12: Conceptual Design of Passenger Shelter at Bus Stop



Source: Transportation Research Board, *TCRP Report 19 – Guidelines for the Location and Design of Bus Stops* (1996), page 62 (Figure 28).

Figure 13: Bus Stop Information Signpost



Source: Daytech Manufacturing Inc.

Operating Facilities

This Section describes the generalized requirements for an operating facility should the City wish to operate services itself, supply a vendor with a facility or to use this as a basis for evaluating the adequacy of facilities proposed by prospective operators. An operating facility would have these functions:

- Storage and maintenance of revenue vehicles
- Provide a location for dispatch and general offices for the operation
- Provide a location to train new drivers

Figure 14 shows an ideal site layout for a transit facility. To accommodate 15 vehicles, about two to four acres of space would be needed. The combination of the administration/maintenance building and covered storage of vehicles would consist of about 13,000 square feet. It would cost about $1.65 million to build the facility, not including land costs. Appendix D contains details on the space and costs of a typical facility.

Operating and Capital Costs

This presents several tables with operating and capital costs for a Manhattan transit system. Table 8, following the figures, presents these costs:

- Operating Costs estimating what a private, turnkey operator would charge the City to provide services. These costs are separated for the Bramlage Park and Ride and the citywide system. The citywide service includes costs for paratransit operations.
- Capital Amortization showing costs for vehicles and various passenger amenities. This assumes the City leases the vehicles and buys the amenities.
- System Administration are costs associated with managing the operating contract with a private vendor as well as executing the grant, marketing and reporting aspects of the service.

Turnkey Private Operations Costs

These are the key factors used to calculate the costs of a turnkey transit system:

- Driver Labor
- Vehicle Maintenance
- Operations Management
- Operating Amortization

Figure 14: Idealized Operating Facility Layout

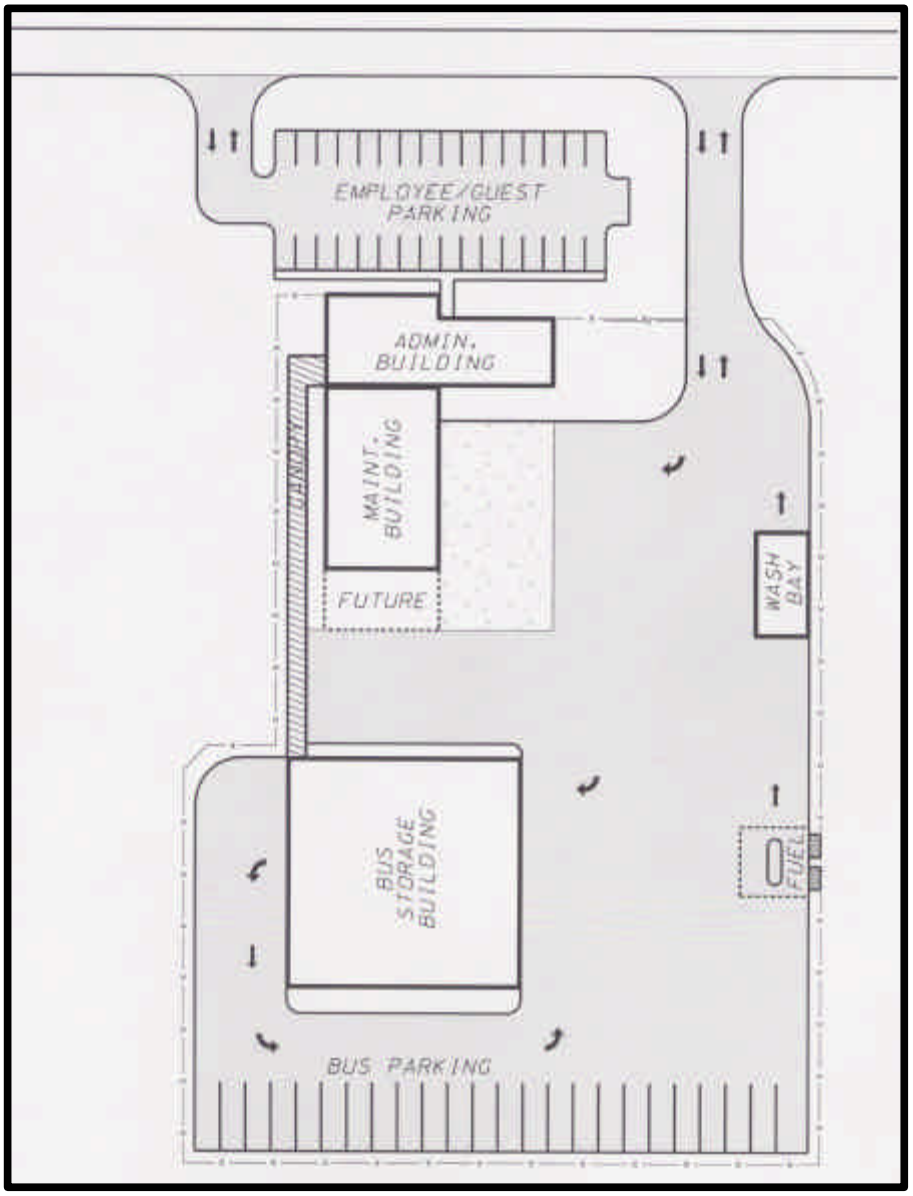


Table 8: Projected Annual Operating and Capital Costs

Category/Item		Base Assumptions	Amount		
			Citywide	Bramlage	Total
Driver Labor					
	Wages	*$10 hour wage/20 drivers*	$ 276,989	$ 39,430	$ 316,419
	Benefits and Taxes	*Group Health insurance; FICA, drug and alcohol testing*	43,156	6,798	49,954
	Sub-Total		$ 320,145	$ 46,228	$ 366,373
Vehicle Maintenance					
	Wages	*One lead mechanic at $12.50/hr; 2 full time helpers/cleaners and one part time helper at $8 per hour.*	$ 55,780	$ 13,945	$ 69,725
	Benefits and Taxes	*Group Health insurance; FICA, drug and alcohol testing*	11,905	2,976	14,881
	Fuel	*$1.25 gallon/diesel-- assumes city buys fuel*	78,804	10,884	89,688
	Parts	*511,000 annual miles*	61,088	10,855	71,943
	Sub-Total		$ 207,576	$ 38,661	$ 246,237
Operations Management					
	Wages	*On-site manager (35K), 3 dispatchers($10.50/hr), 2 clerks ($10/hr)*	$ 116,922	$ 29,230	$ 146,152
	Benefits and Taxes	*Group Health insurance; FICA, drug and alcohol testing*	25,989	6,497	32,486
	Vehicle Insurance	*$2,475/ vehicle*	21,776	5,444	27,220
	Facility Lease and Utilities	*Five year lease; estimated*	49,920	12,480	62,400
	Corporate Overhead	*Estimated*	16,000	4,000	20,000
	Other	*Office expenses, audit*	21,684	5,421	27,106
	Sub-total		$ 252,291	$ 63,073	$ 315,364
Operating Amoritization					
	Office and Facility Capital	*Computers, office equipment, furniture*	$10,618	$ 2,655	$13,273
	Operations Start-Up	*4 month process*	38,453	9,613	48,066
	Sub-total		$49,071	$ 12,268	$61,339
Profit *(not including fuel)*	10%		83,364	16,594	99,958
Grand Total Operations			$912,448	$176,823	$1,089,271

Table 8 continued

Table 8 continued

Category/Item	Base Assumptions	Amount		
		Citywide	Bramlage	Total
Capital Amortization				
	Assumes city acquires assets			
Vehicles	*7 heavy duty, diesel buses (10 year life) @ $185,000 at 6.5% interest* *3 paratransit diesel vehicles (4 year life(@ $50,000 at 6.5 % interest*	$172,457	$51,469	$223,926
Passenger Amenities	*6 shelters ($5,000 each), 6 benches ($500 each), 34 info sign posts ($100 each),* *1 3-sided kiosk (at Union)*	8,783	2,196	10,979
Total		$181,240	$53,665	$234,905
System Administration				
Transit Manager	*$40,000 annual salary*	$ 44,062	$ 11,016	$ 55,078
Marketing Expenses	*incl bus schedules/maps, newspaper advertising, direct mail*	17,932	4,483	22,415
Other	*Office expenses, travel, trade association membership*	14,160	3,540	17,700
Total		$ 76,154	$ 19,039	$ 95,193
Total Annual Cost of Services		$ 1,169,842	$ 249,526	$ 1,419,369

Driver labor includes all expenses associated with the people who drive the buses. This includes wages, benefits, and taxes. It also includes time spent in driving the bus, preparing the bus to be driven, returning the bus to its garage, as well as the on-going training of bus drivers. Obviously, a major factor in calculating driver labor is the wage rate. That rate needs to reflect the labor market for semi-skilled employees. A rate too low will mean the operation will not have enough labor or will draw upon people who may not be suited to be drivers. A rate too high means the City is ultimately overpaying for service. The rate is somewhat above the local market for drivers. The current entry rate for drivers is about $8 per hour. The rate used for Manhattan is $10 per hour. It is higher because local operators are experiencing difficulty in securing drivers at the entry rate. A higher than average rate should allow the private operator to attract and retain quality applicants.

Vehicle maintenance reflects all activities designed to keep the bus functional during its useful life. This includes everything from oil changes to repairing body damage to changing tires to simply washing and cleaning the vehicle. For number of miles of service that would be operated for Manhattan, one full-time mechanic is needed. Two full time and one part time mechanic helpers/service workers are also included to keep buses clean and fueled. Further, the staff of four people will ensure that someone is on duty during regular service hours. In addition, the cost of fuel and parts is an on-going expense. In the early years of the service parts expenses will be minimal. As time goes on and the mileage on vehicles increases, maintenance expenses will increase. The costs estimates used in the plan assume an average cost over an initial five-year operating contract. It is assumed the City would buy fuel and "drop ship" delivery to the vendor's facility. This way, the cost of fuel taxes will be avoided. Further, the City may benefit from a larger bulk purchase of fuel that would come with the transit system.

Operations management includes activities not included in driver labor and vehicle maintenance. These activities are supportive in nature to a transit operation:

- On-Site Manager – the functional head of the operation and reports to the City transit manager.

- Dispatchers – people who have radio contact with the vehicles on the street and help drivers with problems. This includes troubleshooting passenger inquiries to handling accidents to redirecting buses due to road closures and other things that happen on the street. They also make sure all driver assignments are filled.

- Other Expenses – include costs such as vehicle insurance, office supplies, facility leases, and any corporate overhead expenses (including profit) charged by a private operator. Capital includes the cost of vehicles, the cost of preparing a facility for an operation, as well as start-up costs. The cost of vehicles includes the actual price paid plus any interest associated with financing the vehicle. Facility preparation includes acquiring office furniture, computers, phones, as well as

anything associated with getting the facility painted, cleaned, and otherwise ready to be occupied.

Operations Amortization includes operating start-up expenses of the private operator as well as initial facility and office related capital items. Operating start-up costs include paying for initial driver training as well as other personnel who spend time getting the service going. Facility and office items include the purchase of office furniture and equipment as well as an operations vehicle to ferry drivers for relief as well as to make minor road calls. Costs are expressed in annual terms amortized over a five-year period.

Capital Amortization

Capital amortization includes vehicles and passenger amenities acquired by the City. It is recommended that the City leases or owns the vehicles for two reasons. First, being a tax-exempt entity, the City can acquire financing less expensively than a private operator can. This amounts to cost savings.[19] Second, leasing or owning a key asset such as a bus ensures that the City can step in for a vendor that turns out not to meet City requirements.

Vehicles: Included seven vehicles for the fixed route operation and three vehicles for the paratransit service. This includes one spare vehicle for each type of service for a total of two spare vehicles. The unit price of the fixed route vehicles is assumed to be $185,000. This price includes a two-way communications radio as well as a simple farebox. The bus is similar to the described in the draft implementation plan. The unit price of the paratransit vehicle is assumed to be $50,000.

Passenger Amenities: Include passenger waiting shelters, benches, and information sign posts. These were described earlier. Costs assume the City finances the purchase of these through some tax-exempt instrument. Costs include installation of a concrete pad for shelters and benches. The recommended locations were also described earlier and are places anticipated to have relatively heavy boarding activity.

System Administration

This includes the cost in overseeing the operations as well as meeting funding and community expectations for the transit system. These expectations include grant application and grant management, interaction with elected and other officials, basic planning and marketing of the system.

The costs assume:

- One City employee designated as a transit manager.
- Marketing expenses including: printing of route map/schedules, promotional items, printing of fare media, two half-page advertisements in two local papers, one direct

[19] The cost of a private operator to buy or lease the vehicles would be about 10 percent higher or $24,000 annually.

mail marketing campaign, and maintenance of a web site containing scheduling and service information.

