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**Federal Transit
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The 1991/1992 Compendium is a compilation of Technical Report Documentation pages that provide bibliographic informtation and abstracts for recently available FTA-sponsored project reports that have been put on file with the Transportation Research Information Center.

This document reflects FTA's continuing commitment to the dissemination of technical report information to the government, state, and local transportation agencies, private industry and the general public.

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Bus, Rail, Train, APTS, Rural, Handicapped, Disabled, Land Use, bicycle, transit	Report Available from: National Technical Information Service 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

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FTA ABSTRACTS
1991/1992

This 1991/1992 Compendium is a compilation of Technical Report Documentation pages that provide bibliographic information and abstracts for recently available FTA-sponsored project reports that have been put on file with the Transportation Research Information Center (TRIC).

This document reflects FTA's continuing commitment to the dissemination of technical report information to government, state, and local transportation agencies, private industry and the general public.

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TABLE OF CONTENT

(FTA - Federal Transit Administration)

SECTION 1

1. Report Availability

. National Technical Information Services

. FTA Regional Repositories

2. Abstracts of FTA Sponsored Research Reports

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E05	22.50
E06	25.50
E07	28.50
E08	32.00
E09	35.00
E10	38.00
E11	41.00
E12	45.00
E13	48.00
E14	52.00
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D09	460
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D12	630
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D17	890
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T08	940
T09	1,050
T10	1,160
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T12	1,390
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N02	75.00
N03	40.00

Price Code	Price
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E03	35.00
E04	41.00
E05	45.00
E06	51.00
E07	57.00
E08	64.00
E09	70.00
E10	76.00
E11	82.00
E12	90.00
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D09	920
D10	1,040
D11	1,140
D12	1,260
D13	1,360
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D15	1,580
D16	1,680
D17	1,780
D18	1,900
D19	2,000
D99	Contact NTIS for price

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T03	720
T04	960
T05	1,180
T06	1,420
T07	1,640
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T09	2,100
T10	2,320
T11	2,540
T12	2,780
T13	3,000
T14	3,240
T15	3,480
T16	3,700
T17	3,920
T18	4,160
T19	4,380
T99	Contact NTIS for price

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MARCH 1993

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Abstracts of FTA Sponsored Research Reports

Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
FTA-TGM-11-92-1	PB 92-220532	UMTRIS/FTA SECTION

4. Title and Subtitle	5. Report Date
1991 STATISTICAL SUMMARIES	May 15, 1992
	6. Performing Organization Code
	8. Performing Organization Report No
7. Author(s)	
Jo Tucci	
9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Federal Transit Administration, TGM-11 400 7th St. S.W. Washington, D.C. 20590	11. Contract or Grant No.
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address U.S. Department of Transportation Federal Transit Administration (FTA) 400 7th Street, S.W. Washington, D.C. 20590	FY'91 Summaries
	14. Sponsoring Agency Code TGM-11

15. Supplementary Notes

16. Abstract

The "Fiscal Year 1991 Statistical Summaries" present selected analyzed data on the distribution and use of various formula and discretionary program funds for transit. The programs discussed are the principal source of Federal financial aid to urban and non-urban areas for mass transportation. The data is compiled from the capital, operating, and planning assistance grants awarded in fiscal year 1991 to transit authorities, states, metropolitan planning agencies, and other units of local governments. The Federal Transit Administration (FTA) obligated a total of $3.3 billion in Fiscal Year 1991. Of this about 73% was programmed for capital purposes; 25% for operating expenditures, and the remaining 2% for planning assistance. The urbanized areas with populations over 1 million received about 73% of the total grant funds obligated (funds for Washington, D.C. Metro not included). The document includes over 50 charts, graphs, and tables describing different aspects of the FTA grant programs. They include both overview material and specifics on funding of some individual urban modes (most notably rail cars and ferry systems.) In FY 1991 a table was added showing FTA's financial involvement in busways and HOV lanes.

17. Key Words	18. Distribution Statement
Use of various Formula and Discretionary program funds to urban and non-urban areas for mass transportation.	– Report available to the public through the National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
FTA-NY-11-0040-92-1	PB 92-215029	UMIRIS/FTA Section 11(a)

4. Title and Subtitle

A Comparative Study of Public and Private Bus Operations in New York City

5. Report Date: July 1992

6. DOT Report Number

7. Author's:
E. S. Savas and Anthony Cantarella

8. Performing Organization Report No.

9. Performing Organization Name and Address
Institute for Transportation Systems
City University of New York
The City College
New York, NY 10031

10. Grant or Project No.

11. Contract No.

12. Sponsoring Agency Name and Address
U.S. Department of Transportation
Federal Transit Administration (FTA)
400 7th Street, SW
Washington, DC 20590

13. Type of Report and Period Covered

14. Sponsoring Agency Code

15. Supplementary Notes
FTA was previously the Urban Mass Transportation Administration (UMTA)
The authors are at the Privatization Research Organization, Baruch College/CUNY, 17 Lexington Avenue, New York, NY 10010

16. Abstract

The purpose of this study is to compare the relative performance of public and private bus service in New York City, with the ultimate objective of encouraging prudent privatization where justified, using competitive bidding to create an environment where both the public and private sectors compete fairly to serve particular routes. Privatization by contracting out is widespread for many common municipal services, including bus operations. The result generally has been lower costs for the same or higher quality of service. Surveys of public officials show a high degree of satisfaction with contracting. Careful quantitative, cross-sectional studies reveal average savings of about 25 percent. Large-scale, before-and-after studies corroborate and confirm these findings. New York City's multifaceted fixed-route surface transit system is examined. Data from public and private bus operators were collected and analyzed. The following performance measures were calculated and compared: cost efficiency, service effectiveness, and service quality and safety. The private operators were found to be more cost efficient and cost effective; the results for service effectiveness are mixed. The private buses are also superior with respect to mean distance between failures and frequency of collision accidents. The City should introduce competitive bidding for routes currently serviced by private firms which now have, in effect, permanent franchises. The Transit Authority should use competitive bidding for its regular routes, allowing private contractors to bid against the TA; it should also contract with van services for late-night and low-demand routes. Political will is needed to overcome opposition and to allay fears.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
bus, privatization, New York, comparison, public, private, contracting, fixed-route	

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-MA-06-0206-91-1	PB92-114511	UMTRIS/UMTA Section 6

4. Title and Subtitle
ADA PARATRANSIT HANDBOOK: Implementing the Complementary Paratransit Service Requirements of the Americans with Disabilities Act of 1990

5. Report Date
September, 1991

6. Performing Organization Code

7. Author(s)
Russell H. Thatcher, EG&G Dynatrend
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8. Performing Organization Report No.

9. Performing Organization Name and Address

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10. Work Unit No. (TRAIS)

11. Contract or Grant No.
DTUM60-88-C-41032

12. Sponsoring Agency Name and Address
U.S. Department of Transportation
Urban Mass Transportation Administration (UMTA)
400 Seventh Street, S.W.
Washington, D.C. 20590

13. Type of Report and Period Covered
ADA Paratransit Handbook

14. Sponsoring Agency Code
UTS-10/UCC-10

15. Supplementary Notes
Prepared for the UMTA Task Force on the Americans with Disabilities Act; funded through the Office of Technical Assistance and Safety

16. Abstract

This handbook provides guidance and practical information for implementing the complementary paratransit service requirements of the Americans with Disabilities Act of 1990 (ADA). A primary purpose of this handbook is to assist transit operators and planners with the preparation of required ADA paratransit plans. The first five chapters summarize the law and complementary paratransit service requirements. Eligibility determination, service criteria, and operating standards and requirements are analyzed in detail. The last four chapters discuss paratransit service models; ways to enhance fixed route service in order to reduce the need for paratransit; the preparation of paratransit plans, including a step-by-step planning methodology; and, key implementation issues such as scheduling, training, equipment specifications, and recordkeeping. Applicable regulatory text is included in an appendix. Other appendices include a sample eligibility form; suggestions for making communications and information accessible; a sample advisory committee Memorandum of Understanding; information about state-of-the-art computer-assisted scheduling; and, numerous references and sources of technical assistance.

17. Key Words	18. Distribution Statement
Americans with Disabilities Act/Paratransit/Accessibility/Transportation for Persons with Disabilities/Paratransit Planning/ADA Eligibility	Document is available to the public through the National Technical Information Service, Springfield, VA 22161. Phone: (703) 487-4650

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
UMTA-MA-06-0196-91-2	PB 91-212126	UMTRIS/UMTA SECTION 6

4. Title and Subtitle	5. Report Date
Advanced Public Transportation Systems The State of the Art	April 1991
	6. Performing Organization Code DTS-49
7. Author(s) Robert F. Casey, Lawrence N. Labell, Simon P. Prensky, and Carol L. Schweiger*	8. Performing Organization Report No. DOT-VNTSC-UMTA-91-2
9. Performing Organization Name and Address U.S. Department of Transportation Research and Special Programs Administration John A. Volpe National Transportation Systems Center Cambridge, MA 02142	10. Work Unit No. (TRAIS) UT-109/U1505
	11. Contract or Grant No.
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration Office of Technical Assistance and Safety Washington, DC 20590	13. Type of Report and Period Covered Final Report January 1991 - March 1991
	14. Sponsoring Agency Code UTS-30

15. Supplementary Notes

*EG&G Dynatrend, Inc.

16. Abstract

This report documents one of the early initiatives of UMTA's Advanced Public Transportation Systems (APTS) Program, a program structured to undertake research and development of innovative applications of advanced navigation, information, and communication technologies that most benefit public transportation.

This report contains the results of a limited investigation of the extent of adoption of advanced technology in the provision of public transportation service in North America. It focused on some of the most innovative or comprehensive implementations, categorized broadly under the APTS program elements of Market Development, Customer Interface, Vehicle Operations and Communications, and High Occupancy Vehicle Facility Operations. The objective of this effort was to increase the industry's knowledge of successful applications of advanced technologies with the expectation that this will lead to their widespread adoption.

17. Key Words	18. Distribution Statement
Advanced Technology Transit Applications, Intelligent Vehicle Highway Systems, Transit Navigation Systems, Transit Information Systems, Transit Communication Systems, Transit Control Systems	Report available to public through the National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
FTA-MA-26-0007-92-1	PB 92-218304	UMTRIS/Section 26

4. Title and Subtitle	5. Report Date
Advanced Public Transportation Systems: The State of the Art Update '92	April 1992
	6. Performing Organization Code: DTS-49

7. Author(s)	8. Performing Organization Report No.
Lawrence N. Labell, Carol P. Schweiger,[1] and Mary Kihl[2]	DOT-VNTSC-FTA-92-3

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
U.S. Department of Transportation Research Special Programs Administration John A. Volpe National Transportation Systems Center Kendall Square Cambridge, MA 02142	UT209/U2012
	11. Contract or Grant No.

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Federal Transit Administration Office of Technical Assistance and Safety 400 Seventh Street, SW Washington, DC 20590	Final Report January 1992-March 1992
	14. Sponsoring Agency Code: TTS-30

15. Supplementary Notes

[1]EG&G Dynatrend, [2]Iowa State University

16. Abstract

This report documents one of the components of FTA's Advanced Public Transportation Systems (APTS) Program, a program structured to undertake research and development of innovative applications of advanced navigation, information, and communication technologies that most benefit public transportation.

This report is an update to the previous State-of-the-Art which was published in April 1991. It contains the results of a limited investigation of the extent of adoption of advanced technology in the provision of public transportation service in North America. It focused on some of the most innovative or comprehensive implementations, categorized under four categories of operational tests: Market Development, Customer Interface, Vehicle Operations and Communications, and High Occupancy Vehicle Facility Operations. The concepts of the "Smart Traveler" and the "Smart Vehicle" were also discussed in detail. The objective of this effort was to increase the industry's knowledge of successful applications of advanced technologies with the expectation that this will lead to their widespread adoption.

17. Key Words	18. Distribution Statement
Advanced Technology Transit Applications, Intelligent Vehicle Highway Systems, Transit Navigation Systems, Transit Information Systems, Transit Communication Systems, Transit Control Systems	DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VA 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-NY-08-0179-92-1	NON-NTIS REPORT	UMTRIS/Section 8

4. Title and Subtitle	5. Report Date
An Assessment of the Potential for Ferry Services in New York Harbor	July 1992
	6. Performing Organization Code
7. Author(s)	8. Performing Ogranization Report No.
New York City Metropolitan Transp. Council	
9. Performing Organiztion Name and Address	10. Work Unit No. (TRAIS)
One World Trade Center Suite 82 East New York, New York 10048	11. Contract or Grant No. NY-08-0179
12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Federal Transit Administration** **400 Seventh Street, S.W.** **Washington, D.C. 20590**	13. Type of Report and Period Covered
	14. Sponsoring Agency Code TRO-2

15. Supplementary Notes

New York City Department of Transportation

16. Abstract

This study began in late 1989 with the objective of identifying ferry routes with potential for increasing transit capacity and attracting automobile commuters. In the course of this effort, the New York City Department of Transportation has identified possible routes, measured existing commuting patterns, projected potential ferry ridership, examined terminal and vessel requirements, and estimated the financial and practical feasibility of privately run services. Routes with the potential for success were identified, and action plans for implementation were developed. In addition, this study presents a methodology that can be adapted for use in assessing other routes not included here. The methodology is presented in sufficient detail to allow others to understand it and apply it to their own situations.

17. Key Words	18. Distribution Statement
Ferry Ridership New York Harbor Manhattan	Report available to the public through inter-library loan arrangement with transportation libraries at Northwestern Univ., Evanston, Ill. 60201; & Univ. of California-Berkeley

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-NY-08-0185-92-1	NON-NTIS REPORT	UMTRIS/FTA Section 8

4. Title and Subtitle	5. Report Date
An Assessment of the Transit Service Potential of Inactive Railroad Rights-of-way and Yards	OCTOBER 1991
	6. Performing Organization Code
7. Author(s)	8. Performing Ogranization Report No.
New York Metropolitan Transportation Council	NY-08-0185
9. Performing Organiztion Name and Address The Metropolitan Planning Organization One World Trade Center Suite 82East New York, New York 10048	10. Work Unit No. (TRAIS)
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12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Urban Mass Transportation Administration** **400 Seventh Street, S.W.** **Washington, D.C. 20590**	13. Type of Report and Period Covered Final Report
	14. Sponsoring Agency Code URO-2

15. Supplementary Notes

16. Abstract

This study examined the transit service potential of inactive/underutilized railroad rights-of-way and yards and determine the long-range potential of these facilities for the provision of transit services. Extensive field reconnaissance was conducted to identify all inactive/underutilized railroad rights-of-way and yards. Screening criteria were developed to determine which rights-of-way have potential use for passenger service and three sites were selected for futhur study: the Rockaway Beach Branch in Queens, the Amtrak-Hellgate Line in the Bronx, and the North Shore and Travis Branch in Staten Island.

17. Key Words	18. Distribution Statement
	Report available to public through inter-library loan arrangement libraries at Northwestern University, Evanston, Ill. 60201; & University of California-Berkeley

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
UMTA- UTS-30-91-1	PB92-101641	UMTRIS/UMTA SECTION

4. Title and Subtitle	5. Report Date
Assessment of Advanced Technologies for Transit and Rideshare Applications	July 1991
	6. Performing Organization Code
	8. Performing Organization Report No.

7. Author(s)	
Peter Davies, Chris Hill, Neil Emmott & Jeremy Siviter	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Castle Rock Consultants 18 Liberty St., S.W. Leesburg, Virginia 22075	11. Contract or Grant No.
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12. Sponsoring Agency Name and Address	
U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, S.W. Washington, D.C. 20590	Final Report 14. Sponsoring Agency Code UTS-30

15. Supplementary Notes

16. Abstract

This report presents the results of a study to examine advanced technologies and systems that can be applied to high occupancy vehicles, ridesharing and transit needs. Advanced technologies can be used to encourage the use of transit and rideshare facilities by improving their attrativeness and accessibility to travelers. In addition, they have the potential to increase the efficiency of transit and rideshare operations, reducing operational costs while offering higher levels of services to the public.

Technologies were reviewed in the areas of traveler information systems, traffic management systems, fleet management and control systems, and automatic vehicle control systems. Within these areas, developments in the U.S., Europe and Japan were considered and a number of individual technologies were identified.

The study included a review of current moves toward a national intelligent vehicle-highway systems (IVHS) program. An outline of IVHS projects and activities directed at high occupancy vehicles, rideshare and transit vehicles has been prepared. These cover research, development, operational testing and standard setting activities for the technologies. Project descriptions are presented in limited detail, with emphasis placed more on the overall structure of the program than individual activties. Several of the near-term projects, with high-payoff potential, have been defined in more detail. The report concludes by recommending the direction of future work on transit and rideshare-related advánced technologies, within the framework of a national IVHS program.

17. Key Words		18. Distribution Statement
Transit Ridesharing IVHS Paratransit	HOV Advanced Technology	- Report available to the public through the National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

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REPORT DOCUMENTATION PAGE

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4. TITLE AND SUBTITLE
Assessment of Detectable Warning Devices for Specification Compliance or Equivalent Facilitation

5. FUNDING NUMBERS
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6. AUTHOR(S)
David Spiller, Jordan Multer

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Department of Transportation
Research and Special Programs Administration
Volpe National Transportation Systems Center
Cambridge, MA 02142-7093

8. PERFORMING ORGANIZATION REPORT NUMBER
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U.S. Department of Transportation
Federal Transit Administration
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Washington, DC 20590

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11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
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13. ABSTRACT (Maximum 200 words)

This report evaluates the Americans with Disabilities Act Accessibility Guidelines (ADAAG) specification for detectable warnings and the applicability of equivalent facilitation to the development of detectable warning devices. Ambiguities in the specification are identified and solutions are recommended to address these problems.

Detectable warnings are intended to aid the visually impaired to detect the presence of hazards on a circulation path. Transit authorities and manufacturers developing detectable warnings for use at rail platforms have requested assistance in interpreting the specification. Lack of precision in the specification language allows different interpretations, resulting in products that vary widely in their designs. The evolution of the detectable warning specification and the human performance considerations that led to changes in the specification are discussed. Recommendations are given for clarifying the language and eliminating the ambiguity in the specification.

For transportation authorities unable to comply with the ADA detectable warning specification, the guidelines provide an alternative mechanism by which accessibility requirements may be met. Equivalent Facilitation permits the use of alternative designs provided they give equal or better access. The implications of departures from the specification are discussed and several tests are suggested for determining whether an alternative design meets the equivalent facilitation criterion.

14. SUBJECT TERMS
Americans with Disabilities Act (ADA), Detectable Warning, Equivalent Facilitation, Rail Platform, Tactile Warning, Visually Impaired

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4. Title and Subtitle

Consumer-Based Transit Pricing at the Chicago Transit Authority

Volume I of II

5. Report Date: **October, 1991**

6. Performing Organization Code: **JO7020**

8. Performing Organization Report No.: **PR91-09**

7. Author(s): **Daniel Fleishman**

9. Performing Organization Name and Address

Multisystems, Inc.
1050 Massachusetts Ave.
Cambridge, MA 02138

10. Work Unit No. (TRAIS): **IL-08-7002**

11. Contract or Grant No.: **C90401**

12. Sponsoring Agency Name and Address

U.S. Department of Transportation
Urban Mass Transportation Administration (UMTA)
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Washington, D.C. 20590

13. Type of Report and Period Covered: **Final Report**
July 1989-Dec. 1990

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247 W. 87th St.	8737 Colesville Rd.	1122 Himman Ave.	1608 N. Milwaukee-Ste 1202
New York, NY 10024	Silver Spring, MD 20910	Evanston, IL 60202	Chicago, IL 60647

16. Abstract

This report discusses the development and implementation -- as well as the resulting revenue and ridership impacts -- of a new fare structure for the Chicago Transit Authority. The CTA sought a new structure that would offer riders a range of fare options, including the ability to pay less than they did under the previous structure. Through the use of "deep discounting," in combination with differential pricing (based on service quality or time of day), it was felt that the CTA could achieve the typically elusive goal of increasing both ridership and revenue.

Based on research into innovative pricing at other transit properties, coupled with market research into the prospective travel behavior and fare payment preferences of CTA riders, the study team developed a model to predict the ridership and revenue impacts of different fare structures. At the same time, a range of types of fare structures (bus/rail differential, peak/off-peak, etc.) was assessed in terms of implementation and operational difficulties. Following the testing of over 100 different fare combinations and presentations at 11 public hearings, a single option -- including a peak/off-peak differential on bus only, with prepaid tokens priced lower than the existing token and two different types of monthly passes -- was adopted by the Board. Despite having less than 3 months lead time, CTA staff successfully met the implementation deadline (April 29, 1990). After eight months of the new structure the CTA had successfully achieved it primary goal of increasing revenue without suffering significant ridership loss. These findings indicate that this market-segmented pricing strategy holds substantial promise for the transit industry as a whole.

17. Key Words	18. Distribution Statement
Fare policy, deep discounting, market-oriented fare structures, peak/off-peak, consumer-based pricing	**Document available to the Public through National Technical Information Service (NTIS), Springfield, Virginia 22161. - telephone 703/487-4650**

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4. Title and Subtitle

Consumer-Based Transit Pricing at the Chicago Transit Authority: Market Analysis of Choice of Method of Payment

Volume II of II

5. Report Date: **October, 1991**

6. Performing Organization Code: **JO7020**

8. Performing Organization Report No.: **PR91-08**

7. Author(s): **Frank Koppelman and Joseph Schofer**

9. Performing Organization Name and Address

Midwest System Sciences
1122 Hinman Ave.
Evanston, IL 60202

10. Work Unit No. (TRAIS): **IL-08-7002**

11. Contract or Grant No.: **G90401**

12. Sponsoring Agency Name and Address

U.S. Department of Transportation
Urban Mass Transportation Administration (UMTA)
400 Seventh Street, S.W.
Washington, D.C. 20590

13. Type of Report and Period Covered: **Final Report**
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15. Supplementary Notes

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Cambridge, MA 02138	New York, NY 10024	Silver Spring, MD 20910	Chicago, IL 60647

16. Abstract

This report discusses the development and implementation -- as well as the resulting revenue and ridership impacts -- of a new fare structure for the Chicago Transit Authority. The CTA sought a new structure that would offer riders a range of fare options, including the ability to pay less than they did under the previous structure. Through the use of "deep discounting," in combination with differential pricing (based on service quality or time of day), it was felt that the CTA could achieve the typically elusive goal of increasing both ridership and revenue.

Volume II examines the method of payment behavior of CTA riders based on survey data including information on current method of payment, future choice of method of payment under a variety of fare structures, ratings of pass and token payment attributes, demographic characteristics and riding patterns. The primary objective of this study is to develop a model which can be used to predict future choice of method of payment under a wide range of fare structures. The study identified monthly cost as the most important factor in choice of method of payment. Monthly cost includes the effect of differences in riding patterns by including CTA usage frequency and percent of trips made with tranfers in the computation of monthly cost for each respondent. Demographic characteristics were not found to have any substantial impact on choice of method of payment. The models selected consider cost differently for different methods of payment to account for the higher rate of substitution between cash and tokens than between either of these ride-based methods and passes. The selected models, which include monthly cost and monthly cost differences, were used to develop predictions of the future share of method of payment for selected fare structure scenarios.

