DEVELOPING A TRANSPORTATION MANAGEMENT ASSOCIATION AND SHUTTLE BUS CIRCULATOR SYSTEM FOR THE SPRINGFIELD BUSINESS DISTRICT

August 21, 1998

INTRODUCTION

The opening of the Franconia-Springfield Metrorail station in June 1997 precipitated substantial changes in both Metrobus and Fairfax Connector service. The most noticeable of these was the switch to turnback service, as buses that previously took commuters to the Pentagon instead feed into the new Metrorail station.

However, the opening of the Metrorail station in this suburban, but heavily developed, commercial area has presented other, less traditional opportunities for transit service. Funding could be sought to provide internal, circulator transit service to the Franconia-Springfield area (Springfield Business District).

Springfield, Virginia, located at the intersection of I-95, I-395, and I-495, contains approximately 4,027,793 square feet of retail space which includes the Springfield Mall, which has 1,501,641 square feet of retail space comprising about 250 stores. Additionally, the area is home to several hotels comprising an estimated 528,175 square feet, or approximately 960 rooms. The area contains 3,186,412 square feet of office space as well as 8,487,831 sq. ft of industrial/hybrid space. While many of these establishments are located within a fairly small area of about three square miles, access is primarily by automobile, and congestion is a common problem. I-95 bisects the business district which also presents a barrier to smooth circulation.

Combined with the presence of Metrorail and VRE, many of the employees and patrons of Springfield's businesses might be effectively served by improved transit. Similarly, residents could be connected to their jobs elsewhere in the region by more convenient transit access to the Joe Alexander Transportation Center. However, the type of transit that can most efficiently and effectively do this is something smaller and more flexible than the commuter-oriented bus service now provided in the area. For instance, vans or 22-passenger mini-buses may be appropriate vehicles for this type of service, helping to keep costs down and able to move more easily through congested traffic. Non-traditional funding mechanisms for this service may also be possible.

Because it is likely that a service designed for the Franconia-Springfield area would have very different characteristics than that provided by Fairfax Connector or Metrobus, and would be experimental, it is appropriate that it be handled as a demonstration project. Therefore, local, WMATA and commission staffs could cooperate to analyze the demand for this type of transit; determine service characteristics for a demonstration operation; obtain local approvals and funding and contract with either Fairfax Connector, WMATA, or a private firm to provide the service. In addition, local businesses could provide insight into transit needs and support the development of a Franconia-Springfield Transportation Management Association, perhaps initially functioning as an advisory committee to the project.

Many businesses in the area have expressed interest in seeing such a transit service plan developed. In addition, the Central Springfield Revitalization Council and the Community Management Association (a homeowners association) have also expressed interest in the project (see Appendix 1).

FINANCING ALTERNATIVES

A pro forma financial plan is provided as Exhibit I. It combines several of the sources listed below.

1) State Demonstration Grants: Applications for FY 2000 funding are due in March, 1999 to the Virginia Department of Rail and Public Transportation. Typically, NVTC would be the applicant for a demonstration grant although local governments or transit systems also have occasionally applied directly in the past. Up to 95 percent of the capital and operating costs are available for the first year. The five percent matching funds might come from in-kind services. Usually only about $100,000 is available and competition is heavy for the limited funds. NVTC successfully used such funds in the past for the Tysons Shuttle and for taxi and bus feeder services in Arlington and Alexandria. Technical assistance grants typically have a different match (50 - 80 percent state) and could be used to help plan the service and estimate ridership. It is likely that several thousand dollars of FY 1998 funds may still be available for route planning and demand estimation.

2) Traffic Mitigation Funds for "Mixing Bowl" Improvements: VDR&PT and VDOT will recommend a series of measures to reduce congestion during the lengthy reconstruction process of the Mixing Bowl (I-95/395/495) at Franconia-Springfield. Federal funds are available for this purpose, for up to 100 percent of the operating and capital costs. If the proposed shuttle buses could be seen to contribute to reduced congestion, the project could receive multi-year operating funding, or at least help in reducing fares and promoting the service. For example, the successful Tri-Rail commuter rail system in Ft. Lauderdale, Florida was built and operated using such funds at a cost of several hundred million dollars. A possible difficulty with the use of federal funds is the need to execute 13(c) agreements with organized labor and pledge to pay up to six years of compensation to any employee whose conditions of employment may be worsened as a result of the project. Because of this and other "strings" on federal funds, the Fairfax Connector and other local transit systems have not sought to use federal funds. VDR&PT, NVTC or WMATA could serve as the recipient of such funds (see Appendix 2).

