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ALTERNATIVES STATUS REPORT
KEYLINE TRANSIT SYSTEM
DUBUQUE, IOWA

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PREPARED BY:

EAST CENTRAL INTERGOVERNMENTAL ASSOCIATION & KEYLINE STAFF

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ALTERNATIVES STATUS REPORT

Purpose

The purpose of this report is to outline and briefly analyze various alternatives to the current way of providing mass transit service in Dubuque. This report will also outline various ridership subsidy issues to be addressed. The reason the report has been prepared lies primarily with a general directive from the City Council to the Transit Board and staff to explore possible alternatives to the current transit system. This is due to a concern over reductions in federal operating subsidies over the last five years, and an increasingly larger share of local subsidy coming from city taxpayers. This report is not intended to recommend any specific service designs. The information contained herein represents what the Council has asked for as planning information for its work session with the Transit Advisory Board on May 26, 1987.

THE FEDERAL MASS TRANSPORTATION ACT OF 1987

The \$88-billion highway and mass transit bill that became federal law on April 2 extends mass transit and highway programs for five years and authorizes \$17.8 billion in federal mass transit aid for Fiscal Years 1987 through 1991. This provides a boost to transit operators across the nation after years of continuing resolutions and funding reductions.

The new law authorizes over-all transit funds for FY 1988, beginning October 1, at a rate 2.8% greater than appropriated for the current year.

The operating cap for small urban areas between 50,000 and 200,000 in population will be supplemented beginning in FY 1988, with a one-time increase in operating dollars of anywhere from 1% to 32% to make up for past losses to inflation. KeyLine should receive at least the same dollar amount in FY88 as in FY87 (Approximately \$379,000). Beginning in FY89 small urban areas will have their operating assistance limitations supplemented annually for inflation.

KEYLINE CURRENT OPERATIONS AND PAST STATISTICS

TRANSIT OPERATIONS

The Transit Manager is appointed by the City Manager and is responsible for the overall operation of KeyLine. The Manager also is the liaison to the Transit Board, City officials and the public. He also oversees of the marketing and advertising for the system. The Operations Supervisor is in charge of scheduling, dispatching and recording of drivers hours, while the Transit Clerk maintains records for UMTA and state transit assistance funding and also dispatches. ECIA assists in planning and special projects assistance.

There are six employees in the maintenance department. These include a garage supervisor, a lead mechanic, two mechanics and two servicemen. The lead mechanic works with the mechanics and as the name implies, takes the lead on maintenance project performance. Other duties and responsibilities of the maintenance employees remain the same.

There are 13 full time and 19 part time drivers. Over the last few years the driver configuration has changed quite significantly from a nearly all full-time driver roster to a majority of part-time drivers.

KeyLine Staff, May 1987

Manager		Operations Supervisor
Transportation Clerk		
Full-time Drivers	13	
Part-time Drivers	19	
Garage Supervisor		Lead Mechanic: 1
Mechanics: 2		Servicemen: 2

Regular Route Service

Keyline operates 10 coaches for regular route service. There are four fixed routes servicing all parts of the City. The 9th and Main transfer point is still the hub of routes. The Delhi transfer zone and the Kennedy Mall remain important in the route structure. Three of four routes service the Delhi Transfer zone and three go to the Kennedy Mall area. Following is the current and proposed fare structure as set by the City. This applies to regular route service.

	Current Cash	FY 88 Cash	Current Ticket Rate	FY 88 Ticket Rate
Regular (age 13-64)	\$.70	\$.80	10 for \$7.00	10 for \$8.00
Special (age 5-12, 65 and over, disabled)	.35	.40	10 for \$3.50	10 for \$4.00
Student (age 13-17 during school year)	.35	.40	10 for \$3.50	10 for \$4.00
John Deere Tripper	.75	.85	10 for \$7.50	10 for \$8.00

John Deere Trippers

There are seven runs in the morning and seven in the evening to John Deere Works. The estimated ridership for FY 88 is 67,200. By way of history, through the summer of 1980 ridership appeared to be too low to continue the service. A Transit Board meeting

was held at the Carnegie Stout Library on September 9, 1982, with the riders of the Deere tripper buses. It was decided to continue the service on a probation status, monitoring ridership continuously. Since then KeyLine management continues to monitor the tripper ridership.

School Trippers

KeyLine has operated special school trippers for many years. In 1981 KeyLine began operating even more trippers as the result of school redistricting. Seven buses are run a.m. and nine p.m. for school purposes (most are inter-lined with the Deere runs). The estimated school tripper ridership for FY 88 is 125,000. The trippers serve a total of 12 schools.

Elderly and Handicapped Minibus Service

E & H service in the City of Dubuque is provided by Project Concern on a bid basis. This is a specialized, door-to-door transportation service for the elderly and mobility-impaired residents of the City. Service is provided with the 2 lift-equipped mini-buses owned by KeyLine. This was originally done at the request of the Public Transit Division, Iowa DOT to ensure efficient delivery of the services. The monetary amount KeyLine provides for this contract is for is \$40,559.

Vehicles

The KeyLine operates a fleet of 26 coaches. Four are coaches manufactured by Bluebird. The balance are manufactured by General Motors Corporation. A vehicle inventory may be found in Table I. The buses are well maintained through a system of daily checks and preventative maintenance based on General Motors guidelines and KeyLine Management experience. The five year transit improvement plan may be found in Table 2. No new full-size buses are expected to be acquired during the next five years, but KeyLine will instead continue its program of refurbishing its existing buses.

Bus Size

One of the questions often asked about local transit is why use full-size buses. The principle reason is to gain efficiencies in running trippers, particularly school trippers which can carry up to 45 seated passengers and 15 standees at one time. Also, there are trips made on the regular fixed routes where it is necessary to have a full-size bus.