17. Key Words	18. Distribution Statement
Fare policy, deep discounting, market-oriented fare structures, peak/off-peak, consumer-based pricing	**Document available to the Public through National Technical Information Service (NTIS), Springfield, Virginia 22161. - telephone 703/487-4650**

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FTA-NJ-11-0012-91-1	PB 92-178425/AS	UMTRIS/Section 11

4. Title and Subtitle	5. Report Date
COOPERATIVE TRANSIT EDUCATION PROGRAM	November 1991
	6. DOT Report Number
	8. Performing Organization Report No.

7. Author(s)	
L. J. Pignataro and A. K. Bladikas	

9. Performing Organization Name and Address	10 Grant or Project No.
Center for Transportation Studies and Research New Jersey Institute of Technology 323 Martin Luther King Boulevard Newark, NJ 07102	11 Contract No. NJ-11-0012
	13. Type of Report and Period Covered University Research Final Report
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, SW Washington, D.C. 20590	14 Sponsoring Agency Code TTS-31

15 Supplementary Notes

16. Abstract

Because it appears that (1) transit is far from the first career choice for the majority of young professionals, and (2) the industry needs a large number of new employees trained in traditional and new disciplines, a significant human resources problem has developed that requires special attention and innovative solutions. A properly structured cooperative education (co-op) program for the transit industry would help to attract qualified young professionals trained in a variety of technical and managerial fields.

This report discusses various co-op alternatives, presents suggestions for and typical samples of promotional materials, and includes the requirements for the program's monitoring and evaluation. Statistics from a New Jersey Transit-based case study are included, and recommendations are presented that can increase the program's effectiveness.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-MD-08-9009-91-5	PB 92-218775/AS	

4. Title and Subtitle	5. Report Date
Data Tables For the 1990 Section 15 Report Year	December 1991
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Marvin Futrell, Chief, Audit Review and Analysis Division, FTA T. N. Black, Project Manager, COMSIS Corporation	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
COMSIS Corporation 8737 Colesville Road, Suite 1100 Silver Spring, MD 20910	11. Contract or Grant No. DTUM60-90-C-41004

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Federal Transit Administration Office of Capital and Formula Assistance Audit Review and Analysis Division	Data Tables January 1, 1990 to December 1990
	14. Sponsoring Agency Code TGM-13

15. Supplementary Notes

16. Abstract

This report summarizes the financial and operating data submitted to the Federal Transit Administration (FTA) by the nation's public transit operators, pursuant to Section 15 of the Federal Transit (FT) Act of 1964, as amended.

These data represent a portion of the 1990 Annual Report. This report consists of two chapters. Chapter 1 contains an introduction to the Section 15 reporting system and its relationship to the Section 9 program. Chapter 2 contains financial and operating data on the individual transit systems that submitted complete Section 15 reports.

All data in this report are for transit system fiscal years ending on or between January 1 and December 31, 1990.

17. Key Words	18. Distribution Statement (703) 487-4650
mass transportation; public transportation; transit data; revenues; expenses; maintenance data; formula-apportioned assistance; vehicle miles; passenger miles; fixed guideway directional route miles; performance indicators	National Technical Information Services 5285 Port Royal Road Springfield, Virginia 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
UMTA-CT-06-0020-91-1	PB 92-125855	

4. Title and Subtitle	5. Report Date
Employee Assistance Programs for Transit Systems	September, 1991
	6. Performing Organization Code
	8. Performing Organization Report No.
7. Author's: Gold, Donna	
9. Performing Organization Name and Address ETP, Inc. 7 Waterside Crossing, Suite 204 Windsor, CT 06095	10. Work Unit No. (TRAIS) 11. Contract or Grant No. CT-06-0020 13. Type of Report and Period Covered Final Report
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration 400 Seventh Street, S.W. Washington, D.C. 20590	14. Sponsoring Agency Code

15. Supplementary Notes

Under subcontract to Connecticut Transit
P.O. Box 66, 100 Leibert Road
Hartford, CT 06141

16. Abstract

This report is a detailed procedural manual intended to help primarily small and medium-sized transit systems design, implement, and evaluate Employee Assistance Programs (EAPs). Based on the experience of Connecticut Transit and other systems, the manual is intended to help local transit managers and decision-makers develop new programs or evaluate and improve existing EAPs.

Specific topics addressed by the manual include alternative EAP models, reasons to justify EAPs on local transit systems, options in designing EAPs, implementation steps, program evaluation, case studies, and future issues and trends. The Appendix includes a glossary of relevant terms, sample EAP documents, an annotated bibliography, and an inventory of existing programs and contact persons at 180 United States and Canadian transit systems.

EAPs help employees resolve any type of personal or family problems. EAPs provide supervisors with a positive referral for employees whose deteriorating job performance warrants intervention, as well as a confidential, low-cost source of help for individuals who access the program voluntarily. Effective and affordable EAPs are readily available; however, local transit managers need to become better informed consumers of EAP services as the number and variety of prospective providers increase.

17. Key Words	18. Distribution Statement
	Document available to the Public through National Technical Information Service (NTIS), Springfield, Virginia 22161.

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REPORT DOCUMENTATION PAGE

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PB 92-236173	July 1992	FINAL REPORT Nov. 1987 - Apr 1991

4. TITLE AND SUBTITLE
Fire Safety Countermeasures for Urban Rail Vehicles

5. FUNDING NUMBERS
UT103/U1503

6. AUTHOR(S)
William T. Hathaway, Jason Baker and N. Albert Moussa*

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Department of Transportation
Research and Special Programs Administration
Volpe National Transportation Systems Center
Cambridge, MA 02142

8. PERFORMING ORGANIZATION REPORT NUMBER
DOT-VNTSC-FTA-92-1

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Department of Transportation
Federal Transit Administration
Office of Technical Assistance and Safety
Washington, DC 20590

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
FTA-MA-06-0200-92-1

11. SUPPLEMENTARY NOTES
under contract to: N. Albert Moussa
*Blaze Tech Corporation
Winchester, MA 01890

12a. DISTRIBUTION/AVAILABILITY STATEMENT
This document is available to the public through the National Technical Information Service, Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

The Volpe National Transportation Systems Center (VNTSC) has analyzed transit system fire statistics to learn how often fire and smoke incidents occur on rail transit systems. While the threat of fire accounts for only a small percent of all rail transit incidents, the potential exists for loss of life and significant damage to property. This report identifies those countermeasures necessary to prevent and reduce the severity of transit fires.

To identify the necessary countermeasures, the system safety approach was used. This method used (1) fault trees that graphically represented in a sequence of events how a fire develops, (2) an expert in transit safety who examined each sequence of events, and (3) another expert who examined the countermeasures for reducing and preventing transit fires.

The system safety approach allowed the VNTSC to examine the relationships between the various physical components and operating procedures of the entire transit system. In addition, potential problems relating to the construction and operating stages of the transit system could be identified.

This report identifies five major areas of countermeasures: vehicle/equipment, procedures, human factors/training, environment, and information management/data analysis.

14. SUBJECT TERMS
Rail, Rail Transit, Fire Countermeasures, Rail Fire, Fire Safety

15. NUMBER OF PAGES
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16. PRICE CODE
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298-102

Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
UMTA-MD-06-0134-90-1	PB 91-230870/AS	UMTRIS/UMTA SECTION 6

4. Title and Subtitle	5. Report Date
Guidelines For Developing A Taxicab Driver Training Program	April 1991
	6. DOT Report Number
7. Author(s) Davis, Edward G. Morris, Anne G. (Dr.)	8. Performing Organization Report No.
9. Performing Organization Name and Address International Taxicab and Livery Asssociation 3849 Farragut Avenue Kensington, MD 20895	10. Grant or Project No. UMTA-MD-06-0134 11. Contract No. UMTA-MD-06-0134
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, SW Washington, D.C. 20590	13. Type of Report and Period Covered Taxicab Driver Training Guide 14. Sponsoring Agency Code UTS-3

15. Supplementary Notes

16. Abstract

This information is designed to serve as a voluntary guideline that may be used in the development of a Taxicab Driver Training Program. It was developed after discussions with experts from both the private and public sectors of the taxicab industry. Eight taxicab driver training programs were visited, interviewing program instructors, administrators, driver trainees, and drivers.

This report provides a fact sheet and a summary of earch training site visited, a written review of all training materials obtained, and general guidelines for implementing taxicab driver training programs.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
Taxicab Driver Training Private Sector Guidelines Interview Forms Implementation UMTA Section 6	

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
unclassified	unclassified	77	A-06

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-WI-11-0012-91-2	PB 91-230433/AS	UMTRIS/Section 11

4. Title and Subtitle	5. Report Date
Guidelines for Transit Sensitive Suburban Land Use Design	July, 1991
	6. Performing Organization Code
7. Author(s) Edward Beimborn, Harvey Rabinowitz, Peter Gugliotta, Charles Mrotek, Shuming Yan	8. Performing Organization Report No.
9. Performing Organization Name and Address Center for Urban Transportation Studies University of Wisconsin--Milwaukee P.O. Box 784 Milwaukee, WI 53201	10. Work Unit No. (TRAIS) 11. Contract or Grant No. WI-11-0012
12. Sponsoring Agency Name and Address Research and Training Program Urban Mass Transportation Administration U.S. Department of Transportation Washington, DC 20590	13. Type of Report and Period Covered Research 14. Sponsoring Agency Code URT-33

15. Supplementary Notes

16. Abstract This report provides guidelines for the planning and design of land use patterns that are sensitive to the needs of public transit. These guidelines are meant to create an efficient environment for future growth in suburban areas. The guidelines have been prepared from a market-based point of view. Design elements are proposed that directly address the success of development activities and transit services. The report discusses requirements for successful transit and provides design guidelines for land use, access systems and transit service types through a range of scales.

Transit-sensitive land use design can be developed through the designation of Transit Corridor Districts (TCDs) which would separate transit- and auto-oriented land uses. Such areas would have a mix of land uses with higher densities located near a transit route. A high quality access system for pedestrians and bicyclists should be provided to permit easy connections between buildings and transit vehicles. Guidelines are developed for the overall administrative and policy issues, systems planning considerations and specific designs of individual districts where transit service is provided. Steps to implement the guidelines are also included.

A prototype Transit Corridor District, based on the guidelines, is presented in the final section of this report. The proposed TCD illustrates how the guidelines can be applied at a specific location.

17. Key Words	18. Distribution Statement
transit, land use, suburb, guideline, pedestrian, bicycle, bus, development, real estate, transit corridor district, access, planning, design	Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Va. 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
FTA-IA-11-0008-92-1	PB 93-144251	UMTRIS/Section 11

4. Title and Subtitle	5. Report Date
Manual on Contracting for Vehicle Maintenance Services	October, 1992
	6. DOT Report Number
7. Author(s)	8. Performing Organization Report No.
T.H. Maze, K.M. Waggoner, M.E. Maggio, D. Johnson, J. Dobie, W. Neely	
9. Performing Organization Name and Address Iowa Transportation Center 194 Town Engineering Building Iowa State University Ames, IA 50011	10 Grant or Project No. IA-11-0008 11 Contract No.
12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Federal Transit Administration (FTA)** **400 7th Street, SW** **Washington, DC 20590**	13. Type of Report and Period Covered University Research 14 Sponsoring Agency Code TTS-31

15. Supplementary Notes

FTA was previously the Urban Mass Transportation Administration (UMTA).

16 Abstract

The purpose of this manual is to guide transit agencies in the development of contracting documents and contracting relationships. Although the manual focuses on rural, small urban, and specialized transit operations, it contains useful information for all public agencies intending to purchase vehicle maintenance services through competitively awarded contracts. The manual is intended to be used for self study or to provide background material for workshop style training. Classroom exercises are included for this purpose.

To emphasize important and/or complex concepts, the manual contains numerous brief case studies. They are presented in **Gray Boxes** throughout the text and illustrate concepts being explained in the text.

The manual contains five chapters, four devoted to contract concepts - guidelines for contracting, competitive bidding, competitive negotiation, and contract controlling. One chapter focuses on the relationship between the agency and the contractor when the agency requires the contractor to test its employees for drugs and alcohol. The manual also contains three appendices, including statues governing contracting, case studies, and samples of the "state-of-the-practice" of maintenance contracting throughout the country, and special handling considerations when maintaining alternative fueled vehicles.

It has been found when a transit agency purchases vehicle maintenance services using third party providers, the use of competitive bidding/negotiation (as opposed to the use of small purchase agreements) almost always reduces the cost of vehicle maintenance and improves the quality of maintenance services. Drug and alcohol testing requirements and/or the introduction of unconventional alternatively fueled vehicles will necessitate making relationships with contractors more formal and increase the need for competitively awarded contracts.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
Vehicle Maintenance, Contracting Fleet Management, Competitive Bidding, Maintenance, Alternative Fuels, Drug & Alcohol Testing	

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
unclassified	unclassified	50	A-11

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Information System
UMTA-NY-08-0154-90-3	Non-NTIS Report	UMTRIS/Section 8

4. Title and Subtitle	5. Report Date
METRANET Metropolitan Transportation Network Private Sector Initiatives in the New York Metropolitan Area Phase II- Volume 1,2, and 3.	6. DOT Report Number
7. Author(s)- Institute for Transportation Systems	8. Performing Organization Report No.
9. Performing Organization Name and Address The City University of New York The City College New York, New York 10031	10. Grant or Project No. NY-08-0154 11. Contract No.
12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Urban Mass Transportation Administration (UMTA)** **400 Seventh Street, SW** **Washington, D.C. 20590**	13. Type of Report and Period Covered June 1990 14. Sponsoring Agency Code URO-2

15. Supplementary Notes

16. Abstract

The final report is divided into three volumes.

Volume I provides an overview of the METRANET Project, 1989-1990. In addition, Volume I includes the names of those persons who presented at the Forums/Conference, a copy of the respective Forum/Conference agendas, and a list of attendees at each event.

Volume II provides the general proceedings of each of the four METRANET Forums/ Conference.

Volume III is an alphabetized compilation of the private transit operators. Included is a summary of the private operators as well as a detailed breakout of the operators by County or Borough and by mode.

17. Key Words	18. **Document availability**
Forum /Conference Bus, Taxicab, Vans, New York State DOT Private Transit Operators	Inter-library loan: Northwestern Univ., University of California-Berkeley

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
UMTA-MA-11-0049-91-1	PB 92-178482	UMTRIS/Section 11

4. Title and Subtitle	5. Report Date
Monitoring the Performance of Private Service Contractors	February 1992
	6. DOT Report Number
7. Author's- Halvorsen, R.D., Y. Panayotidis, M. Bucciarelli, and N.H.M. Wilson	8. Performing Organization Report No.
9. Performing Organization Name and Address Center for Transportation Studies Massachusetts Institute of Technology 77 Massachusetts Avenue Cambridge MA 02139-4307	10 Grant or Project No. MA-11-0049 11 Contract No.
12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Federal Transit Administration (FTA)** **400 7th Street, SW** **Washington, DC 20590**	13. Type of Report and Period Covered University Research Final Report 1/15/90 - 12/31/91 14 Sponsoring Agency Code TTS-30

15 Supplementary Notes

FTA was previously the Urban Mass Transportation Administration (UMTA).

16. Abstract

This report examines the monitoring requirements of transit services provided under contract to public transit authorities. The principal aims of the report are to describe the implications of type of transit service and contract structure on the type and level of monitoring required. The general problem of service monitoring is reviewed and the basic approaches to sampling are presented in the context of contracted services. Detailed case studies of the three major contracted services managed by the Massachusetts Bay Transportation Authority form the bulk of the report, encompassing commuter rail, commuter boat, and paratransit services. In each case study the implications of service type and contract structure are shown in terms of actual monitoring activities, and recommendations are made on how monitoring activities could be improved. The principal conclusions from the research are:

1. The transit agency must carefully analyze what information it needs to obtain, and how accurate that information must be.
2. The transit agency should generally require the contractor to gather the information it needs and restrict its activities to monitoring the accuracy of that information.
3. Monitoring programs should be designed to use the most efficient possible methods to obtain the specific information needed.
4. Statistical analysis should be utilized in the design of monitoring programs and the analysis of the information obtained to insure that statistically significant conclusions can be made.
5. Sampling should be used in the collection of data to minimize the resources required to obtain information of the required accuracy.
6. If it is likely to be difficult or expensive to obtain some of the information needed to monitor the contract, the agency should consider modifying the contract to remove the need for that information or to provide an incentive for accurate reporting.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
Transit Management Privatization Service Contracting Monitoring	

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
unclassified	unclassified	75	A04

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
UMTA-UGM-20-91-1	PB 91-183152	UMTRIS/UMTA SECTION

4. Title and Subtitle	5. Report Date
Procedures and Technical Methods for Transit Project Planning	September 1990
	6. Performing Organization Code
	8. Performing Organization Report No.

7. Author(s)	
James Ryan, Donald Emerson, Edward Thomas, Kenneth Mowll, Anthony Ossi and Ronald Jensen-Fisher	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
Department of Transportation Urban Mass Transportation Administration 400 7th Street, S.W., - UGM-20 Washington, D.C. 20590	11. Contract or Grant No.
	13. Type of Report and Period Covered Review Draft
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, S.W. Washington, D.C. 20590	14. Sponsoring Agency Code UGM-20

15. Supplementary Notes

16. Abstract

Project planning is a critical step in the development of transit capital improvements. This step focuses on a specific transportation need, identifies alternative actions to address this need, and generates the information needed to select an option for implementation. The typical project planning effort addresses such issues as costs, benefits, environmental impacts and financing to support project selection. It often spans a wide range of technical disciplines, ranging from engineering to patronage forecasting to the natural and social sciences. In many respects, project planning is the key step in project development since the selection of a project for implementation establishes the improvements that will be achieved, the costs that will be incurred, and the environmental consequences that will result.

Project planning for fixed guideway transit projects (new rail lines, extensions to existing lines, and busways) is referred to as alternatives analysis. While alternatives analysis has been a key part of the UMTA process for advancing rail and busway projects for the past 10 years, it is still widely misunderstood. In part, this is because alternatives analysis is a complex technical process and makes use of terms and phrases -- such as equilibration, bias constants, and cold starts -- that are not part of many people's vocabulary. Further, much of the knowledge on how to properly conduct as alternatives analysis has been passed on by word of mouth. As a result, many local agencies have urged UMTA to provide detailed written guidance to help them carry out alternatives analysis studies.

17. Key Words	18. Distribution Statement
Rail lines Engineering Busways Fixed Guideway	– Report available to the public through the National Technical Information Service (NTIS) 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price (NTIS)
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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Recipient's Catalog No.
UMTA-PA-08-7001-90-1	PB 91- 194134	UMTRIS/SECTION 8

4. Title and Subtitle	5. Report Date
RAIL CAR COST CONTAINMENT STUDY	December 1990
	6. Performing Organization Code
	8. Performing Organization Report No.
7. Author(s): Southeastern Pennsylvania Transportation Authority	
9. Performing Organization Name and Address Southeastern Pennsylvania Transportation Authority Integrated Logistic Support (I.L.S.) Department 200 West Wyoming Avenue Philadelphia, PA 19140-1597	10. Work Unit No. (TRAIS) 11. Contract or Grant No. PA-08-7001 13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address **U.S. Department of Transportation** **Urban Mass Transportation Administration** **400 Seventh Street, S.W.** **Washington, D. C. 20590**	Final 1989-1990 14. Sponsoring Agency Code UTS-21

15. Supplementary Notes

16. Abstract

The Southeastern Pennsylvania Transportation Authority (SEPTA), as one of four agencies participating in the Rail Car Cost Containment Program (RCCCP) sponsored by the Urban Mass Transportation Administration (UMTA), undertook an 18-month in-house study of various contractual as well as technical issues involved in the procurement of electric multiple-unit (EMU) self-propelled rapid transit (heavy rail) cars. The purpose of SEPTA participation in the RCCCP was to identify factors which contribute to the high cost of rail cars, to develop alternatives in order to reduce these costs, and to formulate basic contract specifications for future rail car purchases. Based upon recent experience gained in three rail car procurements (totaling 292 cars since 1978), SEPTA conducted this study in-house with appropriate employees assigned to a special RCCCP Task Force consisting of SEPTA management, administrative, and technical personnel. The RCCCP Task Force obtained relevant cost-containment data and related comments from 28 firms (car-builders, consultants, and subcontractors) participating in the SEPTA study. This information was summarized on data forms and verified in follow-up interview meetings with selected firms. The Final Report describes the work of SEPTA Task Force personnel in addressing issues identified during the SEPTA study, and highlights those areas holding the greatest promise for rail car cost-containment in future procurements. In-house SEPTA activities were complemented by a consulting firm which produced model specification language based upon an existing specification for cars that was modified to include changes suggested by the study.

17. Key Words	18. Distribution Statement
Rapid Transit Rail Transit Rail Cars Procurement Process	**Available to the Public through the National Technical Information Service, Springfield, Virginia 22161.**

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	**Unclassified**	348	A-15

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-MA-06-0189-92-1	PB 92-178474	UMTRIS/Section 6

4. Title and Subtitle	5. Report Date
QUALITY ASSURANCE AND QUALITY CONTROL GUIDELINES	March, 1992
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Karla H. Karash	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
EG&G Dynatrend * 21 Cabot Road Woburn, MA 01801	11. Contract or Grant No. DTUM60-88-C-41032 Task 12

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Federal Transit Administration 400 Seventh Street, S.W. Washington, D.C. 20590	Final 1990-1992
	14. Sponsoring Agency Code TTS-21

15. Supplementary Notes

* Assisted by: Fluor Daniel, Inc., 505 Eighth Avenue, Suite 601, New York, NY 10018

16. Abstract

The Federal Transit Administration (FTA) sponsored the development of the Quality Assurance and Quality Control Guidelines to provide a resource for local transit authorities and others undertaking capital projects. The FTA requires grantees undertaking major capital programs to prepare a Project Management Plan (PMP) which includes a Quality Plan. Even for those projects not considered major, a Quality Plan can be a useful management tool for guiding activities to assure project quality.

Chapter 1 presents definitions, and provides a historical overview of quality in capital projects. Chapter 2 presents 15 elements which should be the basis of a quality policy. These elements include 1) Management Responsibility, 2) Documented Quality System, 3) Design Control, 4) Document Control, 5) Purchasing, 6) Product Identification and Traceability, 7) Process Control, 8) Inspection and Testing, 9) Inspection, Measuring, and Test Equipment, 10) Inspection and Test Status, 11) Nonconformance, 12) Corrective Action, 13) Quality Records, 14) Quality Audits, and 15) Training. Chapter 3 presents alternative organizational approaches to a quality system. The choice of approach depends upon the type of capital project, the size of the project, and the use of consultants for project management. Chapter 4 discusses the development of the Quality Plan throughout the different project phases from project planning, preliminary engineering and final design, construction and equipment procurement, and testing and start-up. The appendices provide selections of quality elements from several transit quality programs.