3) Regional Discretionary Funds: Federal RSTP and CMAQ programs provide approximately $40 million annually for Northern Virginia to allocate (with approvals by TPB and CTB). Funds are provided at 80 percent (CMAQ) and 100 percent (RSTP) matching ratios, and in the past have paid for the acquisition of buses and start-up operations of PRTC's Omni Link system as well as Metrobus and OmniRide purchases. While funds for FY 1999 have been allocated, the TCC has not yet voted its final approval and it may still be possible to obtain some funds from this source. The FY 2000 process will begin on September 4, 1998. Again, 13(c) restrictions would apply.

4) Earmarking of Federal Funds: In the FY 1999 federal budget process, $650,000 of federal funds have been earmarked for this project in the House of Representative's version of the bill. Concerns over 13(c)

restrictions on these federal funds must be considered. Also that particular source of earmarked funds (Section 3) cannot be used to support operations. Congress is expected to pass the FY 1999 appropriations bill in September, 1998.

5) Commercial Donations: Forming a TMA would facilitate voluntary dues or special assessments to support the costs of the proposed service. Or, one or more commercial interests could, on their own, cover the costs, perhaps through proffers on commercial developments. Provisions also exist in Virginia statutes to form special assessment districts to provide a steady source of revenue.

6) Fare Revenues: While fare revenue would not cover the costs of the proposed shuttle, it could contribute some portion of the budget. Possible Metrobus and Connector service adjustments in anticipation of the additional coverage provided by this proposed shuttle operation might yield some savings to Fairfax County, which could, if the county chooses to do so, be used to help support this new circulator bus system.

7) Need for Ongoing Funding: Many of the above sources of funds cover start up and initial operation. However, perpetual funding sources should be identified, since it serves no one's interest to be compelled to discontinue a successful public transit service for lack of such a stable and reliable source of funds.

MANAGEMENT ALTERNATIVES

If a TMA is formed, its staff could manage the operating contract with WMATA, Fairfax Connector or the private sector, as could NVTC or the Fairfax County Office of Transportation. If grant funds are to be sought, the Northern Virginia Transportation Commission would be the typical means to apply, although depending on the specific source of funds, Fairfax County itself might also apply and administer the funds. If county funds are to be used, presumably county staff would provide the contract management. Another alternative is for WMATA to be the lead agency as well as the service provider.

A benefit of forming the TMA first is that the business community then has a very strong role in planning the shuttle and therefore regards it as their own. This might make it easier to generate private sector donations. A drawback is that such business leaders may take an extended period of time to agree on a management structure and have no specific expertise in bus planning. Accordingly, enlisting local business leaders (and representatives of residents) initially on a project advisory team may expedite the start of the shuttle and provide training for future TMA officers.

An example of how the project might be managed is:

1) Fairfax County Board of Supervisors approves project in concept and determines the lead agency to seek grant funds.

2) The lead agency, working with county staff and local and regional organizations, proposes a draft service plan, including potential feeder routes, and provides a rough ridership estimate, short-term project budget

and long-term financial plan.

3) Public meetings are held to review these plans and explore setting up a TMA in the future.

4) Upon obtaining local approvals, the lead agency files the grant application and secures funding.

5) The lead agency completes the final service plan, and upon final local approval issues an RFP for a contract operator, awards the contracts and monitors service. Alternatively, WMATA could be selected initially as the lead agency, in which case no RFP would be needed.

6) After the start-up phase of approximately two-years, the project reverts to its permanent organizational structure (e.g. TMA management).

Exhibit 2 sets forth a possible schedule for these management activities to permit FY 1999 grant funds to provide service start-up in May, 1999.

PROPOSED SERVICE PLANS

Two hypothetical service plans are presented to illustrate the likely operating costs and possible ridership of different circulator options. Weekend service is presented as an option that could be added to the weekday service. See Exhibits 3 and 4.

Based on the assumptions explained below, the high frequency service (option 1) might use two buses for 15 morning and 19 evening departures, with 24 platform hours costing $50 per hour. Total annual cost would be $386,700 (of which $300,000 would be for operations and the remainder reflecting amortized capital costs of buses). Assuming 375 daily riders at fares of 50 cents per trip (the same as Metrobus feeder fares), annual fare revenue would be $46,900, for an annual deficit of $338,800.

For lower frequency service, two buses would make 9 morning and 12 evening departures. A fare of 50 cents with 260 daily riders would require an annual subsidy of $212,400.