Another reason is that the full-size buses currently operated by KeyLine are better made than smaller buses on the market. The use expectancy is 20-25 years for diesel buses (such as the GM buses). This is why KeyLine staff prefers to rehabilitate them.

For information purposes, a new 14 passenger van costs roughly \$17,000, a new 19 passenger mini-bus cost \$38,500 while a 30 passenger mid-size bus costs \$110,000. Forty to forty-five passenger buses cost \$140,000 to \$150,000.

Ridership

KeyLine ridership peaked in FY80 at 1,304,462. After experiencing an 8% decline in ridership during FY81, a detailed evaluation of the routes was prepared by a consultant. This evaluation led to a restructuring of KeyLine's routes. At the end of FY82, ridership had decreased even more (21%) and the restructuring was blamed by many. In FY83 the decline still continued, this time by 20%. In the recent years ridership has stabilized somewhat. Attempts to explain this continued decline has in part, centered on the economy, the continual debate over the route restructuring, and that people don't like or understand the new routes.

The latter reason can be somewhat negated by pointing out the large number of riders (4519 which is 1540 more than the average ridership) who took advantage of the free ride day (Friday, May 13, 1983) sponsored by the First National Bank in honor of Small Business Man's Day. Based on this number, it may be assumed that the citizens understand the route structure and how to ride the bus, but they have other reasons for not riding the bus.

KeyLine Vehicle Inventory

Vehicle Condition	Make & Model	Type Fuel	Seating Capacity	Month & Year Purchased	Present Mileage as of 4-30-87	
	Chevrolet CK30903 1 tone stakebody 4 Whl Dr. & lift gate	Gasoline	2	December 1982	6,224	Excellent
312	GMC TDH4519426	Diesel	45	July 1964	552,657	Excellent *
314	GMC TDH4519427	Diesel	45	July 1964	567,605	Excellent *
318	GMC TDH4519429	Diesel	45	July 1964	572,845	Poor
338	GMC TDH45191341	Diesel	45	Oct. 1966	532,623	Poor
340	GMC TDH45191340	Diesel	45	Oct. 1966	462,077	Poor
342	GMC TDH45191662	Diesel	45	July 1967	485,163	Poor
344	GMC TDH45191663	Diesel	45	July 1967	476,737	Poor
354	GMC T6H4521238	Diesel	45	June 1969	375,940	Fair
356	GMC T6H4521239	Diesel	45	June 1969	409,020	Fair
2502	GMC T6H4523A1963	Diesel	43	May 1976	311,076	Good
2504	GMC T6H4523A1964	Diesel	43	May 1976	293,037	Good
2506	GMC T6H4523A1965	Diesel	43	May 1976	318,374	Good
2508	GMC T6H4523A1966	Diesel	43	May 1976	310,284	Good
2510	GMC T6H4523A1967	Diesel	43	May 1976	275,195	Good
2512	GMC T6H4523A1968	Diesel	43	May 1976	297,810	Good
2514	GMC T6H4523A1969	Diesel	43	May 1976	320,598	Good
2516	GMC T6H4523A1970	Diesel	43	May 1976	289,729	Good
2518	GMC T6H4523A1971	Diesel	43	May 1976	320,106	Good
2520	GMC T6H4523A1972	Diesel	43	May 1976	327,103	Good
2522	GMC T6H4523A1973	Diesel	43	May 1976	314,730	Good
2524	GMC T6H4523A1974	Diesel	43	May 1976	321,962	Good
2526	GMC T6H4523A1975	Diesel	43	May 1976	321,165	Good
2532	Bluebird 1BAEGBNAXCF055601	Diesel	31	Oct. 1982	116,072	Good
2534	Bluebird 1BAEGBNAXCF055601	Diesel	31	Oct. 1982	87,896	Good
2538	Bluebird 1BAEGBNA6DF059209	Diesel	31	July 1983	78,010	Good
2540	Bluebird 1BAEGBNA2DF059210	Diesel	31	July 1983	88,609	Good
2542	Dodge 2B7KB33W3FK222592	Gasoline	9	January 1984		Good
2544	Dodge 2B7KB33W5FK222593	Gasoline	9	January 1984		Good
2545	Eld. 1FDKE30L6GHC38321	Gasoline	18	September 1986		Excellent

* Refurbished July, 1986

Keyline Vehicle Inventory

Table 1

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Table 2

TRANSPORTATION IMPROVEMENT PROGRAM
FY 88/92
Mass Transit

PROGRAM JURISDICTION: City of Dubuque, Iowa/KeyLine

<u>Project</u>	<u>Fund Source</u>	<u>Type of Improvement</u>	<u>FY-88</u>	<u>FY-89</u>	<u>FY-90</u>	<u>FY-91</u>	<u>FY-92</u>	<u>Total</u>
Capital Equip.	UMTA - Sec. 9 Local	Mini-Bus Replacement	28,000 7,000	-0- -0-	-0- -0-	28,000 7,000	-0- -0-	56,000 14,000
System Operation	UMTA Sec. 9 UMTA Carry Over Opt. Asst. Iowa DOT Farebox & Charter City of Dubuque (Taxes) City Cont. to offset remain. deficit Advertising	Service Operation	357,000 -0- 40,000 308,500 518,617 13,596 5,000	360,000 -0- 40,000 310,000 520,000 10,000 5,000	360,000 -0- 40,000 310,000 520,000 10,000 5,000	360,000 -0- 40,000 310,000 520,000 10,000 5,000	360,000 -0- 40,000 310,000 520,000 10,000 5,000	1,797,000 -0- 200,000 1,548,500 2,598,617 53,596 25,000
Planning	Section 9 Local	Planning Studies	22,000 5,500	22,000 5,500	-23,000 5,750	23,000 5,750	23,000 5,750	113,000 28,250
Remanufacture KeyLine buses	UMTA Sec. 9 Local IDOT		140,800 17,600 17,600	-0- -0- -0-	154,880 38,720 -0-	-0- -0- -0-	340,736 85,184 -0-	636,416 141,504 17,600
Capital Equip.	UMTA Sec. 9 Local	Shop Equip.	3,100 775	-0- -0-	-0- -0-	-0- -0-	-0- -0-	3,100 775
TOTALS			1,485,088	1,272,500	1,467,350	1,300,750	1,699,670	7,225,358

Finances

Table 3 shows the last five fiscal year's funding for KeyLine by source. It's evident that the percentage of federal participation has fluctuated with a downward trend. Table 4 shows the operating outlays. This should show that KeyLine has been making yearly efforts to reduce overall costs while attempting to serve its basic ridership market. KeyLine has not developed any new services to meet any real or perceived markets during these five years due to the continual emphasis on expense reduction. Table 5 lists performance statistics for the system.