17. Key Words	18. Distribution Statement
Transit Capital Project, Quality Assurance, Quality Control, Quality Plans, Project Management, Construction Management	DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VA 22161

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	187	A09

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-MA-06-0194-92-01	PB92-192780	

4. Title and Subtitle	5. Report Date
Safety Management Information Statistics (SAMIS) 1990 Annual Report	April 1992
	6. Performing Organization Code: DTS-38
7. Author(s): Robert Rudich	8. Performing Organization Report No.: DOT-VNTSC-FTA-92-2
9. Performing Organization Name and Address: U.S. Department of Transportation, Research and Special Programs Administration, John A. Volpe National Transportation Systems Center, Cambridge, MA 02142-1093	10. Work Unit No. (TRAIS): UT215/U2023
	11. Contract or Grant No.
12. Sponsoring Agency Name and Address: U.S. Department of Transportation, Federal Transit Administration, Office of Technical Assistance and Safety, Washington, DC 20590	13. Type of Report and Period Covered: Annual Report, January 1990-Dec. 1991
	14. Sponsoring Agency Code: TTS-3

15. Supplementary Notes

16. Abstract

The Safety Management Information Statistics 1990 Annual Report is a compilation and analysis of mass transit accident and casualty statistics reported by transit systems in the United States during 1990, under FTA's Section 15 reporting system.

17. Key Words	18. Distribution Statement
Safety, Statistics, Transportation, Fatalities, Injuries, Casualties, Accidents, Mass Transit SAFEMIS, Section 15	DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE, SPRINGFIELD, VA 22161

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
UNCLASSIFIED	UNCLASSIFIED	28	A03

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-TTS-5-92-1	PB 92-214923	

4. Title and Subtitle	5. Report Date
TECHNICAL ASSISTANCE AND SAFETY PROGRAMS: Fiscal Year 1991 Project Directory	March 1992
	6. Performing Organization Code: TTS-5
	8. Performing Organization Report No.
7. Author(s): Prepared by Edith M. Rodano	
9. Performing Organization Name and Address: Program Management Staff, TTS-5, Office of Technical Assistance and Safety, Federal Transit Administration, Washington, D. C. 20590	10. Work Unit No. (TRAIS)
	11. Contract or Grant No.
	13. Type of Report and Period Covered: Annual Directory, Fiscal Year 1991
12. Sponsoring Agency Name and Address: U. S. Department of Transportation, Federal Transit Administration, 400 Seventh Street, S.W., Washington, D. C. 20590	14. Sponsoring Agency Code: FTA

15. Supplementary Notes

16. Abstract

This Directory contains brief descriptions of Technical Assistance and Safety Projects initiated during Fiscal Year 1991 by the Office of Technical Assistance and Safety (TTS), Federal Transit Administration (FTA) of the U. S. Department of Transportation. Its purpose is to inform the public and especially the transit industry of the nature and scope of work underway to assist State and local agencies in improving services and reducing the cost of public transit.

Under the **Technical Assistance and Safety Program,** assistance is provided to a broad range of disciplines, including *Advanced Public Transportation Systems (APTS), Clean Air, Finance, Human Resource and Productivity, Information, Regional Mobility, Safety and Security, Technology Development,* and *Transit Accessibility.*

17. Key Words	18. Distribution Statement
Technical assistance, APTS, clean air, finance, human resource, productivity, information, regional mobility, safety and security, technology developmnt, transit accessibility	Available to the public through the National Technical Information Service Springfield, Virginia 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
UMTA-MD-11-0009-91-1	PB 92-178441/AS	UMTRIS/Section 11

4. Title and Subtitle	5. Report Date
The Market for Private Sector Reverse Commute Services	December 1991
	6. DOT Report Number
7. Author's	8. Performing Organization Report No
Z. Andrew Farkas, Cornelius Nuworsoo, Moges Ayele	
9. Performing Organization Name and Address Center for Transportation Studies Morgan State University Baltimore, MD 21239	10 Grant or Project No. MD-11-0009 11 Contract No.
	13 Type of Report and Period Covered University Research
12. Sponsoring Agency Name and Address U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, SW Washington, D.C. 20590	14 Sponsoring Agency Code UTS-30

15 Supplementary Notes

16. Abstract

The objectives of this research are to define and examine the factors that characterise successful private sector reverse commute services; to identify reverse commute market opportunities and locations in the Baltimore Metropolitan Area; and to recommend policies and institutional mechanisms that would support private sector reverse commute services. According to three case studies of reverse commute services, a heavy emphasis on market research; marketing that emphasizes cost savings to employers; establishment of contracts with employers for subsidized transportation and matching of jobs with labor; close relationships with employment and training organizations; screening of commute service employees and excellent communication; available training and technical assistance; and entrepreneurship are the critical factors contributing to success. UMTA policy-makers should consider incorporating a long-term training and technical assistance component along with the financial assistance of ESP grants. In the Baltimore Area the Columbia/Rt. 1 area of Howard County will supply the most employment opportunities and has the greatest reverse commute van service potential, particularly from Rosemont. The employment opportunities will be in the janitorial and clerical/secretarial occupations and in the non-durable goods manufacturing, wholesale trade, finance/insurance/real estate, and services industries. A reverse commute service provider should offer a brokerage service to recruit employees or provide information about available labor.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
Reverse Commute, Entrepreneurial Services, Market Research	

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-WI-11-0012-91-1	PB 91-230359/AS	UMTRIS/Section 11

4. Title and Subtitle

The New Suburb: An Examination and Analysis of Recent Proposals

5. Report Date
July 15, 1991

6. Performing Organization Code

8. Performing Organization Report No.

7. Author(s) Harvey Rabinowitz, Edward Beimborn, Charles Mrotek, Shuming Yan, Peter Gugliotta

9. Performing Organization Name and Address
Center for Urban Transportation Studies
University of Wisconsin--Milwaukee
P.O. Box 784
Milwaukee, WI 53201

10. Work Unit No. (TRAIS)

11. Contract or Grant No.
WI-11-0012

12. Sponsoring Agency Name and Address
Research and Training Program
Urban Mass Transportation Administration
U.S. Department of Transportation
Washington, DC 20590

13. Type of Report and Period Covered
Research

14. Sponsoring Agency Code
URT-33

15. Supplementary Notes

16. Abstract

This report provides an examination of the historical basis for suburban developments and analyzes recent trends and proposals for new suburban developments, especially as they relate to public transportation. Two groups of projects are examined. These are a group of ten 'exemplars' that represent a trend towards more concentrated development and mixed land use. These examples are analyzed for the potential of transit services. Generally the proposals were found to be compatible with public transit with higher densities, concentrated demand and good pathway systems. However there are some limitations in the lack of direct transit routing, turns required, and right-of-way that could be obstacles to easy operations of transit. The second group of projects presented are entries to the suburban portion of the International City Design Competition. An analysis of over 250 entries showed a limited use of transit as part of the "vision of the future" by the entrants to the competition. Furthermore, those who use transit were generally judged to have not developed a design that used it well.

Overall it appears that there are trends in the planning and design of suburban areas that are promising for the prospects of public transit. However, the state of the art and the level of understanding of transit is limited. Much needs to be done to provide better guidance to planners, developers and local elected officials on the role of transit in land development decisions.

17. Key Words	18. Distribution Statement
transit, land use, suburb, pedestrian, bicycle, bus, planning, real estate, access, development, design, pedestrian pocket, traditional neighborhood development	Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Rd., Springfield, Va. 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No. (NTIS)	3. Information System
UMTA-NY-06-0149	PB 91-230391/AS	UMTRIS/Section 6

4. Title and Subtitle	5. Report Date
The Private Sector in Public Transportation in New York City: A Policy Perspective	January 1991
	6. DOT Report Number
7. Author(s)	8. Performing Organization Report No.
E. S. Savas, S. Grava and R. Sparrow	
9. Performing Organization Name and Address	10. Grant or Project No.
Institute for Transportation Systems The City University of New York New York, NY 10031	NY-06-0149
	11. Contract No.
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address	Research Final Report May 1989-April 1991
U.S. Department of Transportation Urban Mass Transportation Administration (UMTA) 400 Seventh Street, SW Washington, D.C. 20590	14. Sponsoring Agency Code UTS-30

15. Supplementary Notes

16. Abstract: This report examines the role of the private sector in public transportation in New York City. It offers policy guidelines for utilizing market forces and the private sector to achieve greater mobility, better transportation, improved air quality, reduced congestion, and lower costs.

The City's transportation system is a critical constraint on the region's economic performance. But, instead of higher fares, taxes, and tolls as a first resort, better use of the ample, existing transportation resources, public and private, is much to be preferred, because greater public expenditures for the public agency have resulted essentially in higher costs for the same output.

The major transportation advances in NYC originated in the private sector: the omnibus, horsecar, elevated, trolley, subway, and bus. The private sector today continues the innovative tradition, introducing a variety of popular, responsive, route and for-hire services -- some of questionable formal legality -- with lower fares than the public agency.

A new environment paves the way for policy reforms: world-wide recognition of the importance of the private sector and market forces, less federal financing, air-quality mandates, the decline in the City's economy, fiscal constraints, and the failure of billions of dollars in public spending to attract significantly more riders.

Policies to rebalance responsibilities between the public and private sectors are recommended: (1) Increase productivity by privatizing bus services through competitive contracting, particularly of underutilized routes. (2) Legitimize and fully incorporate the informal private services into the City's transportation network. (3) Allocate the City's limited roadway space more effectively during peak periods in order to utilize fully its carrying capacity; use time-of-day pricing, selective restrictions, and electronic toll-collection. (4) Organize and integrate the fragmented and counterproductive decision-making that characterizes the City's current approach to transportation; institutionalize mobility management.

17. Key Words	18. Document availability - Available to the public through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161. -telephone 703/487-4650
Privatization; private sector; public transportation; policy guidelines; New York City	

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-MD-08-9009-91-2	PB 92-218189	

4. Title and Subtitle	5. Report Date
Transit Profiles Agencies in Urbanized Areas Exceeding 200,000 Population For the 1990 Section 15 Report Year	November 1991
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Marvin Futrell, Chief, Audit Review and Analysis Division, UMTA T. N. Black, Project Manager, COMSIS Corporation	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
COMSIS Corporation 8737 Colesville Road, Suite 1100 Silver Spring, MD 20910	11. Contract or Grant No. DTUM60-90-C-41004

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Urban Mass Transportation Administration Office of Capital and Formula Assistance Audit Review and Analysis Division Washington D.C. 20590	Transit Profiles January 1, 1990 to December 31, 1990
	14. Sponsoring Agency Code UGM-13

15. Supplementary Notes

16. Abstract

This report summarizes the financial and operating data submitted to the Urban Mass Transportation Administration (UMTA) by the nation's public transit operators, pursuant to Section 15 of the Urban Mass Transportation (UMT) Act of 1964, as amended.

These data represent a portion of the 1990 Annual Report and consists of transit profiles for transit agencies located in Urbanized Areas with a population exceeding 200,000 based on the 1990 Census. Each profile consists of data reporting general, summary, modal, performance and trend indicators about a particular transit system for the 1990 report year. The disaggregated data can be found in the 1990 Section 15 Annual Report - Data Tables, For the 1990 Section 15 Report Year. Rather than requiring the user to assemble data from numerous tables, the Transit Profile provides a comprehensive overview in graphic and summary format of an individual transit agency's financial and operating statistics for the 1990 Section 15 report year and with summaries of key data trend line items for prior years.

All data in this report are for transit system fiscal years ending on or between January 1 and December 31, 1990.

17. Key Words	18. Distribution Statement (703) 487-4650
mass transportation; public transportation; transit data; revenues; expenses; maintenance data; formula-apportioned assistance; vehicle miles; passenger miles; fixed guideway directional route miles; performance indicators	National Technical Information Services 5285 Port Royal Road Springfield, Va. 22161

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1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-MD-08-9009-91-3	PB 92-218783/AS	

4. Title and Subtitle	5. Report Date
Transit Profiles Agencies in Urbanized Areas with a Population of Less Than 200,000 For the 1990 Section 15 Report Year	December 1991
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
Marvin Futrell, Chief, Audit Review and Analysis Division, FTA T. N. Black, Project Manager, COMSIS Corporation	
9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
COMSIS Corporation 8737 Colesville Road, Suite 1100 Silver Spring, MD 20910	11. Contract or Grant No. DTUM60-90-C-41004
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Federal Transit Administration Office of Capital and Formula Assistance Audit Review and Analysis Division Washington D.C. 20590	Transit Profile January 1, 1990 to December 1990
	14. Sponsoring Agency Code TGM-13

15. Supplementary Notes

16. Abstract

This report summarizes the financial and operating data submitted to the Federal Transit Administration (FTA) by the nation's public transit operators, pursuant to Section 15 of the Federal Transit (FT) Act of 1964, as amended.

These data represent a portion of the 1990 Annual Report and consists of transit profiles for transit agencies located in Urbanized Areas with a population of less than 200,000. Each profile consists of data reporting general, summary, modal, performance and trend indicators about a particular transit system for the 1990 report year. The disaggregated data can be found in the 1990 Section 15 Annual Report - Data Tables, For the 1990 Section 15 Report Year. Rather than requiring the user to assemble data from numerous tables, the Transit Profile provides the user with a comprehensive overview in graphic and summary format of an individual transit agency's financial and operating statistics for the 1990 Section 15 report year with summaries of key data items for prior years.

All data in this report are for transit system fiscal years ending on or between January 1 and December 31, 1990.

17. Key Words	18. Distribution Statement (703) 487-4650
mass transportation; public transportation; transit data; revenues; expenses; maintenance data; formula-apportioned assistance; vehicle miles; passenger miles; fixed guideway directional route miles; performance indicators	National Technical Information Services 5285 Port Royal Road Springfield, Va. 22161

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1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-MD-08-9009-91-1	PB 92-214964	

4. Title and Subtitle	5. Report Date
Transit Profiles The Thirty Largest Agencies For the 1990 Section 15 Report Year	November 1991
	6. Performing Organization Code

7. Author(s)	8. Performing Organization Report No.
Marvin Futrell, Chief, Audit Review and Analysis Division, UMTA T. N. Black, Project Manager, COMSIS Corporation	

9. Performing Organization Name and Address	10. Work Unit No. (TRAIS)
COMSIS Corporation 8737 Colesville Road, Suite 1100 Silver Spring, MD 20910	11. Contract or Grant No. DTUM60-90-C-41004

12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
U.S. Department of Transportation Urban Mass Transportation Administration Office of Capital and Formula Assistance Audit Review and Analysis Division Washington D.C. 20590	Transit Profile January 1, 1990 to December 1990
	14. Sponsoring Agency Code UGM-13

15. Supplementary Notes

16. Abstract

This report summarizes the financial and operating data submitted to the Urban Mass Transportation Administration (UMTA) by the nation's public transit operators, pursuant to Section 15 of the Urban Mass Transportation (UMT) Act of 1964, as amended.

These data represent a portion of the 1990 Annual Report and consist of transit profiles for the 30 largest agencies based on operating expenses for the 1990 report year. Each profile consists of data reporting general, summary, modal, performance and trend indicators about a particular transit system for the 1990 report year. The unaggregated data can be found in the 1990 Section 15 Annual Report Data Tables, For the 1990 Section 15 Report Year. Rather than requiring the user to assemble data from numerous tables, the Transit Profile provides the user with a comprehensive overview in graphic and summary format of an individual transit agency's financial and operating statistics for the 1990 Section 15 report year with summaries of key data items for prior years.

All data in this report are for transit system fiscal years ending on or between January 1 and December 31, 1990.

17. Key Words	18. Distribution Statement (703) 487-4650
mass transportation; public transportation; transit data; revenues; expenses; maintenance data; formula-apportioned assistance; vehicle miles; passenger miles; fixed guideway directional route miles; performance indicators	National Technical Information Services 5285 Port Royal Road Springfield, Va. 22161

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
FTA-MA-08-7001-92-1	PB 92-221738	UMTRIS/Section 8

4. Title and Subtitle	5. Report Date
Turnkey Procurement Opportunities And Issues	June 1992
	6. Performing Organization Code
7. Author(s): Thomas J. Lugcio, Jr. And Jeffrey A. Parker	8. Performing Organization Report No.
9. Performing Organization Name and Address EG&G Dynatrend Inc. 21 Cabot Rd. Woburn, MA 01801 And Jeffrey A. Parker And Associates 5224 42nd St., Washington, D.C. 20015	10. Work Unit No. (TRAIS) 11. Contract or Grant No. 13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address Federal Transit Administration Office of Technical Assistance & Safety 400 7th St. SW Washington, D.C. 20590	14. Sponsoring Agency Code FTA, TTS-11

15. Supplementary Notes

Contact: Edward L. Thomas
Chief, Capital Development Division
Federal Transit Administration (202) 366-0264

16. Abstract

This report discusses several innovative procurement methods which involve greater private sector participation in the planning, engineering, construction, operation and financing of mass transit fixed guideway systems. These methods are designed to contain the cost and risk factors of such projects, by sharing the responsibilities for these factors between public and private interests. The report covers the following innovative procurement methods: Turnkey, Super Turnkey, Build-Operate-Transfer, Build-Transfer-Operate, Franchises and others. It also identifies experiences and issues in the application of these innovative procurement methods.

17. Key Words	18. Distribution Statement
Turnkey, Procurement, Innovative Financing, Transit, Financing	Report available from National Technical Infor. Service 5285 Port Royal Road Springfield, Virginia 22161 (703) 487-4650

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SECTION 2

1. Advanced Public Transportation Systems

2. Coordination of Community Transportation Services

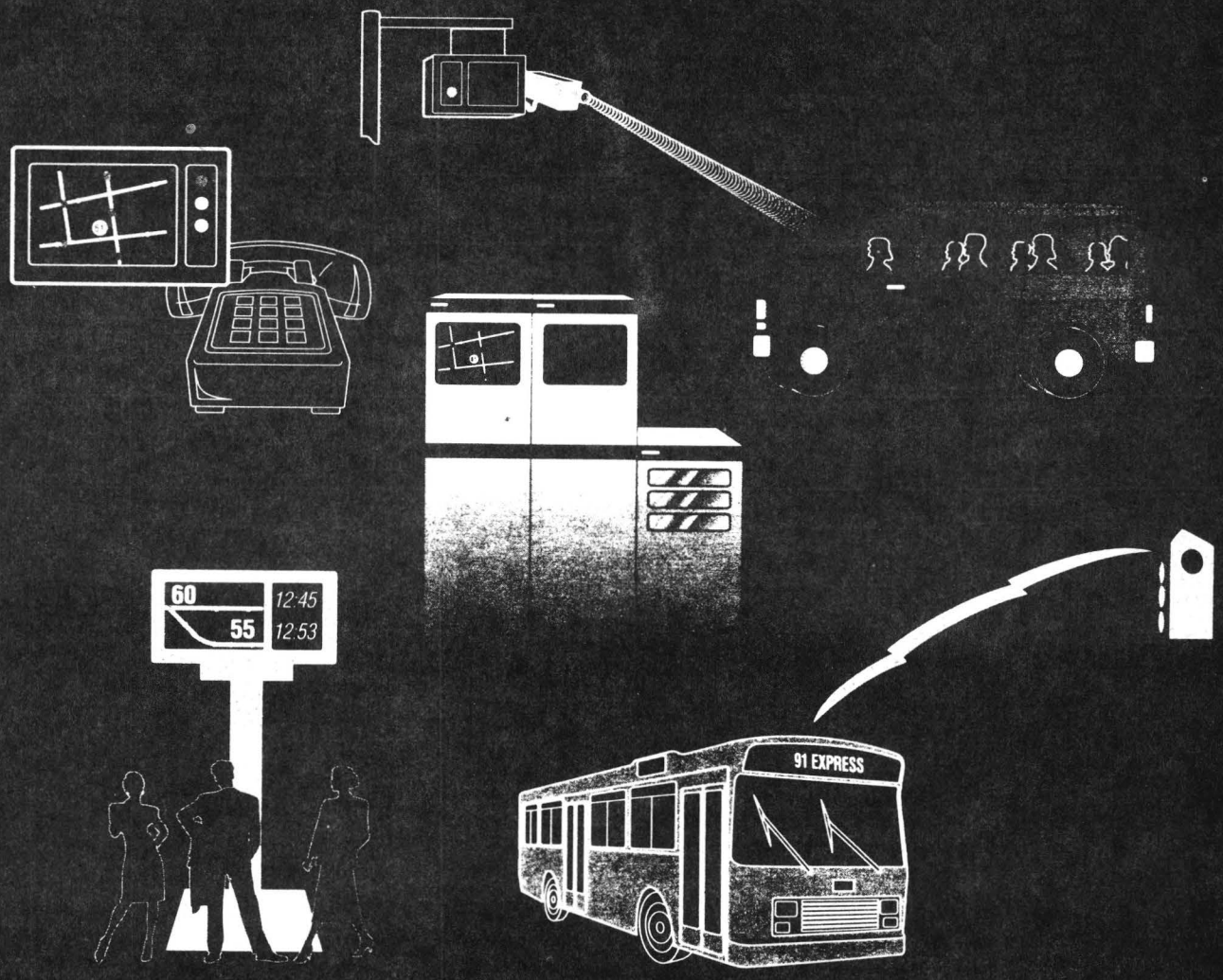
3. National Transportation Systems Center

4. Regional Mobility Program

5. Transportation Research Information Services

U. S. Department
of Transportation
**Federal Transit
Administration**

Advanced Public Transportation Systems



U.S. Department of Transportation IVHS Program

Advanced Public Transportation Systems

Advanced Public Transportation Systems, or APTS, are advanced navigation and communication technologies applied to all aspects of public transportation system operations. APTS provides the technology for transportation agencies to make timely transit information available to the passenger and to improve the convenience, reliability, and safety of public transportation service.

The Federal Transit Administration (FTA) created the Advanced Public Transportation Systems (APTS) program as part of the U.S. DOT initiative in Intelligent Vehicle Highway Systems (IVHS). IVHS is a tool to enhance transportation mobility, energy efficiency, environmental protection, and safety. Most IVHS systems are designed for the automobile driver and not the transit rider. The goal of the APTS program is to address this imbalance by developing IVHS systems that will improve the public transit option.

The importance of IVHS as a potential solution to transportation problems has grown in recent years, primarily because of the coordinated support from representatives of business, industry, and government. Recent Federal and state legislation that encourages a strong local approach to local transportation issues has also served to promote the multimodal, integrated approach of IVHS options.

Most of the technologies needed to implement Advanced Public Transportation Systems already exist. One of the most exciting aspects of the APTS program is the interest shown by U.S. manufacturers in the application of IVHS technologies to transit, which they view as a new market in the transition of existing technology from defense to the domestic side of the economy. These commercial technologies are becoming the force for change in how transit manages its operations and improves service to the customer.