- Other includes basic office expenses plus travel and trade association membership.

Table 8 showed that the overall service (the combination of the Bramlage and citywide services) would cost about $1.42 million. The city portion of this cost is about $1.17 million with the Bramlage share at about $250,000.

In addition to the above-annualized costs shown in Table 8, a five-year projected cost including pre-service expenses that would be borne by the City are shown in Table 9 along with funding sources. Table 8 is in year 2001 dollars. Table 9's year 1 numbers are also in year 2001 dollars.

Table 9: Five-Year Projection of Revenue, Costs, and Funding for Manhattan Transit System

	Service in Operation						
Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	**Total**
Revenues							
Passenger Fares		$ 61,000	$ 62,220	$ 63,465	$ 64,734	$ 66,029	$ 317,447
Costs							
Operating Expenses		$ 1,089,271	$ 1,121,949	$1,155,608	$ 1,190,276	$ 1,225,984	$ 5,783,088
Capital Amortization		234,905	$ 234,905	$ 234,905	$ 234,905	$ 234,905	1,174,525
System Administration	92,049	95,193	$ 98,049	$ 100,990	$ 104,020	$ 107,140	597,440
Total	$ 92,049	$ 1,419,369	$ 1,454,903	$1,491,503	$ 1,529,200	$ 1,568,029	$ 7,555,052
Gross Deficit (Surplus)	$ 92,049	$ 1,358,369	$ 1,392,682	$1,428,038	$ 1,464,467	$ 1,502,001	$ 7,237,605
Funding							
KSU Student Fees		$ 350,000	$ 360,500	$ 371,315	$ 382,454	$ 393,928	$ 1,858,198
KSU Parking Division		249,526	257,012	264,722	272,664	280,844	1,324,769
Federal Transit Administration		425,000	425,000	425,000	425,000	425,000	2,125,000
State of Kansas		150,000	150,000	150,000	150,000	150,000	750,000
City of Manhattan	92,049	260,000	260,000	260,000	260,000	260,000	1,392,049
Total Funding	$ 92,049	$ 1,434,526	$ 1,452,512	$1,471,037	$ 1,490,119	$ 1,509,772	$ 7,450,015
Deficit (Surplus)	$ -	$ (76,158)	$ (59,830)	$ (42,999)	$ (25,652)	$ (7,771)	$ (212,410)

Table 9 projects the first year costs over a five-year period. In addition, year "0" costs are presented for the time before services actually begin. These costs are the City of Manhattan costs associated with hiring a transit vendor as well as executing the marketing plan described in the implementation plan.[20] No funding source outside of the City is shown. However, it is possible that most of this cost could be covered through a grant from the Kansas Department of Transportation (KDOT).

[20] Start-up costs incurred by a private vendor are amortized in its operating cost as explained earlier.

Shared Bramlage Park and Ride Expenses

As noted, some expenses are shared between the City and the Bramlage operation. Some of these are unavoidable overhead-related expenses. These include system administration, operations management, operating amortization, as well as personnel expenses associated with vehicle maintenance. In total, about $102,000 first year expenses fall in this category.

If the Bramlage service does not occur, then $102,000 in such expenses would be added to the City share. This amount, presumably, would fall on the City itself unless additional state or federal dollars can be found or the student fee is set higher.

Section 4: Street Operations Start-Up Plan

The start-up of transit operations can be divided into two major phases. These are:

- Procurement Phase
- Operations Start-Up Phase

From the point at which funding is available and until service actually begins, is a period of about eleven months. About seven months are needed to procure and execute a contract with a vendor. About four months are needed for actual start-up of operations. Depending on circumstances and the degree of "up-front" work done, this timeline can be compressed.

Operations Procurement Phase

Once the City is able to begin to draw upon transit funds, the operations procurement phase can begin. Table 10, following the next page, illustrates the steps in the procurement process.

The entire process takes at least 210 days from initial meeting to "signed contract." Depending on the City's procurement policies, more or less time can be added. Given the newness of this process, the procurement might begin even earlier. Many of the elements in this implementation plan can be used for specifications. As the City will be using federal funds for its operation, federal procurement regulations need to be adhered to.[21]

A key component of the procurement phase is the selection committee. The committee should be composed of people with a stake in the outcome or are knowledgeable about transportation services. Securing the services of a manager from one of the state's public operators and/or from KDOT would be recommended. A committee of up to five to seven people is recommended.

Identifying potential vendors is relatively easy. Trade associations such as the American Public Transportation Association (APTA), Kansas Public Transit Association (KPTA) would be good sources for vendors.

It is suggested that a "request for proposal" process be used. This will allow the qualifications of a vendor to be weighed as well as its price. Low bid alone is not recommended. Some inexperienced vendors may unintentionally bid too low a price, causing contractual issues later on. The City should be confident of the competence of a given vendor at a given price.

[21] See Federal Transit Administration Circular 4220.1 D (April 15, 1996) *Third Party Contracting Requirements* as well as the amendment dated August 8, 1998.

Specifications should be as detailed as possible in terms of services to be asked. If a given service is not specified, it will require negotiation later on to add it in. At that point, the cost may be higher than if sought originally in the procurement.

In addition to securing proposals from private firms, it is recommended that the City also prepare an in-house estimate on the cost of services. Using the pro forma budget in Section 3 should be helpful in that regard. The City may also elect to negotiate with the school district as another point of comparison on potential operators.

Operations Start-Up Phase

After a vendor is selected and under contract, the "Operations Start-Up" phase begins. This is the process by which the selected vendor sets up the operation and begins service. Table 11 illustrates the general steps a vendor would take in this phase. The Table is to benefit the City in managing and overseeing the process. In addition, the Table can be used to evaluate a vendor's start-up plan (which should be part of the initial proposal).

The checklist covers four main areas in addition to the contracting step. The hiring of qualified personnel, securing vehicles, and facilities are most crucial. Upon award of a contract, the City should require regular (weekly at first) meetings to see if the vendor is on track. Specific milestones (as shown in the checklist) should be met at a time mutually agreed. Any slippage in schedule should be noted and remedied as appropriate.

Table 10: Operations Procurement Calendar

Step	Time (Days)	Comments
Create Selection Committee	0	Should contain stakeholders as well as technically versed people.
Convene Committee and establish roles, expectations, decision making process	10	
Develop Specifications and evaluation criteria	30	Base on this street plan.
Identify potential vendors	40	Info sources: American Public Transportation Association (APTA); Community Transportation Association of America; KDOT
Review Specifications	50	Suggested to go through state transit managers; Kansas Public Transit Association. Operating contract should be included here, subject to City procedures and practice.
Obtain issuance permission	60	Subject to Manhattan procedures
Advertise and issue solicitation	80	Advertise in APTA's *Passenger Transport*; mail to previously identified vendors
Pre-proposal Conference	90	
Close of written questions period	100	Keep track of any questions asked orally and report to all participants.
Send out any addendum	110	
Receive Proposals	120	
Short List Firms	130	Minimum three responsive proposals
Conduct Interviews	140	
Reference check	150	Visit operations if possible
Make Selection	160	
Obtain Approval to Negotiate/Execute Contract	180	Subject to Manhattan procedures
Negotiate and execute contract; obtain insurance certificates and other needed documents.	210	Subject to Manhattan procedures

Table 11: Operations Start-Up Schedule

Manhattan Start-Up Plan

Task/Subtask	Month One	Two	Three	Four
Operating Contract				
Contract Signed/Notice to Proceed				
Facility				
Finalize lease				
Obtain permits				
Modifications				
Arrange for utilities				
Set-up Janitorial services				
Notify Insurance Company				
Occupy				
Set up Phone System				
Order Shop Equipment				
Order Farebox Equipment				
Order Office Furniture and Equipment				
Order Radios				
Order support vehicles				
Set-up Waste Disposal				
Support Systems				
CDL Testing Set-Up				
Set-Up CDL Test Course				
Determine Testing Schedules/Procedures				
Key Vendors				
Set-up Occupational Health Clinic				
Set-up Towing Services				
Set-up Local Banking/Money Collection				
Finalize Key Suppliers				
Arrange for Vending Machines				
Arrange for Pay phones				
Set-up MVR, CRC, and Nat'l Felon Checks				
Finalize Group Insurance Plans				
Order Office Supplies				
Order Forms, etc. for personnel records				
Revenue Vehicles *(subject to manufacturer)*				
Vehicle Inspections				
Develop Punch Lists/Vehicle				
Arrange for licensing				
Final Vehicle Inspection				
Take delivery				
Personnel				
Management				
Gen Mgr Hire/Relocation				
Maintenance Mgr Hire/Start				
Bus Operations				
Recruitment Begins				
Interviews				
Dry run of training classes				
Order Training Materials				
First Class Begins				
Recruit Dispatchers				
Management & Supervisory Training				
Finalize runcuts; prepare driver paddles				
Dry-run full day of operation				
Maintenance				
Vehicle Maintenance				
Recruitment Begins				
Interviews				
Hire				
Training				
On duty				
Facility Maintenance				
Recruitment Begins				
Interviews				
Hire				
Training				
On duty				
Other Staff				
Office Clerk				
Training				
Begin Operation				

Section 5: Paratransit Services

General Requirements

The Americans with Disabilities Act of 1990 (ADA) requires providers of certain kinds of public transit to operate complementary paratransit services. Paratransit is typically a demand responsive system. That is, riders are picked up at or near their home or other origin and taken to their work or other destination. This service is required if a person, because of their disability, is unable to use the fixed route system.

These disability conditions typically warrant use of a complementary paratransit system:

- Unable to access the fixed route bus even if vehicle is wheelchair lifted equipped. For example, a visually impaired or developmentally disabled person may be unable to access system because of an inability to "navigate" the service.
- Unable to board a vehicle without a wheelchair lift or kneeling feature. For example, wheelchair lift cannot be deployed at a particular stop.
- Unable to access bus stop. For example, no sidewalks or curb cuts may prevent some wheelchair users in getting to or from a stop.

These apply to permanently disabled persons as well as visitors and people temporarily disabled. If a personal care attendant (PCA) accompanies the person with disabilities, then that person is allowed to ride the paratransit system at no additional charge.

Complementary service must be provided at least within three-quarters mile of a bus route. Exceptions are commuter express routes where complementary paratransit services are not required. Transportation services operated by public universities are considered "commuter" routes.

Other requirements:

- Fares charged to paratransit riders cannot be more than twice charged to fixed route riders. Thus, if it costs $0.50 for a person to ride the fixed route, then the ADA fare cannot be more than $1.00.
- No restriction on trip purpose. For example, cannot limit ADA service to medical trips only.
- Allow reservations up to 14 days in advance.
- Limit to 50 percent subscription or standing reservations unless there is non-subscription capacity.
- Cannot limit availability due to system capacity limitations.
- Cannot have operating practices that effectively limit system use (e.g., substantial number of trip denials, excessive trip lengths, and untimely pick-ups).

Eligibility Process

While the criteria by which a person is considered eligible to use paratransit seems straightforward, its application can be challenging. The decision to allow a person to use complementary paratransit can be costly overtime. The basic process needs to include:

- Eligibility should be limited to ADA requirements only. For example, old age is not, by itself, an ADA eligible criterion.
- Eligibility information needs to be supplied in accessible formats (e.g., audio tapes for visually impaired)
- Time limit of 21 days in acting upon a certification application.
- Establishment of an appeal process in the event an application is denied and the applicant wishes to challenge the decision.
- Transit provider can establish penalties for abuse of system policies by riders (e.g., excessive cancellations or no shows). Such penalties can include suspension from the service.

There are two basic approaches operators use in determining eligibility. One is "functional-based" and the other "trip-by-trip" based.[22]

Functional-based Determination

Eligibility is conferred based on a person's disability (for example, visually impaired, wheelchair user, etc.) and how that disability impacts that person's use of the fixed route system. It is a kind of "all or nothing" approach to certifying eligibility. For instance, any person who proves they are a wheelchair user or is visually impaired would be allowed to use the ADA service at anytime.

A variety of methods exist to make an eligibility assessment. People can self-certify, a trained professional such as doctor or human service worker who can make a determination or someone on the transit agency staff can decide eligibility. These can be done through personal interviews and/or examinations, written and/or telephone interviews, or a physical test. In many cases, a written application is submitted indicating information vital to making a determination. According to *TCRP Synthesis 30 – ADA Paratransit Eligibility Certification Practices* (Transportation Research Board, 1998) most determinations are made by in-house clerical level staff with little or no training in human services. In the opinion of the Synthesis author, this was a shortcoming given the importance and impact of the eligibility process.