Comparison with other systems

During March, 1987, ECIA conducted a survey of 40 small urban systems in the United States to gather current data with which to compare to KeyLine's operating statistics. Responses were collected from systems serving cities ranging in population from 40,000 to 110,000. This section compares KeyLine's statistics to other small urban systems. All base data except for a few exceptions, is estimated FY-87. Appendix A contains the results.

1. KeyLine operation cost per hour: \$29.00.

Survey respondents ranged from \$14.47 to \$54.05 with the average being \$30.70.

2. KeyLine operating cost to passenger revenue is 22.8%. Respondents ranged from 6.69% up to 68.02% with an average of 29.48%.
3. KeyLine percent of elderly and handicapped 1/2 fare riders is 25%. Respondents ranged from 2% to 37% with an average of 14.71%.
4. KeyLine percent of student special (half) fares is 60%.

Respondents range from 1.39% to 88.28% with an average of 18.81%.

5. KeyLines combined percentage of E & H and student half fares is 85%.

The respondents ranged from 1.39% to 88.72% with an average of 33.52%.

6. KeyLines ridership per mile is 1.66.

The respondents ranged from .61 to 3.88 with an average of 1.62.

7. KeyLines ridership per hour is 17.59.

The respondents ranged from 2.24 to 37.21 with an average of 19.78.

8. KeyLines cost per mile is \$2.73.

The respondents ranged from \$1.06 to \$4.06 with an average of \$2.51.

9. Dubuque's transit mileage per capita is 7.3.

The respondents ranged from 2.43 up to 19.04 with an average of 7.9.

10. KeyLines current full-fare is .70 cents with an increase to .80 cents effective July 1.

Respondents distribution is as follows:

<u>Fare</u>	<u>Transit Systems</u>
\$.75	7
.70	2
.65	2
.60	8
.55	1
.50	15
.40	1
.35	1
.25	1

KeyLine rates favorably and/or similarly to the other transit systems studied in most areas with the exception of its ridership profile. KeyLine's percentage of half-fare riders is 85% compared to an average of 33.52% for the other systems. Of the remaining 15% of KeyLine's ridership 9% are Deere riders leaving 6% of full-fare riders.

TABLE 3

KEYLINE FUNDING FIVE YEAR HISTORY

Source	FY 1983 ACTUAL	FY 1984 ACTUAL	FY 1985 ACTUAL	FY 1986 ACTUAL	REVISED FY 1987	ADOPTED FY 1988
UMTA Operating	517,012	428,782	458,992	425,263	352,000	357,000
City	436,189	501,592	507,465	515,966	531,192	518,617
Iowa DOT	61,915	49,822	44,572	67,392	41,148	40,000
Farebox	292,967	293,228	257,159	262,896	281,500	308,500
Other	48,111	34,951	44,002	32,821	31,280	18,596
Total	1,356,194	1,308,375	1,312,190	1,304,338	1,237,120	1,242,713

TABLE 4

KEYLINE EXPENSE FIVE YEAR HISTORY

EXPENSE	FY 1983 ACTUAL *	FY 1984 ACTUAL	FY 1985 ACTUAL	FY 1986 ACTUAL	REVISED FY 1987	ADOPTED FY 1988
Administration	143,768	128,682	137,604	150,877	145,444	124,830
Bus Maintenance	322,875	310,895	333,158	317,599	307,974	319,754
Bus Operations	700,843	676,020	662,546	645,315	604,447	589,221
-Fuel Oil,						
Tires & Lube	139,260	140,761	120,675	106,822	103,677	129,728
-Liability Ins.	49,488	52,017	58,207	83,578	75,578	79,180
<hr/>						
TOTAL	1,356,194	1,308,375	1,312,190	1,304,338	1,237,120	1,242,713

* Adjusted for self-insurance transfer.

TABLE 5

KEYLINE OPERATING STATISTICS

	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987	FY 1988
Ridership	829,006	846,309	726,506	767,647	750,000	750,000
Miles	484,807	490,231	455,670	453,960	452,400	452,400
Hours/Service	42,640	42,640	42,640	42,640	42,640	42,640
Operating Cost	1,356,194	1,308,375	1,312,190	1,304,338	1,237,120	1,242,713
Pass. Revenue	292,967	293,228	257,159	262,896	281,500	308,500
City Funding	436,189	428,782	507,465	515,966	531,192	518,617
Fed. Funding	517,012	501,592	458,992	425,263	352,000	357,000
Cost/hour	31.81	30.68	30.77	30.59	29.01	29.14
Cost/rider	1.64	1.55	1.81	1.70	1.65	1.66
Cost/mile	2.80	2.67	2.88	2.87	2.73	2.75
Pass. rev./rider	.35	.35	.35	.34	.38	.41
Pass. rev./mile	.60	.60	.56	.58	.62	.68
Rev./oper. cost	21.60	22.41	19.60	20.16	22.80	24.80

COMMUNITY SURVEY RESULTS

The following is taken from the 1985 study entitled Keying in on KeyLine prepared by the Center for Business and Social Research at Loras College. This study was conducted using 700 phone surveys in Dubuque. The following paragraph is taken from the beginning of the report.