The challenge is to develop appropriate system applications in transit for these technologies. Operational tests are being conducted in "real world" environments under "live" transportation conditions. A typical operational test integrates existing technology, R&D products, institutional arrangements, public acceptance, and market support to test the technologies in a real-world testbed.

Various technologies are being examined in the APTS program, and many projects and operational tests involve the integration of several different systems. For example, to help the traveler make immediate decisions about his/her travel mode or route, a series of *Smart Traveler Technologies* are being explored. To improve vehicle and fleet planning, scheduling, and operations, a number of transit operators are testing *Smart Vehicle Technologies*; which represent new methods of increasing reliability, efficiency, and safety. *Smart Intermodal Systems* involve the integration of APTS technologies into traffic management and other nontransit applications of IVHS.

Smart Traveler Technologies, Smart Vehicle Technologies, and Smart Intermodal Systems represent the transfer of technological innovations into the U.S. transportation systems of the 21st century.

APTS Project Planning and Funding

The Federal Transit Administration's commitment to initiate a revitalized and expanded Transit Planning and Research Program resulted in the largest investment in these activities in the last 10 years. A total of $60 million was made available in FY '92 to provide new emphasis to a host of initiatives, including the Advanced Public Transportation Systems Program.

In '93 limited FTA discretionary funds under Section 26 of the Federal Transit Act, as amended, are available to support the implementation and evaluation of APTS operational tests. Currently, funds from the FHWA/IVHS Corridors program and funds from FTA Sections 3 and 9 are being used to cover capital costs. However, the availability of all the funds appropriated under ISTEA has been dramatically reduced, thereby hampering some of the progress made in 1992. In addition, budgetary pressures and congressional earmarking has put constraints on the overall APTS program.

The deployment of APTS technologies represents a critical opportunity to test the dynamic flexibility provisions of ISTEA because transportation decisions are now made based on local needs, rather than because of Federal requirements dictating how and where money must be spent. Flexibility offers Metropolitan Planning Organizations (MPOs), transit operators, and state highway agencies the financial resources necessary to develop the most appropriate transportation systems to maintain mobility, ease congestion, and improve our cities' air quality.

Future funding for APTS initiatives will come from both Federal Sources and existing local financial resources as MPOs, State DOTs, and local transit operators work together to meet existing and future travel needs. It is critical that technical information on the costs and benefits of Advanced Public Transportation Systems be aggressively promoted to state and local decisionmakers to assure that multimodal Long-Range Plans identify potential facilities and services to address future needs. Local Transportation Improvement Plans (TIPs), which represent the major planning document for securing Federal financial assistance, should include APTS initiatives. State Implementation Plans (SIPs), required by the Clean Air Act to serve as a state's commitment to actions which will lead to the attainment of National Ambient Air Quality Standards, should also include APTS initiatives.

ISTEA gives local transportation authorities the financial capacity and programming flexibility to develop efficient transportation improvements. It establishes a new multimodal Surface Transportation Program which allows flexible use of selected FTA and FHWA grant programs so that one program can augment the other. The best way to access Federal and nonfederal funds for APTS related projects is through full and active participation in project planning, programming, and selection at the local level.

The FTA/APTS program encourages local initiatives at the local level and is prepared to offer technical assistance and a solid base of information support. The APTS program consists of operational tests and evaluations that are selected by local agencies and funded through a variety of programs that combine local and Federal support.

Smart Traveler Technology

Smart Traveler Technology focuses on providing basic travel information to transit users before they make personal decisions on how to travel. The idea of the Smart Traveler is to provide real-time transportation information to the public through advanced computer and communications technology.

Providing real-time information to travelers at home, in the workplace, or through roadside or transit center monitors using IVHS communication technologies can help travelers choose their mode of travel, or alter their route, in response to a delay. Several methods for gathering and providing real-time information are being researched and tested for public transportation use. A basic starting point is to ensure that automated information on all public transportation services in a given area is available at a single source. No longer will someone considering the transit option be required to check with every transit service or rideshare program to get information.

Examples of Smart Traveler technologies include interactive displays on personal computers or cable TVs that provide graphic views of public transportation services. The traveler indicates the origin and destination of the trip using a touchscreen that maps out the best route on a graphic display and shows bus numbers, bus stop locations, arrival and travel times. Real-time information can also be provided to travelers onboard a bus or other vehicle, thereby giving him or her the opportunity to complete an efficient journey. Such information can be communicated visually (via videotext) or by voice (via audiotext) to aid passengers with disabilities.

The Los Angeles County Transportation Commission is testing the use of a system which would electronically integrate and coordinate regional paratransit services provided by several public and private providers throughout the county and make the information available to potential users.

Houston METRO is demonstrating a traveler information service using IVHS technology. The project calculates, displays, and prints out the best possible travel itinerary on transit to specific destinations. The information will be provided in English, French, and Spanish.

A number of convenient fare payment options are being tested that may move transit towards a "cashless" operation. These options include the use of deposit cards, credit cards, debit cards, and other so-called "smart cards." Smart cards provide a secure, flexible method of payment, and a single card can be used for a variety of uses, such as paying transit fares or parking fees, and ATM transactions.

Ann Arbor Transportation Authority is developing a mobility pass which uses advanced card technology for either parking or transit use. Wilmington, Delaware plans to evaluate the use of smart cards for fare collection on their entire transit system. Instead of dropping coins or tokens into a fare box, passengers will swipe their prepaid, smart card through electronic readers mounted beside the drivers, and the electronic reader will automatically debit the correct transit fare from the card.

Smart Vehicle Technology

Smart Vehicle Technology integrates vehicle-based APTS technologies into a single system that is designed to improve vehicle and fleet planning, scheduling, and operations. The smart vehicle implements many advanced communication and vehicle location applications that are adapted from military, aerospace, industrial, and highway use to transit use.

Some of the technologies that are being used by transit are automatic vehicle location, automatic passenger counters, onboard passenger information (both voice and visual), vehicle diagnostics, smart card readers, adaptive signal timing, automated demand-responsive dispatching systems (onboard equipment), transponders for automatic toll collection and HOV verification, onboard automatic guidance equipment, and global positioning systems.

The common element linking all of these technologies is communication. To be effective, data must be transferred between the vehicle and the home base, with computational processing either on the vehicle, at the user location, or at a central computer.

Onboard sensors automatically monitor such elements as passenger loading, location of the vehicle, fare box revenue, operating condition of the engine and other equipment. This information is transmitted to a central control center and is compared with the predetermined operating schedule. Deviations are noted and displayed to both the driver and the dispatcher. Corrective instructions are automatically issued to the driver to restore service or schedule adherence. Of course, if the situation persists, the human dispatcher initiates corrective action. Data on the vehicle's status is stored in the computer so that schedules, analyses, and plans can be revised using actual data.

The FTA has sponsored the development of a standardized Vehicle Area Network (VAN) that permits inputs from various onboard electronic sensors such as AVL, fare boxes, and passenger counters that can be transmitted through a common cable in the vehicle. Previously, different cables were wired separately at the factory or during installation, thereby increasing the number of wires in the bus, the bus weight, and maintenance complexity. The new standard ties these systems together through a common wiring harness, or Vehicle Area Network.

There are a number of smart vehicle tests being initiated around the U.S.

Norfolk's Tidewater Transit has implemented an Automatic Vehicle Location (AVL) system to assure the reliability of its timed transfers and improve customer service. In Chicago, AVL is being combined with adaptive traffic signal timing technology to examine innovative bus service improvements, including computer-driven dispatching techniques. In Baltimore, after equipping and operationally testing 50 vehicles using a LORAN "C" based system, the MTA is now equipping its entire fleet using Global Positioning Systems (GPS) technology.

There are also a number of innovative public-private arrangements underway that integrate state-of-the-art technology with transit use. For example, in Denver the RTD has contracted with a private consortium for an automated, fully integrated mass transit communications system for its fleet. The Dallas System Consortium is also an AVL system using GPS technology. The Milwaukee County Transit System has contracted with a private consortium to provide an integrated positioning and communications system for its fleet.

The Federal Transit Administration is evaluating the cooperative efforts of these cities in order to monitor the actual improvements of system performance to cost savings and expanded ridership.

Smart Intermodal Systems

Smart Intermodal Systems involve the integration of Advanced Public Transportation Systems (APTS) technologies into traffic management and other nontransit applications of Intelligent Vehicle Highway Systems (IVHS).

Smart intermodal systems focus on building a multimodal transportation network that ensures the adaptation of technologies that optimize the transportation system as a whole. Recognizing that transit systems operate in intermodal transportation environments, smart intermodal systems provide the link between APTS and nontransit IVHS.

A variety of technologies are involved in the design of smart intermodal systems, ranging from simple to complex. A simple version of a smart intermodal system can involve the exchange of information between transit dispatch centers and traffic control centers on traffic flow. A more complex version can involve a coordinated adaptive traffic signal timing system that closely monitors traffic flow while favoring buses that are behind schedule. This requires the integration and coordination of information between the transit dispatch and control center and the traffic management center.

Current traffic management systems are designed to optimize the flow of vehicles. Using smart intermodal systems, "traffic management" will evolve into "transportation management" whereby systems are designed to optimize the flow of people and goods.

Another example of smart intermodal systems involves integrated electronic payment systems for transit, highway tolls, and parking so that one payment medium is used to pay for a range of intermodal transportation services.

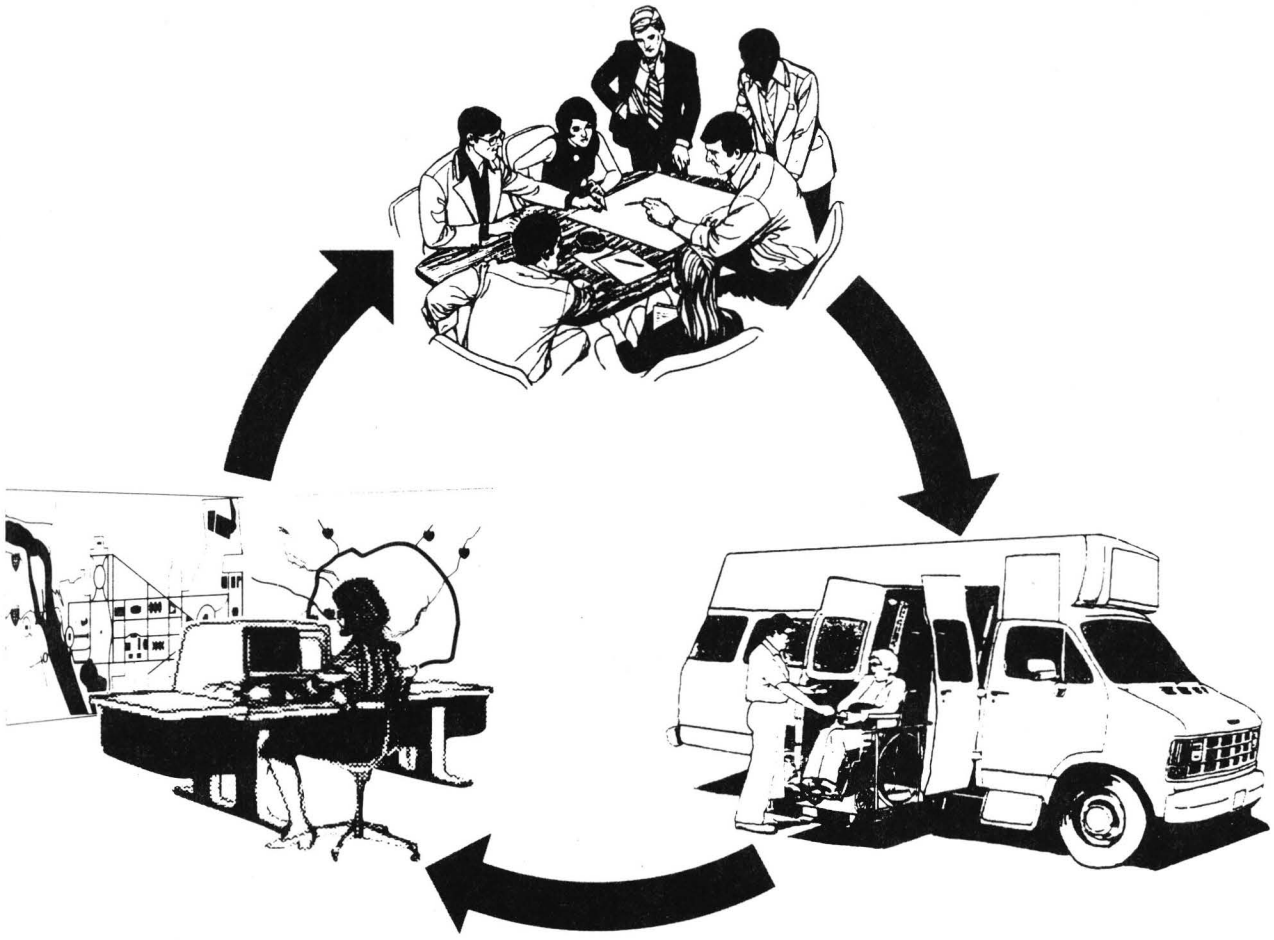
A number of smart intermodal systems tests are being initiated around the U.S. In Dallas, the Texas DOT is using imaging technology and Automatic Vehicle Identification technology to monitor and enforce HOV lanes. Imaging technology involves the use of Department of Defense target identification and tracking systems, and AVI technology involves the use of electronic tags to identify individual vehicles. The Ann Arbor Transportation Authority is considering expanding the use of "smart cards" to include the activation of an alarm at bus stops to alert the driver or as a personal security device. The Chicago Transit Authority is including an Automatic Vehicle Location system, an adaptive traffic signal timing system, a computer-assisted dispatch and control system, and real-time passenger information signs as part of their Bus Service Management System (BSMS).

U.S. Department of
Transportation

U.S. Department of Health
and Human Services

Coordination

of Community Transportation Services



Prepared for the Joint DOT/DHHS Coordinating Council on Human Services Transportation

About This Information Packet

This packet was prepared to provide information about the coordination of community transportation services and to promote the further development of coordination programs and activities. It was prepared at the direction and under the guidance of the Joint DOT/DHHS Coordinating Council on Human Service Transportation (the Coordinating Council).

The left side of the packet (Items #1-3) defines and explains the concept of coordination. A definition is included and a description of the various ways that coordination can be achieved is provided. Several examples of programs are given to further illustrate how the concept of coordination can be implemented in rural areas, larger metropolitan areas, and at the state level. The need for and benefits of coordinated transportation are also discussed.

The right side of the packet (Items #4-7) describes activities underway at the federal level that can assist you in the design and implementation of coordination programs. The role of the Coordinating Council and its Regional Working Groups is described. The process used by the Coordinating Council to identify and resolve regulatory barriers and other concerns and issues is also outlined. Individuals and groups that can provide information, answer questions and help you overcome barriers are listed. Two ongoing technical assistance projects that can provide you with additional material and which can be reached via a toll-free hotline are also described.

1 What is Coordination?

The Joint DOT/DHHS Coordinating Council on Human Services Transportation defines coordination in the following way:

> ***"Coordination is a process through which representatives of different agencies and client groups work together to achieve any one or all of the following goals: more cost-effective service delivery; increased capacity to serve unmet needs; improved quality of service; and, services which are more easily understood and accessed by riders."***

Coordination can occur at a number of levels and in many different ways. The following description of coordination has been adpated from ***A Handbook for Coordinating Transportation Services***, Ohio Department of Transportation, October, 1991[1]:

"There are many ways that the coordination of transportation services or activities can occur. Coordination can occur at one of the following three basic levels:

- Level I - Cooperation;
- Level II - Joint Use Arrangements; and
- Level III - Consolidation

Always remember that you need not coordinate every activity to have a successful coordination program. There is no right or wrong degree or "Level" of coordination. Coordination efforts can be successful at any Level, they can be focused on one particular Level or they can be phased in (e.g. Level I, Level II, Level III), stopping anywhere along the way. What you believe will work in your area is the best place to start.

Before proceeding you need to have a good understanding of each Level and the range of opportunities that each Level provides in delivering more cost-effective or efficient transportation services.

Level I - Cooperation

The word cooperation means two or more people (or groups) working together toward a common end. Level I has been named Cooperation because cooperation must first exist if any Level of coordination is to occur.

When two or more agencies, organizations or private for-profit companies agree to work together for improved transportation services they have started the Level I coordination process. These can be informal, such as a verbal agreement. They can also be formal, requiring actions by governing boards and the signing of contracts.

An example of informal cooperation is when two or more agency administrators agree to exchange information. That information may include the transportation services that the agencies provide, eligibility requirements for receiving those services, and information on how to apply for help.

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[1] Copies of this Handbook can be obtained through the U.S. Department of Transportation's Technology Sharing Program. Request report #DOT-T-89-20

Each cooperating agency refers inquiries from the public to whichever agency may be in the best position to provide the needed help.

Another example of informal cooperation would be when an agency, such as a Goodwill program, tells its clients about other transportation services that they may be able to use. Don't forget that the other transportation services may be operated by a public entity or the services may be provided by a private for-profit company.

A more formal example of cooperation would be when two or more agencies agree to submit a joint application for a Section 16 (b)(2) grant to the Federal Transit Administration. In this case each participating agency would need to take formal action to approve participation in the application.

A second example of a more formal cooperation program would be when an agency agrees to reimburse clients or members for their transportation costs. The clients or members are then free to purchase their own transportation, for example from a local taxicab operator, and the person is then reimbursed by the agency. Or an agency may enter into a purchase of service arrangement with the local private company directly and pay the operator for their client's or members travel.

Remember that cooperation can occur in many activities.

Level II - Joint Use Arrangements

A joint use arrangement occurs when one or more of the resources of the involved participants are available for use by other participants. The resources could be vehicles, staff time, staff knowledge, or facilities. In a joint use arrangement all participants can be contributors. In this case, each participant offers something that the other participants need and want. It is also possible that only one participant might be the contributor. In this situation the other participants become the users.

Arrangements for joint use can be informal or formal. An example of an informal joint use arrangement would be where one agency or company agrees to provide driver training for other agency or company drivers. In exchange, the participants would agree to help pay for the training costs (trainer's time, course materials, and training facilities).

A second example of an informal joint use arrangement would be when one entity takes the lead in putting together an informational brochure that explains all of the transportation services provided in the area. Other participants, which can be both public and private, then help in paying the costs for brochure development, production and distribution.

An example of a formal joint use arrangement would be where one participant agrees to pay an agreed upon rate per vehicle mile for using another participant's vehicle on certain days of the week. This use could be for certain times of the day or for special trips when additional seats are required.

A second example of a formal joint use arrangement would be when one participant provides office space for another participant or when a certain room in a building is used by two different participants at different times of the day.

As with cooperation, joint use arrangements can apply to many activities.

Level III - Consolidation

Consolidation is the most comprehensive level of coordination. It is defined as the joining or merging of transportation resources for the benefit of all participants. In a consolidated transportation system the services of two or more providers are combined into a single system. Consolidation arrangements require formal relationships. Consolidation also requires one of the participants or a new entity to take on the role of coordinator. It is also possible for a private for-profit company to perform the coordinator role.

Even though examples of variations and numerous combinations are in existence, there are primarily two types of consolidation systems: Single Provider systems and Brokerage systems. Each is briefly explained.

- **Single Provider** - In this type of consolidation system, one existing or newly formed agency, organization or company assumes the responsibility for all aspects of administration, management and service operation. Included are a range of responsibilities, from the preparation of grant applications through hiring drivers and providing on-street operations. The service provider undertakes all activities necessary to provide transportation.

- **Brokerage** - In a brokerage system, the responsible entity oversees all of the coordination activities. This responsible entity then becomes the "broker/coordinator". In most cases the broker/coordinator contracts with other entities to operate vehicles. These "other entities" may include public agencies, public and private non-profit organizations as well as private for-profit companies. Since multiple operators are used, often the service providers in a brokerage include a combination of public and private entities. Sometimes the broker also contracts out work on selected administrative or management duties to public or private entities. The broker enters into agreements with other agencies or private providers to hire drivers and deliver the service. Usually, the broker takes all trip requests and determines which participant or contractor is best suited to provide the service.

  There are no rules as to what activities should be performed by the broker and which should be contracted. For example, a broker may do the grants, set up the schedules, and do all the marketing. Contractors may hire drivers and operate service. They also may do all materials and supplies necessary for keeping the vehicles in operation. Conversely, the broker may purchase all of the parts and supplies and provide maintenance but contract to one or more operators for setting up the schedules and operating service.

It is also possible to set up a coordination program which combines portions of the single provider and brokerage concepts. Some coordinated systems, for example, provide nearly all of the service with their own drivers. However, they contract with one or more other service providers for selected services or routes. In other systems, the broker only provides a small amount of service and contracts with others for most of the services. The possibilities are unlimited."

2 Examples of Coordinated Transportation Programs

Numerous examples of successful coordinated transportation programs have been documented in recent reports and publications. Several of the following examples are from ***Coordinating Community Transportation Services: A Planning and Implementation Handbook***, prepared for the Department of Health and Human Services under the Community Transportation Assistance Project (CTAP). For additional information about these programs, or for other examples and ideas, call the CTAP ***Transit Hotline*** at ***1-800-527-8279***.

In each of the examples below, the type (or "level") of coordination illustrated is identified. Levels of coordination are described in the enclosed information titled "What is Coordination?".

Sweetwater County, Wyoming
(an example of Level I and Level III Coordination)

In 1980, six different human service agencies in Sweetwater County, Wyoming, all provided transportation for their clients. Each of these agencies owned and operated its own fleet of vehicles and trained and tested its own drivers. The county wanted to provide as many rides as possible each month with their limited funds. The community found its answer in coordination.

Sweetwater County accomplished coordination in two stages over a ten-year period. In the first stage, the six agencies came together and applied to their state Department of Transportation for funding to undertake the coordination effort (**Level I coordination**). A lead person within one of the agencies was identified to administer the funding and facilitate the coordination planning activities.

Each of the agencies directly benefited from this new source of funding while maintaining control over their own vehicles and services.

In 1988, legislation was passed in Wyoming that allowed for the formation of transit authorities. This legislation became the foundation of Sweetwater County's second stage of coordination.

The goals of the Sweetwater County coordination team, which included human service agencies, government agencies and private non-profit groups, were as follows:

1. To provide more rides for the same dollar amount that agencies were expending individually.
2. To utilize capital equipment to its fullest capacity.
3. To increase job opportunities in the area.
4. To provide the general public with transportation opportunities.

To achieve their coordination goals, the participating agencies pooled their vehicles and set up a central dispatching operation (Level III coordination).

With a technical assistance grant, rides in Sweetwater County increased from 1,700 to 7,300 per month. The average cost per ride decreased, as did the cost per vehicle hour and per mile. What increased were jobs and goodwill among the community members.