The functional-based method is common in the transit industry. Johnson County (Kansas) Special Edition uses this method.

[22] The following discussion is based on *Americans With Disabilities Act (ADA) Paratransit Eligibility Manual—Final Report*, September, 1993, Federal Transit Administration.

Trip-by-Trip Eligibility

ADA does not require blanket eligibility that is typically conferred when using the functional-based method. ADA allows paratransit use when needed. For example, a visually impaired person making a trip that does not require a transfer or is a trip pattern that can be easily made on a fixed route (such as to and from work), then the fixed route may be the preferred travel mode. If that same person is making an unusual trip (for example, to and from a restaurant) then the paratransit service is used. In the latter case, it is difficult for that person to "navigate" the transit system. Some transit operators require that each trip requested be reviewed to determine if it is appropriate for paratransit, fixed route, or, perhaps a combination. Administratively, this has been a difficult process to implement for many systems. The City of Raleigh, North Carolina uses this approach.

Overview of Service Strategies and Operating Policies

This provides general information on typical operating policies and general strategies the City of Manhattan can pursue in the provision of ADA paratransit services. The policies detailed below assume that the service is provided through an advanced reservation system. An advanced reservation system is where client trips are assigned to drivers ahead of time, usually 24-hours in advance of the day of travel.[23]

Operating Policies

Operating policies are designed to prevent abuse of the system. They are also intended to set parameters by which the service is provided. As the service is both important to the users it is also very expensive to provide. The policies attempt to balance these sometimes conflicting values. These are typical topics for policies with typical standards:

- Late cancels and no shows: Limits on when and how riders should change their mind in taking a trip. Usually, systems allow cancellations up to two hours before the scheduled departure time. No more than three late cancels or no shows in a 30-day period is one standard. People with more can be suspended. Each late cancel or no show could also be charged for the trip not taken.
- Ride time: Limits how long a person can be on the vehicle. A ride time of sixty minutes would be appropriate for Manhattan.
- Will Calls: Allow open ended returns by riders. This is typical for riders who have medical appointments where return times cannot be readily booked. Riders are usually given a response time window as to when they can be

[23] Another method is "immediate response" and is similar to a taxi system where trips are assigned to drivers on a real time basis. That is, as drivers proceed through out their shift, the dispatcher radios the driver their next assignment. Hutchinson, Kansas uses a variation of this method by the Reno County Public Transportation Department.

expected to be picked-up. A "will call" time of a maximum of 60 minutes would be appropriate for Manhattan.

- Pick-Up Times: ADA allows negotiation of trip pick-up times. The negotiated time can be within one hour of the requested time. This is a useful standard in helping maintain high service productivity.
- On-time Performance: Usually a rider can be expected to be picked-up within so many minutes before and after the requested time. Typically a window of plus or minus fifteen minutes is used. Manhattan may start with that window and evaluate whether a smaller window (plus or minus ten minutes, for example) would be more appropriate.
- Wait Time: Standards for how long the vehicle will wait for the rider to present him or herself is set. Usually five minutes is the maximum.
- Pick-Up/Drop-off Locations: There are three choices of pick-up locations: "curb-to-curb", "door-to-door", and "door-through-door". Curb-to-curb is where riders are picked up and dropped off immediately near their destination. There is usually some short distance to travel from that location to their actual destination. Door-to-door involves the person being taken (usually by the driver) from the curb to the doorstep of their destination. Door-through-door takes one more step with the driver assisting the person into (or out of) the destination. Curb-to-curb relies more on the rider to make the final link to the destination while door-through-door is the most service intensive and is appropriate for people with severe disabilities. The more service intensive, the more costly the service. It is more costly because of the time involved, but there is also more liability exposure in terms of on-the-job injury. Curb-to-curb is least costly because it is less personal in nature.

Service Strategies

There are three basic ways in which paratransit service could be provided in Manhattan. They are:

- User-Side Subsidy
- Social Service Agency Contract
- Fixed Route Service Provider

User-Side Subsidy: is similar to the City's taxi coupon program where the cab company is reimbursed for the ride. The taxi company has to provide proof of the trip to the City. In a similar fashion, a cab-company could supply the ADA service. The advantage is the cab companies are relatively inexpensive. Further, in a community with more than one cab company, customers can choose which company to go with. This can create a "competitive" climate for services. Ineligible trips would not be reimbursed by the City. There would be a strong economic incentive for the taxi to police itself. The disadvantages are usually cabs are limited to ambulatory disabled persons (developmentally disabled, visually impaired people, etc.). Wheelchair users, for obvious reasons, could have a hard time using cabs. This could be overcome if the City supplies

the cab company wheelchair accessible minivans, full-sized vans or small buses. Another disadvantage is that cabs may have higher priorities for fares at certain times of the day or week. This might compete with ADA riders. Finally, cab drivers would be subject to federally mandated drug and alcohol testing requirements. Often, this is an expense not willingly borne by taxi firms.

Social Service Agency: includes contracting with agencies such as ATAbus, Pawnee, and Big Lakes. The advantage is that they have an infrastructure in place to serve persons with disabilities. They know the clientele and are more likely to be in tune with the personal needs of persons with disabilities. They are also not-for-profit organizations so costs could be lower than with a private contractor. The disadvantage is that their core services might compete with the ADA services. This could be minimized through the City acquiring vehicles for the provider. Another disadvantage is the record keeping. These agencies would need to account for ADA riders separate from their core service. That may be a burden not willingly borne. Further, the City would have some audit responsibility in a similar vein.

Fixed Route Service Provider: would be the operator of the City's fixed route transit system. The advantage is that an overhead structure is already in place and the incremental cost should be reasonable. Second, the service would be dedicated to ADA, thus should have the highest reliability. The disadvantage is that while the cost is reasonable, it would likely be higher than the other two strategies.

Public Involvement

The development of an ADA paratransit program should be done in concert with persons with disabilities. As the service will be theirs, sensitivity to needs unique to Manhattan should be considered. A "paratransit advisory committee" could serve as a sounding board for the development of policies and help in developing specifications for vehicles and eventually services. Some of the committee members may also serve as a panel to judge appeals to certification denials and other actions taken against policy violators. The committee should be composed of potential riders, current service providers, and K-State representatives as well. A limit of eight to ten people is recommended with set terms of appointment.

Recommendations

Notwithstanding the input from an advisory committee, the following recommendations are offered for consideration in developing a paratransit service:

- Institute "trip-by-trip" eligibility.
- Use professionals to make certifications and to help guide the "trip-by-trip" eligibility process.
- Contain services within the three-quarter mile limit.
- Provide "curb-to-curb" service.

- Use the fixed route service provider to supply ADA service. However, it is worthwhile to explore the use of a User-Side Subsidy program in concert with social service agency providers or a taxi firm.
- Review the previously suggested policies.

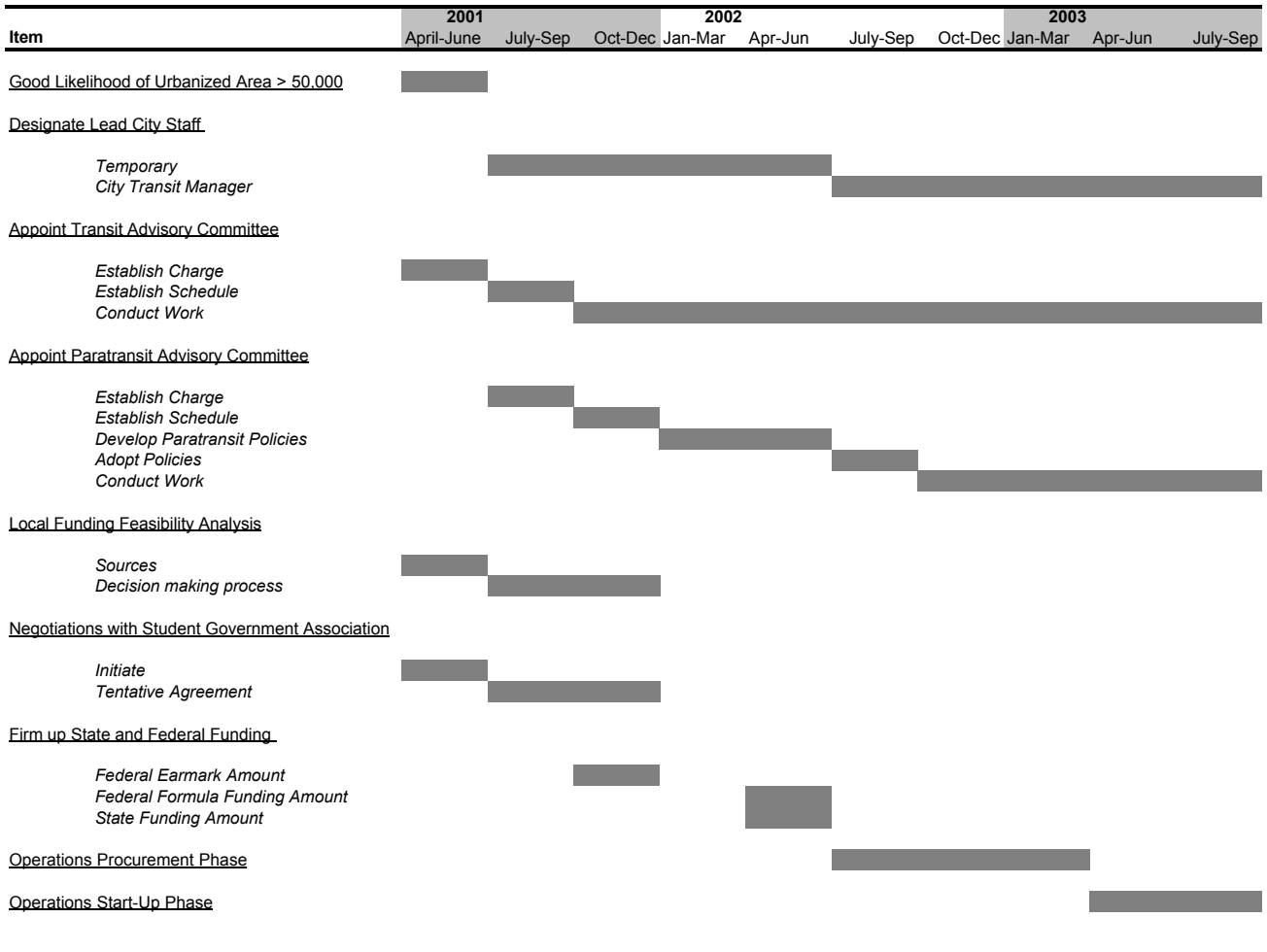
Section 6: Next Steps

Figure 15, at the end of this Section, layouts the overall implementation schedule. It mainly covers activities before the operations procurement and start-up phases discussed in Section 4. The pre-operations phases are mainly community orientated, designed to firm up the commitment for funding transit. Several key steps are illustrated.

They are:

- By April 2001, the City should be in a position to determine whether there is a strong likelihood of becoming an urbanized area over 50,000 in population.
- At that point, through June 2002, the City could consider designating a staff person to be the "temporary transit manager." That person would oversee the pre-operations implementation activities shown in Figure 15. The qualifications outlined for the City transit manager in Appendix A would fit for the temporary manager.
- A citizens transit advisory committee (TAC, see Section 2) would then be formed to provide oversight regarding all implementation activities. The implementation steering committee would be a good group from which to recruit members of the advisory committee.
- During the summer of 2001, the local funding feasibility analysis can take place with a decision making process being outlined and executed during the last five months of the year.
- In the late spring 2001, an initial contact with the SGA regarding negotiations on a student fee can begin, with full discussions to take place beginning in September.
- It will be critical for the local funding, including SGA, to be decided before much more work is done. This should be done by January 2002.
- By the fourth quarter of 2001, the success of obtaining a federal earmark for Manhattan should be known. Additional state and federal funds probably will not be known until the City is formally designated an urbanized area over 50,000. That should occur by April 2002.
- The TAC might also be involved in the appointment of the paratransit advisory committee (PAC) discussed in Section 5. The work of fleshing out the paratransit policies should begin by January 2002.

Figure 15: Implementation Milestones



Appendix A: City Transit Manager Job Description

POSITION DESCRIPTION

POSITION: **Transit Manager** **DATE: 2-1-01**

INCUMBENT: **WRITTEN BY:**

DEPARTMENT: **TBA**

REPORTS TO: **TBA**

POSITION PURPOSE:

Under direction, the position of Transit Manager oversees the City's transit operation including, but not limited to, the planning, management, marketing, and monitoring of transit services. The incumbent is responsible for coordinating grant preparation and compliance, public outreach and coordination, transit contract operations procurement and oversight.