"One of the most pressing issues facing local governments is the recent decline in federal revenues that support various city services. Dubuque has not been immune from these fiscal pressures. Impending federal budget cuts, coupled with low ridership and rising fuel and labor costs, have made the viability of KeyLine Bus System an important issue for Dubuque city officials. In response to this concern, the City of Dubuque and the Dubuque Chamber of Commerce commissioned the Center for Business and Social Research at Loras College to perform an attitude and opinion survey of residents of the city of Dubuque to determine the level of support for the KeyLine Bus System."

Certain tables are taken from the study to summarize the survey responses in relation to the subject of this current report.

Table 3.3. Rating of quality of the KeyLine Bus System.

Rating	Number	(Percent)
Very good	113	(16.1%)
Fairly good	297	(42.4%)
Neither good nor bad	99	(14.1%)
Not very good	69	(9.9%)
Not good at all	17	(2.4%)
Don't know	<u>105</u>	<u>(15.0%)</u>
	700	100.0%

Table 3.5. Ratings of overall importance of the KeyLine Bus System.

Rating	Number	(Percent)
Very important	502	(71.7%)
Somewhat important	157	(22.4%)
Not very important	18	(2.6%)
Not at all important	10	(1.4%)
Don't know	<u>13</u>	<u>(1.9%)</u>
	700	100.0%

Table 3.6. Respondents' first, second, and third reasons for believing that the KeyLine Bus System is important.

Reason	First stated reason	Second stated reason	Third stated reason	Total number (pct) of respondents ever stating this reason
1. Elderly	274	56	4	334 (50.7%)
2. Young	38	57	11	106 (16.1%)
3. Business	4	3	2	9 (1.4%)
4. Low-income	14	19	4	37 (5.6%)
5. Non-drivers	252	38	6	296 (44.9%)
6. Back-up	9	7	1	17 (2.6%)
7. Economical	11	15	0	26 (3.9%)
8. Relieves traffic	23	6	1	30 (4.6%)
9. To and from work	13	6	0	19 (2.9%)
No reason stated	<u>21</u>	<u>452</u>	<u>630</u>	
	659	659	659	

Table 4.1. Respondents' preferences for adjusting fares.

Fares should be:	Number	(Percent)
Increased	129	(18.4%)
Kept the same	498	(71.1%)
Decreased	47	(6.7%)
Don't know	<u>26</u>	<u>(3.7%)</u>
	700	100.0%

Table 4.3. Preferences for handling the shortfall in revenues for the KeyLine Bus System.

	Increase rider fares	Increase local taxes	Reduce other city services	Reduce present bus services
	n (Pct)	n (Pct)	n (Pct)	n (Pct)
Agree	381 (54.4)	246 (35.1)	324 (46.3)	274 (39.1)
Disagree	314 (44.9)	448 (64.0)	370 (52.8)	419 (59.9)
No response	<u>5 (0.7)</u>	<u>6 (0.9)</u>	<u>6 (0.9)</u>	<u>7 (1.0)</u>
	700 100.0%	700 100.0%	700 100.0%	700 100.0%

Table 4.24. Respondents' preferences for adjusting per capita costs of the KeyLine Bus System.

The per capita costs should be:	Number	(Percent)
A lot more	20	(2.9 %)
A little more	94	(13.4 %)
TOTAL	114	(16.3 %)
The same as now	430	(61.4 %)
A little less	67	(9.6 %)
A lot less	33	(4.7 %)
TOTAL	100	(14.3 %)
Prefer not to respond	<u>56</u>	<u>(8.0 %)</u>
	700	100.0 %

RIDERSHIP PROFILE

This section briefly summarizes the results of an ECIA 1984 report entitled Passenger Profile: KeyLine Transit System which summarized on-board surveys. This data is provided to describe who uses the transit system and why, and to aid in discussion of ridership subsidy issues and possible service alternatives.

- Trips destinations fall into the following categories in order of volume: school, work, shopping, other, medical/dental.
- The two most common age categories of riders are the 13-19 age group and the 60+.
- Twice as many females as males ride the bus..
- Over 60% of the riders have no other means of transportation.
- 63% of riders pay cash and 35% use pre-payment.
- 85% of ridership pays half-fare.
- 62% of ridership have no drivers license.
- Large segments of the ridership are elderly or students explaining why 75% of overall ridership do not work full-time (26% work part-time).
- 46% of riders make 4-7 trips weekly and 24% make 8-12 trips weekly.
- The predominant peak travel time is 7:00 a.m. to 9:00 a.m. and 1:30 p.m. to 5:30 p.m.

The data derived from the passenger profile section states that KeyLine provides transit service mostly to a highly transit dependent market. In transit terms there are two kinds of riders: captive riders, that is those having no other means of transportation, and choice riders, meaning people who have a choice whether to use transit or some other means of transportation. The study indicates that 60% of riders are captive.

MARKET SEGMENT ANALYSIS

Captive Ridership

Compared with other fixed route transit systems in small urban areas, the KeyLine ridership is comprised of an unusually high percentage of captive riders. For example, in the recent ECIA national survey of small urban systems only 1 out of 40 systems reported higher indications of captive rates. The 1984 on-board survey showed that over 60% of KeyLine ridership have no other transportation choice. This amounts to over 456,000 trips annually.

Full-Fare Ridership

Fifteen percent of the ridership pay full-fare of which 9% are John Deere tripper riders. The Deere riders pay .75 cents. The remaining six percent of the ridership pays the .70 cents fare. There can be many reasons for the low number of regular fixed route full-fare riders including a round-trip fare usually higher than average parking costs, less travel time by car (mainly due to terrain) and very little traffic congestion. Regardless of the reasons, the fact of a 15% full-fare ridership rate remains which has an effect on the amount of passenger revenue generated. This is particularly true when a revenue-producing policy is in use involving the raising of the full-fare to generate new revenues.