Finally, weekend service could be added to either of the weekday service scenarios. One bus carrying 130 daily passengers at a fare of 50 cents would require an annual subsidy of $57,000.

The calculations and assumptions in Exhibit 3 and 4 were derived from several sources. Information regarding AM/PM departures, number of buses required, platform hours, and hourly cost were derived from a combination of public and private bus service providers in Northern Virginia. The $0.50 fare is based on the Metrobus feeder fare where service is provided directly to a Metrorail station.

The weekday ridership forecasts are based on daily ridership numbers for the Tysons Shuttle. This bus service is a peak period, fixed circulator route that originates at the West Falls Church Metrorail station and serves the Tysons Corner area in a pattern which is somewhat similar to the proposed Springfield circulator route. Midday and

weekend ridership forecasts are estimated.

An explanation of the calculations shown in Exhibit 3 and 4 is listed below:

Daily Cost = Hourly Cost * Platform Hours

Annual Operating Cost = Daily Cost * 250 or 102 (250 workdays, 102 weekends in a calendar year)

Annual Revenue = Fare * Daily Passengers * 250

Annual Capital Cost = assumes $200,000 per bus, amortized over 7 years

Total Deficit = Operating Deficit + Annual Capital Cost - Annual Revenues

PROPOSED CIRCULATOR ROUTE

The Springfield CBD is roughly bounded by Commerce St., Springfield Plaza, Backlick Rd, Springfield Center Dr., Franconia-Springfield Metrorail, and Frontier Rd (Springfield Mall). The following major roads divide the site: I-95, Franconia/Old Keene Mill Road, and the Franconia-Springfield Parkway.

The route shown in Exhibit 5 provides an example of what a circulator route might look like. The proposed circulator route is approximately 5.5 miles, and encompasses the following major facilities: The Franconia-Springfield Metrorail and VRE stations, Springfield Mall, Spring Mall Square, Lee Center, and Backlick Center. Additionally, there are five major hotels, Days Inn, Hilton, Hampton Inn, Comfort Inn and the Washington Springfield Ramada Limited. There are numerous offices in the area along with a General Services Administration storage depot.

There are several acres of undeveloped land in the study area. All of the undeveloped land has been zoned for high-density, mixed use development. This creates a significant potential for increased transit use in the corridor.

The following figures are derived from the Springfield I-95 Corridor Area market report:

Office Space:	3,186,412 sq ft
Retail Space:	4,027,793 sq ft
Industrial/Hybrid Space:	8,487,831 sq ft
Hotel:	528,175 sq. ft (estimated)

Population (within a 1-3 mile radius of intersection of Old Keene Mill and Franconia Rd): 77,700
Estimated Number of Employees in Springfield: 41,000

CURRENT TRANSIT SERVICE

The following Metrobus routes serve a portion of the area: The 18 series A,B,G,H,J,K,L, which serve Old Keene Mill Rd between Greeley Blvd. to I-395 and the Pentagon. In addition, the 18A serves Amherst Road between Old Keene Mill and

Highland St. The 29X serves an area just north of the study area.

The following Fairfax Connector routes serve the area on weekdays: 109, 110, 111, 202, 204, 301, 303, 304, 305, 311, and 401. Weekend service is limited to routes 109, 110 and 401 on Saturday and Route 110 on Sunday.

Routes 109, 110, and 311 serve the Springfield Mall entrance directly. The other Connector buses travel along various routes, none of which duplicate the proposed shuttle service.

Given that Pentagon City is one of Metrorail's biggest weekend destinations, and that suburban shopping malls are usually busiest on weekends, more emphasis on weekend bus service to the Springfield mall may be warranted.

The 109 route serves the Van Dorn street Metro station, Springfield Mall and Springfield Plaza; however, the bus route is not a circulator. On weekdays, service between Springfield Mall and Van Dorn Metro station operates from 5:40 am through 10:00 p.m., service from Van Dorn to Springfield from 5:20 a.m. to 11:32 p.m. Headways are as follows: 25-35 minutes during the rush period (5:40-7:58 a.m. & 3:37-7:40p.m.). On Saturdays, the 109 service from Van Dorn begins at 8:56 a.m. and runs until 10:16 p.m. with 45-55 minute headways all day.

The 110 route serves Springfield Mall Entrance #6 and Springfield Plaza. This bus route makes a wide circulatory pattern around Springfield Mall, Springfield Plaza and the adjacent neighborhood. However, this is not designed to be a circulatory route serving the study area.