ESSENTIAL FUNCTIONS:

1. Must possess considerable knowledge of the principles of business finance to participate in the identification, formation and administration of transit services and associated contracts. (Daily)
2. Must possess working knowledge of planning and public administration to manage the organization and operational activities for transit programs. (Daily)
3. Extensive and responsible experience to be able to lead in transit service and planning projects; serve as a liaison between the transit operation and other City departments and outside agencies. (Daily)
4. Ability to review transit operation and marketing proposals and recommend action. (Weekly/Monthly)
5. Must be able to communicate in English language, both in oral and written form with the general public and other staff members, using proper grammar, punctuation and spelling. (Daily)
6. Ability to effectively use computer technology in the preparation of studies, reports and presentations, including word processing and spreadsheets. (Daily)
7. Ability to organize and prioritize workloads and delegate responsibilities. (Daily)
8. Ability to exercise independent judgment in evaluating completeness and accuracy of reports and programs related to business finance. (Daily)

9. Excellent interpersonal skills to establish professional relationships with contractors, citizen and student groups, attorneys, City officials, state employees, lenders, community leaders and others in order to carry out job functions. (Daily)
10. Strong presentation and creative writing skills with the ability to prepare visual aids and make public presentations in a competent and professional manner. (Weekly)
11. Physical ability to board buses and navigate the City's transit operation. (Weekly)
12. Ability to read and interpret maps. (Daily)
13. Must possess and maintain a valid Kansas driver's license. (Daily)
14. Ability to work, as necessary, evenings and weekends.

NATURE AND SCOPE:

The Transit Manager reports to the Director of _____, who reports to the City Manager.

The _____ Department of the City of Manhattan is one of eight departments under the City Manager's Office. The Department includes _____, which are located in the City Office Building.

The Transit Manager works with minimum supervision. The position is responsible for providing administrative oversight to transit management, marketing and operations. Activities include working with public and private partners who are involved in transit services, researching grant possibilities to support these activities and administration of transit programs. An important aspect of this position is to organize and attain community support and participation to achieve program objectives.

The incumbent acts as a facilitator to assist in the completion and/or delivery of transit projects and services. Duties may include action as a liaison between business and social service interests and City Departments to ensure projects are completed in a timely manner. The position is also responsible to research and coordinate grant applications to assist in transit capital and operating projects and administer those projects if grant funds are awarded.

Performance in this position can be measured by the quality of transit services provided, the ability to foster positive relationships with private and public sector participants and the ability to successfully manage relationships with key funding sources.

Challenges to the position will include balancing the numerous interests of public and private partners to create projects that address community needs.

PRINCIPAL ACCOUNTABILITIES:

General duties and responsibilities assigned to the Transit Manager:

1. Supervises all transit service and capital activities including preparation of service and marketing plans and agreements.
2. Demonstrates effective leadership in coordinating public and private partners involved in transit activities and acts as the City's liaison in these partnerships.
3. Prepares Federal/State grant applications and oversees compliance and reporting requirements.
4. Schedules, budgets and administers various programs.
5. Reviews and make recommendations regarding service proposals and marketing plans, feasibility studies, financial analyses and other such studies as may be required to provide transit services.
6. Contributes to collaborative and cooperative inter-divisional and intra-departmental relationships to promote cohesive teamwork.
7. Demonstrates familiarity with grant programs and regulations that support transit activities and is able to prepare grant applications for such programs as well as administer projects if funding is received.
8. Demonstrates effective communication skills, both verbally and in writing, with all types of individuals and groups, professional consulting firms, other staff and the public.
9. Communicates well with citizens to maintain public input into transit-related projects and efforts.
10. Works well with professional consulting firms.
11. Promotes a positive image of the City and Division to the general public.
12. Other duties as assigned by _____.

KNOWLEDGE, SKILL AND ABILITY:

Knowledge of the principles of business finance and a good knowledge of government decision making issues.

Knowledge of the theory, principles and practices of general management, planning and transit services.

Ability to recommend and implement goals and objectives in providing effective and efficient program services; negotiate and administer complex contracts and agreements including multi-million dollar transit operations contracts; prepare clear and concise administrative and financial reports.

The ability to deal courteously and effectively with the public and other City staff.

Demonstrated ability to comprehend complex projects and develop solutions/opportunities to solve problems in a creative manner. Ability to think quickly and communicate complex oral and written instructions to others. Good listening skills.

Ability to maintain administrative, fiscal and general office records and to prepare reports.

EDUCATION/TRAINING/EXPERIENCE:

Bachelor's degree from an accredited college or university with major course work in business finance, planning, urban design, architecture, public administration, or a related field and four years of progressively responsible experience in management, financial and economic analysis of redevelopment and real estate transactions. Master's degree in a related field preferred and may substitute for one year of the required experience; or an equivalent combination of training and/or experience.

Required Knowledge:

- Computer software applications including word processing and spreadsheets. Knowledge of Geographic Information Systems.

Skills/Abilities

- Ability to read and comprehend written material.
- Ability to read and comprehend site plans.
- Ability to listen and apply information and instructions.
- Ability to compose business correspondence and proofread to provide written communications that are grammatically correct and punctuated properly.
- Ability to communicate verbally to citizens and clients.
- Ability to comprehend and use financial analysis tools.

Machines/Equipment Used:

- Personal computer
- Motor vehicle

Physical/Mental Demands/Working Conditions:

- Must be able to cope with stress brought about by dealing with deadlines and numerous competing interests.
- Must be able to board buses and navigate transit system.
- Must be highly organized and able to perform in a very professional manner at all times.
- Must be able to exercise independent judgment in evaluating completeness and accuracy of information
- Must be able to logically analyze situations and develop creative solutions to problems.

- Sedentary work
- Some work on City buses and occasional outdoor observation of services.
- Sits for prolonged periods of time.

Supervision

Works independently with minimum supervision.

APPROVED BY:_____ **DATE:** _____

_____, Director

_____

APPROVED BY: _____ **DATE:** _____

Cathy Harmes, Director
Department of Human Resources and Personnel

APPROVED BY: _____ **DATE:** _____

Ron R. Fehr, City Manager

ACCEPTED BY: _____ **DATE:** _____

Incumbent

transitadmin

Appendix B: Contract Management Audit

The purpose of this audit plan is to guide the City in the management of its public transit contract. Managing a transportation services contract can be challenging. It is challenging because many people can access the services and many people are called upon to deliver the services. Further, services are provided over a large geographic area and at varied times during the day and week under varied weather and traffic conditions. Quality control is difficult if not properly managed. In short, transportation is "perishable" in that the operator normally only has one opportunity to provide the service right. There is only one opportunity to pick up the rider on time. There is only one chance to get him or her to the destination safely. There is only one time that rider can be transported in a clean, well-maintained vehicle. There is only one chance for the driver to be perceived as courteous and professional by the passenger. Consistent attention to the details of transportation services is the key to quality service. This audit plan is intended to help the City provide that consistent attention.

Scope

This transportation management audit covers these aspects of services that a vendor could provide to the City:[24]

- **Operating Quality** that includes service on-time performance, driver courteousness and professionalism, and vehicle condition.
- **Financial Accountability** that includes accuracy of charges against the operating contract.
- **Contractual Obligations** that includes meeting DBE goals and other required activities.

This audit plan presents performance criteria and standards. It also presents methods by which the City can apply those criteria and standards. Finally, the audit plan suggests strategies to correct problems that may be encountered.

Performance Criteria and Standards

Operating Quality

Table 12 presents operating criteria and evaluation standards. The Table also indicated how the criteria should be measured and who should report it.

[24] These factors can also be used should the City operate the service in-house.

Table 12: Operating Performance Criteria and Standards

Performance Criterion	Defined	Standards	How Measured and Reported
Vehicle Safety	Accident free operation	♦ No more than 2 accidents per 100,000 miles of operation. An accident is an incident involving at least $500 property damage or resulting in a personal injury.	♦ Through reporting of accidents by vendor ♦ Manhattan police reports
On-time performance	Measures service schedule adherence.	♦ Fixed route schedule—no more than five minutes late at a schedule time point, zero minutes early. At least ninety percent of trips should operate on time. ♦ Paratransit service—on-time window of plus or minus fifteen minutes. At least ninety percent of trips should operate on time.	♦ Random sampling of service provided; ♦ Customer complaints ♦ Reported by vendor.
Vehicle Cleanliness		♦ Interior should be dusted, seats vacuumed or wiped down as appropriate as well as free of graffiti and other damage. ♦ Exterior materially free of defects and washed.	♦ Random sampling of vehicles; ♦ Customer complaints
Vehicle Reliability	Refers to incidence of vehicle breakdowns while carrying passengers.	♦ Vehicles should be maintained in accordance with preventative and other maintenance programs. ♦ No less than 10,000 miles between service interruptions.	♦ Review vehicle maintenance records. ♦ Reported breakdown incidents. ♦ Customer complaints ♦ Reported by vendor
Vehicle Functionality	Refers to the mechanical operation of a vehicle while it is in customer service.	♦ Vehicles should have properly operating air conditioning and heating, as appropriate. ♦ As appropriate, vehicles should have working wheelchair lifts. ♦ Communication equipment, fare meters and fare/payment shall be fully operable.	♦ Random sampling of vehicles; ♦ Customer complaints ♦ Reported by vendor.
Driver Professionalism	Refers to driver's courtesy and safe driving practices.	♦ Drivers should treat customers politely and courteously. ♦ Drivers should operate their vehicles in a safe manner.	♦ Random observations of vehicles in service; ♦ Customer complaints

There are two basic options for reporting the items in Table 12. First, the transportation vendor can "self report." This means the vendor would supply the City with the information requested. It would be the City's job to verify the accuracy of the reports. The Table indicates which items should be self-reported along with how those items might be verified.

The second report option is for City to conduct an investigation itself and not rely on the self-report by the vendor. Items that do not indicate "report-by-vendor" would be such items.

Financial Accountability

Financial accountability primarily involves making sure that the City is properly charged for services. The City would pay for services on a reimbursement basis. This means the vendor submits an invoice for services rendered. The invoice is submitted in a format agreed to in the operating agreement. If the City reimburses the vendor on a hourly basis, the vendor will submit the number of hours operated times the hourly rate(s). Passenger fares are typically deducted leaving a "net amount." The net amount is paid by the City.

There are two factors that the City should verify on some timely basis. First, that the hours charged are accurate. One simple check is to tie the daily scheduled hours to the number of service days to see if the total hours makes sense. Hours should be equal to the schedule plus an extra hours operated less hours missed. The second factor, is the amount of passenger revenue.

Periodic audits of fares collected and deposited are useful. Requiring bank deposit slips is one step, but rationalizing the number of cash paying customers carried versus the fares deposited is another. In addition, having periodic checks of farebox dumping and daily counts is another way to verify fares are being properly accounted for.

Contractual Obligations

Under a contract with the City, a vendor could have these duties:

- Achieve a specified level of DBE utilization.
- Hire drivers that meet certain requirements.
- Ensure that designated employees are periodically tested for drug and/or alcohol abuse.
- Ensure that performance specifications are met.

Table 13 describes steps the City can take to verify contract compliance.

Table 13: Contractual Obligations

Item	How Checked
Achieve DBE Goal	Vendor to provide evidence of using DBEs. Evidence can be signed contracts and/or paid invoices
Driver Hiring Standards	Periodic audit of driver records. Compare against hiring criteria outlined in the Request for Proposal.
Drug and Alcohol Testing	Vendor to document testing by indicating number of people tested as well as results. Names of specific individual would not be sought.
Performance Compliance	See Table 12 for verification strategies.

The transportation vendor should be required to report on the status of the items in Table 13.

Conducting Audits

Table 14 provides an audit schedule. The schedule indicates these things;

- **Category/Performance Indicator.** These are the items to be audited. The list follows the items previously described in this plan.
- **Audit frequency**. This indicates how often the given item should be checked.
- **Audit Assignment.** This is the person or department at The City that should be accounTable for performing the audit. There are three possible assignments listed. The first is the transit manager. This is the City employee who is responsible for the transportation contract. The second is the City finance department. The third is the City's contract officer assigned to the transportation contract.

Table 14: Audit Schedule

Category/Performance Indicator	Audit Frequency**	Audit Assignment
Operating Quality		
**On-time Performance*	Monthly	Transit Manager
Vehicle Safety	Monthly	Transit Manager
Driver Professionalism	Monthly	Transit Manager
Vehicle Cleanliness	Monthly	Transit Manager
**Vehicle Reliability*	Monthly	Transit Manager
**Vehicle Functionality*	Monthly	Transit Manager
Financial Accountability		
Costs	Quarterly	Transit Manager
Farebox collections	Quarterly	City Finance/Accounting
Contractual Obligations		
** DBE Goal*	Semi-Annually	City Contract Officer
**Driver Hiring Standards*	Semi-Annually	Transit Manager
**Drug & Alcohol Testing*	Quarterly	Transit Manager

*These can be self-reported by transportation contractor. This means the contractor would report statistics to the City with the City verifying in some independent manner.
**These frequencies can be altered depending on the performance of the vendor.