Coordination Improves and Expands Service in Central Massachusetts
(an example of Level II and Level III coordination)

The Worcester Regional Transit Authority (WRTA), one of fifteen public transit authorities in Massachusetts, operates public fixed route and paratransit services for the City of Worcester and 33 surrounding communities. In July of 1988, the WRTA began working with the state on a pilot project to coordinate the delivery of transportation services in Central Massachusetts. The objective of the project was to utilize the transit authority's experience and knowledge to assist several state human service agencies with the delivery of client transportation. Human service agencies involved in the project included:

- the Department of Public Welfare (DPW) which administers Medicaid transportation;
- the Department of Mental Retardation (DMR) which transports clients daily to and from sheltered workshops and competitive employment programs; and
- the Department of Public Health (DPH) which administers the Early Intervention Program for infants and children.

Under the project, each of these human service agencies contracts with the WRTA for the delivery of transportation services (Level III coordination). The WRTA then subcontracts with local private, for-profit and non-profit providers, coordinates these services with other transportation being operated in the area, monitors the provision of service, and coordinates all billing and reporting activities. To accommodate the needs of participating agencies, the WRTA agreed to coordinate client transportation not only in its member communities but in 38 non-member communities as well.

In FY 1992, the WRTA provided or brokered 213,140 passenger-trips utilizing its own 40 vehicle paratransit fleet and 28 other contract operators. Daily transportation was provided to 105 DMR clients and 45,805 medical trips were completed for the Department of Public Welfare. Human services agencies as well as public paratransit riders have benefited from the program. For example:

- Vehicles which formerly were used only in the morning and afternoon for DMR day work transportation are now utilized for midday paratransit service;

- The increased fleet now operated by the WRTA provides additional opportunities for the grouping of trips and the provision of additional public paratransit service. With only marginal inflationary increases in the paratransit budget, the WRTA has been able to increase non-client paratransit service by 27, 344 trips per year, a 34% increase since 1988;

- The WRTA was able to assist the DMR in reducing the cost of client transportation. At the outset of the project, the DMR operated 15 prescheduled routes for clients traveling to day work programs. By carefully analyzing and reorganizing the service, the WRTA was able to provide the service, within DMR specified operating standards, with 7 routes;

- Similarly, the program has resulted in improved monitoring and control of Medicaid transportation, which had previously been operated on a statewide scale. Regional coordination of the program has permitted greater grouping of trips and ride-sharing with existing paratransit systems. Detailed service records are maintained and provided to the state Medicaid office. The WRTA works closely with the local Welfare Service Office to ensure that trips are appropriate and that the most cost-effective alternative is used.

A recent innovative expansion of the program involves travel training. In order to fully utilize all transportation options available, the WRTA has started a fixed route travel training program. Any human service agency in the area can refer clients for evaluation and training (Level II coordination). A full-time travel training professional is employed by the transit authority to offer this service.

Based on the results of this and other more recent projects with other transit authorities, the concept is being expanded statewide.

Putting it All Together: The Story of WHEELS
(an example of Level III coordination)

In 1983, WHEELS, Inc., a transportation brokerage in Philadelphia, Pennsylvania, was hired to solve problems of rising transportation costs and ineffective transportation services in a community. The Pennsylvania Department of Public Welfare (DPW) diagnosed the problems and prescribed local management as the solution, replacing the state-administered system. Selected to manage the Medical Assistance-funded system for the entire city and county of Philadelphia, WHEELS turned the system from a problem-plagued operation to an award-winning one.

Under WHEELS' management, the program became viable and cohesive, able to assure the DPW that all eligible client trips would be provided. DPW trip costs, which had been as high as $21 per trip, dropped under WHEELS' management to $5.59 per trip in 1989. WHEELS introduced high technology to the operation by acquiring state-of-the-art computerization for recording and managing each part of the system.

Shared Maintenance in Michigan and Arkansas
(Level II coordination)

The Grand Rapids Transit Authority (GRATA) in Michigan developed a coordinated vehicle maintenance service that charges agencies a basic hourly rate, plus the cost of parts, for preventive and repair maintenance. GRATA reduces the cost of parts by 40% of the retail price. The organization also provides regular vehicle inspection programs as an integral part of the maintenance service.

Another coordination project in Fayetteville, Arkansas, provides similar maintenance services for participating agencies. Parts are discounted 40% off the retail price. The organization also arranges for a preventive maintenance program as well as regular repairs at discounted charges.

Diversity is the Key to Success: LISTS Maximizes Community Transit
(and example of Level III coordination)

From its inception in 1977, LISTS (Lancaster Integrated Specialized Transportation System) has operated a transportation brokerage in Lancaster, Pa., matching private transportation providers with human service agencies. One impetus for LISTS' creation was duplicative applications from human service agencies for Federal Transit Administration (FTA) Section 16(b)(2) assistance to purchase vehicles. Another factor which led to the concept of establishing a brokerage was the existence of many taxi and van services throughout Lancaster County. Rather than create yet another transportation agency, the county's planning commission called upon the human services community to take advantage of these many providers through a brokerage.

Today, LISTS coordinates service for more than 60 local human services agencies, and is the designated recipient for state funding for medical assistance and elderly transportation programs. To provide this service, LISTS split the county into five regions plus the City of Lancaster as a sixth region. Each of these regions has a designated transportation carrier. The carriers for these regions and the rates at which they are reimbursed are decided through annual competitive bids. This competitive process has allowed LISTS' costs per trip to remain almost constant, despite an inflationary economy in the Lancaster area.

Because the operators providing transportation work with LISTS on a trip-by -trip basis, they often mix LISTS riders from different agencies, and their sedans and vans can include passengers paying full taxi fare sitting next to those whose trips are paid for by agencies contracting with LISTS. This flexibility helps keep the costs of providing transportation to a remarkably low $3.94 per trip, and achieve a valuable social function of "mainstreaming" the clients of agencies contracting with LISTS.

Leading the Way: Community Transit, Inc.
(an example of Level II and Level III coordination)

Formed in 1991 through the merger of the public York (Pa.) Area Transit Authority and the private non-profit York Transportation Club, Community Transit, Inc. (CTI) has been able to capitalize on its ability to coordinate the county's agency-based demand-response services, public paratransit service for the community's elderly and persons with disabilities, and public fixed-route service.

CTI provides nearly all the transportation in York County (Level III coordination). One of the county's Head Start centers has a couple of vans, and the community's center for the blind provides its own transportation to out-of-county destinations CTI can't serve, but CTI has been able to meet all other transportation needs for the county's public and its human services agencies.

The key to this success has been CTI's willingness to tailor its services - even its scheduled fixed-route service - to meet the needs of the people and agencies it serves. One example is that CTI has worked with the local sheltered workshops to train their workers to ride fixed-route buses to and from the workshops, and establish an additional route that serves the three largest such workshops (Level II coordination). CTI feels this is an accommodation they would make for any employer that could generate several hundred trips per day. Another example is the flexible nature of CTI's fixed-route service: people who are physically able to ride the fixed-route bus but can't get themselves to a bus stop can call CTI, and the bus will come to their home or other origination. "Transit operators need to be consumer-oriented, especially with the passage of the ADA," says CTI's general manager, "and or goal is to serve those passengers with the most cost-effective, appropriate transportation we can provide."

CTI has become York County's sole recipient of financial assistance from all the state's programs that fund transportation, including Federal Transit Administration funds, state funds for elderly transportation, and Medicaid funds. Transportation is provided to other agencies, such as Head Start, senior centers and sheltered workshops through purchase of service agreements that allow CTI to work with the agencies to determine the transportation mode most appropriate for each customer. CTI provides about 95% of its trips using its own vehicles, but the 5% share of trips currently brokered to local taxi operators is increasing.

Howard County, Maryland: Centralizing Dispatching
(Level II coordination)

The Urban and Rural Transportation Alliance (URTA) in Howard County provides centralized dispatching to each of its participating agencies. Agency personnel submit client trip requests to the URTA dispatcher, including the day and time of the client's appointment and the client's address. The dispatcher integrates these requests into the vehicle schedules and notes the expected pick-up time for each client. The dispatcher then forwards a copy of the list to the agency, which in turn informs the client. Trips are provided on a contract basis to the agency, and no additional fee is charged.

Oregon Providers Lower Insurance Costs
(Level I coordination)

The Oregon Special Services Association (OSSA), a loose federation of 65 social service agencies, each with no more than 10 vehicles, coordinated an insurance purchasing program. The organization negotiated all vehicle insurance as one package with a single insurance underwriter. Also, the OSSA leads the development and monitoring of membership safety standards to provide assurance to the underwriter that risks are minimal. As a result of the coordination effort, OSSA reports that premium costs have dropped between 43% to 63% per member. With insurance premiums ranging from $1,000 to $5,000, the OSSA membership considered this cost savings significant.

3 Why Coordinate?

The following scenario often describes the state of community transportation services across the country:

> ***Human service agencies struggle to cover the high cost of client transportation while under pressure to provide primary services. Local public transit systems search for ways to increase paratransit service capacity to meet the requirements of the Americans with Disabilities Act of 1990. An inventory of transportation systems in the area finds that there are scores of agencies that fund transportation and/or operate one or two vehicles. There are even a few human service programs that have fleets of vehicles that are used only 3-4 hours of the day to transport clients to day workshops, adult day health centers, and Head Start programs. Collectively, the capital and operating resources seem to exist to better meet the transportation needs of agency clients and those requiring public paratransit service. Transportation remains a problem, however, and continues to be identified as one of the highest priority unmet needs in the area.***

Sound familiar? This is not an uncommon situation for many human service agencies and public transit systems.

A considerable amount of funding is dedicated each year by federal, state and local agencies to the provision of transportation services. According to a report on transportation funding prepared by the U. S. General Accounting Office (GAO) in 1977, there are 114 separate government programs that provided transportation as a support service. In May, 1992, a report prepared for the Department of Health and Human Services (DHHS) as part of the Community Transportation Assistance Project (CTAP) estimated that at least $750 million is spent each year on client transportation by various agencies within DHHS (a higher amount is likely as some agencies do not identify and report on transportation costs as a separate program item). A recent review of transportation services provided under three human service programs - the Older Americans Act, Medicaid, and Head Start - identified 8,000 agencies operating over 50,000 vehicles.

Public transit agencies have similarly been expanding the amount of paratransit service which they offer. This expanded role has come about as transit agencies have recognized the need within their regions for transportation beyond traditional fixed route service. Transportation in rural and small urban communities has grown significantly with the availability of federal Section 18 funding. The requirement for complementary paratransit services in the Americans with Disabilities Act of 1990 (the ADA) is also affecting the type and extent of local transit services.

Despite the fact that extensive resources are dedicated to client transportation and public paratransit services, many needs remain unmet. Human service agencies continue to identify transportation as one of their highest priority needs. Many transit agencies are searching for ways to increase

paratransit service capacity to meet the requirements of the ADA. The cost of providing transportation is also a concern. Transportation is often a significant percent of human service budgets - in some cases rivaling the cost of primary services.

Can transportation be provided more cost-effectively? Is it possible to meet additional needs by better utilizing existing resources? In many cases, the answer to both of these questions is YES - through better coordination of transportation services. Reports on successful coordination programs have consistently shown that benefits include:

Increased service capacity: By making better use of existing equipment, the number of trips provided to agency clients and the general public can be increased.

Improved quality of transportation service: An organized, professional transportation service can often result in better service than staff operated, volunteer, or purchased service where there is little organization and oversight.

Improved effectiveness of primary services: If more clients can be transported in a safe and reliable way, the ability of human service agencies to deliver primary services - whether that is work training, counseling, nutrition, or another service, is enhanced.

Cost savings: By sharing vehicle capacity, the fixed cost of service can be shared. Grouping of trips can lower operating costs. Cost savings can also accrue from combining administrative functions. Other savings, which may not always be as obvious, include savings in human service staff time, costs not specifically identified with transportation, and decreased stress from the operational demands of providing transportation.

Bringing these diverse services together into a system that can make more cost-effective use of public resources and still meet the individual needs of clients and programs often seems to be an unattainable goal. Where do you start? Where do you get information and assistance to design a system that is appropriate for your area? How do you overcome regulatory barriers and conflicting program policies? How do you deal with burdensome billing and reporting requirements? This packet describes different approaches to coordination, efforts that are being made at the federal and state levels to foster improved coordination, and resources that are available to you in starting a coordinated program in your area.

If the transportation needs of persons with disabilities, elderly residents and human service clients are not fully met in your area and yet there are a number of separate transportation systems operating in the region, coordination of these separate services may be an option worth pursuing.

4 Coordination Efforts at the Federal Level: The Joint DOT/DHHS Coordinating Council on Human Services Transportation

Both the U.S. Department of Transportation (DOT) and the U.S. Department of Health and Human Services (DHHS) have been actively promoting and facilitating the coordination of transportation services. Recognizing that a closer working relationship could further the goals of both agencies and improve services to clients and the public, DOT and DHHS signed an "Agreement on the Coordination of Transportation Services" in October of 1986. This Agreement states that:

> ***"...it is the policy of the Department of Health and Human Services and the Department of Transportation to coordinate related programs at the Federal level wherever possible and to promote maximum feasible coordination at the State and local level."***

To achieve this goal, the Agreement details six specific objectives aimed at enhancing coordination efforts. These include:

Objective 1 - To remove federal barriers which adversely affect the coordination of transportation services among recipients and transportation providers.

Objective 2 - To coordinate transportation planning and programming between the two departments.

Objective 3 - To coordinate technical assistance and program guidance.

Objective 4 - To jointly develop and disseminate information which may be useful to specialized and human service transportation providers.

Objective 5 - To collect and manage information about existing resources and services to be better able to develop and improve coordination.

Objective 6 - To encourage competition and consideration of private sector participation in the provision of specialized and human service transportation.

In order to achieve these objectives, the Agreement established the Joint DOT/DHHS Coordinating Council on Human Services Transportation (the Coordinating Council). Both Departments have designated staff to manage the activities of the Coordinating Council and to maintain an ongoing relationship on this issue. Following is a description of some of the most significant activities and accommplishments of the Coordinating Council to date:

Regional Working Groups - A network of ten Regional Working Groups was established to assist the Coordinating Council in collecting and disseminating information and to ensure that the activities of the Coordinating Council respond to state and local needs. In addition to serving as the local "eyes and ears" of the Coordinating Council, each group also meets regularly to develop action plans and activities within their region. The groups also serve to promote an ongoing working relationship between DOT and DHHS staff.

Members of these Regional Working Groups include one transportation representative and one human service representative from each of the states in the region. The meetings are co-chaired by regional DOT and DHHS staff.

Identification and Removal of Federal Barriers to Coordination - Soon after its formation, the Coordinating Council initiated a nationwide effort to identify statutory, regulatory, and programmatic barriers to the coordination of transportation services. With the assistance of the ten Regional Working Groups described above, the Coordinating Council solicited input on perceived and real barriers from a broad array of individuals and organizations including transportation providers, local human service agencies, state agencies, and industry associations. The Regional Working Groups forwarded their findings to the Coordinating Council which in turn submitted issues to the appropriate offices within DOT and DHHS. A total of 64 "barriers" were identified and reviewed. In each and every case, the Coordinating Council either provided a program/regulatory interpretation which enabled the "barrier" to be overcome or developed a strategy for addressing the barrier through regulatory or legislative change.

This activity was instrumental in getting clear answers to many perceived barriers to coordination and in enacting legislative changes - such as the flexibility to assist public entities with "Section 16" funding. Copies of the issues/barriers raised and responses to each are provide in the "Best Practices" manual described below. They can also be obtained by contacting the Regional Working Group in your area.

"Best Practices" Manual - A number of States and local providers have been successful in developing exemplary coordination programs. In an effort to disseminate information about these programs, DOT and DHHS jointly funded the preparation and wide distribution of a ***Guidebook to "Best Practices" in Specialized and Human Services Transportation Coordination*** . This document provides detailed information about seventeen programs recognized as innovative and successful examples of coordination. Programs described cover the full spectrum of transportation systems - from volunteer-based services to non-profit agencies to public county and regional paratransit systems to regional and state models.

The Region IV Transportation Consortium - Through the Coordinating Council, DOT and DHHS also jointly funded a regional consortium created to encourage the coordination of federal and state transportation programs in Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, and Tennessee. This two-year demonstration effort focused on the development of administrative techniques and policies that could be employed by each of the member states to foster coordination and on the effective transfer of ideas and initiatives between the eight participating States and the territory of Puerto Rico. The project led directly to the implementation of state coordinating committees and officially enacted councils.

The Consortium has continued to operate beyond the demonstration period and represents an example of regional coordination that can be replicated in other areas of the country.

Coordination with the Administration on Aging (AoA) - In 1990, the Coordinating Council expanded its scope by forging a more permanent relationship between the Federal Transit Administration (FTA) and the Administration on Aging (AoA). A Memorandum of Understanding

to Improve Transportation Services for Older Americans was signed in June of that year by FTA Administrator Brian Clymer and AoA Commissioner Joyce Berry. AoA and FTA have also funded a number of workshops and information exchange activities aimed at improving coordination between public paratransit systems and aging agencies.

The Coordinating Council meets twice each year to identify relevant issues and to sponsor additional programs and efforts. The Coordinating Council welcomes input from local providers and state officials. If you are interested in developing a coordination program, have a specific issue that needs to be answered, or want to share information about successful coordination efforts, please contact the Regional Working Group in your area or one of the following Coordinating Council staff:

DOT : Mr. Roger Tate, Chief
Research and Rural Transportation Division
Office of Technical Assistance and Safety
Federal Transit Administration
400 7th Street, S.W.
Washington, D.C. 20590

Phone: (202) 366-0235 (Voice)
(202) 366-2979 (TDD)

DHHS: Ms. Dianne McSwain, Transportation Specialist
Office of Intergovernmental Affairs
U.S. Department of Health and Human Services
Room 630-F, HHH
200 Independence Avenue, S.W.
Washington, D.C. 20201

Phone: (202) 690-6036 (Voice)

5 How to Bring Questions and Issues to the Attention of the Coordinating Council

One of the major roles and responsibilities of the Joint DOT/DHHS Coordinating Council on Human Services Transportation is the interpretation of regulations and the resolution of regulatory conflicts. If your agency has encountered regulations or regulatory interpretations that make the coordination of transportation services more difficult, or if you are aware of pending regulations that could adversely affect coordination, you can bring these issues to the attention of the Coordinating Council. If existing regulations have been incorrectly interpreted, the Coordinating Council will be able to let you know. If existing regulations do in fact prohibit or inhibit the coordination of services, the Coordinating Council will work to see if changes can be made to better facilitate the coordination of services.

Issues can be brought to the attention of the Coordinating Council by contacting the Regional Working Group in your area. A listing of the ten Regional Working Groups that have been established to assist the Coordinating Council is contained in this packet. Issues can also be brought directly to the attention of the Coordinating Council by contacting one of the following staff persons:

Ms. Dianne McSwain (DHHS):	(202) 690-6036 (Voice)
Mr. Roger Tate (DOT):	(202) 366-0235 (Voice)
	(202) 366-2979 (TDD)

In addition to serving as one avenue for bringing issues and questions before the Coordinating Council, Regional Working Groups can provide you with other information about coordination. They can let you know if your issue or question has been raised before and if solutions have been developed by other agencies or providers in your area. They can also let you know if there are specific federal or state agencies, associations, or individuals that can help you to resolve your problems. If you operate or plan to develop a coordinated transportation service, get to know the Regional Working Group in your area.

If you contact the Coordinating Council or one of the Regional Working Groups by phone, it is important that you also describe your issue or question in a follow-up letter. This will eliminate misinterpretations if you question or concern is referred to specific line agencies within DHHS or DOT for resolution.

When an explanation or answer to your question or issue is developed, you will receive a reply directly from the Coordinating Council. Periodically, issues and responses are also summarized and disseminated through the Regional Working Groups, state agencies, and national associations.

The identification of regulatory barriers and any misinterpretations of regulations that create barriers is important. Your assistance in this effort is encouraged and appreciated.

6 Regional Working Groups

Ten Regional Working Groups have been established to assist the Joint DOT/DHHS Coordinating Council on Human Services Transportation with information collection and dissemination, the development of policy, and with the initiation of regional coordination efforts. Input from local providers and state agencies is welcome. The following DOT and DHHS Working Group members can be contacted if you have questions, comments, or issues that need to be resolved.

Region 1: Includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont

DOT Contact:
Ms. Judi Molloy
Federal Transit Administration
Transportation Systems Center
55 Broadway, Suite 920
Cambridge, MA 02142
(617) 494-2304

DHHS Contact:
Ms. Maureen Osolnik, Special Assistant to the Regional Director
John F. Kennedy Federal Bldg.
Government Center, Room 2100
Boston, MA 02203
(617) 565-1500

Region 2: Includes New Jersey, New York and the Virgin Islands

DOT Contact:
Ms. Kathy Scarpa
Federal Transit Administration
26 Federal Plaza
Suite 2940
New York, NY 10278
(212) 264-8162

DHHS Contact:
Mr. Anthony G. Marra, Executive Assistant to the Regional Director
Jacob K. Javits Federal Bldg.
26 Federal Plaza, Room 3835
New York, NY 10278
(212) 264-4600

Region 3: **Includes Delaware, District of Columbia, Maryland, Pennsylvania, Virginia and West Virginia**

DOT Contact:
Mr. Herman Shipman
Federal Transit Administration
1760 Market Street, Suite 500
Philadelphia, PA 19103
(215) 656-6900

DHHS Contact:
Mr. James G. Mengel, Executive Assistant to the Regional Director
3535 Market Street, P.O. Box 13716
Philadelphia, PA 19101
(215) 596-6492

Region 4: **Includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, and Tennessee**

DOT Contact:
Mr. Thomas McCormick
Federal Transit Administration
1720 Peachtree Road, N.W., Suite 400
Atlanta, GA 30309
(404) 347-7875

DHHS Contact:
Mr. Earl Forsythe, Assistant to the Regional Director
101 Marietta Tower, Room 1515
Atlanta, GA 30323
(404) 331-2442

Region 5: **Includes Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin**

DOT Contact:
Mr. Doug Gerleman
Federal Transit Administration
55 East Monroe Street, Room 1415
Chicago, IL 60603
(312) 353-2883

DHHS Contact:
Ms. Delilah Brummet-Flaum
Regional Director
105 West Adams Street - 23rd Floor
Chicago, IL 60603
(312) 353-5160

Region 6: **Includes Arkansas, Louisiana, New Mexico, Oklahoma and Texas**

DOT Contact:
Ms. Donna Murray
Federal Transit Administration
819 Taylor Street, Suite 9A32
Ft. Worth, TX 76102
(817) 334-3787

DHHS Contact:
Ms. Paulette Standefer
Regional Director
1200 Main Tower, Room 1100
Dallas, TX 75202
(214) 767-3301

Region 7: **Includes Iowa, Kansas, Missouri and Nebraska**

DOT Contact:
Ms. Joan Roeseler
Federal Transit Administration
6301 Rockhill Road, Suite 303
Kansas City, MO 64131
(816) 926-5053

DHHS Contact:
Ms. Barbara Gumminger, Executive Assistant to the Regional Director
601 East 12th Street, Room 210
Kansas City, MO 64106
(816) 426-2821

Region 8: **Includes Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming**

DOT Contact:
Mr. Chick Doby
Federal Transit Administration
Columbine Place
216 16th Street, Suite 650
Denver, CO 80202
(303) 844-3242

DHHS Contact:
Ms. Jane E. Artist
Regional Director
1961 Stout Street, Room 1076
Denver, CO 80294-3538
(303) 844-3372

Region 9: **Includes Arizona, California, Guam, Hawaii, Nevada and Pacific Territories**

DOT Contact:
Mr. Hymie Luden
Federal Transit Administration
211 Main Street, Room 1160
San Francisco, CA 94105
(415) 744-3133

DHHS Contact:
Mr. Deane Dana III
Regional Director
50 United Nations Plaza, Room 431
San Francisco, CA 94102
(415) 556-6746

Region 10: **Includes Alaska, Idaho, Oregon and Washington**

DOT Contact:
Mr. Terry Ebersole
Federal Transit Administration
3142 Federal Building
915 Second Avenue
Seattle, WA 98174
(206) 553-4210

DHHS Contact:
Mr. Bernard E. Kelly, Regional Director
Blanchard Plaza Building
2201 Sixth Avenue, Room 911F
Mail Stop - RX - 0
Seattle, WA 98121
(206) 553-0420

7 Resources

Two projects have been established by the DOT and DHHS to provide states and local agencies with ongoing assistance. These are the Community Transportation Assistance Project (CTAP) and the Rural Transportation Assistance Project (RTAP). CTAP is funded by the DHHS and is operated by the Community Transportation Association of America, the National Easter Seal Society's Project ACTION office, and the Region IV Consortium. The primary goals of CTAP are to encourage coordination of DHHS-funded transportation with other community public transit services and to help human service providers meet their obligations under the Americans with Disabilities Act of 1990 (ADA). RTAP is funded by the DOT and is operated by the American Public Works Association, the Community Transportation Association of America, and the University Research Corporation. RTAP serves as an information clearinghouse and source of technical assistance on rural transportation issues.