Connector routes 202, 204, 301, 302, 303, 304, 305 and 401 all serve the Springfield Mall, but do not serve any other part of the study area.

All of these routes would be candidates for rerouting to provide better local connections. Through interlining, they could supplement proposed circulator system. For example:

1) Rescheduling of the 109 route to serve the Springfield Plaza area (Old Keene Mill Road and Commerce Rd.) more frequently.

2) Rescheduling the 109, 110 or 204 Fairfax Connector routes to form a circulatory pattern around the study area, or combining two of these routes to create a circulatory shuttle around the study area.

3) Adding a Springfield circulator route to buses serving the Franconia-Springfield Metrorail station. As buses pull into the Franconia-Springfield station, they would discharge passengers, continue on to do a loop around Springfield Mall and Plaza, and then return to the Franconia-Springfield station to begin their run.

The pro forma financial plan (Exhibit 1) includes a budget for promotion of these existing services, including signs and brochures emphasizing their use for trips within the service area of the proposed shuttle.

CONCLUSION

The information in this document was compiled to illustrate the steps that would need to be taken to investigate interest in forming a TMA to manage a new bus circulator route in the Franconia-Springfield area. The calculations are based on initial, very rough estimates and are intended as examples. This document provides an outline for possible grant applications to help initiate the TMA and bus circulator system, if local authorities and business interests choose to do so.

APPENDIX 1

Letters of Support

FRIED
COMPANIES
INC

6551 Loisdale Court
Suite 900
Springfield, Virginia 22150
703/922-7100
Fax 703/922-7[illegible]

June 23, 1998

Mr. Ed Frye, Chair
Economic Development and Land Use Committee.
Greater Springfield Chamber of Commerce
6434 Brandon Avenue. Suite 3A
Springfield, VA 22150

Dear Ed:

Fried Companies applauds the plans of the Chamber to set up and operate a local, non-profit transit management and marketing association aimed at providing mobility and access for local residents, daily commuters, and visitors to reach offices, shops, restaurants, hotels, and the Metro center. We are delighted to hear from you that Supervisor Kauffman, a long-time proponent of such a transit association, agreed to serve as Honorary Chairman. Also, we support the Chamber's adamant encouragement of office development in Springfield.

To those ends and in response to your request for additional funds from the Fried Companies at the last committee meeting. Fried Companies, at the time of the rezoning associated with our office park proposal, commits to a proffer of a contribution of $60,000 to this Springfield area transit management association.

This contribution is in addition to the $40,000 proffered with the Springfield Commons project. We anticipated the initial funds to purchase the first two vans, possibly coordinating van service with the Fall opening of the first stores.

As you know, our lawyer Mike Giguere, who set up the Dulles Area Transit Association (DATA) and the Fair Lakes/ Chantilly association, generously offered his time and expertise to help set up one for Springfield. We all look forward to working with your executive Board to make the local transit system a success!

Sincerely,
Fried Companies, Inc.

Leah R. Fried

Leah R. Fried

cc: Supervisor Dana Kauffman, Lee District
Michael J. Giguere, McGuire, Woods, Battle and Boothe

Development
Construction
Leasing
Management

Springfield Hilton

BARRY D. BRADY, CHA
General Manager

February 20, 1996

Mr. Dana Kauffman
Lee District Supervisor
6121 Franconia Road
Alexandria, VA 22310

Dear Dana,

I would like to stress my approval of the development of a van/trolley system to serve the Springfield Business District with connections to the future Commuter Rail and Metro stations.

We constantly receive transportation requests from our visiting guests. In addition to the 70,000 rooms sold at the Springfield Hilton in 1995, we have hosted hundreds of thousands of local residents through numerous banquet functions. The proposal as presented would benefit not only my guests but also all of my employees who live in the Springfield area and walk to work.

Dana, I support the development of the trolley system to serve the Springfield Business District and look forward to its implementation. With the convenience of a trolley system, we can only expect the Springfield area to continue to prosper. If you require further information in this regard, please feel free to contact me.

Sincerely,

Barry D. Brady, C.H.A.
General Manager

BDB/tjp

6550 Loisdale Road, Springfield Virginia 22150 Telephone 703-971-8800 Fax 703-971-8527
Reservations 1-800-HILTONS

Crutchley, Marginot & Tosi
A Professional Corporation

MEMORANDUM

TO: Supervisor Dana Kauffman

FROM: Chuck Marginot

DATE: February 23, 1996

RE: Springfield's "People-Mover"

I have a professional firm of approximately thirty CPA's and accountants located in the heart of Springfield. Our firm has been located here since the mid 1970's. Because of our great concern for the community I have been very active in our Chamber of Commerce and professional organizations.