Appendix C: Operating Schedules and Route Descriptions

The follow pages first present the operating schedules for all services in this plan. Next are "turn-by-turn" route descriptions.

Operating Schedules

Schedules are found on the following pages. They are listed first by route for each day of the week (that is, weekdays, Saturdays, and Sundays).

In addition, Table 15 provides information about one way trip lengths.

Table 15: One Way Trip Mileage for Services

Service	East/Southbound	West/Northbound
Route 1—Candlewood/Northview	7.5	7.4
Route 2—Stagg Hill/Wal-Mart	7.5	7.7
Bramlage Park and Ride	2.1	2.1
Aggieville Special	N/A	9.6

Route 1: Candlewood/Northview

Weekdays

Route 1 Candlewood & Abbey to Allen Rd & Hays Dr **Monday thru Friday**

0:30:00		0:05:00	0:02	0:06	0:01	0:02	0:02	0:03	0:06:00
1:00:00	**Allen Rd**	**Hays Dr**	**4th St**	**Anderson**	**Anderson**	**Claflin**	**Claflin**	**College**	**Abbey**
Block	**Hays Dr**	**Sarber**	**Leavenwth**	**MidCampus**	**MidCampus**	**Sunset**	**College**	**Kimball**	**Candlewood**
101	6:37	6:42	6:44	6:50	6:51	6:53	6:55	6:58	7:04
102	7:07	7:12	7:14	7:20	7:21	7:23	7:25	7:28	7:34
101	7:37	7:42	7:44	7:50	7:51	7:53	7:55	7:58	8:04
102	8:07	8:12	8:14	8:20	8:21	8:23	8:25	8:28	8:34
101	8:37	8:42	8:44	8:50	8:51	8:53	8:55	8:58	9:04
102	9:07	9:12	9:14	9:20	9:21	9:23	9:25	9:28	9:34
101	9:37	9:42	9:44	9:50	9:51	9:53	9:55	9:58	10:04
102	10:07	10:12	10:14	10:20	10:21	10:23	10:25	10:28	10:34
101	10:37	10:42	10:44	10:50	10:51	10:53	10:55	10:58	11:04
102	11:07	11:12	11:14	11:20	11:21	11:23	11:25	11:28	11:34
101	11:37	11:42	11:44	11:50	11:51	11:53	11:55	11:58	12:04
102	12:07	12:12	12:14	12:20	12:21	12:23	12:25	12:28	12:34
101	12:37	12:42	12:44	12:50	12:51	12:53	12:55	12:58	13:04
102	13:07	13:12	13:14	13:20	13:21	13:23	13:25	13:28	13:34
101	13:37	13:42	13:44	13:50	13:51	13:53	13:55	13:58	14:04
102	14:07	14:12	14:14	14:20	14:21	14:23	14:25	14:28	14:34
101	14:37	14:42	14:44	14:50	14:51	14:53	14:55	14:58	15:04
102	15:07	15:12	15:14	15:20	15:21	15:23	15:25	15:28	15:34
101	15:37	15:42	15:44	15:50	15:51	15:53	15:55	15:58	16:04
102	16:07	16:12	16:14	16:20	16:21	16:23	16:25	16:28	16:34
101	16:37	16:42	16:44	16:50	16:51	16:53	16:55	16:58	17:04
102	17:07	17:12	17:14	17:20	17:21	17:23	17:25	17:28	17:34
101	17:37	17:42	17:44	17:50	17:51	17:53	17:55	17:58	18:04
102	18:07	18:12	18:14	18:20	18:21	18:23	18:25	18:28	18:34
101	18:37	18:42	18:44	18:50	18:51	18:53	18:55	18:58	19:04
101	19:37	19:42	19:44	19:50	19:51	19:53	19:55	19:58	20:04
101	20:37	20:42	20:44	20:50	20:51	20:53	20:55	20:58	21:04
101	21:37	21:42	21:44	21:50	21:51	21:53	21:55	21:58	22:04

1:00:00	1:00	**College**	**Claflin**	**Claflin**	**Anderson**	**Anderson**	**4th St**	**Hays Dr**	**Allen Rd**
	Candlewood	**Kimball**	**College**	**Sunset**	**MidCampus**	**MidCampus**	**Leavenwrth**	**Sarber**	**Hays Dr**
101	6:06	6:13	6:16	6:18	6:20	6:21	6:27	6:29	6:34
102	6:36	6:43	6:46	6:48	6:50	6:51	6:57	6:59	7:04
101	7:06	7:13	7:16	7:18	7:20	7:21	7:27	7:29	7:34
102	7:36	7:43	7:46	7:48	7:50	7:51	7:57	7:59	8:04
101	8:06	8:13	8:16	8:18	8:20	8:21	8:27	8:29	8:34
102	8:36	8:43	8:46	8:48	8:50	8:51	8:57	8:59	9:04
101	9:06	9:13	9:16	9:18	9:20	9:21	9:27	9:29	9:34
102	9:36	9:43	9:46	9:48	9:50	9:51	9:57	9:59	10:04
101	10:06	10:13	10:16	10:18	10:20	10:21	10:27	10:29	10:34
102	10:36	10:43	10:46	10:48	10:50	10:51	10:57	10:59	11:04
101	11:06	11:13	11:16	11:18	11:20	11:21	11:27	11:29	11:34
102	11:36	11:43	11:46	11:48	11:50	11:51	11:57	11:59	12:04
101	12:06	12:13	12:16	12:18	12:20	12:21	12:27	12:29	12:34
102	12:36	12:43	12:46	12:48	12:50	12:51	12:57	12:59	13:04
101	13:06	13:13	13:16	13:18	13:20	13:21	13:27	13:29	13:34
102	13:36	13:43	13:46	13:48	13:50	13:51	13:57	13:59	14:04
101	14:06	14:13	14:16	14:18	14:20	14:21	14:27	14:29	14:34
102	14:36	14:43	14:46	14:48	14:50	14:51	14:57	14:59	15:04
101	15:06	15:13	15:16	15:18	15:20	15:21	15:27	15:29	15:34
102	15:36	15:43	15:46	15:48	15:50	15:51	15:57	15:59	16:04
101	16:06	16:13	16:16	16:18	16:20	16:21	16:27	16:29	16:34
102	16:36	16:43	16:46	16:48	16:50	16:51	16:57	16:59	17:04
101	17:06	17:13	17:16	17:18	17:20	17:21	17:27	17:29	17:34
102	17:36	17:43	17:46	17:48	17:50	17:51	17:57	17:59	18:04
101	18:06	18:13	18:16	18:18	18:20	18:21	18:27	18:29	18:34
101	19:06	19:13	19:16	19:18	19:20	19:21	19:27	19:29	19:34
101	20:06	20:13	20:16	20:18	20:20	20:21	20:27	20:29	20:34
101	21:06	21:13	21:16	21:18	21:20	21:21	21:27	21:29	21:34

Saturday

Route 1 Candlewood & Abbey to Allen Rd & Hays Dr **Saturday**

		0:05:00	0:02	0:06	0:01	0:02	0:02	0:03	0:06:00
1:00:00	**Allen Rd**	**Hays Dr**	**4th St**	**Anderson**	**Anderson**	**Claflin**	**Claflin**	**College**	**Abbey**
Block	**Hays Dr**	**Sarber**	**Leavenwth**	**MidCampus**	**MidCampus**	**Sunset**	**College**	**Kimball**	**Candlewood**
101	6:37	6:42	6:44	6:50	6:51	6:53	6:55	6:58	7:04
101	7:37	7:42	7:44	7:50	7:51	7:53	7:55	7:58	8:04
101	8:37	8:42	8:44	8:50	8:51	8:53	8:55	8:58	9:04
101	9:37	9:42	9:44	9:50	9:51	9:53	9:55	9:58	10:04
101	10:37	10:42	10:44	10:50	10:51	10:53	10:55	10:58	11:04
101	11:37	11:42	11:44	11:50	11:51	11:53	11:55	11:58	12:04
101	12:37	12:42	12:44	12:50	12:51	12:53	12:55	12:58	13:04
101	13:37	13:42	13:44	13:50	13:51	13:53	13:55	13:58	14:04
101	14:37	14:42	14:44	14:50	14:51	14:53	14:55	14:58	15:04
101	15:37	15:42	15:44	15:50	15:51	15:53	15:55	15:58	16:04
101	16:37	16:42	16:44	16:50	16:51	16:53	16:55	16:58	17:04
101	17:37	17:42	17:44	17:50	17:51	17:53	17:55	17:58	18:04
101	18:37	18:42	18:44	18:50	18:51	18:53	18:55	18:58	19:04
101	19:37	19:42	19:44	19:50	19:51	19:53	19:55	19:58	20:04
101	20:37	20:42	20:44	20:50	20:51	20:53	20:55	20:58	21:04
101	21:37	21:42	21:44	21:50	21:51	21:53	21:55	21:58	22:04

Route 1 Abbey Rd & Hays Dr to Candlewood & Abbey **Saturday**

		0:07:00	0:03:00	0:02:00	0:02:00	0:01:00	0:06:00	0:02:00	0:08
1:00:00	**Abbey**	**College**	**Claflin**	**Claflin**	**Anderson**	**Anderson**	**4th St**	**Hays Dr**	**Allen Rd**
Block	**Candlewood**	**Kimball**	**College**	**Sunset**	**MidCampus**	**MidCampus**	**Leavenwrth**	**Sarber**	**Hays Dr**
101	6:06	6:13	6:16	6:18	6:20	6:21	6:27	6:29	6:37
101	7:06	7:13	7:16	7:18	7:20	7:21	7:27	7:29	7:37
101	8:06	8:13	8:16	8:18	8:20	8:21	8:27	8:29	8:37
101	9:06	9:13	9:16	9:18	9:20	9:21	9:27	9:29	9:37
101	10:06	10:13	10:16	10:18	10:20	10:21	10:27	10:29	10:37
101	11:06	11:13	11:16	11:18	11:20	11:21	11:27	11:29	11:37
101	12:06	12:13	12:16	12:18	12:20	12:21	12:27	12:29	12:37
101	13:06	13:13	13:16	13:18	13:20	13:21	13:27	13:29	13:37
101	14:06	14:13	14:16	14:18	14:20	14:21	14:27	14:29	14:37
101	15:06	15:13	15:16	15:18	15:20	15:21	15:27	15:29	15:37
101	16:06	16:13	16:16	16:18	16:20	16:21	16:27	16:29	16:37
101	17:06	17:13	17:16	17:18	17:20	17:21	17:27	17:29	17:37
101	18:06	18:13	18:16	18:18	18:20	18:21	18:27	18:29	18:37
101	19:06	19:13	19:16	19:18	19:20	19:21	19:27	19:29	19:37
101	20:06	20:13	20:16	20:18	20:20	20:21	20:27	20:29	20:37
101	21:06	21:13	21:16	21:18	21:20	21:21	21:27	21:29	21:37

Sunday

Route 1 Candlewood & Abbey to Allen Rd & Hays Dr **Sunday**

1:00:00 Block	Allen Rd Hays Dr	0:05:00 Hays Dr Sarber	0:02 4th St Leavenwth	0:06 Anderson MidCampus	0:01 Anderson MidCampus	0:02 Claflin Sunset	0:02 Claflin College	0:03 College Kimball	0:06:00 Abbey Candlewood
101	10:37	10:42	10:44	10:50	10:51	10:53	10:55	10:58	11:04
101	11:37	11:42	11:44	11:50	11:51	11:53	11:55	11:58	12:04
101	12:37	12:42	12:44	12:50	12:51	12:53	12:55	12:58	13:04
101	13:37	13:42	13:44	13:50	13:51	13:53	13:55	13:58	14:04
101	14:37	14:42	14:44	14:50	14:51	14:53	14:55	14:58	15:04
101	15:37	15:42	15:44	15:50	15:51	15:53	15:55	15:58	16:04
101	16:37	16:42	16:44	16:50	16:51	16:53	16:55	16:58	17:04
101	17:37	17:42	17:44	17:50	17:51	17:53	17:55	17:58	18:04
101	18:37	18:42	18:44	18:50	18:51	18:53	18:55	18:58	19:04