Half-Fare Policy

It should be noted that the half-fare policy set by Congress stated that elderly and handicapped persons shall ride for half-fare during non-peak hours. The Congress was thinking in terms of large metro areas where buses and subways are less used before and after the transit rush hour. Dubuque's policy of half fare for elderly, handicapped, and students all the time could possibly be examined in light of the fact that most of the ridership use such a fare. The fact that 85% of the ridership (i.e. elderly and students) pay half-fare has a very direct effect on the passenger revenue generated.

Work Trips

The KeyLine system is not used by many people for the traditional peak hour home to work trip. The statistics show that the John Deere riders make up many of the full-time work trips and passenger revenue even though their trip destinations are not focused within the regular route structure.

Student Trips

The system is used by a very significant percentage of school-age persons both on school trippers and on the fixed routes to go to school. These same individuals use the system during non-school times and on Saturdays for non-school purposes. However, because their fare is one half the regular fare their trips add accordingly to off-set the operating costs.

Transit Use During Week

It's also important to note how many days riders use the system. The system operates six days a week of which most Saturday trip's are for shopping, recreation, etc. The John Deere and school trippers carry riders all of the five week days (although not year round). About 24% of all riders ride 4-6 days a week and 46%, almost half, ride 4-7 times a week or 2 to 3 days a week.

Ridership Breakdown

Following is the breakdown by ridership by type of fares paid.

<u>RIDERSHIP</u>	<u>NUMBER</u>	<u>PERCENT</u>	<u>FARE</u>
Student	450,000	60	.35
Elderly	187,500	25	.35
Deere	67,500	9	.75
Full-fare	<u>45,500</u>	<u>6</u>	<u>.70</u>
	750,000	100	

RIDERSHIP SUBSIDY POLICY ISSUES

The previous section defined what types of riders use the transit system. Prior to any design or consideration of alternatives to the current fixed route service it is necessary to decide on who exactly should be subsidized in their use of transit. Currently the transit system is designed to serve anyone who wants to use it using three kinds of service. Specific ridership types are students, elderly, handicapped, and full-fare adults. General ridership types are captive or choice. The 3 kinds of service are:

1. Regular fixed route: serves full-fare work trips, elderly and handicapped, students making school and non-school trips, and full-fare riders making non-work trips.
2. Tripper routes: serves John Deere work trips and school trips.
3. Elderly and handicapped mini-bus service: is bid out to another provider to serve those elderly and handicapped persons who cannot use the regular fixed route service.

Most trips are subsidized regardless of when they are made or how much fare is paid. The exceptions are the John Deere and school trippers which usually break even. However, these two kinds of tripper types usually have to operate together to cross-subsidize each other. Were only one type of tripper to be operated it would be difficult to break even.

Subsidy Policy

Before any detailed alternative service designs can be developed, the Council and Transit Board should agree on some sort of ridership subsidy policy to guide design development. Although federal and state funds are mainly provided to help pay for

transit service for all citizens, local policy will decide in actuality to what degree different markets are to be served. Service design can help to dictate what market segments will be served. For instance, if service is offered only from 9:00 a.m. to 3:00 p.m. obviously the majority of home-to-work riders have been excluded.

Some of the following issues would need to be addressed first from the local standpoint in regard to who's transit trips should be supported with tax dollars.

1. Should the city support service for the elderly and the handicapped? Note that most of the current E & H ridership are captives.
2. Should the city support school trippers? It's assumed most students are transit dependent.
3. Should the city support non-school trips by students? Currently students pay half fare whether they are using special school trippers or regular fixed routes.
4. Should the city support trips made by riders going to full-time work on fixed route service? Although most of these riders pay full-fare their trips are subsidized none-the-less.
5. Should the city support special trippers for John Deere workers? Presumably these riders are not captive riders.

In more general terms:

6. Should the city assume an obligation to provide transit service equitably for all Dubuque citizens?
7. Or, along the same lines, should the city support transit service for anyone who has another means of transportation?

Subsidy Mixes

Obviously, there can be many ways to combine the above subsidy concepts to consider. Some examples of kinds of trips to support might be:

1. Total Dubuque population
2. E & H and peak work
3. Peak hour workers & non-drivers
4. Non-drivers, E & H, and shoppers
5. E & H and non-drivers
6. Peak hour workers, non-drivers, E & H
7. Peak hour workers, non-drivers, and students
8. Non-drivers, students, and E & H
9. All work trips, non-drivers
10. All shopping trips & non-drivers

ALTERNATIVES TO CURRENT SERVICE

This section will explore a number of transit alternatives for Dubuque. Alternative service designs cannot be fully developed until policies are stated defining who the service will be for. Detailed service designs with costs can be developed after a course, or alternative courses of action are determined by policy-makers.

Definitions

The three service types to be considered in part or whole throughout the alternatives are:

- fixed route: same as current KeyLine service.
- subscription: same as KeyLine trippers. As the name implies, individuals needing bus service would subscribe/contract for specific service.
- dial-a-ride: advanced reservation (24 hours) service which can be operated the following ways:
 - . many to many (from any address to any address in the City).
 - . many to few - any rider home address to selected destinations (such as schools, shopping centers, hospitals, fixed route transfer points).
 - . few to few - riders will be picked up at neighborhood check points (e.g. within a two block radius of their home) and taken to selected destinations.

Examples of Cities With Alternative Transit Systems

Helena, Montana (23,938) utilizes demand response vehicles exclusively to serve the transit needs of their citizens.

Chattanooga, Tennessee (169,565), Rock Island, Illinois (47,036) and Clinton, Iowa (32,321) supplement regular route service with subscription service during specific times of the day. In Clinton, for example subscription service is offered Monday - Friday from 6:00 - 7:00 and from 6:00 - 8:00 on Saturday. Rock Island operates a subscription service only on Saturday from 5:00 to 8:00 a.m. (Regular route service starts at 8:00 a.m.)