I was impressed with your proposal as presented to the Chamber on the 14th of February. It appears to be more practical and flexible than previous plans, and also much less costly. This would tie in the Metro to our office and be a terrific aid for some of our clients.

I can see the practical benefits to both our employees and clients to have a system like this in place. You have our overwhelming endorsement for the "people-mover" as outlined at our meeting.

Springfield Mall

February 23, 1996

Mr. Dana Kaufman
Supervisor - Lee District
Board Of Supervisors
6121 Franconia Road
Alexandria, VA 22310

Dear Supervisor Kaufman,

On behalf of Fischer Rosse Associates, the managing agent for Springfield Mall, I would like to express my interest in the proposed "people mover" system.

First and foremost the "people mover" will directly link the Metro and Commuter Rail system with retail outlets in the community. As you probably are aware, we have lost out on a number of events, promotions and even retailers because Springfield did not have access to the Metro Rail system. The "people mover" will not only be key to expanding our retail market, but will be able to offer potential customers an easy mode of transportation throughout the Greater Springfield area.

Secondly, traffic in the Springfield area in terms of the "mixing bowl" would greatly be reduced. At the present time, the "mixing bowl" poses the largest traffic problem in Northern Virginia. Springfield is continually associated with the "bowl", which to say the least, is not emanating a positive image for our community. During the widening of I-95 and associated road construction, traffic congestion will definitely increase. We urgently need some strategy to alleviate this bottleneck that the construction will surely produce. The "people mover" system is a definite step in the right direction.

Springfield Mall, as the largest business in the Greater Springfield area, would certainly participate as an active member of the Transportation Management Association. We strongly endorse the proposal of the "people mover" system to serve the business district. We support the requests for funding the proposal through a demonstration grant and "maintenance of traffic" funding, not burdening the retail and business community.

This proposal will clearly put Springfield on the map and help to make us a "true player" in the world of business.

Sincerely,

Jerry Robinson
General Manager

Fischer Rosse Associates, Inc. 6800 Springfield Mall P.O. Box 789, Springfield, Virginia 22150 (703) 971-3600 Fax (703) 922-9018

Greater Springfield Chamber of Commerce

6434 Brandon Avenue, Suite #3A Springfield, Virginia 22150
Phone: 703-866-3500 Fax: 703-866-3501

Mr. Dana Kauffman
Lee District Supervisor
Franconia Governmental Center
6121 Franconia Rd.
Alexandria, VA 22310

February 21, 1996

Dear Dana,

On behalf of the Greater Springfield Chamber of Commerce, I would like to take this opportunity to voice our approval of the development of a van/ trolley system linking the Springfield Business District with the future Commuter Rail and Metro Station as is was presented to the Greater Springfield Chamber of Commerce Board of Directors at our February 14th meeting. (See attached) We believe that it will be a great asset to the Business Community as a whole, and support the development of it. Thank you.

Sincerely,

Barry Brady
President

APPENDIX 2

13(c) Labor Issues Affecting Federal Grant Funds

The Federal Transit Administration requires grant recipients to conclude a 13(c) labor protection agreement with organized labor – certified by the U.S. Department of Labor – as a condition for receiving a grant. The purpose of Section 13(c) of the Federal Transit Act of 1964 as amended is to protect currently employed transit workers from adverse impacts of federally funded projects, by providing, for example, up to six years of wages to displaced workers.

The labor protection agreements are required for both capital and operating grants and a model agreement was developed in 1975 by APTA, labor unions, the Department of Labor and other affected parties. The model agreement is the most expeditious approach to concluding 13(c) negotiations as FTA, Labor and the unions will usually sign off quickly on this document. The model agreement provides the following labor protections:

- A definition of the project activities covered by the agreement that includes actions that may result from the expenditure of federal funds (e.g. technological or management innovations). but excludes adverse impacts that are a result of normal business fluctuations.
- Preservation of all existing collective bargaining rights.
- Award of a "displacement allowance" to worker(s) who can demonstrate a causal relationship between the operations of the proposed service and a degradation of their work conditions. The allowance may be paid on lieu of wages and may last up to six years.
- Re-training and re-locations will be provided at the grantee's expense for displaced workers.