Route 1 Abbey Rd & Hays Dr to Candlewood & Abbey **Sunday**

1:00:00 Block	Abbey Candlewood	0:07:00 College Kimball	0:03:00 Claflin College	0:02:00 Claflin Sunset	0:02:00 Anderson MidCampus	0:01:00 Anderson MidCampus	0:06:00 4th St Leavenwrth	0:02:00 Hays Dr Sarber	0:05:00 Allen Rd Hays Dr
101	10:06	10:13	10:16	10:18	10:20	10:21	10:27	10:29	10:34
101	11:06	11:13	11:16	11:18	11:20	11:21	11:27	11:29	11:34
101	12:06	12:13	12:16	12:18	12:20	12:21	12:27	12:29	12:34
101	13:06	13:13	13:16	13:18	13:20	13:21	13:27	13:29	13:34
101	14:06	14:13	14:16	14:18	14:20	14:21	14:27	14:29	14:34
101	15:06	15:13	15:16	15:18	15:20	15:21	15:27	15:29	15:34
101	16:06	16:13	16:16	16:18	16:20	16:21	16:27	16:29	16:34
101	17:06	17:13	17:16	17:18	17:20	17:21	17:27	17:29	17:34
101	18:06	18:13	18:16	18:18	18:20	18:21	18:27	18:29	18:34

Route 2: Stagg Hill/ Wal-Mart

Weekdays

Route 2 WalMart to Allison & Don Dee Dr **Monday thru Friday**

0:30:00		0:04:00	0:03	0:03	0:00	0:06	0:03	0:06
1:00:00		3rd	11th	Anderson	Anderson	Plaza	Red Bud	Allison
Block	WalMart	Poyntz	Poyntz	MidCampus	MidCampus	West	Seth Childs	Don Dee
201	6:40	6:44	6:47	6:50	6:50	6:56	6:59	7:05
202	7:10	7:14	7:17	7:20	7:20	7:26	7:29	7:35
201	7:40	7:44	7:47	7:50	7:50	7:56	7:59	8:05
202	8:10	8:14	8:17	8:20	8:20	8:26	8:29	8:35
201	8:40	8:44	8:47	8:50	8:50	8:56	8:59	9:05
202	9:10	9:14	9:17	9:20	9:20	9:26	9:29	9:35
201	9:40	9:44	9:47	9:50	9:50	9:56	9:59	10:05
202	10:10	10:14	10:17	10:20	10:20	10:26	10:29	10:35
201	10:40	10:44	10:47	10:50	10:50	10:56	10:59	11:05
202	11:10	11:14	11:17	11:20	11:20	11:26	11:29	11:35
201	11:40	11:44	11:47	11:50	11:50	11:56	11:59	12:05
202	12:10	12:14	12:17	12:20	12:20	12:26	12:29	12:35
201	12:40	12:44	12:47	12:50	12:50	12:56	12:59	13:05
202	13:10	13:14	13:17	13:20	13:20	13:26	13:29	13:35
201	13:40	13:44	13:47	13:50	13:50	13:56	13:59	14:05
202	14:10	14:14	14:17	14:20	14:20	14:26	14:29	14:35
201	14:40	14:44	14:47	14:50	14:50	14:56	14:59	15:05
202	15:10	15:14	15:17	15:20	15:20	15:26	15:29	15:35
201	15:40	15:44	15:47	15:50	15:50	15:56	15:59	16:05
202	16:10	16:14	16:17	16:20	16:20	16:26	16:29	16:35
201	16:40	16:44	16:47	16:50	16:50	16:56	16:59	17:05
202	17:10	17:14	17:17	17:20	17:20	17:26	17:29	17:35
201	17:40	17:44	17:47	17:50	17:50	17:56	17:59	18:05
202	18:10	18:14	18:17	18:20	18:20	18:26	18:29	18:35
201	18:40	18:44	18:47	18:50	18:50	18:56	18:59	19:05
201	19:40	19:44	19:47	19:50	19:50	19:56	19:59	20:05
201	20:40	20:44	20:47	20:50	20:50	20:56	20:59	21:05
201	21:40	21:44	21:47	21:50	21:50	21:56	21:59	22:05

Route 2 Allison & Don Dee to Wal Mart **Monday thru Friday**

0:30:00		0:06:00	0:03:00	0:06:00	0:01:00	0:03:00	0:04:00	0:04:00
1:00:00	Allison	Red Bud	Plaza	Anderson	Anderson	11th	3rd	
Block	Don Dee	Seth Childs	West	MidCampus	MidCampus	Poyntz	Poyntz	WalMart
201	6:05	6:11	6:14	6:20	6:21	6:24	6:28	6:32
202	6:35	6:41	6:44	6:50	6:51	6:54	6:58	7:02
201	7:05	7:11	7:14	7:20	7:21	7:24	7:28	7:32
202	7:35	7:41	7:44	7:50	7:51	7:54	7:58	8:02
201	8:05	8:11	8:14	8:20	8:21	8:24	8:28	8:32
202	8:35	8:41	8:44	8:50	8:51	8:54	8:58	9:02
201	9:05	9:11	9:14	9:20	9:21	9:24	9:28	9:32
202	9:35	9:41	9:44	9:50	9:51	9:54	9:58	10:02
201	10:05	10:11	10:14	10:20	10:21	10:24	10:28	10:32
202	10:35	10:41	10:44	10:50	10:51	10:54	10:58	11:02
201	11:05	11:11	11:14	11:20	11:21	11:24	11:28	11:32
202	11:35	11:41	11:44	11:50	11:51	11:54	11:58	12:02
201	12:05	12:11	12:14	12:20	12:21	12:24	12:28	12:32
202	12:35	12:41	12:44	12:50	12:51	12:54	12:58	13:02
201	13:05	13:11	13:14	13:20	13:21	13:24	13:28	13:32
202	13:35	13:41	13:44	13:50	13:51	13:54	13:58	14:02
201	14:05	14:11	14:14	14:20	14:21	14:24	14:28	14:32
202	14:35	14:41	14:44	14:50	14:51	14:54	14:58	15:02
201	15:05	15:11	15:14	15:20	15:21	15:24	15:28	15:32
202	15:35	15:41	15:44	15:50	15:51	15:54	15:58	16:02
201	16:05	16:11	16:14	16:20	16:21	16:24	16:28	16:32
202	16:35	16:41	16:44	16:50	16:51	16:54	16:58	17:02
201	17:05	17:11	17:14	17:20	17:21	17:24	17:28	17:32
202	17:35	17:41	17:44	17:50	17:51	17:54	17:58	18:02
201	18:05	18:11	18:14	18:20	18:21	18:24	18:28	18:32
201	19:05	19:11	19:14	19:20	19:21	19:24	19:28	19:32
201	20:05	20:11	20:14	20:20	20:21	20:24	20:28	20:32
201	21:05	21:11	21:14	21:20	21:21	21:24	21:28	21:32

Saturday

Route 2 WalMart to Allison & Don Dee Dr **Saturday**

0:30:00		0:04:00	0:03	0:03	0:00	0:06	0:03	0:06
1:00:00		3rd	11th	Anderson	Anderson	Plaza	Red Bud	Allison
Block	WalMart	Poyntz	Poyntz	MidCampus	MidCampus	West	Seth Childs	Don Dee
201	6:10	6:14	6:17	6:20	6:20	6:26	6:29	6:35
201	7:10	7:14	7:17	7:20	7:20	7:26	7:29	7:35
201	8:10	8:14	8:17	8:20	8:20	8:26	8:29	8:35
201	9:10	9:14	9:17	9:20	9:20	9:26	9:29	9:35
201	10:10	10:14	10:17	10:20	10:20	10:26	10:29	10:35
201	11:10	11:14	11:17	11:20	11:20	11:26	11:29	11:35
201	12:10	12:14	12:17	12:20	12:20	12:26	12:29	12:35
201	13:10	13:14	13:17	13:20	13:20	13:26	13:29	13:35
201	14:10	14:14	14:17	14:20	14:20	14:26	14:29	14:35
201	15:10	15:14	15:17	15:20	15:20	15:26	15:29	15:35
201	16:10	16:14	16:17	16:20	16:20	16:26	16:29	16:35
201	17:10	17:14	17:17	17:20	17:20	17:26	17:29	17:35
201	18:10	18:14	18:17	18:20	18:20	18:26	18:29	18:35
201	19:10	19:14	19:17	19:20	19:20	19:26	19:29	19:35
201	20:10	20:14	20:17	20:20	20:20	20:26	20:29	20:35
201	21:10	21:14	21:17	21:20	21:20	21:26	21:29	21:35

Route 2 Allison & Don Dee to Wal Mart **Saturday**

0:30:00		0:06:00	0:03:00	0:06:00	0:01:00	0:03:00	0:04:00	0:04:00
1:00:00	Allison	Red Bud	Plaza	Anderson	Anderson	11th	3rd	
Block	Don Dee	Seth Childs	West	MidCampus	MidCampus	Poyntz	Poyntz	WalMart
201	6:35	6:41	6:44	6:50	6:51	6:54	6:58	7:02
201	7:35	7:41	7:44	7:50	7:51	7:54	7:58	8:02
201	8:35	8:41	8:44	8:50	8:51	8:54	8:58	9:02
201	9:35	9:41	9:44	9:50	9:51	9:54	9:58	10:02
201	10:35	10:41	10:44	10:50	10:51	10:54	10:58	11:02
201	11:35	11:41	11:44	11:50	11:51	11:54	11:58	12:02
201	12:35	12:41	12:44	12:50	12:51	12:54	12:58	13:02
201	13:35	13:41	13:44	13:50	13:51	13:54	13:58	14:02
201	14:35	14:41	14:44	14:50	14:51	14:54	14:58	15:02
201	15:35	15:41	15:44	15:50	15:51	15:54	15:58	16:02
201	16:35	16:41	16:44	16:50	16:51	16:54	16:58	17:02
201	17:35	17:41	17:44	17:50	17:51	17:54	17:58	18:02
201	18:35	18:41	18:44	18:50	18:51	18:54	18:58	19:02
201	19:35	19:41	19:44	19:50	19:51	19:54	19:58	20:02
201	20:35	20:41	20:44	20:50	20:51	20:54	20:58	21:02
201	21:35	21:41	21:44	21:50	21:51	21:54	21:58	22:02

Sunday

Route 2 WalMart to Allison & Don Dee Dr **Sunday**

0:30:00		0:04:00	0:03	0:03	0:00	0:06	0:03	0:06
1:00:00		3rd	11th	Anderson	Anderson	Plaza	Red Bud	Allison
Block	WalMart	Poyntz	Poyntz	MidCampus	MidCampus	West	Seth Childs	Don Dee
201	10:10	10:14	10:17	10:20	10:20	10:26	10:29	10:35
201	11:10	11:14	11:17	11:20	11:20	11:26	11:29	11:35
201	12:10	12:14	12:17	12:20	12:20	12:26	12:29	12:35
201	13:10	13:14	13:17	13:20	13:20	13:26	13:29	13:35
201	14:10	14:14	14:17	14:20	14:20	14:26	14:29	14:35
201	15:10	15:14	15:17	15:20	15:20	15:26	15:29	15:35
201	16:10	16:14	16:17	16:20	16:20	16:26	16:29	16:35
201	17:10	17:14	17:17	17:20	17:20	17:26	17:29	17:35
201	18:10	18:14	18:17	18:20	18:20	18:26	18:29	18:35

Route 2 Allison & Don Dee to Wal Mart **Sunday**

0:30:00		0:06:00	0:03:00	0:06:00	0:00:00	0:03:00	0:04:00	0:04:00
1:00:00	Allison	Red Bud	Plaza	Anderson	Anderson	11th	3rd	
Block	Don Dee	Seth Childs	West	MidCampus	MidCampus	Poyntz	Poyntz	WalMart
201	10:35	10:41	10:44	10:50	10:50	10:53	10:57	11:01
201	11:35	11:41	11:44	11:50	11:50	11:53	11:57	12:01
201	12:35	12:41	12:44	12:50	12:50	12:53	12:57	13:01
201	13:35	13:41	13:44	13:50	13:50	13:53	13:57	14:01
201	14:35	14:41	14:44	14:50	14:50	14:53	14:57	15:01
201	15:35	15:41	15:44	15:50	15:50	15:53	15:57	16:01
201	16:35	16:41	16:44	16:50	16:50	16:53	16:57	17:01
201	17:35	17:41	17:44	17:50	17:50	17:53	17:57	18:01
201	18:35	18:41	18:44	18:50	18:50	18:53	18:57	19:01

Bramlage Park and Ride

Weekdays (Academic Year Only)