Santa Fe provides all of its transit service to a population of 52,000 using shared-ride taxi service. The city, state, and UMTA subsidize one-half of the fares to any cab company deemed eligible to contract. The service is dial-a-ride with no advanced reservation and the cab company is required to share rides whenever possible. Ann Arbor, Michigan operated an integrated dial-a-ride and fixed route system for a few years using dial-a-ride vans and computer assisted record keeping. They ran four fixed routes and 14 dial-a-ride zones with seven transfer points between the two types of services. The fare was the same regardless of which service is used. Ann Arbor returned to strictly fixed routes when the costs per passenger using the dial-a-ride proved to be too high.

Fixed vs. Non-Fixed Service

As long as it's the City's policy to serve anyone who wishes to use transit service, fixed route service may be the preferred alternative because of the number of annual trips made. The projected FY-88 ridership is 750,000.

Project Concern operates a dial-a-ride system carrying approximately 4 to 6 riders per hour (this was the same rate in Ann Arbor). An estimate of 6 riders per hour will be used here for regular ridership estimating purposes. Using an estimate of 6 riders per hour per van in a 12 hour weekday and a 10 hour Saturday, it would take 26 vans to serve the current ridership. (12 hours x 5 = 60 hours plus 10 Saturday = 70 hours a week). (750,000 - 52 = 14,423 trips per week divided by 70 hours = 206/hour - 6 = 34 vans). If the City had a policy of transporting only transit dependents even fewer vans would be needed (34 x 60% = 21 vans). Of course, if this transit option were to be pursued, KeyLine may not continue to bid out its elderly and handicapped service since it could easily provide that service itself.

Local Transit Options and Section 13(c)

As long as federally funded vehicles and equipment are used, local transit unions have the legal right to a 13(c) sign off on any new service within the KeyLine service area. The new service, will also require the sign-off by unions as long the service competes with or replaces existing route services. This is based on the philosophy that a specific federal project can not undermine employee's jobs and wages.

It should be noted that the lack of a 13(c) agreement sign off by the union does not legally prohibit a system from a particular service change or re-design. The 13(c) mechanism gives a union the means for legal recourse.

SERVICE OPTIONS

1. Service the same as current:

Pro: - Current riders understand system
- Ridership levels have now stabilized
- No staff increases or new bus acquisitions
- Federal funding is secure and positive

Con: - City continues subsidy rate
- Very little new ridership likely

2. Improve fixed route operations with:

- increased route coverage
- new mid-size buses (or mixed fleet with mid-size buses and vans)

Description

This would change the overall appearance of the service. It could also be an effort to re-vitalize mass transit within the community.

Pro: - Transit operation appears to be a more modern "better" service and could attract new riders.
- Downtown parking needs reduced, some auto congestion and emissions reduction.

Con: - Increased operating and capital costs.
- Could increase maintenance costs with newer model buses.

3. Reduce most of the sizes of vehicles and reduce route coverage.

Description

Operate a mixed fleet of full-size buses and vans or minibuses on a reduced route structure. The headway may or may not remain the same.

Pro: - Cost savings (because of reduced route coverage)
- Transit operation appears to be a more modern "better" service and could attract new riders.

Con: - Less geographical coverage.
- May occasionally be problems with standees on runs using smaller* vehicles.

4. **Reduce Headway:**
Midday service is reduced from half hour service to one hour service.

Description

Service would be the same as now only the frequency of the buses would be lessened.

Pro: - Cost savings.

Con: - Ridership loss.
Driver lay-offs.

5. **Half-fare adjustment:**

Description

Comply to the "letter of the law" as far as the UMTA elderly and handicapped half-fare policy. Have half-fare opportunities only during the off-peak hours.

Pro: - Revenue enhancement.
- More E & H riders distributed out of peak hour transit traffic.

Con: - Some E & H ridership would have to pay full-fare during peak times.

6. **Raise student fare:**

Description

This is a revenue-producing option based on the fact that 60% of the riders are students. Students now ride on both the school trippers and the regular fixed route service.

Pro: - Raise revenues
- No requirements anywhere to have reduced student fares.

Con: - Possible slight reduction in student ridership.

7. **Dial-a-ride service midday and peak fixed route provided by KeyLine:**

Description

KeyLine would operate the current route structure plus trippers during a.m. and p.m. peak hours. During off-peak hours (probably 9:00 to 3:00 p.m.) KeyLine would operate dial-a-ride service with vans and possibly mini-buses. The elderly and handicapped mini-bus service would continue to be operated by Project Concern. The concept of charging a higher fare for the dial-a-ride service could be explored.

Pro: - Possibility of reduced costs (if City decides to make service available to limited market segments).
- Alternative service is implemented.
- Drivers can switch from fixed to mini-buses with no need for split shifts.

- Con: - Major changes for ridership to adjust to.
- Possibility of higher overall costs per rider.
- Mixed vehicle fleet.
- Development of new office/management procedures.
- Additional office scheduling staff.

8. Bid the entire system out:

Description

The City would go out for bid to local, or more likely, non-local private bus operators to run the system. The City would employ a Transit Administrator to oversee the operations and usually the marketing. The assumption is that the service will be run basically as it is now.

- Pro: - City gets out of providing actual transit operations.
- Private operator may have reduced operating costs if drivers paid less.

- Con: - City loses a certain amount of control over the service.
- Many city employees are laid off.

9. Bid-out selected peak subscription (using full-size buses):
KeyLine provide only dial-a-ride all day:

Description

The peak hour Deere and school trippers along with new home to major focal points subscription service would be bid out to private operators. No regular fixed route service would be run. KeyLine would provide only dial-a-ride service all day (e.g. 7:00 a.m. to 6:00 p.m.) Monday through Saturday. KeyLine would also operate the elderly and handicapped minibus service rather than bid it out.