The 13(c) labor protection requirement for the receipt of federal funds may limit the willingness (and ability) of Fairfax County to participate directly in this proposed service. For example, Fairfax County has specifically limited the federal role in its current bus program to acquisition and construction of park and ride facilities that will be used by carpools as well as express buses.

Use of a federal grant to acquire or lease buses will in turn extend the 13(c) protections to the personnel driving and maintaining this equipment. This implication is important to the long-term consideration of how this equipment would be folded into the planned Franconia-Springfield turnbacks and feeder services.

Exhibit 1

Pro Forma Financial Plan

Franconia/Springfield Feeder Bus Project

Costs	Year 1 (July 98 - June 99) FY 99	Year 2 (July 99 - June 2000) FY 2000	Year 3 (July 00 - June 01) FY 2001	Year 4 (July 01 - June 02) FY 2002
Planning	50,000			
Public Involvement	15,000			
Promotion	20,000	50,000	50,000	50,000
TMA Management			50,000	50,000
Shuttle Contract Operation		400,000	425,000	450,000
Shuttle Capital		100,000	100,000	125,000
Administration	5,000	20,000		
Totals	90,000	570,000	625,000	675,000

Revenues

NVTC In-Kind	10,000	20,000	10,000	10,000
WMATA In-Kind	10,000			
State aid for Capital		10,000	10,000	10,000
State Demo/Tech Grant	25,000			
Mixing Bowl Grant or SSTP		50,000	50,000	310,000
Federal Sec. 3 earmark (FY' 99)	45,000	150,000	150,000	150,000
Regional CMAQ/STP		250,000	275,000	
Private TMA contributions		40,000	80,000	120,000
Fare Box revenues		50,000	50,000	75,000
Totals	90,000	570,000	625,000	675,000

Note: Service begins July 1, 1999. WMATA plans service and operates under contract. TMA formed July 1, 2000 to take over administration. High service option plus weekend service included.

EXHIBIT 2

Project Management Schedule for Start of Service

	1998			1999						
Activity	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June
Identify Lead Agency	X	X								
Propose Draft Service Plan	X	X								
Evaluate Service Costs and Ridership	X	X	X							
Identify Potential Routes	X	X	X							
Ridership Estimate	X	X	X							
Public Hearings/Explore TMA	X	X	X							
Obtain Local Approvals	X	X								
Submit Grant Applications	X	X					X			
Complete Financial Plan and Secure Funding	X	X	X						X	
Complete Service Plan			X	X						
Issue RFP for Contract Operator				X						
Award Contract						X				
Plan and Promote Start Up							X	X	X	
Initiate Service										X

Exhibit 3

Option 1: All Day High Frequency Fixed Route Weekday Service

Origin	# of Buses Required	Platform Hours	Daily Passengers	Hourly Cost	Daily Cost	Annual Operating Cost	Annual Capital Cost	Fare	Annual Pax Revenue	Annual Operating Deficit
Franconia-Springfield Metro	3	24	375	$50	$1,200	300,000	$85,714	$0.50	46,875	$338,839

Assumes bus cost of $200,000 amortized over seven years — Total plus Weekend Service = $395,857

Peak period buses would depart at 20 minute headways from 6:00 until 9:00AM, and 3:00 until 7:00 PM

Between 9:00 am and 3:00 pm, buses would have a 30 minute headway

Assumes 45 passengers per hour for the peak periods, and 10 passengers per hour for off peak.

Option 2: All Day Low Frequency Fixed Route Weekday Service

Origin	Buses Required	Platform Hours	Daily Passengers	Hourly Cost	Daily Cost	Annual Operating Cost	Annual Capital Cost	Fare	Annual Pax Revenue	Annual Operating Deficit
Franconia-Springfield Metro	2	15	258	$50	$750	187,500	$57,143	$0.50	32,250	$212,393

Assumes bus cost of $200,000 amortized over seven years — Total plus Weekend Service = $269,411

Buses would keep 40 minute headways 6:00 AM to 7:40PM

Assumes an average of 30 passengers per hour for the peak period and 8 passengers per hour for off peak.

Option 3: Weekend Service

Origin	# of Buses Required	Platform Hours	Daily Passengers	Hourly Cost	Daily Cost	Annual Operating Cost	Annual Capital Cost	Fare	Annual Pax Revenue	Annual Operating Deficit
Franconia-Springfield Metro	1	12.5	132	$50	$625	63,750		$0.50	6,732	$57,018

Buses would depart at 30 minute headways from 8:40 until 7:40

Assumes 12 passengers per hour. Bus cost included in weekday service.