Bramlage Park ' n Ride			**Monday thru Friday**					
0:10:00		0:02:00	0:03	0:02	0:02	0:02	0:03	0:02
0:20:00	**Gate 5**	**Kimball**	**College Hghts**	**Anderson**	**Anderson**	**College Hghts**	**Kimball**	**Gate 5**
Block	**Stadium**	**Denison**	**Denison**	**MidCampus**	**MidCampus**	**Denison**	**Dension**	**Stadium**
301	5:53	5:55	5:58	6:00	6:02	6:04	6:07	6:09
301	6:13	6:15	6:18	6:20	6:22	6:24	6:27	6:29
301	6:33	6:35	6:38	6:40	6:42	6:44	6:47	6:49
301	6:53	6:55	6:58	7:00	7:02	7:04	7:07	7:09
302	7:03	7:05	7:08	7:10	7:12	7:14	7:17	7:19
301	7:13	7:15	7:18	7:20	7:22	7:24	7:27	7:29
302	7:23	7:25	7:28	7:30	7:32	7:34	7:37	7:39
301	7:33	7:35	7:38	7:40	7:42	7:44	7:47	7:49
302	7:43	7:45	7:48	7:50	7:52	7:54	7:57	7:59
301	7:53	7:55	7:58	8:00	8:02	8:04	8:07	8:09
302	8:03	8:05	8:08	8:10	8:12	8:14	8:17	8:19
301	8:13	8:15	8:18	8:20	8:22	8:24	8:27	8:29
302	8:23	8:25	8:28	8:30	8:32	8:34	8:37	8:39
301	8:33	8:35	8:38	8:40	8:42	8:44	8:47	8:49
302	8:43	8:45	8:48	8:50	8:52	8:54	8:57	8:59
301	8:53	8:55	8:58	9:00	9:02	9:04	9:07	9:09
302	9:03	9:05	9:08	9:10	9:12	9:14	9:17	9:19
301	9:13	9:15	9:18	9:20	9:22	9:24	9:27	9:29
302	9:23	9:25	9:28	9:30	9:32	9:34	9:37	9:39
301	9:33	9:35	9:38	9:40	9:42	9:44	9:47	9:49
302	9:43	9:45	9:48	9:50	9:52	9:54	9:57	9:59
301	9:53	9:55	9:58	10:00	10:02	10:04	10:07	10:09
301	10:13	10:15	10:18	10:20	10:22	10:24	10:27	10:29
301	10:33	10:35	10:38	10:40	10:42	10:44	10:47	10:49
301	10:53	10:55	10:58	11:00	11:02	11:04	11:07	11:09
301	11:13	11:15	11:18	11:20	11:22	11:24	11:27	11:29
301	11:33	11:35	11:38	11:40	11:42	11:44	11:47	11:49
301	11:53	11:55	11:58	12:00	12:02	12:04	12:07	12:09
301	12:13	12:15	12:18	12:20	12:22	12:24	12:27	12:29
301	12:33	12:35	12:38	12:40	12:42	12:44	12:47	12:49
301	12:53	12:55	12:58	13:00	13:02	13:04	13:07	13:09
301	13:13	13:15	13:18	13:20	13:22	13:24	13:27	13:29
301	13:33	13:35	13:38	13:40	13:42	13:44	13:47	13:49
301	13:53	13:55	13:58	14:00	14:02	14:04	14:07	14:09
303	14:03	14:05	14:08	14:10	14:12	14:14	14:17	14:19
301	14:13	14:15	14:18	14:20	14:22	14:24	14:27	14:29
303	14:23	14:25	14:28	14:30	14:32	14:34	14:37	14:39
301	14:33	14:35	14:38	14:40	14:42	14:44	14:47	14:49
303	14:43	14:45	14:48	14:50	14:52	14:54	14:57	14:59
301	14:53	14:55	14:58	15:00	15:02	15:04	15:07	15:09
303	15:03	15:05	15:08	15:10	15:12	15:14	15:17	15:19
301	15:13	15:15	15:18	15:20	15:22	15:24	15:27	15:29
303	15:23	15:25	15:28	15:30	15:32	15:34	15:37	15:39
301	15:33	15:35	15:38	15:40	15:42	15:44	15:47	15:49
303	15:43	15:45	15:48	15:50	15:52	15:54	15:57	15:59
301	15:53	15:55	15:58	16:00	16:02	16:04	16:07	16:09
303	16:03	16:05	16:08	16:10	16:12	16:14	16:17	16:19
301	16:13	16:15	16:18	16:20	16:22	16:24	16:27	16:29
303	16:23	16:25	16:28	16:30	16:32	16:34	16:37	16:39
301	16:33	16:35	16:38	16:40	16:42	16:44	16:47	16:49
303	16:43	16:45	16:48	16:50	16:52	16:54	16:57	16:59
301	16:53	16:55	16:58	17:00	17:02	17:04	17:07	17:09
301	17:13	17:15	17:18	17:20	17:22	17:24	17:27	17:29
301	17:33	17:35	17:38	17:40	17:42	17:44	17:47	17:49
301	17:53	17:55	17:58	18:00	18:02	18:04	18:07	18:09

Aggieville Special

Friday and Saturday Nights (Academic Year Only)

Aggieville Special	Fridays and Saturdays Only								
1:00:00		0:06:00	0:06	0:05	0:06	0:07	0:08	0:06	0:04:00
	17th St	Claflin	Browning	Candlewood	College	Kimball	Tuttle Creek	11th	17th St.
Block	Anderson	College	Kimball	Kimball	Kimball	Tuttle Creek	Leavenwrth	Bluemont	Anderson
401	10:00 PM	10:06 PM	10:12 PM	10:17 PM	10:23 PM	10:30 PM	10:38 PM	10:44 PM	10:48 PM
401	11:00 PM	11:06 PM	11:12 PM	11:17 PM	11:23 PM	11:30 PM	11:38 PM	11:44 PM	11:48 PM
401	12:00 AM	12:06 AM	12:12 AM	12:17 AM	12:23 AM	12:30 AM	12:38 AM	12:44 AM	12:48 AM
401	1:00 AM	1:06 AM	1:12 AM	1:17 AM	1:23 AM	1:30 AM	1:38 AM	1:44 AM	1:48 AM
401	2:00 AM	2:06 AM	2:12 AM	2:17 AM	2:23 AM	2:30 AM	2:38 AM	2:44 AM	2:48 AM

Turn-By-Turn Route Descriptions

Route 1 --
Candlewood to Northview (Allen Rd/Hays Dr)

Eastbound

From Layover by Brittany Ridge
Continue north on Candlewood
L(W)on Abbey
L(S) on Newbury
L(E) on Gary
R(S) on Candlewood
L(E) on Kimball
R(S) on College Ave
L(E) on Claflin Rd
R(S) on Sunset
L(E) on College Heights
R(S) on 17th St to K State Student Union parking lot
L(E) into parking lot to edge of lot
R(S) on Mid Campus Dr
L(E) on Anderson (Bluemont)
R(S) on 4th St
L(E) on Leavenworth across Tuttle Creek
L(N) on Frontage Rd
R(E) on Sarber Ln
L(N) on Hayes Dr
R(E) on Allen Rd to Layover at Beck

Route 1 --
Northview (Allen Rd/Hays Dr) to Candlewood

Westbound

From Allen Rd & Hays Dr
R(E) on Allen Rd
R(S) on Beck St
R(W) on Casement Rd
L(S) on Hayes Dr
R(W) on Sarber Ln
L(S) on Frontage Rd
R(W) on Leavenworth
R(N) on 4th St
L(W) on Bluemont Ave and stay to left onto Anderson Ave
R(N) on Mid Campus Dr
Thru Parking lot to exit onto 17th
R(N) on 17th St
L(W) on College Heights
R(N) on Sunset
L(W) on Claflin Rd
R(N) on College Ave
L(W) on Kimball Ave
R(N) on Candlewood
Follow Candlewood to circle
Maneuver around circle to right
Continue north on Candlewood to
Layover farside of Gary (Brittany Ridge Apts)

Route 2 – Wal-Mart to Stagg Hill (Allison/Don Dee Dr)

Westbound

From Layover in WalMart Parking Lot
Continue south on perimeter of lot to exit drive
Exit from parking lot onto Frontage road,
L(S) on Frontage Rd
R(W) on Leavenworth
L(S) on 4th
L(E) on Humboldt
R(S) on 3rd
R(W) on Houston
R(N) on 4th
L(W) on Poyntz
R(N) on 17th to K State Student Union Lot
R(E) thru parking lot to Mid Campus Dr
R(S) on Mid Campus Dr
R(W) on Anderson
Continue west on Anderson Ave to Plaza West (just west of Seth Childs)
L(S) on first drive to Plaza West
then jog right(west) along outer perimeter to next exit drive
R(N) on exit drive to Anderson
R(E) on Anderson to entrance ramp to southbound
Seth Childs Rd
R(S) on entrance ramp
And continue south on Seth Childs Rd
L(E) on Farm Bureau Rd to first entrance on right into Red Bud
Make right turn onto this road,
Then take first left,
Then take the next left back onto Farm Bureau Rd
West on Farm Bureau Rd
L(S) on Seth Childs Rd to Allison Rd
R(W) on Allison Ave
Continue west and south on Allison Ave
R(W) on Don Dee Dr
R(N) on De Hoff Dr
R(E) on Don Dee Dr
To Layover Point at Allison

Route 2 – Stagg Hill (Allison/Don Dee) to Wal-Mart

Eastbound

From Layover
Continue on Don Dee Dr to Allison Ave
L(NE) on Allison Ave to Seth Childs Rd entrance
L(S) on Seth Childs Rd
R(E) on Farm Bureau Rd to first entrance on right into Red Bud
Make right turn onto this road,
Then take first left,
Then take the next left back onto Farm Bureau Rd
West on Farm Bureau Rd to Seth Childs Rd
R(N) on Seth Childs Rd
Take Anderson Exit
L(W) on Anderson Ave (Bluemont Ave)
Continue west on Anderson Ave to Plaza West (just west of Seth Childs)
L(S) on first drive to Plaza West
then jog right(west) along outer perimeter to next exit drive
R(N) on exit drive to Anderson
R(E) on Anderson
L(N) on 17th
R(E) into drive into K State Union parking lot
Exit lot on Mid Campus Dr
R(S) on Mid Campus Dr
L(W) on Anderson (Bluemont)
L(S) on 17th St
L(E) on Poyntz Ave
R(S) on 4th
L(E) on Houston
L(N) on 3rd
L(W) on Humboldt
R(N) on 4th
R(E) on Leavenworth
And continue across Tuttle Creek to
Frontage Rd
L(N) on Frontage Rd
R(E) on 2nd (second) entrance drive to Wal-Mart parking lot
Then jog immediately to right and continue south along outer
Edge of parking lot to LAYOVER.

Bramlage Park and Ride Route --Southbound

From Stadium (Gate 5) Parking Space 518
To Kansas State Lot on 17th by Union

Exit Stadium onto Kimball Ave
R(E) on Kimball Ave
R(S) on Denison Ave
L(W) on College Heights
R(S) on 17th St to K-State Parking Lot (Student Union)
L(E) into lot to edge of lot
R(S) on Mid Campus Dr to LOAD/UNLOAD point

Bramlage Park and Ride Route -- Northbound

From K State Parking Lot (Student Union) turn a round
To Bramlage lot
Continue south on Mid Campus Dr
R(W) on Anderson
R(N) on 17th St
L(W) on College Heights
R(N) on Denison Ave
L(W) on Kimball Ave to Gate 5 entrance to parking lot.
L(S) on Gate 5 entrance to parking lot to LOAD/UNLOAD point

Aggieville Special

Deviated Fixed Route Service—default route.

From K State Student Union (on 17th) to Kimball & Candlewood

From 12th and Bluemont
Continue west (W) Bluemont (Anderson) to 17th Street
R(N) on 17th
L(W) on College Heights
R(N) on Sunset
L(W) on Claflin Rd
R(N) on College Ave
L(W) on Kimball
R(N) into shopping center drive just east of Candlewood
Jog right and left in front of convenience store
Then go left west to exit drive onto Candlewood.

From Candlewood & Kimball Ave to 17th & Anderson (K State)
From exit drive at shopping center
Exit L(S) onto Candlewood
South on Candlewood
L(E) on Kimball Ave
R(N) on Tuttle Creek Blvd
R(E) on Leavenworth
R(N) on 11th
L(W) on Bluemont (Anderson) to 12th Street and Layover.