Both projects help to support a National Transit Resource Center. Services available through the National Transit Resource Center include:

- a toll-free technical assistance hotline
- a national clearinghouse for community and rural transportation information
- an electronic bulletin board service
- a peer-to-peer network
- training workshops and materials

A comprehensive library of useful publications, videos, and training materials is also maintained by the National Transit Resource Center. Information about obtaining any of these resources, as well as technical assistance and answers to your questions about community and rural transportation, is just a phone call away. The Center is designed to be a one-stop shop for information on coordination strategies, federal regulations, funding sources, manuals and reports, and other technical assistance. The National Transit Resource Center can be reached using the toll-free ***Transit Hotline, 1-800-527-8279***.

Following are some of the reports, handbooks, and other information available from the National Transit Resource Center which can assist you in developing or improving a coordinated transportation system:

Coordinating Community Transportation Services: A Planning and Implementation Handbook, U.S. Department of Health and Human Services, May, 1992.

A Handbook for Coordinating Transportation Services, Ohio Department of Transportation, Division of Public Transportation, October, 1991.

Human Service Transportation Coordination: State Coordination Programs, Community Transportation Assistance Project, September, 1991.

Key Components of an Accessible Community Transportation System, Community Transportation Assistance Project, September, 1991.

Best Practices in Specialized and Human Services Transportation Coordination, U.S. Department of Transportation and U.S. Department of Health and Human Services, July, 1989.

Planning Guidelines for Coordinated Agency Transportation Services, U.S. Department of Health, Education and Welfare, 1980.

Implementation Guidelines for Coordinated Agency Transportation Services, U.S. Department of Health, Education and Welfare, 1980.

Transportation Resources Update, published bi-monthly by the Community Transportation Assistance Project.

Community Transportation Reporter, published monthly by the Community Transportation Association of America.

U.S. Department
of Transportation

Research and
Special Programs
Administration

**Volpe National
Transportation
Systems Center**

Ideas That Move A Nation

DR. RICHARD R. JOHN
DIRECTOR
JOHN A. VOLPE NATIONAL TRANSPORTATION SYSTEMS CENTER

Dr. Richard R. John is currently Director of the John A. Volpe National Transportation Systems Center in Cambridge, Massachusetts. Since joining the Volpe Center in 1970, Dr. John has been appointed to a number of management positions with increasing responsibility. In the late 1970's, while serving as the Center's Chief Scientist, he completed a series of ground-breaking studies on the international competitiveness of the U.S. auto industry. He has been recognized for his contributions to the Department through three Secretarial and a Presidential Rank Meritorious Executive Award; and most recently, Dr. John received the Federal government's highest civil service award - the Distinguished Presidential Rank Award from President George Bush in a White House Ceremony in January 1991.

Prior to his government service, Dr. John served as Director of the AVCO Applied Research Laboratory in Wilmington, Massachusetts from 1957 to 1970. He led a series of first generation aerospace-related, high technology research and development programs.

He received his undergraduate and graduate training at Princeton University and received a Ph.D in Aeronautical Engineering in 1957.

The Volpe National Transportation Systems Center

55 Broadway, Kendall Square, Cambridge, Ma 02142

"Massachusetts' Best Kept Secret"

Located in Kendall Square, Cambridge, the Volpe Center develops integrated systems approaches to critical transportation issues, particularly those which cut across multiple modes of transportation. The Volpe Center, which operates under the policy guidance of the Secretary of Transportation and the Administrator of the Department of Transportation's Research and Special Programs Administration (RSPA), is unlike other government agencies. The Center does not receive funding via "line-items" in the federal budget - rather, it is funded entirely by its customers. Customers include the Department of Transportation and other government departments and agencies. In turn, the Center contracts out two-thirds of its work to the private sector.

- The Volpe Center is one of the 75 largest employers in the Commonwealth of Massachusetts, and one of the ten largest in City of Cambridge. Among private companies, nonprofit organizations and government agencies, the Center ranks in the top 5% of employers in the Commonwealth.
- The Volpe Center's staff is composed of over 500 federal employees, 500 on-site and 500 off-site contractors. The staff includes: engineers, scientists, economists, program and operations research analysts, statisticians, mathematicians and support personnel.
- In FY 92, $148 million of the Volpe Center's $213 million in business went toward work performed within Massachusetts, including competitive-award contracts to private companies, research and consulting firms, universities; small business contracts and purchase orders; and salaries and benefits paid to federal employees.
- Over the five previous fiscal years, Center contracts to Cambridge businesses have totaled more than $300 million.
- Considered a hub of transportation expertise, the Volpe Center attracts nearly 7,000 out-of-state and another 40,000 greater-Boston visitors annually. This generates well over $2 million in revenues for the local economy.
- The Volpe Center has also made a difference in the community:

  Volpe TEAM (Teaching, Educating, And Mentoring) Effort. This initiative, through the efforts of Volpe Center volunteers, provides:

  - Tutoring and mentoring for Cambridge Rindge and Latin High School students
  - Workshops and introduction to future career options for Kennedy Elementary School students
  - Tutoring in adult basic education and English as a Second Language taught on-site at the Volpe Center after work hours
  - Mentors via the In-house Mentoring program for 'stay-in-school' students, worker-trainees and college co-ops employed by the Center

For more information contact Lynn Murray, Office of the Director. (617) 494-2224

The John A. Volpe
National Transportation Systems Center

Cambridge, Massachusetts

Research and Special Programs Administration
U.S. Department of Transportation

The John A. Volpe National Transportation Systems Center

"One of the essential principles for sound government is that responsibilities should be focused at the level that has the knowledge and understanding of the problems and issues, and the capability to address them most effectively and efficiently."

--Moving America: A Statement of National Transportation Policy (February 1990)

A National Resource

As the United States moves toward the 21st century, the nation's projected transportation needs will eclipse our present public and private sector programs and resources. To meet the challenges related to an aging transportation system, a system that handles 3.5 trillion passenger-miles and 3.4 trillion ton-miles of freight annually, the U.S. Department of Transportation (DOT) has called for a strategic approach based on innovative planning and management and on dynamic partnerships among all levels of government and the private sector.

Established by DOT in 1970, the Transportation Systems Center was charged with developing integrated systems approaches to critical transportation issues, especially those that cut across the modes of transportation -- air, rail, sea, highway, pipeline, and mass transit. Two decades later, after providing valuable research, analysis, and engineering expertise to DOT and other client agencies, TSC was recognized formally as a national resource and renamed the John A. Volpe National Transportation Systems Center after the Secretary of Transportation who created it.

The Center operates under the policy guidance of the Secretary of Transportation and the Administrator of DOT's Research and Special Programs Administration (RSPA). But unlike other government departments and agencies, the Volpe Center is not funded as a "line item" in the Federal budget. It is instead market-driven, funded entirely by its clients, including DOT and other government departments and agencies.

Located in Cambridge, Massachusetts, one of the nation's premier academic and technology hubs, the Volpe Center serves as a bridge between federal, state and local levels of government and private industry and academia. With a diverse and talented staff, consisting of a core of around 550 federal employees and an equal number of on-site private sector R&D support staff, the Volpe Center is structured to encourage creative exchanges that lead to innovative and cross-disciplinary solutions to complex transportation problems.

When it was conceived, the Center was meant to provide the transportation community with a "new brand of thinking" that was not limited to any single mode of transportation. Within the walls of its six buildings, which include about 350,000 square feet of office space, extensive data processing facilities, and some specialized laboratories, the modes of transportation do not compete -- they coexist. For that reason, the Volpe Center has emerged as a national resource, where experts from the public and private sector can work together on common problems, take advantage of a wide range of expertise, and share solutions.

Responding to National Priorities

Throughout its short history, the Volpe Center has played a vital role as transportation issues have evolved and changed. Its record of achievement includes:

- Research and development of new transportation technologies
- Research and analysis of issues related to energy conservation, automobile and train crashworthiness assessments, noise pollution studies, and explosives detection
- Evaluations of options for economic deregulation and their effect on safety
- Support of efforts to modernize the nation's aging transportation infrastructure by exploiting advanced technologies
- Continuing contributions in support of DOT's emphasis on a long-term strategic approach in the development of transportation policy

Overall, the Center's activities can be grouped into five key areas: Support of transportation policy development and systems acquisition; Enhanced transportation safety; Transportation security; Advanced management support systems; and infrastructure modernization.

Support of DOT Policy Development and System Acquisitions

The Volpe Center keeps its finger on the pulse of the national transportation situation through continual outreach efforts. It conducts transportation colloquia aimed at anticipating and increasing awareness of future transportation needs and opportunities in the public and private sectors. The Center also supports the Secretary of Transportation and other DOT and non-DOT organizations in responding to transportation-related concerns and interests of Congress.

Given its unique position as a place where technology research and development, systems engineering, and research and analysis all take place, the Volpe Center has the broad perspective needed to provide the Secretary of Transportation with sound advice when it comes to the acquisition of major transportation-related systems. In support of the

Secretary's oversight role, the Center acts as a resource for DOT's administrations and helps them maneuver through the acquisition process as "smart buyers."

The Center's current activities in the policy and acquisition areas are many and varied. The Volpe Center has recently:

- Conducted colloquia on the related topics of intercity passenger transportation and financing of the transportation infrastructure through public-private partnerships

- Provided technical assistance to the Federal Railroad Administration in preparing a feasibility assessment for Congress on the potential for the development of Magnetic Levitation Vehicles (MAGLEV) in the United States

- Facilitated Urban Mass Transit Administration efforts to conduct a safety investigation of the New York Metropolitan Transportation Authority in response to congressional concerns

- Reviewed and critiqued the Federal Aviation Administration plan for the acquisition of microwave landing system (MLS) units as part of the National Airspace System

- At the request of the Secretary's office, reviewed the U.S. Coast Guard's acquisition strategy and plan to replace its fleet of 28 seagoing buoy tender ships

- Continued to manage the congressionally mandated Small Business Innovation Research (SBIR) program for DOT, which encourages small businesses to meet federal research and development needs and bring innovation into the transportation sector

- Performed analysis for the Federal Highway Administration of the linkage between the condition of our national highway system and economic productivity to determine why some industries are more productive than others

- Developed a series of "white papers" to serve as the starting point for a Transportation Research Board study, sponsored by DOT, addressing the potential role of new technologies in providing high-speed passenger transportation in high-density corridors

Safety: Always in the Forefront

Safety is part and parcel of all programs administered by DOT. The Volpe Center provides valuable contributions in the areas of regulatory and nonregulatory safety. The Center's activities span a wide spectrum:

- Collection of statistical analysis of motor vehicle, urban transit, hazardous material transport, air carrier and commercial aviation safety data

- Assessment of the effect of human factors on transportation system safety performance

- Engineering analysis of the energy absorption mechanisms involved in motor vehicle collisions

- Application of structural analysis and inspection technology to assess metal fatigue in aging aircraft

Recent contributions in these areas include the development of a prototype thunderstorm detection system that acquires lightning weather data from a nationwide network and processes it into weather advisories for pilots; the development of experimental methods used to identify changes in brain activity that may be precursors to fatigue and loss of alertness in vehicle operators; and the analysis and review of the safety factors associated with MAGLEV/high-speed rail ground transportation systems.

Striving Toward a Secure System

DOT participates with other agencies and departments to protect the public and industry from acts of terrorism, sabotage and piracy in the transportation system. In support of DOT, the Center has, among other activities:

- Developed prototype explosives detection technology for passenger screening at critical transportation facilities.

- Assessed physical security needs for the merchant marine reserve fleet

- Assessed the vulnerability of safety-critical federal computer systems and identified techniques for enhancing computer security

As a part of these efforts, the Volpe Center developed and deployed for test purposes portable explosive vapor detection systems at the State Department's headquarters, Hanscom Air Force Base in Massachusetts and Kirtland Air Force Base in New Mexico. The Center also performed continuing security assessments of FAA computer networks critical to FAA operations, as well as risk analyses for portions of the Advanced Automation System for air traffic control.

Solving Management Problems Through Automation

The Volpe Center is extensively involved in efforts to upgrade federally operated transportation and logistics management support systems. In an era of constrained resources, information and automation technology can enhance the efficiency and effectiveness of the transportation system and improve civilian and military logistics management.

The Center has a solid track record in the design, development and implementation of information systems and the management and operational support of telecommunications network planning and engineering, resource allocation, and performance analysis and improvement. Among its accomplishments, the Volpe Center:

- Developed an advanced traffic management system for air traffic flow control and delay reduction

- Developed and deployed for the FAA the National Airspace System Performance Analysis System, which aids in assessing the performance of the FAA's air traffic control system

- Analyzed accounting and reporting systems for the Urban Mass Transit Administration in an effort to improve the accuracy and timeliness of financial and operational data from public transit operators nationwide

- Developed the Air Carrier Analysis System to aid military planners responsible for evaluating commercial air carriers as to their suitability to move military personnel safely and efficiently; ACAS was used extensively in support of Operation Desert Shield

- Developed a number of automated logistics management systems for the U.S. Coast Guard and branches of the Department of Defense to improve the management of capital acquisitions and to provide in-transit monitoring of shipments

Modernizing Federal Transportation Systems

The federal government has operational responsibility for a number of major transportation and logistics activities that have a significant impact on U.S. global competitiveness and on national security. The Volpe Center has taken an active role in support of DOT efforts to modernize federal transportation systems. The Center's major activities include:

- Designing a fiber optic communications system to service FAA air traffic control facilities at the new Denver international airport

- Participating in an effort to link U.S. radionavigation transmitters in the North Pacific with those in the Soviet Far East to greatly improve Bering Sea area marine navigation

- Developing software for the FAA's Remote Maintenance Monitoring System, which is central to the automation of the maintenance of the National Airspace System

- Enhancing the Advanced Traffic Management System, including the integration of airline scheduling data with live air traffic flows

- Conducting a program of strategic support to DOT's Intelligent Vehicle/Highway Systems initiatives, including addressing the transit implications of advanced highway technologies and various DOT program planning efforts

- Supporting the Coast Guard's effort to improve marine safety through Vessel Traffic Systems by determining and prioritizing 23 key ports in the United States; this will lead to improved safeguards for preventing future maritime accidents, such as the Exxon Valdez incident

- Designing, building and installing the Air Force Logistics Command management system for efficiently managing resources and handling air cargo traffic, which the military recently used around-the-clock in support of Operation Desert Shield

The Transportation Community's Meeting Place

The Volpe Center plays a central role in support of DOT's commitment to coordinate the efforts of the many agencies and individuals who shape and are affected by national transportation policy. As a result of its diversity and expertise, the Center is ideally positioned to help facilitate the types of public-private sector exchanges envisioned by DOT. It is the transportation community's meeting place, where air, rail, sea, highway, pipeline and mass transit intersect, and where both the public and private sectors can work together.

The Center takes advantage of a cross-disciplinary, systems approach as it helps tackle the many challenges related to the nation's transportation system. By its nature, the Volpe Center looks between and across the modes. It brings its multiple capabilities, multiple contractors, and experience with multiple issues to bear when working with its many customers.

To keep pace with customers' needs and rapidly changing conditions on the national and international level, the Volpe Center emphasizes flexible management of a talented and diverse work force both within and outside the Center's doors. As national priorities in transportation policy shift, the Center can adapt quickly, thanks to the mix of in-house and contractor skills.

The Volpe Center applies cross-cutting expertise in:

- Operations research
- Information systems engineering
- Communications, navigation & surveillance
- Ground systems engineering
- Transportation data & statistics

to the cross-cutting issues faced by the transportation community:

- Future directions
- Safety & security
- Capacity enhancement
- Infrastructure maintenance
- Innovative financing
- Global competitiveness
- Environmental preservation
- Needs of the disadvantaged

Given its expertise, capabilities and overall approach, the Volpe Center is even more than just the transportation community's meeting place; it is a breeding ground for new ideas and new solutions to transportation's persistent problems. It is a place where excellence, innovation and teamwork are the order of the day.

Funding and Client Base

The Center markets its services to customers requiring technical assistance with high priority transportation and logistics projects and acquisitions. This procedure assures that the Volpe Center projects will be immediately responsive to customer needs and priorities.

Over the past decade, the Volpe Center's client mix has shifted from support mainly of the Department's ground transportation administrations, i.e., Urban Mass Transportation Administration (UMTA), Federal Railroad Administration (FRA), and National Highway Traffic Safety Administration (NHTSA). The Volpe Center now supports principally DOT administrations having direct Federal transportation and logistics responsibilities, i.e., Federal Aviation Administration (FAA), U.S. Coast Guard (USCG), and Research and Special Programs Administration (RSPA), as well as other Federal agencies including the Department of Defense (DOD), Department of Energy (DOE), and Environmental Protection Agency (EPA). Nearly one-third of the Center's activities involve agencies outside the Department of Transportation.

Over the past five years, the Center's annual obligations have been growing at the rate of about 20% a year. The Center's obligations in FY91 are projected to be about $175M, about 75% of this work being managed by the Volpe Center through contracts with the private sector.

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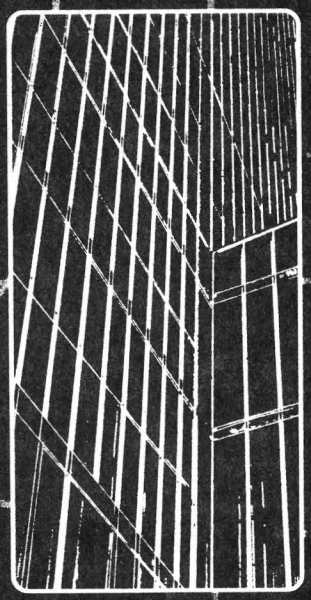
January 16, 1991

U.S. Department
of Transportation

**Federal
Transit
Administration**



Regional Mobility Program

Office of Technical Assistance and Safety
Office of Mobility Enhancement
Service Assistance Division

REGIONAL MOBILITY PROGRAM

OBJECTIVE

The Federal Transit Administration (FTA) has developed a Technical Assistance Program to address the regional mobility problems found in most U.S. urban regions. The program is structured to undertake research and development of innovative solutions to the regional mobility problem, to enter into cooperative agreements with states, localities, and non-profit organizations to demonstrate the feasibility of such innovations, and to evaluate and report on the findings of such research and demonstrations.

BACKGROUND

The Regional Mobility Program is an outgrowth of the Suburban Mobility Initiatives (SMI) Program organized in early 1988. The SMI Program was in response to the situation of ever-increasing traffic congestion and decreasing transportation mobility in suburban areas. Traffic congestion does not, of course, occur only in suburban areas, nor even uniformly across metropolitan areas. It is a metropolitan and regional phenomenon that can occur in many locations and in various types of situations. Traffic congestion, both recurring and non-recurring, is common in the central business district and on links between suburban locations and the core area. It is also increasing on roads connecting suburban locations and non-metropolitan and metropolitan counties. Since metropolitan traffic congestion can exist on urban highways, access roads, county roads, and local arterials around suburban business centers, it has become an inter-jurisdictional, regional problem.

The remedies to the overall regional mobility problem will be found to a significant degree in policies or institutions at the regional level. For example, the planning and implementation of most transportation facilities occurs at the regional or state level. Also, other potential remedies to the mobility problem, such as development and marketing of the employer tax-free transit subsidy voucher, are best done at the regional level.

Strategies that deal with suburban congestion and mobility are also applicable, and in many cases identical, to those needed to address overall regional congestion and mobility. Therefore, many of the strategies employed in the SMI Program will also be used in the Regional Mobility Program.

A principal focus of the Regional Mobility Program will continue to be resolving or mitigating what is perhaps the most severe and pressing problem: suburban traffic congestion. However, addressing the overall problems of congestion and mobility on a region-wide basis will also be undertaken.

The Regional Mobility Program involves technical assistance, outreach, research, demonstration, and evaluation efforts to create a body of knowledge that will assist private, local, and state organizations in addressing their overall regional mobility concerns. While all of the technical assistance and outreach Federal actions (cooperative agreements) obviously will provide direct benefit to the recipients, the primary motivation of these actions is to test and evaluate innovative measures for addressing the regional mobility issue.

PROGRAM ELEMENTS

The Regional Mobility Program is subdivided into three program elements: Innovative Transportation Services, Transportation Demand Management, and Entrepreneurial Services. Each represents a focus area or set of methods and concepts designed to enhance mobility. These focus areas will be supported by such program reinforcement measures as technical assistance through the Public-Private Transportation Network (PPTN), documentation, evaluation, and information dissemination, and other outreach efforts such as conferences and seminars. The specifics of each of the focus areas are described in the attachments.

For further information regarding the Regional Mobility Program, please write to:

Mr. Walter Kulyk
Director, Office of Mobility Enhancement
Office of Technical Assistance and Safety
Federal Transit Administration
400 Seventh Street, S.W., Room 6431
Washington, DC 20590

OR

Mr. Bert Arrillaga
Chief, Service Assistance Division
Office of Technical Assistance and Safety
Federal Transit Administration
400 Seventh Street, S.W., Room 6107
Washington, DC 20590

ENTREPRENEURIAL SERVICES

ISSUE

From the beginning of our nation's history, transportation has been a major factor in stimulating social and economic growth. Mass transit has enabled our cities, towns and communities to grow and prosper. In the past decade, however, public transit authorities have struggled to be all things to all people. It has become evident that the traditional public transit provider may not effect the best means of serving some of the newly emerging transit markets. New suburban business centers, traffic congestion and the shift of population to new communities have created the need for different types of transit services.