Option 1: All Day High Frequency Fixed Route Service

Bus No.	Franconia-Springfield	Brookfield Plaza	Franconia-Springfield	Headway
1	6:00 AM	6:20 AM	6:40 AM	20
2	6:20 AM	6:40 AM	7:00 AM	20
1	6:40 AM	7:00 AM	7:20 AM	20
2	7:00 AM	7:20 AM	7:40 AM	20
1	7:20 AM	7:40 AM	8:00 AM	20
2	7:40 AM	8:00 AM	8:20 AM	20
1	8:00 AM	8:20 AM	8:40 AM	20
2	8:20 AM	8:40 AM	9:00 AM	20
1	8:40 AM	9:00 AM	9:20 AM	20
2	9:00 AM	9:15 AM	9:30 AM	30
2	9:30 AM	9:45 AM	10:00 AM	30
2	10:00 AM	10:15 AM	10:30 AM	30
2	10:30 AM	10:45 AM	11:00 AM	30
2	11:00 AM	11:15 AM	11:30 AM	30
2	11:30 AM	11:45 AM	12:00 PM	30
2	12:00 PM	12:15 PM	12:30 PM	30
2	12:30 PM	12:45 PM	1:00 PM	30
2	1:00 PM	1:15 PM	1:30 PM	30
2	1:30 PM	1:45 PM	2:00 PM	30
2	2:00 PM	2:15 PM	2:30 PM	30
2	2:30 PM	2:45 PM	3:00 PM	30
2	3:00 PM	3:20 PM	3:40 PM	20
1	3:20 PM	3:40 PM	4:00 PM	20
2	3:40 PM	4:00 PM	4:20 PM	20
1	4:00 PM	4:20 PM	4:40 PM	20
2	4:20 PM	4:40 PM	5:00 PM	20
1	4:40 PM	5:00 PM	5:20 PM	20
2	5:00 PM	5:20 PM	5:40 PM	20
1	5:20 PM	5:40 PM	6:00 PM	20
2	5:40 PM	6:00 PM	6:20 PM	20
1	6:00 PM	6:20 PM	6:40 PM	20
2	6:20 PM	6:40 PM	7:00 PM	20
1	6:40 PM	7:00 PM	7:20 PM	20
2	7:00 PM	7:20 PM	7:40 PM	20

Bus 1 Platform Hours	9.00	6:00 to 9:20 am; 3:20 to 7:20pm; plus 1:40 hrs. dead head = 9 hours
Bus 2 Platform Hours	15.00	6:20 am 7:40pm; plus 2 hour dead head =15 hours
Total Platform Hours	**24.00**	