AGGIEVILLE SPECIAL (AS) GENERAL OPERATING PROCEDURES

Generally, the same procedures as regular fixed route operations with the following additions:

- AS operators will not enter or turn around in residential driveways.
- AS operators will use extreme caution when traveling through parking lots at shopping centers and apartment complexes.
- During the "fixed route schedule", AS operators are limited to a three-eighths mile deviation either side of the fixed route. Check with dispatch for actual zone boundary.
- Questions or concerns on scheduling will be discussed with management in the office not on the radio.
- Operators beginning runs during "demand responsive service" will drive directly to first scheduled pick-up point.

Appendix D: Idealized Operating Facility Space Program and Budget

This appendix presents a preliminary "space functional program" for an idealized transit operations facility. It is intended for planning purposes only and to give the City of Manhattan a sense of the typical needs for such a facility. In addition, a preliminary cost estimate to design and construct such a facility is included.

Space Functional Program

INTERIOR SPACE		Current			Future Projection			Remarks
		15 Vehicles			Vehicles			
Area/Description	Space Std	Quantity			Quantity			
		Staff	Space	SF	Staff	Space	SF	
ADMINISTRATION								
Site Manager	150	1	1	150				
Admin/Receptionist	64	1	1	64				
Training Room				300				20 people max
Training Room Storage			1	24				Portable tables & chairs
Copy/Mail Room			1	64				
Storage Room			1	36				
Secure Room			1	12				Safe, misc. items, etc.
Lobby/Reception	128		1	128				Visitors - Sales People only
File Room	68		1	68				Shared - See Operations
Restrooms								Shared - See Operations
Subtotal		2	8	846	0	0	0	
Circulation/Mech/Elect/Structural	25%			211			0	
TOTAL ADMINISTRATION AREA				1,057			0	
OPERATIONS								
Dispatcher	100	1	1	100				Visual to entry gate, break rm & time clock
Dispatcher's Equipment Room			1	36				Comm, Fuel Mgmt, Gate Card Reader, Computers
File Room			1	68				Open office?
Drivers		12						15 routes; 3 back-ups
Drivers Break/Lunch room			1	300				Combine into one room
Laundry/Uniforms			1	72				Cost savings?
Men's Restroom/Shower Room								
Women's Restroom/Shower Room								
Men's Locker Room			1	150				
Women's Locker Room			1	150				
Janitor's Closet			1	30				
Subtotal		13	8	906	0	0	0	
Circulation/Mech/Elect/Structural	25%			227			0	
TOTAL OPERATIONS AREA				1,133			0	
MAINTENANCE								
Mechanic		1		96				Shop office
Mechanic Assistant/ Part-Time Driver		1						
Repair Bays								
Heavy Repair Maintenance	20' x 55'							No pass-through bays; welding; no painting
Regular Repair Maintenance	20' x 55'		1	1100				Portable hoists (4) per bay
Light Maintenance/Inspections	20' x 55'		1	1100				Pass-through bays not necessary
Parts Room			1	200				Lockable
Common work area			1					Inside repair bays
Equipment Storage			1					Inside repair bays
Tool Storage			1	100				Lockable fenced crib area for security
Tire Repair Shop			1					Inside repair bays
Tire Storage								Off-site-code problems and expense
Battery Room								Off-site-code problems and expense
Lube/Compressor Room			1					Pumped to hose reel stations in repair bays
Subtotal		2	8	2,596	0	0	-	
Circulation/Mech/Elect/Structural	20%			519			-	
TOTAL MAINTENANCE AREA				3,115			-	

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ADMIN./OPERATIONS/MAINT. PROGRAM SUMMARY								
Administration		2	8	1,057	0	0	0	
Operations		13	8	1,133	0	0	0	
Maintenance		2	8	3,115	0	0	0	
Subtotal		17	24	5,305	0	0	0	

EXTERIOR SPACES		Current			Future Projection			Remarks
		15 Vehicles						
Area/Description	Space	Quantity						
	Std	Staff	Space	SF	Staff	Space	SF	
COVERED VEHICLE PARKING								
Standard Buses	13.5' x 45'		9	5,468				
Paratransit Vans	12' x 30'		6	2,160				
Body-on-Chassis Vehicles			0	0				
Different Organization Vehicles?			??	??				
Subtotal		0	15	7,628	0	0	0	
Circulation				0				
TOTAL COVERED VEHICLE PARKING AREA				7,628			0	

FUEL & WASH								
Fuel Dispenser/Center			1	200				Gas only, 1 dispenser-2 hoses; Mgmt system
Fuel Service Lane			1					Alternate fuel rough-in (C&G); Canopy
Bus Washer - Standard Buses			1	600				Option: manual (hand wand) or automated
Wash Pad - Vans, support vehicles			1					
Water Reclamation			1					
Subtotal		0	5	800	0	0	0	
Circulation	50%			400				
TOTAL FUEL & WASH AREA				1,200			0	

EXTERIOR PARKING								
Buses	12' x 40'		5	2,400				
Employee	10' x 20'		18	3,600				Pavement
Visitor	10' x 20'		5	1,000				Pavement
Different Organization Vehicles?								Pavement
Subtotal		0	28	7,000	0	0	0	
Circulation	100%			7,000				
TOTAL EXTERIOR PARKING AREA				14,000			0	

SITE DEVELOPMENT/UTILITIES								
Detention Basin				6,000				
Oil/Water Separator			1					Maintenance Repair bays
Radiant heat system								Maintenance Repair bays
Vehicle exhaust system								Maintenance Repair bays
Signage			0					
Entrance Access Drive			2	1,200				Admin. Bldg. and Main Bus entry
Circulation, drives, etc.	200%		1	25,864				Percent of enclosed spaces
Landscaping & Setbacks	30%			26,227				25% to 45% of site
TOTAL SITE DEVELOPMENT AREA				59,291				

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Area/Description	Space Std	Current 15 Vehicles Quantity Staff	Space	SF	Future Projection Vehicles Quantity Staff	Space	SF	Remarks
PROGRAM SUMMARY								
Admin./Operations/Maint. Bldg		17	24	5,305	0	0	0	
Covered Vehicle Parking		0	0	7,628	0	0	0	
Subtotal Enclosed Buildings		17	24	12,932	0	0	0	
Fuel & Wash		0	0	1,200	0	0	0	
Exterior Parking		0	0	14,000	0	0	0	
Site Development Area				59,291				
Subtotal Exterior		0	0	74,491	0	0	0	
Total of Buildings and Exterior		17	24	87,423	0	0	0	

Preliminary Project Budget Analysis

CATEGORY OF COST	QUANTITY AREA/NO.	COST	UNIT	IMMEDIATE	FUTURE	Comments/Remarks
A. Building Construction Costs:						
1) Admin./Maintenance Building:						
a) Administration	1,057	$ 80	SF	$ 84,560	$ -	
b) Operations	1,133	$ 80	SF	$ 90,640	$ -	
c) Maintenance Repair Shop	3,115	$ 65	SF	$ 202,475	$ 85,800	Equip. Costs included in "B" below
2) Covered Vehicle Storage Building	7,628	$ 25	SF	$ 190,700	$ 187,500	
3) Vehicle Washing Building	3,400	$ 65	SF	$ 221,000	$ -	Automated Wash Equip. incl. in "B" below
4) Fueling Center:						
a) Fuel Dispensers	1	$ 16,500	EA	$ 16,500	$ -	
b) Unleaded Storage Tank (15,000 gal.)	1	$ 15,000	EA	$ 15,000	$ -	
c) Automated Fuel Management System	1	$ -	EA	$ -	$ -	
d) Leak Detection System	1	$ 3,200	EA	$ 3,200	$ -	
e) Provisions for future Alternative Fuel Storage	1	$ -	EA	$ -	$ -	
f) Canopy over Fuel Dispensing Island	600	$ 15	SF	$ 9,000	$ -	
A. Subtotal All Buildings Above: (Above includes Contr. Gen. Conditions, OH & Profit, Ins. & Bond @ 10%)	**16,933**			**833,075**	**273,300**	
B. Major Fixed Equipment:						(Minor equip. included in "A" above)
1) Maintenance Repair Shop:						
a) Hoist: Two Posts, Stationary, 12 Ton Capacity	1	$ 13,100	EA	$ 13,100	$ -	
b) Hose Reel Lube Stations, 3 Reel Unit	2	$ 8,550	EA	$ 17,100	$ -	
c) Vehicle Exhaust System(s)	6	$ -	EA	$ -	$ -	
2) Vehicle Washing Building						
a) Automated Washing, Vacuuming equipment	1	$ 100,000	LOT	$ 100,000	$ 100,000	
B. Subtotal Major Fixed Equipment Costs:				**$ 130,200**	**$ 100,000**	

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C. Site Development and Preparation						
1) Site Grading	1,500	$ 4	CY	$ 5,250	$ -	
2) Roadway Paving, etc.				$ -		
a) Curb & Gutters	1,800	$ 12	LF	$ 21,600	$ -	
b) Aggregate Base (4")	4,600	$ 13	SY	$ 59,800	$ -	
c) Asphalt Paving - Auto Parking Lot	1,200	$ 16	SY	$ 19,200	$ -	
d) Asphalt Paving - Bus Parking & Drives	3,400	$ 20	SY	$ 68,000	$ -	
e) Concrete Paving at Wash/Fuel Areas & Near Stor. Bldg.	600	$ 40	SY	$ 24,000	$ -	
3) Sidewalks	200	$ 23	SY	$ 4,600	$ -	
4) Retaining Walls	0	$ 35	SF	$ -	$ -	
5) Other Driving Areas	0	$ 16	CY	$ -	$ -	
6) Utilities						
a) Sanitary Sewer	200	$ 49	LF	$ 9,800	$ 9,800	
b) Gas Piping	200	$ 7	LF	$ 1,400	$ 1,400	
c) Water Service/Lines	200	$ 15	LF	$ 3,000	$ 3,000	
d) Electrical Service	1	$ 4,000	LOT	$ 4,000	$ 4,000	
7) Landscaping Allowance	0	$ 2.50	SF	$ -	$ -	
8) Fencing	1,200	$ 12	LF	$ 14,400	$ -	
9) Site Signage Allowance	1	$ 10,000	EA	$ 10,000	$ -	
10) Site Lighting	1	$ -	LOT	$ -	$ -	
11) Special Fill/ Earthwork Requirements	0	$ -	LOT	$ -	$ -	
12) Embankment	0	$ 3.50	CY	$ -	$ -	
13) On-Site Drainage/Detention Basin	1	$ 15,000	LOT	$ 15,000	$ 15,000	
C. Subtotal Site Development & Preparation Costs:				**$ 260,050**	**$ 33,200**	
D. Other Overall Facility Costs						
1) Emergency Generator & Distribution	1	$ 50,000	EA	$ 50,000	$ 50,000	
D. Subtotal Other Facility Costs:				**$ 50,000**	**$ 50,000**	
E. Design Contingency				$ 127,333	$ 45,650	Budget 10% of "A, B, C & D" above
F. Escalation				$ 56,026	$ 20,086	1 Year @ 4% per year
G. CONSTRUCTION COST: (Sum of A thru F)				**$ 1,456,684**	**$ 522,236**	

H. Movable Equipment Allowances:						
1) Major Movable Allowance					$ 15,667	Budget 3% of "G" Above. Assumes high degree of reuse of exist.
2) Minor Movable Allowance					$ 10,445	Budget 2% of "G" Above. Assumes high degree of reuse of exist.
H. Subtotal Movable Equipment Allowance:				**$ -**	**$ 26,112**	
I. Furnishings & Furniture Allowance				**$ 14,567**	**$ -**	Budget 1% of "G" Above. Assumes high degree of reuse of exist.
J. Professional Fees:						
1) A/E Basic Design Services Fee				$ 92,325	$ 32,995	Fee based on % of construction costs
(& Reimbursable Expenses)				$ 9,232	$ 3,299	10% of labor fee
2) Construction Manager Fee				N/A	N/A	Presume General Construction Contract
3) Soil Engineering				$ 8,000	$ -	
4) Site Survey				$ 6,000	$ -	
5) Misc Administrative Costs				$ 14,567	$ 5,222	Permits, Fees, Testing, etc. 'Budget 1% of of "G" Above.
6) Temporary Connections and Rerouting				N/A	N/A	
7) Storage and Moving Expenses				N/A	N/A	
J. Subtotal Professional Fees:				**$ 130,124**	**$ 41,517**	
K. Financing Costs				**$ -**	**$ -**	Verify
L. Construction Contingency				**$ 43,701**	**$ 15,667**	Budget 3% of "G" Above
M. Information Systems Equipment and Cabling Allowance				**$ -**	**$ -**	Verify
N. Project Costs Escalation				**$ 3,768**	**$ 1,666**	1 Year @ 4% per year
O. Other				$ -	$ -	N/A
P. TOTAL PROJECT COST: (Sum of G thru O)				**$ 1,648,843**	**$ 607,198**	