- Pro: - Possibility of overall reduced operating costs (depending on markets served).
- Peak service focused on known trips.
- Public perception of "more efficient" service.

- Con: - Negative impact on Project Concern
- KeyLine increase administration/office staff.
- City loses a certain degree of control over private service delivery.
- Ridership loss.

10. Two or three spine routes with dial-a-ride for low productivity parts of the city.

Description

Major focal points like downtown and the mall would be served by approximately two fixed routes. The route coverage would be determined to take advantage of the current higher ridership areas. Those parts of the city now having no service or low ridership service would be served with dial-a-ride service. The DAR service could be designed to take passengers from their home zone to anyplace in the city, to a

fixed route transfer point, only within the home zone, or only to selected destinations. The fare could be the same regardless of the service used. KeyLine may or may not operate the elderly and handicapped mini-bus service.

Pro: - Possibility of cost reduction in relation to market segments to be served (by dial-a-ride).
- Public perception of a "more efficient" service.
- Total geographic coverage maintained.

Con: - Mixed vehicle fleet.
- Major change for ridership.
- Added scheduling staff.

11. Total subscription service peak hours with cab contract or Project Concern back-up and midday fixed route.

Description

The current fixed route service would be operated during the hours 9:00 a.m. to 3:00 p.m. During the peak hours the Deere and school trippers would run as usual. Several additional peak hour trippers would be added with selected destinations (downtown, major work sites, etc.) The half-fare for elderly and handicapped would be effective only during off-peak hours to help to concentrate that ridership onto the fixed routes. Midday service could be with either half hour or hour headways. The cab or Project Concern backup during peak hours will be available for those trips not easily adapted to subscription service.

Pro: - Transit dependents retain familiar service.
- Reduced costs.
- Can use current fleet.

Con: - Ridership loss.
- Possibility of part-time driver lay offs.

12. Total subscription service peak hours with cab contract or Project Concern backup and midday dial-a-ride:

Description

This option is similar to option #10 ^{#11 + #9} except for midday service design. KeyLine would operate dial-a-ride van service from 9:00 a.m. to 3:00 p.m. The fares may or may not be different for the type of service used. The elderly and handicapped mini-bus service would continue to be run by Project Concern.

Pro: - Possibility of reduced costs (depending on markets served).
- Alternative to fixed route.
- Public perception of "more efficient" service.

Con: - Mixed vehicle fleet
- Ridership loss.
- New office/administration procedures.
- Additional scheduling staff.

13. Current service during school year, eliminate all trippers and reduce headway during non-school summer months.

Description

The current service remains the same except it operates only during the regular school year. The school trippers are obviously not needed during the summer but the Deere trippers would also cease operation since that's when ridership is lowest. The fixed route headways would change to one hour as a cost reduction measure but also because it's easier to wait for a bus in summer weather.

- Pro: - Cost reductions.
- Minimal disruption of service to transit captives.
- Hour headway adequate for students during off-school months.
- Use current fleet.

- Con: - Deere trippers suspended during summer.
- Headway reduction.
- Seasonal driver layoffs.

14. Total dial-a-ride service.

Description

No fixed routes or trippers would be operated. The dial-a-ride service would involve zones and policies would be needed to determine if trips would be many to many, many to few or few to few. Cost per rider will increase over current service costs but overall system costs could be reduced by limiting the market to be served. Vans would be used and KeyLine would operate the elderly and handicapped service now run by Project Concern.

- Pro: - Alternative to fixed routes.
- Public perception of more efficient service.

- Con: - Service would have to be for a very limited market to achieve any cost savings.
- Major change for ridership.
- School and Deere trippers could not effectively be operated.
- Major fleet change.
- Probably need to computerize scheduling.
- Additional scheduling staff.
- Need many more mini-buses on the street than the current number of full-size buses.
- Negative impact on Project Concern.

15. Dial-a-ride all day with peak hour subscription full-size bus service.

Description

This is similar to option #12 except that the dial-a-ride service would run concurrently with the peak hour subscription service. During the peak hours the dial-a-ride service would take passengers to destinations not served by the subscription service. KeyLine would operate the elderly and handicapped mini-bus service. Vans would be used for dial-a-ride; some of the current buses would be used for subscription. Policies would be needed to determine which markets are served by what service at what fare.

Pro: - Deere, school, and downtown work trippers could be operated.
- Public perception of more efficient service.

Con: - Mixed fleet.
- Negative impact on Project Concern.
- Increased scheduling staff.
- Probably have to computerize dial-a-ride scheduling.
- Difficulty in achieving cost reductions.

Notes to Alternatives:

1. School trippers are included in all instances where subscription service is identified.
2. Variations on Saturday service are not mentioned in the alternatives because this service is usually a "companion" service to whatever weekday service is offered and would be designed accordingly.
3. All dial-a-ride is service where the rider either has a standing reservation or calls in one work day before the trip is made.