Option 2: All Day Low Frequency Fixed Route Service

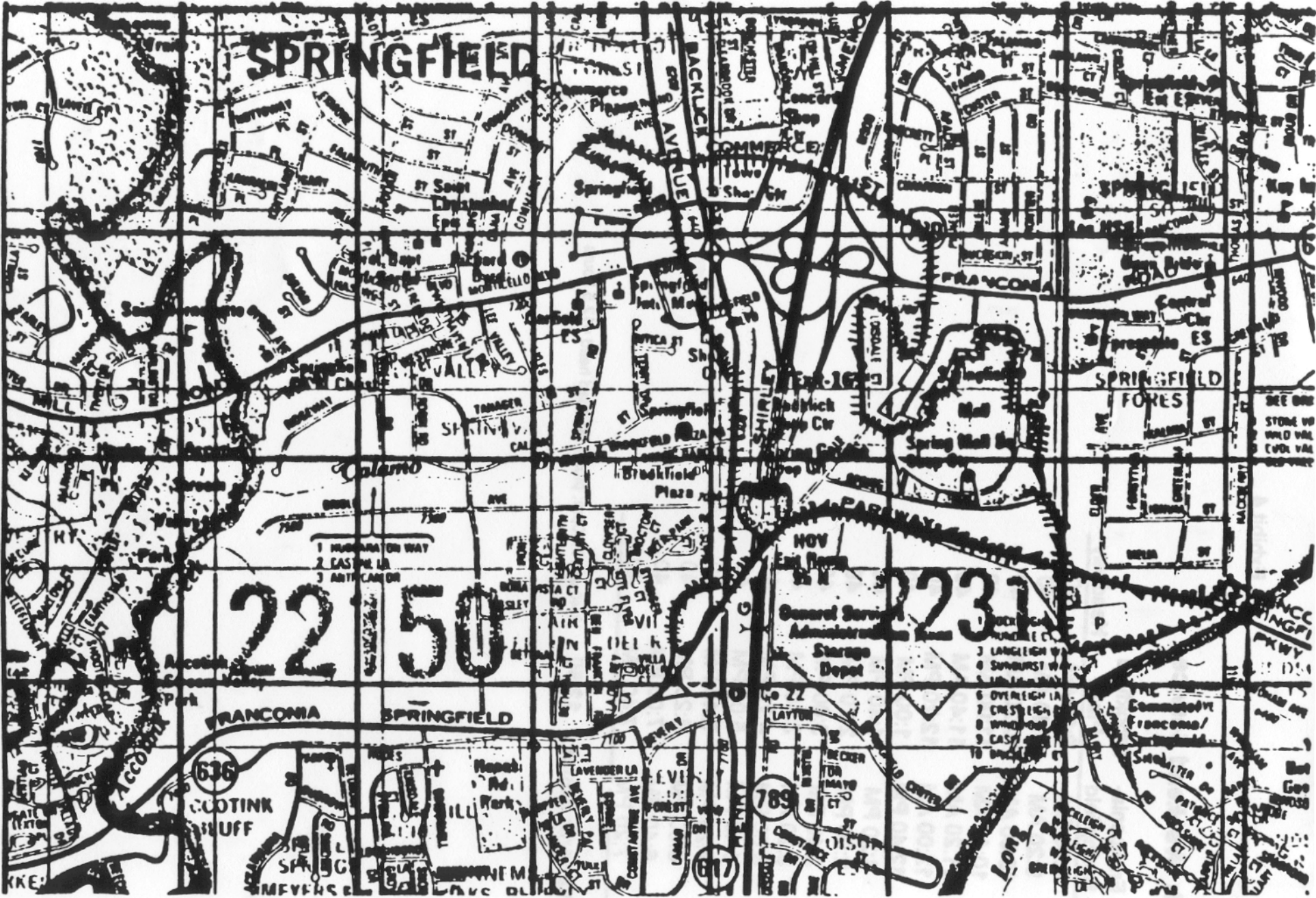
Bus No.	Franconia-Springfield	Brookfield Plaza	Headway
1	6:00 AM	6:20 AM	40
1	6:40 AM	7:00 AM	40
1	7:20 AM	7:40 AM	40
1	8:00 AM	8:20 AM	40
1	8:40 AM	9:00 AM	40
1	9:20 AM	9:40 AM	40
1	10:00 AM	10:20 AM	40
1	10:40 AM	11:00 AM	40
1	11:20 AM	11:40 AM	40
1	12:00 AM	12:20 PM	40
1	12:40 PM	1:00 PM	40
1	1:20 PM	1:40 PM	40
1	2:00 PM	2:20 PM	40
1	2:40 PM	3:00 PM	40
1	3:20 PM	3:40 PM	40
1	4:00 PM	4:20 PM	40
1	4:40 PM	5:00 PM	40
1	5:20 PM	5:40 PM	40
1	6:00 PM	6:20 PM	40
1	6:40 PM	7:00 PM	40
1	7:20 PM	7:40 PM	40

Total Platform Hours **15.00** 6:00 am 7:40pm; plus 1:20 dead head =15 hours

Option 3: Weekend Service

Bus No.	Franconia-Springfield	Brookfield Plaza	Headway
1	8:40 AM	9:00 AM	40
1	9:20 AM	9:40 AM	40
1	10:00 AM	10:20 AM	40
1	10:40 AM	11:00 AM	40
1	11:20 AM	11:40 AM	40
1	12:00 AM	12:20 PM	40
1	12:40 PM	1:00 PM	40
1	1:20 PM	1:40 PM	40
1	2:00 PM	2:20 PM	40
1	2:40 PM	3:00 PM	40
1	3:20 PM	3:40 PM	40
1	4:00 PM	4:20 PM	40
1	4:40 PM	5:00 PM	40
1	5:20 PM	5:40 PM	40
1	6:00 PM	6:20 PM	40
1	6:40 PM	7:00 PM	40
1	7:20 PM	7:40 PM	40

Total Platform Hours **12.50** 8:40 am 7:40pm; plus 1:30 dead head =12.5 hours


SPRINGFIELD
BACKLICK AVENUE
COMMERCE
FRANCONIA
SPRINGFIELD
FORES
PARKWAY
HOV
General Services Administration
Storage Depot
2250
231
636
789
617
COOTINK BLUFF