One way of addressing this emerging mobility need has been to encourage private sector participation in the provision of transit service. Market-oriented transportation operations can include reverse commute service, inner-city circulation service, commuter express route service, demand-responsive service, suburban circulation service, and rural inter-city service.

FTA SUPPORT

In addition to providing useful and diversified transit services to areas that have received little attention from public transit agencies, new entrepreneurial services can create business and job opportunities within the communities served. Unlike traditional public transit agencies, these private businesses require little government direction or subsidy. Entrepreneurial services do not try to replicate or replace conventional transportation services. Rather, they seek out new markets unserved by regular transit.

The FTA has launched a program activity to stimulate the development of creative service provision to supplement existing public transit service. Under the Entrepreneurial Service Program (ESP) activity area, the FTA encourages small and minority businesses to identify promising transportation markets and design innovative, self-sustaining services that can be operated independently. Limited start-up funds can be made available to an entrepreneur through a grant to a public sponsor. Technical support for the planning and development of ESP projects is available through the Public-Private Transportation Network (PPTN).

The FTA will also be supporting a closely related program called Weed and Seed. Led by the United States Department of Justice, the program will target specific inner-city neighborhoods with a broad range of law enforcement and social service improvements. Additional focus will be on low-cost physical improvements and providing other vital opportunities within these neighborhoods. The FTA will provide financial support for planning and implementing reverse commute services at a number of Weed and Seed sites. The aim is to allow residents improved access to employment and other activities both within and outside their neighborhoods.

Telecommuting

ISSUE

Commuting to the workplace has become a source of major frustration in many regions, where primary travel corridors are unable to accommodate ever-increasing levels of automobile traffic. In addition to time-consuming delays due to vehicular congestion, serious concerns are regularly raised regarding fuel consumption, the condition of the environment, and the overall quality of life. Due to changing lifestyle patterns and population growth, commuting distances have been increasing. Further, dispersal of residential and employment centers has reduced cost-effective traditional public transit options that would be adequate to entice enough commuters out of their cars. Innovative shared-ride and other high-occupancy vehicle programs are providing some relief, but do not appear able to unilaterally turn the tide.

Telecommuting is an approach that goes one step further in reducing home-to-work trips by allowing employees to work at home or at satellite or neighborhood work centers, typically one or more days per week. Employees may be linked to the work place by computer or modem, or simply may perform tasks requiring no computer.

FTA SUPPORT

Telecommuting is a growing TDM strategy, with over four million workers currently participating in the United States. The growth trend has been spurred by the nature of the economy and technology advances. Successful programs have been in effect in various configurations, with promising results extending beyond the immediate congestion and environmental objectives into the realm of improved employee morale and productivity.

As an important element in employer demand management programs, telecommuting is likely to be attractive to employees and managers. Since the strategy is relatively new, it is difficult to estimate the potential benefits from case studies already completed or underway. Much depends on future growth of the concept in action. The FTA would like to expand its data base relating to telecommuting by supporting local jurisdictions and employers in establishing and evaluating additional programs.

Parking Innovations

ISSUE

Ever-increasing usage of private automobiles for commuting and other purposes has resulted in major traffic congestion problems in many regions. This is aggravated by changing demographics and travel patterns that cannot be sufficiently accommodated by the existing infrastructure. Parking availability and related policies are a prime component of this situation. Ample free parking is the norm at most suburban activity centers, catering directly to single-occupant vehicles (SOV) with little attention to the ensuing congestion and environmental byproducts. However, even in these outlying areas, an awareness is developing that conditions are paralleling those of central urban districts, where space limitations and general growth patterns have already encouraged widespread pursuit of alternatives to traditional parking strategies.

Adequate development and management of parking in localities involves input and cooperation from many public and private parties. Resulting policy changes influencing parking supply, price, and location may be instrumental in reducing SOV trips, with commensurate substitution of other travel options. One promising strategy involves offering a cash transportation allowance in lieu of parking subsidies. This gives employers the option of tailoring the program to best address their particular requirements.

FTA SUPPORT

Considerable recent and past research suggests that the supply and price of parking may be the most potent TDM strategy. Efforts taking many forms have been proposed and implemented by various levels of government, developers, employers, and Transportation Management Associations. Results of innovative programs in many localities have indicated that established travel patterns can be altered in an equitable manner for the common good.

The FTA recognizes the urgency of the situation, and wishes to expand the scope of knowledge and application regarding parking-control scenarios. Toward this end, the FTA seeks to actively participate in and support further efforts. It is expected that this support would extend into many facets of program implementation and evaluation, taking into account the multitude of issues involved.

Congestion Pricing

ISSUE

The current population growth trend in many regional areas has been significant, and has been accompanied by shifts in residential and employment centers. A major consequence is the inability of many existing roads to support the associated traffic volume increases and travel pattern changes. The resulting impact on mobility options and the quality of the environment can be severe. The problem involves access to urban and suburban activity centers. It can apply to all of the primary thoroughfares leading into a particular district, and often most acutely affects limited-access highways. Typically, vehicular congestion occurs during peak travel periods, and the majority of vehicles have only one occupant. Increasing roadway capacities through physical expansion is not feasible in many instances, for reasons including limited available space, lack of sufficient funding, and local community opposition.

Economists have long argued for roadway tolls to be set by time of day and vehicle occupancy to reduce traffic congestion. Building on this concept to apply to more roads within an area has been identified as a potential incentive/disincentive congestion-mitigating measure.

FTA SUPPORT

There have been a number of successful examples of congestion pricing around the world in the last few years. They have mostly involved downtown automobile entry fees during certain hours. Positive results from pilot programs using this TDM strategy have included some shifting from peak period to off-peak trips, greater use of high-occupancy travel modes, and some rerouted or eliminated trips.

Several studies have been completed that indicate applicability of the concept to United States metropolitan areas. The time might be right for successful implementations, due to the changing demographic, social, and legal climates, as well as technological advances. Potential benefits in terms of fewer road and transit delays, reduced emissions and energy consumption, enhanced transit productivity and reliability, and generation of additional local revenues are expected to outweigh implementation costs. Earlier experiences with congestion pricing in the United States have provided the FTA with valuable lessons for localities and other Federal agencies. The previous programs were sufficiently limited that first implementation attempts may be on a demonstration basis, with assistance from the FTA. For example, the FTA may cover some of the planning and evaluation costs.

TRANSPORTATION DEMAND MANAGEMENT

ISSUE

The tremendous growth of many urban areas in the last decade has literally overwhelmed the highway systems of many communities. Local and state officials have been unable to keep up with the expansion of highway capacity because the increase in demand in some areas has been so rapid, and because there have been insufficient financial resources to build or widen all the necessary highways. Even if financial resources were to increase (e.g., from an increased gasoline tax), there would still be problems with building all of the desired peak-period highway capacity. It is safe to say that there would be substantial community opposition to additional highways that would result in dividing neighborhoods, creating more air pollution, or generating still more traffic.

Transportation Demand Management (TDM) is the name given to the process aimed at managing vehicular traffic demand. TDM is important because it provides a potentially much lower cost alternative method to mitigate the problems resulting from excessive demand for travel on overburdened transportation systems.

FTA SUPPORT

A variety of TDM measures have been implemented which have shown promise in reducing travel demand. Combinations of these measures have led to decreases in the modal share of single occupant vehicles of over 30 percent! The FTA would be interested in supporting innovative projects that provide additional cases to extend and expand the knowledge base. Three TDM strategies have been identified that are particularly promising: Parking Innovations, Telecommuting, and Congestion Pricing. They are individually detailed on the accompanying pages.

Of all the TDM measures, parking control, pricing, and management appears to be the most potent. Not so paradoxically, this is also the most difficult TDM measure to implement. The FTA is seeking local innovators who would be interested in developing and adopting parking management measures that favor ridesharers, eliminate subsidies, or pass the true costs on to parkers. Other TDM measures could include ridesharing, alternative work schedules, high-occupancy vehicle (HOV) facilities, or novel combinations of these measures. Some TDM measures may include or overlap into other focus areas within the Regional Mobility Program.

Guaranteed Ride Home

ISSUE

Many automobile commuters have indicated that they choose to use their cars, rather than ride-sharing or transit services, since they do not have reasonable options available should they occasionally need to return home at times other than the normal commute time. For example, working parents often need to return home earlier than normal to care for a child who unexpectedly becomes ill, and employees may have to work late to finish an important piece of work. In such cases, an expensive taxi ride is often the only available transportation option.

Guaranteed Ride Home (GRH) is a relatively new concept developed to help overcome resistance from workers to using higher-occupancy travel modes. GRH programs offer a reasonably priced or free ride home at any time when there are no other good alternatives (e.g., carpool, vanpool or bus) available. Typically, reduced-rate or free vouchers are issued for taxi rides or car rentals from on-site locations, or company vehicles are made available as necessary. GRH is offered to employees as a form of "commuter insurance", subsidized by the employer or local governmental agency, which allows a particular worker to take advantage of the system up to a certain number of times within a specified period of time.

FTA SUPPORT

A number of GRH programs are currently in operation, varying significantly in terms of administration, procedures and scope. It has not yet been determined, however, just how effective they have been at inducing modal shift by commuters from single-occupant autos to more environmentally sound means of travel.

The FTA's current interest in this Innovative Transportation measure is to support additional GRH projects that are carefully constructed and evaluated to discern actual effectiveness levels. That is, how many auto commuters are diverted to other modes, and what is the cost of a diverted auto trip?

Employer-Supported Initiatives

ISSUE

The percentage of commuters who utilize single-occupant vehicles (SOV) between home and the workplace remains overwhelmingly high in most regions. This is in spite of the fact that the existing road network is often becoming obsolete in its ability to handle today's traffic volumes and cannot accommodate changing travel patterns. The ensuing vehicular congestion leads to inordinate delays, increased pollution, and excessive energy waste. SOV travel still offers sufficient advantages in terms of time, cost, and convenience, that the majority of commuters are willing to put up with these conditions even as they become more severe. There are often few viable alternatives to the SOV mode, and even more often, incentives are not available to persuade drivers to switch to more "environmentally-friendly" forms of transportation.

Development of incentive schemes that involve active participation by employers is a logical congestion-mitigation approach. Concentrations of people with similar travel needs naturally tend to be oriented toward employment locations. Typical incentives involve financial subsidies provided to commuters using SOV alternatives. Other inducements include variable or staggered work hours as well as work-at-home ("telecommuting") programs.

FTA SUPPORT

Over the past few years, incentive programs have been tailored by employers and public entities to various commuting markets and situations. They have taken the form of subsidies for transit passes, vanpool operation, and rideshare programs, along with various other types of travel allowances or compensation. Results have been positive in countering the economic and social advantages of driving alone.

Expansion of this Innovative Transportation concept into more travel markets and applications is an area which the FTA is pursuing. Of particular interest would be more comprehensive technical analyses of the travel and traffic impact potential of employer trip-reduction initiatives. The FTA is seeking to cooperate with employers and other public agencies to implement and assess additional programs.

INNOVATIVE TRANSPORTATION SERVICES

ISSUE

The operating environment in which traditional transit service has existed has become much more difficult during the last decade. Vast new suburban areas have been developed that are literally hostile to traditional transit service. Origin-destination patterns are very dispersed and without the well-defined corridors of earlier times, travel distances are much greater, and universal free parking is the norm. Further, street patterns and new development site design generally hinder efficient transit routing. It is no wonder that transit's share of the travel market in this environment is negligible.

Transportation services that have to compete in this environment must find an appropriate niche, be tailored to a distinct market, and/or be specifically supported by an employer or a community of users or beneficiaries.

FTA SUPPORT

A number of promising transportation strategies have been identified that offer some advantage, or market niche, under the current situation. Recently identified innovative measures include multi-operator transit subsidy vouchers, market-based transit fare pricing, guaranteed ride home services, and employer-subsidized or provided services. Employer-Supported Initiatives and Guaranteed Ride Home programs are two areas demonstrating particular promise. They are described more thoroughly on the accompanying pages.

The FTA is seeking to support local innovators who would be interested in developing and implementing such transportation services or pricing/marketing arrangements. These may be in combination with or overlap TDM measures discussed as another focus area within the Regional Mobility Program. Expanded coordination with the FTA's Entrepreneurial Services Program (ESP) is also encouraged. This program offers "challenge" grants to existing small businesses and new entrepreneurs to develop and implement transportation services in areas with inadequate mobility options.

TRANSPORTATION RESEARCH INFORMATION SERVICES

NRC NAS NAE IOM

TRB

FACTS ABOUT TRIS

What is TRIS?

TRIS is the Transportation Research Information Services data base, a computerized information file maintained and operated by the Transportation Research Board, National Research Council, under the sponsorship of the Federal Highway Administration, the Urban Mass Transportation Administration, the National Highway Traffic Safety Administration, U.S Department of Transportation, the fifty state highway and transportation departments, the District of Columbia and Puerto Rico, the Motor Vehicle Manufacturers Association, the National Asphalt Pavement Association, the U.S. Army Corps of Engineers, and the Association of American Railroads.

What Information is in TRIS?

TRIS contains information on various modes and aspects of transportation including planning, design, finance, construction, maintenance, equipment, traffic, operations, management, marketing, and other topics. TRIS contains more than 315,000 abstracts of completed research and summaries of research projects in progress.

Where does the information come from?

TRIS has worldwide sources of information. The primary U.S. sources are the Federal Highway Administration, the Urban Mass Transportation Administration, and the National Highway Traffic Safety Administration, U.S. Department of Transportation, congressional hearings and reports; the U.S. General Accounting Office; trade and professional associations, universities; research institutes; and regional and state organizations. TRIS receives worldwide transportation information through its exchange with international bodies such as the International Union of Public Transport, the International Union of Railways, the International Road Research Documentation of the Organisation for Economic Cooperation and Development, the European Conference of Ministers of Transport, the Dutch Ministry of Transport, and others. More than 1,000 journals are scanned for selection of materials for TRIS.

What is TLIB?

A valuable addition to the TRIS file is the Transportation Library Subfile, TLIB. The Institute of Transportation Studies Library at the University of California, Berkeley, and the Northwestern University Transportation Library at Evanston provide TRIS with bibliographic citations of their new acquisitions. This tape is added to the TRIS Online file at DIALOG and becomes a subfile of the TRIS data base. TLIB broadens the subject scope of TRIS through coverage of all modes of transportation, and provides an annual input of more than 17,000 records.

TRIS *Format*

The TRIS information file provides abstracts, index terms, and bibliographic citations (including availability) for records of completed research and a project summary, index terms, names and telephone numbers of the responsible individuals and their corresponding sponsoring agencies, names and telephone numbers of principal investigators and their corresponding performing agencies, and reports published, if pertinent, for ongoing research projects. The TLIB records in the TRIS file contain bibliographic citations and modified Library of Congress subject headings as index terms, but do not include an abstract.

What services are available from TRIS?

Literature Searches

The TRIS Information File is available online as DIALOG File 63. You may either request a search from our Online Search Specialist by calling (202)334-3250 or search DIALOG directly. (See "Connecting to DIALOG with a PC" and "Tips for Searching TRIS on CompuServe's IQuest Service"). In either case, please feel free to call us for additional information.

Topical Services

Each month, the TRIS staff selects timely topics from recent searches for dissemination. Please contact Suzanne Crowther at (202) 334-3250 for additional information regarding these services.

Customized Services

Different types of services are available on request. Please call us for further information.

Publications

TRIS publishes three abstract bulletins. These are available by subscription. They are the annual *Urban Transportation Abstracts*, *Highway Safety Literature*, and quarterly *Highway Research Abstracts*. Call the TRB Publications Sales Office at (202) 334-3214 for subscription information.

ACCESS TO TRIS

The Transportation Research Information Services (TRIS) database is available in the United States and many other countries (see list below) through DIALOG Information Services, an online database service. DIALOG may be contacted at:

DIALOG Information Services
3460 Hillview Avenue
Palo Alto, CA 94304
(800) 334-2564 or (415) 858-3785
FAX (415) 858-7069

Questions about TRIS may be addressed to:

Transportation Research Board
Attn: Manager, Information Services
2101 Constitution Avenue, N.W.
Washington, DC 20418
(202) 334-2995

DIALOG INTERNATIONAL REPRESENTATIVES

ARGENTINA
In/Base Argentina S.A./DIALOG
Paraguay 1345, Piso 8, Of. C-D
Buenos Aires
TEL & FAX (54-1) 814-4258

AUSTRALIA AND NEW ZEALAND
InSearch Limited/DIALOG
P.O. Box 123
Broadway
Sydney, NSW 2007
(61-2) 212-2867
FAX (61-2) 281-5427

BRAZIL
PTI/DIALOG
Publicações Técnicas Internacionais
Rua Peixoto Gomide 209
01409 São Paulo SP
(55-11) 257-2157
TELEX 1135844 APTI BR
FAX (55-11) 258-6990

CANADA
Micromedia Limited/DIALOG
20 Victoria Street
Toronto, Ontario M5C 2N8
(800) 387-2689 or (416) 362-5211
FAX (416) 362-6161

DENMARK
DataArkiv/DIALOG
Gleutevej 65
DK-2400 Copenhagen NV
(45) 38-33-52-10
FAX (45) 31-19-93-51

EUROPE
Learned Information Ltd.
P.O. Box 188
Oxford OX1 5AX
United Kingdom
(44) 865 730-275
FAX (44) 865 736-354

FINLAND
Esselte Info Service
P.O. Box 78
02631 Espoo
(358) 0-5272-351
FAX (358) 0-5022930

FRANCE
Learned Information/DIALOG
75 avenue Parmentier
75011 Paris
(33-1) 40-21-2424
FAX (33-1) 40-21-2400

GERMANY
EXIT Datenbankdienste/DIALOG
Graf-von-Stauffenbergstrasse 19
D-4800 Bielefeld 1
(49-521) 16-1021
FAX (49-521) 10-99-00

HONG KONG
Information Services/DIALOG
50 F'Aguilar Street
Central, Hong Kong
(852) 868-0877
TELEX 86064
FAX (852) 845-0141

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Informatics (India) PVT Ltd./DIALOG
PB No. 360
Malleswaram 11th Cross
Bangalore, India 56003
(91) 812-344598
TELEX 953 845 2041 INFO IN

ISRAEL
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7 Derech Hasholom
Tel-Aviv, Israel 67892
(972-3) 25-00-73
FAX (972-3) 62-39-09

MEXICO
AEID/DIALOG
Asesores Especializados en Informacion y Documentacion, S.C.
Ceres 43, Col. Florida
01030 México D.F.
TEL & FAX(52) 5-543-8950

NORWAY
AXESS A/S/DIALOG
P.O. Box 86 Bryn
0611 Oslo 6
(47-2) 72-12-70
FAX (47-2) 72-12-66

SAUDI ARABIA
Arabian Advanced Systems
AAS/DIALOG
P.O. BOX 20129
Rydah 11455
(966-1) 476-6337

SPAIN
Editorial Garsi SA/DIALOG
Numancia, 85-87, bajo
08029 Barcelona
(34-93) 322-99-11
FAX (34) 93-322-9652

SWEDEN
DataArkiv/DIALOG
Box 1502
S-171 29 Solna
(46-8) 705-1300
FAX (46-8) 82-82-96

SWITZERLAND
Centredoc/DIALOG
Rue Brequet 2
CH-2007
Neuchâtel
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FAX (41) 38-25-48-73

DIALOG DISTRIBUTORS

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(ENTEL-CHILE)
Santa Lucia #360, Piso 8
Santiago
(56-2) 71-21-21
FAX (56-2) 690-2638

JAPAN
Kinokuniya Company Ltd.
ASK Information Retrieval Services
P.O. Box 55 Chitose
Tokyo 156
(81-3) 439-0123
FAX (81-3) 439-1093

MARUZEN CO. LTD.
Masis Center
P.O. Box 5335
Tokyo International 10031
(81-3) 271-6068
FAX (81-3) 271-6082

KOREA
Data Communications Corporation of Korea
Sales and Marketing Division
10th Floor, Insong Building
194-45, Hoehyundong 1 GA
Choong-Ku, Seoul
(82) 2-791-1114
TELEX K28311 DACOM
FAX (82) 2-796-8811

GATEWAY SERVICES

Several online services provide "gateways" to the TRIS file on DIALOG. Some of these provide "value added" enhancements to DIALOG searching, such as menu-driven searching, alternative pricing schedules, etc. The complete list of online services which provide such gateways is provided here. To inquire about a particular service, please contact that service directly.

UNITED STATES

ABA/net
American Bar Association (ABA)
750 North Lake Shore Drive
Chicago, IL 60611
(312) 988-5958

AMA/NET
American Medical Association
535 N. Dearborn Street
Chicago, IL 60610
312) 645-5085

ALANET
American Library Association
50 East Huron Street
Chicago, IL 60611
312) 944-6780

Bell Atlantic Gateway Service
Bell of Pennsylvania
181 North Lane
Conshohocken, PA 19428
800) 543-8843

CompuServe Information Service
(see IQuest)

EasyNet
Telebase Systems, Inc.
763 West Lancaster Ave.
Bryn Mawr, PA 19010
(215) 296-2000; (800) 841-9553

Einstein
Learning Link Educators'
Information Network
Educational Broadcasting Corp.
356 West 58th Street
New York, NY 10019
(212) 560-2000

DELPHI
General Videotex Corporation
3 Blackstone Street
Cambridge, MA 02139
(617) 491-3393; (800) 544-4005

IBM Information Network
Department 92V
3101 West Buffalo Avenue
Tampa, FL 33630
(813) 872-2111; (800) 426-3333

IGTnet
3424 South State Street
Room 244 N
Chicago, IL 60616-3896
(312) 567-3650

iNet America
iNet Company of America
Westfields
4795 Meadow Wood Lane
Suite 300
Chantilly, VA 22021
(703) 631-6587; (800) 366-4638

IQuest
CompuServe Incorporated
5000 Arlington Centre Blvd.
Columbus, OH 43220
(614) 457-8600; (800) 848-8990

Medialink International Corp.
200 East Del Mar Blvd.
Suite 100
Pasadena, CA 91105-2544
(818) 304-1122; (800) 451-0360;
(800) 338-0621 (in California)

RLIN
The Research Libraries Group, Inc.
Jordan Quadrangle
Stanford, CA 94305
(415) 328-0920

SLEUTH
TRAC, Inc.
282 North Washington Street
Suite 100
Falls Church, VA 22046
(703) 538-6181

West Publishing Company
50 Kellogg Blvd.
P.O. Box 64526
St. Paul, MN 55164-0526
(612) 228-2500; (800) 328-0109;
(800) 328-9833

Western Union InfoMaster
1 Lake Street
Upper Saddle River, NJ 07458
(201) 825-5000; (800) 527-5184

CANADA

INET 2000
160 Elgin Street, Room 2535
Ottawa, Ontario K1G3J4
Canada
(613) 781-5128; (800) 267-8480

Services Documentaires Multimedia, Inc.
1685 rue Fleury East
Montreal, Quebec H2C 1T1
Canada
(514) 382-0895

ENGLAND

Infosearch
Istel Limited
P.O. Box 5
Grosvenor House
Prospect Hill
Redditch, Worcestershire B97 4DQ
England
44 (527) 64274 x4632
Telex 339954 ISTEL G

FINLAND

Startel, Inc.
P.O. Box 382
00121 Helsinki
Finland
358 (0) 122-3311
Telex 125368 SINFO SF

JAPAN

AMS Corporation
2-6-2 Marunouchi
Chiyoda-ku, Tokyo 100
Japan
81 (3) 210-7300
Telex 2222063 MSKTOK J

SWEDEN

DataArkiv AB
P.O. Box 1502
171 29 Solna
Sweden
46 (8) 705 13 00

Connecting to DIALOG with a Personal Computer

In order to communicate with DIALOG using a personal computer, you need three basic components. The first component is the computer itself, e.g., an IBM PC or compatible, an Apple computer, or any of a number of other types. The second component is a modem, and the third is some kind of communications software. You can use any type of personal computer for which a compatible modem and communications software are available.