Transit System Survey Results

City	Full Fare	Ridership per mile	Ridership per hour	Cost per mile	Mileage per capita
Jefferson City, MO	\$.50	1.37	16.42	\$2.29	\$ 7.53
Mankato, MN	.60	1.54	18.09	2.94	6.59
Battle Creek, MI	.75	1.29	16.95	2.41	7.80
Moorhead, MN	.60	.81	12.52	1.52	10.09
Meadville, PA.65	.55	1.82	20.15	2.04	
Sioux Falls, SD	.60	1.17	15.93	2.11	5.31
Ventura, CA	.75	1.58	21.06	4.06	3.76
Antiock, CA	.50	1.24	17.74	2.08	2.43
Pensocola, FL	.75	1.19	19.08	2.21	8.68
Fond Du Lac, WI	.50	.99	11.80	2.43	9.17
Greenville, SC	.75	1.11		1.69	5.03
Chapel Hill, NC	.50	2.57	33.33	3.86	14.00
Great Falls, MT	.50	1.07	13.62	2.56	7.62
Port Angeles, WA	.50	.61	13.24	2.39	19.04
Central Point, OR	.50	1.20	10.91	1.87	4.11
Boise, ID	.55	1.28	19.05	2.62	6.73
Stroudsburg, LA	.75	1.05	15.65	1.75	5.04
Montachusett, MA	.50	.91		2.05	6.24
Pittsfield, MA	.40	1.32	10.07	1.77	7.61
Johnstown, PA	.60	1.85	23.15	2.94	10.23
Altoona, PA	.75	1.99	21.86	2.86	
Athens, GA	.60	1.85	24.45	2.47	7.35
Blacksburg, VA	.50	2.83	37.21	1.57	16.71
Norwalk, CT	.75	1.50	19.19	2.96	9.95
Ames, IA	.60	2.87	36.36	2.24	18.46
La Cross, WI	.50	1.46	19.80	2.33	14.60
Topeka, KS	.70	1.63	24.77	2.40	7.09
St. Joseph, MO	.50	1.09	13.80	2.46	5.29
Columbia, MO	.25	1.93	27.97	2.05	
Yakima, WA	.35	2.38	22.19	3.65	9.44
Lafayette, IN	.50	1.04	14.89	1.92	10.72
Loredo, TX	.50	3.88	36.54	2.57	9.58
State College, PA	.65	2.66	33.49	2.65	10.12
Augusta, GA	.60	2.32	34.26	1.69	7.93
New Castle, PA	.50	2.01	25.33	2.71	6.60
Lancaster, PA	.70	1.81	25.90	1.97	6.26
Clarksburg, WV	.60	.89	2.24	1.23	4.95
Davenport, IA	.50	1.54	19.12	2.81	8.47
DUBUQUE, IA	.70	1.66	17.59	2.73	7.30

Transit System Survey Results

City	Revenues	Operating Cost	Breakeven %	Cost per hour	% 1/2 Fare	% Student fare	Total % 1/2 Fare + Student Fare
Mankato, MN	\$ 210,311	\$ 760,655	27.64	\$ 34.58	2.64	34.09	36.73
Battle Creek, MI	354,716	1,465,552	24.20	31.66	8.43	24.39	42.82
Moorhead, MN	80,300	459,960	17.45	23.40	20.24	6.80	27.04
Sioux Falls, SD	226,346	1,009,317	22.42	28.69	7.91	21.43	29.34
Ventura, CA	868,074	4,303,304	20.17	54.05	12.70	30.90	43.60
Antioch, CA	96,370	759,959	12.68	29.80	21.00	33.00	54.00
Pensacola, FL	755,166	2,403,297	31.42	35.48	22.94	1.97	24.91
Fond Du Lac, WI	124,596	867,666	14.35	28.83	17.00	59.00	76.00
Greenville, SC	701,129	2,765,844	25.34		30.00	10.00	40.00
Chapel Hill, NC	900,000	2,700,000	33.33	50.00	2.00	2.00	4.00
Great Falls, MT	129,700	1,111,300	11.67	32.72	23.00	23.00	46.00
Port Angeles, WA	164,276	2,452,620	6.69	52.18	16.59	42.40	58.99
Central Point, OR	190,393	789,242	24.12	16.96			
Boise, ID	135,000	1,800,000	7.50	38.96	29.00	20.00	49.00
Stroudsburg, LA	168,611	635,773	26.52	27.00	28.86		28.86
Montachusett, MA	635,428	2,556,387	24.85		28.63	43.27	71.90
Pittsfield, MA	588,165	1,701,276	34.57	19.77	19.00	44.00	63.00
Johnstown, PA	960,427	2,683,928	35.78	36.71	11.49	6.41	17.90
Altoona, PA	748,937	1,628,124	45.99	31.51	32.54	36.31	68.85
Athens, GA	311,003	873,000	35.62	32.32	6.98	17.67	24.65
Blocksburg, VA	680,000	840,000	80.95	20.63	.44	88.28	88.72
Norwalk, CT	731,388	2,344,343	31.19	37.79	15.60	6.60	22.20
Ames, IA	562,407	1,745,670	32.21	26.15		19.00	19.00
La Crosse, WI	492,683	1,700,000	28.98	31.54	8.00	28.00	36.00
Topeka, KS	924,264	1,960,608	47.14	36.51	7.18		7.18
St. Joseph, MO	147,557	978,016	15.08	31.19	22.14	2.86	25.00
Columbia, MO	106,127	1,133,802	9.36	29.68	6.90	16.76	23.66
Cadillac, MI	114,573	436,395	26.25	14.47			
Yokima, WA	201,656	1,671,809	12.06	34.11	22.91	49.91	72.82
Lafayette, IN	342,448	1,881,377	18.20	27.47	8.00	5.00	13.00
Jefferson City, MO	123,587	569,939	21.28	27.53	16.57	17.27	33.84
Meadville, PA	108,654	185,200	58.66	22.59		1.39	1.39
Laredo, TX	1,197,444	2,239,150	53.47	24.18	19.34	1.51	20.85
State College, PA	750,864	1,636,441	45.88	33.33	3.00	3.00	6.00
Augusta, GA	687,191	1,529,776	44.92	26.08	9.00	5.00	14.00
New Castle, PA	301,138	1,014,836	29.67	34.14	37.00	13.00	50.00
Lancaster, PA	1,678,337	2,467,212	68.02	28.18	27.80	5.28	33.08
Davenport, IA	356,046	2,500,000	14.24	34.90	18.89	14.24	33.13
DUBUQUE, IA	281,500	1,237,120	22.80	29.00	25.00	60.00	85.00

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