Note that an ordinary telephone line will work with DIALOG; however, avoid using telephone lines with a "call-waiting" feature as they interfere with communications to DIALOG.

Modem. You can use an internal or external modem. An internal modem sits inside the main housing of your personal computer; an external modem is enclosed in a small box that sits outside the computer. The "box" that encases an external modem generally includes a row of lights that indicate when the modem is transmitting or receiving data.

Both internal and external modems connect to a telephone line with a plug-in phone jack. Internal modems have the advantage of being less expensive, and they take up less space since they are internal to your computer. External modems, while more expensive, allow you to monitor data transmission and reception more closely. If you access DIALOG from outside the United States, make sure that your modem is CCITT compatible.

Communications Software. If you plan to start using a personal computer for online searching, you need to acquire communications software to establish the connection between your computer, your modem, and DIALOG. The software must be compatible with both your modem type and your computer, it must be asynchronous, and it should communicate in ASCII code.

When evaluating communications software, you should consider which features are most important to you as an online searcher. If you want to be able to save your searches and/or search results to a disk file, or to create your search strategies before you go online, check with the software vendor to make sure that the software has these capabilities. Other features that you should check for are a "Break" or "Interrupt" function that allows you to interrupt DIALOG output and return to the question mark prompt and a print function that allows you to print the information that your retrieve from DIALOG. Some communication software also allows you to store the steps required for logon to DIALOG so that you can logon with a single keystroke.

If you are setting up your communications software to communicate with DIALOG, you may need to specify these parameters:

Terminal Emulation:	TTY compatible
Duplex:	Full
Baud Rate:	300, 1200, or 2400
Data Bits:	7
Start Bits:	1 (automatically included in most software)
Stop Bits:	1
Parity:	Even

Other specifications that you may need to set are:

XON/OFF option:	on
Auto linefeed:	off
ABM/Answerback:	off
BlockMode:	off
Auto Disconnect:	off

If you are using an IBM PC, PC/XT, PC/AT, Compaq, AT&T 6300, or other IBM-compatible computer, consider using DIALOGLINK,℠ a customized communications software package produced by Dialog Information Services especially for DIALOG customers. The DIALOGLINK Communications Manager offers:

- Automatic logon to all DIALOG services
- The ability to create and edit search strategies before going online
- The ability to save, redisplay, and print information already received from DIALOG
- Preset logon protocols for DIALNET®, TYMNET, and TELENET telecommunications networks
- The ability to recall/modify the last command you entered
- Storage and masking of passwords
- A companion Account Manager program that tracks online costs

For more information about DIALOGLINK, contact DIALOG Marketing at 800-3-DIALOG (800-334-2564) or 415-858-3785.

Searching TRIS Using DIALOG Menus

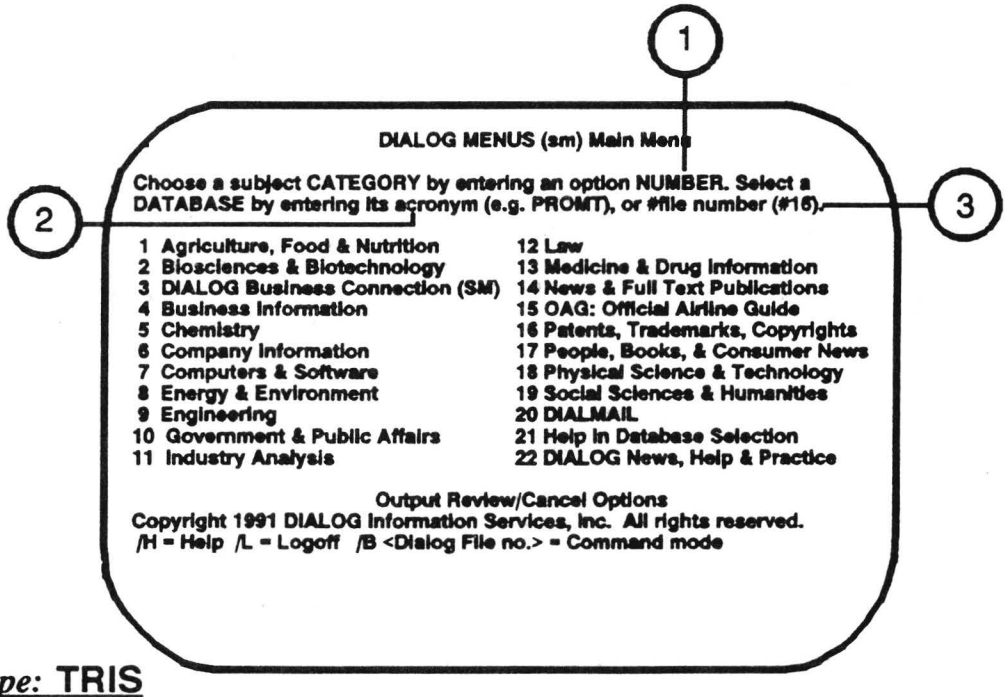
DIALOG Information Services, Inc. is the primary carrier of the Transportation Research Information Services (TRIS) database. Users unfamiliar with DIALOG searching can use the Menus feature to search TRIS in these easy steps:

1. ***Dial the local DIALOG number and enter your password***

   If you do not already have a DIALOG password, you may obtain one in the United States by calling **800-3-DIALOG** (800-334-2564). DIALOG will also supply a list of telephone numbers for U.S. cities.

2. ***At the DIALOG prompt, type:* BEGIN MENUS**

   DIALOG will respond with the following screen:



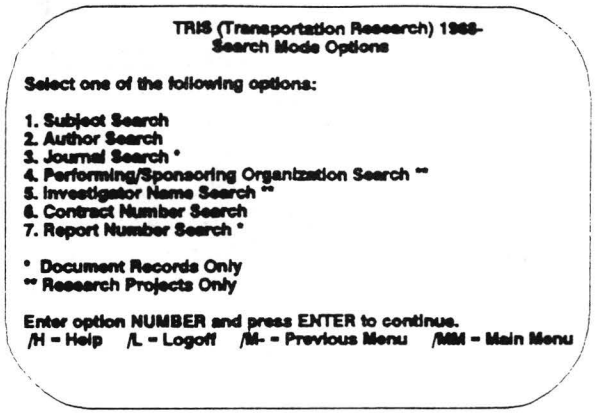
3. ***Type:* TRIS**

   The menu screen provides three options: (1) selection of a *category* by typing a number from 1 to 22, (2) selection of a database by typing its *acronym* (e.g. PROMT), or (3) selection of a database by entering its *file number*. Simply type the acronym **TRIS** to begin searching the TRIS database (option 2).

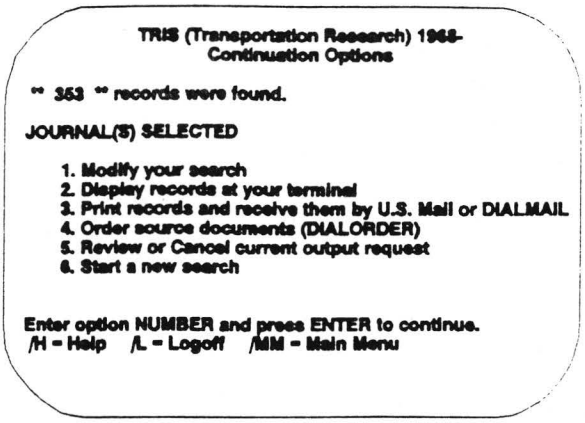
4. ***Follow the Menus to perform the search***

   DIALOG provides appropriate menu screens as the search progresses. Help is always an option on these menus.

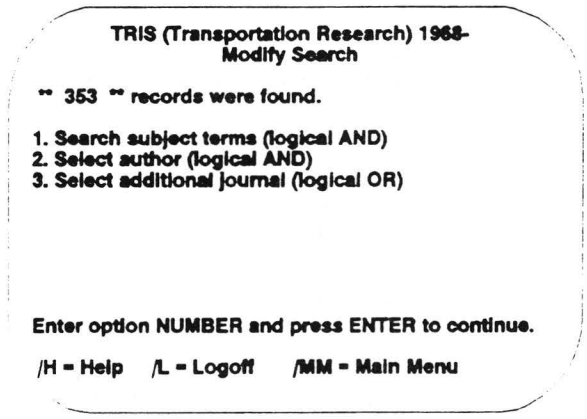
Sample Menus



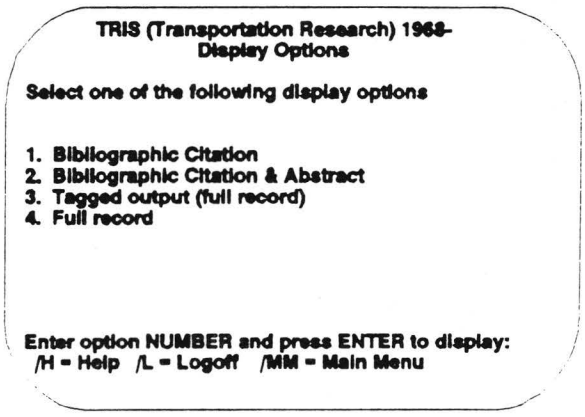
Opening Screen



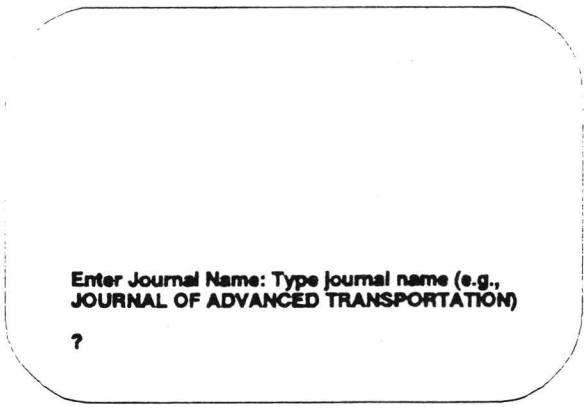
Continuation Screen



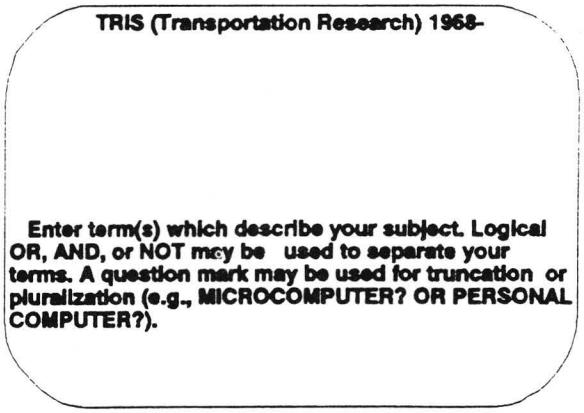
Modify Search Screen



Display Options Screen

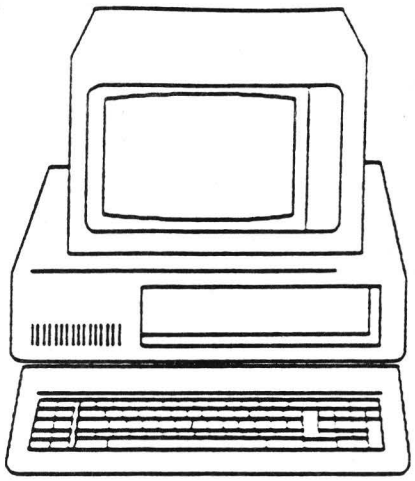


Prompt for Journal Title



Prompt for Search Term(s)

Connecting to TRIS via CompuServe®



The Transportation Research Information Services (TRIS) database can be searched using the IQuest online reference resource of CompuServe. This service provides a series of menus to guide you through your search.

To access CompuServe, you need a personal computer (either IBM compatible or McIntosh); a modem; and CompuServe password.

CALL CompuServe

Call toll-free 1-800-848-8990 (in Ohio, call 1-800-457-8650) to get subscription information, your User ID number, your password and the CompuServe network access number in your area.

SETUP

1. Set up your computer and modem:
If you have an external modem, make sure that it is turned ON and set to RECEIVE. Load your communications software and select these settings:

-Select a BAUD RATE for connecting to CompuServe (110, 300, 450, 1200, and, in some areas, 2400 and 9600)

-Set your communications software to ONE STOP BIT, 7 DATA BITS, EVEN PARITY, FULL DUPLEX.

2. Dial CompuServe:
Dial the local network access number provided by CompuServe then press a carriage return. Wait for a high-pitched tone or a "CONNECT" response on your screen. Refer to your modem instructions for initiating a connection.

3. Enter Your User ID Number:
At the "User ID" prompt, type the User ID Number provided by CompuServe and press Carriage return.

5. Enter Your Password:
Type the password provided to you by CompuServe.

6. Enter IQuest:
Wait for the exclamation point (!) to appear on your screen. It is the CompuServe prompt, telling you it is ready to receive instructions. At the prompt (!), type:

GO IQUEST

You will see the IQuest main menu. Press 4 (Access IQuest).

7. Enter TRIS:
At the main IQuest menu, press 2 (IQuest II--You name the database).

Type TRIS

The system will respond:

```
PRESS 1 to select by SUBJECT
PRESS 2 to select by AUTHOR
PRESS 3 to select by ORGANIZATION
PRESS 4 to select by JOURNAL NAME
PRESS 5 to select by PUBLICATION YEAR
PRESS H for HELP
PRESS C for COMMAND
```

Now enter your Transportation Topic and follow the menu prompts. You are searching the TRIS database!

For additional information on TRIS, contact:

Manager, Information Services
Transportation Research Board
2101 Constitution Avenue, N.W.
Washington, D.C. 20418
(202) 334-2995

SECTION 3

1. Availability of Recently Published Reports

2. Reports Ordering Information

Availability of Recently Published Reports

AVAILABILITY RECENTLY PUBLISHED FEDERAL TRANSIT ADMINISTRATION AND TECHNOLOGY SHARING OFFICE REPORTS

Listed in this section are recently published reports available from the Federal Transit Administration and Technology Sharing Office. These reports are available in limited number, afterwhich they can be obtained by:

NTIS REPORTS - These reports are available from:

1. Available for purchase directly from National Technical Information Services

2. Inter-library arrangements with any of the FTA Regional Repositories

NON-NTIS REPORTS - These reports are available through an:

1. Inter-library arrangement from selected FTA Regional Repositories:

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____Advance Public Transportation System - A Bibliography with Abstracts 1983-1991	
____APTS Program Description Brochure	
____Assessment of Commuter Dispatch Technology in the Paratransit Industry	
____California Smart Traveler System	
____IVHS America Third Annual Meeting - Preliminary Program	
____IVHS Strategic Plan - Report to Congress	
____Mobility Management and Market Oriented Local Transportation	

FINANCE

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FINANCE

____Financial Planning Guide for Transit	NTIS
____Finance Program - Brochure	
____Introduction to Public Finance & Public Transit	NTIS
____North Bethesda Transitway Study Final Report	NTIS
____Turnkey Procurement Opportunities & Issues	NTIS

HUMAN RESOURCES

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____Employee Assistance Program for Transit Systems	NTIS
____Federal Register, Vol. 57 No. 241, Published 12/15/92: Part II, Common Preamble and Proposed Drug and Alcohol Testing Procedures Part VI, FTA's Proposed Drug and Alcohol Regulations Part IX, Proposed Random Drug Testing Rate for Transportation Employees	
____Section 10 Managerial Training Grant - Flyers	
____Substance Abuse in the Transit Industry	NTIS

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____FTA Abstracts 1991-1992 Compendium

____PPTN Technical Assistance Materials - Brochure

____PPTN "The Transit Information Exchange" - Brochure

____The National Center for Regional Mobility George Mason University: Assisting Transportation Decision Making - Brochure

____TRIS/UMTRIS Folders

____UMTRIS Flyers for Free Search

____Volume 10 - 1992 Transit Research Abstracts

MISCELLANEOUS

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____FTA 6-Year Plan for a National Program of Transit Planning and Research	NTIS
____ISTEA of 1991 - Flexible Funding Opportunities for Transit	
____ISTEA - FY 93 - Flexible Funding Opportunities for Transit	
____Public Transportation in the United States: Performance and Conditions - Report to Congress Section 308 Report	
____Report on Funding Levels and Allocations of Funds Report to Congress Section 3(j)	
____Technical Assistance and Safety Programs Fiscal Year 1992 Project Directory	NTIS
____This is FTA	

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PLANNING

____1991 CUTC Member Profile	
____Characteristics of Urban Transportation Systems	NTIS
____Commuter Rail State-of-the-Art A Study of Current Systems	NTIS
____Project Development Process for Major Transit Investments	
____Urban Rail Transit Projects: Forecast Versus Actual Ridership & Cost	NTIS

RESEARCH COORDINATION

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RESEARCH COORDINATION

____University Research & Training
Program - January 1993 Annoucement FY 1993
Due Date: April 21, 1993

____University Transportation
Centers Program - 1993 Report

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____A Directory of UMTA-Funded Rural and Specialized Transit Systems	NTIS
____A Handbook for Coordinating Transportation Services	NTIS
____Best Practices in Specialized and Human Coordination	NTIS
____Coordination of Community Transportation Service (DOT/HHS Coordinating Council	
____DSHS/WSDOT Transportation Brokerage Project - Executive Summary	
____DSHS/WSDOT Transportation Brokerage Project - Final Report	
____FTA RTAP National Program: Bulletin - August 1992	
____Project Action Accessible Community Transportation in our Nation Local Demonstration Program - Phase 1 1991 - 1992 Project Profiles	
____Project Action Update Newsletter	
____Ruralization of Risk Management: A Handbook for Small Transit Managers	NTIS
____Tap into RTAP	

SAFETY

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____Recommended Emergency Preparedness Guidelines for Elderly & Disabled Rail Transit Passengers	NTIS
____Random Drug Test Manual	NTIS
____Recommended Emergency Preparedness Guidelines for Rail Transit Systems	NTIS
____Recommended Emergency Preparedness Guidelines for Urban, Rural, and Specialized Transit Systems	NTIS
____Recommended Fire Safety Practices Practices for Rail Transit Materials Selection	NTIS

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____Data Tables (12/92) Available June 1993	NTIS
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____Transit Profiles the Thirty Largest Agencies For the 1991 Section 15 Report Year	NTIS
____Transit Profiles Agencies in Urbanized Areas Exceeding 200,000 Population For the 1991 Section 15 Report Year	NTIS
____Transit Profiles Agencies in Urbanized Areas with a Population of Less Than 200,000 For the 1991 Section 15 Report Year	NTIS

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TECHNICAL ASSISTANCE BRIEFS - SPRING 1993

____Advanced Public Transportation System Program

____Bus Testing Program

____Clean Air Program

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____Regional Mobility Program

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____Accessibility Handbook for Transit Facilities	NTIS
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____Guaranteed Ride Home: Description, Issues and Areas of FTA Support - Pamphlet	
____Increasing The Productivity of the Nation's Urban Transportation Infrastructure	
____Mobility Time - Brochure	
____Parking Pricing: Description, Issues and Areas of FTA Support - Pamphlet	
____Regional Mobility Program Brochure	
____Reverse Commuter Transportation: Emerging Providers Roles	NTIS
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____The Impact of Various Land Use Strategies on Suburban Mobility	NTIS
____Transit Management Associations in the U.S.	NTIS
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SECTION 4

1. FTA Organization

2. FTA Regional Offices

FTA Organization

Federal Transit Administration Organization

General Organization

The Federal Transit Administration (FTA), with headquarters in Washington, D.C., is one of nine separate administrations within the Department of Transportation. Headed by an Administrator, who is appointed by the President, FTA also has 10 Regional Offices situated in the standard Federal geographic regions. These regions are directed by Regional Administrators, who are FTA Executive Staff members.

Administrator

The FTA Administrator is the highest official in the Agency. The Administrator has an Executive Staff which includes the Deputy Administrator; the Director of Communications and External Affairs; the Chief Counsel; Associate Administrators of program offices; Directors of the offices of Public Affairs, Civil Rights and Executive Secretariat; and Regional Administrators.

Deputy Administrator

The Deputy Administrator assists the Administrator in the discharge of the Administrator's responsibilities, with authority of act for the Administrator in all matters not restricted to the Administrator. The Deputy Administrator supervises the operation of the Regional Offices.

Director of Communications and External Affairs

The Director of Communications and External Affairs directs the function of the Executive Secretariat (TES) and the Office of Public Affairs (TPA).

Operational Offices

There are 9 operational offices under the overall director of the Office of the Administrator.

Executive Secretariat (TES)

The Executive Secretariat is responsible for management of information directed to and issued by the Administrator and Deputy Administrator.

Office of Public Affairs (TPA)

The Office of Public Affairs distributes information about FTA programs and policies to the public, the transit industry, and other interested parties through a variety of media, such as exhibits, news releases, brochures, and audio-visual productions. The office also arranges and monitors interviews and press conferences involving FTA policies and programs and coordinates the FTA Freedom of Information Act activities.

Office of Chief Counsel (TCC)

The Office of Chief Counsel provides legal advice and support to the Administrator and FTA management and coordinates with and supports the Department of Transportation General Counsel on FTA legal matters. This office also is responsible for reviewing development and management of FTA sponsored projects, representing the Administration before civil courts and administrative agencies, and drafting and reviewing legislation and regulations to implement the Administration's programs.

Office of Civil Rights (TCR)

The Office of Civil Rights ensures full implementation of civil rights and equal opportunity initiatives by all recipients of FTA assistance, and also ensures nondiscrimination in the receipt of FTA benefits, employment, and business opportunities. The office develops civil rights policies and advises the Administrator on civil rights and equal opportunity matters.

Office of Budget and Policy (TBP)

The Office of Budget and Policy implement and manages the policy development process within FTA; and coordinates the development, review and presentation of program plans and budget estimates and justifications.

Office of Administration (TAD)

The Office of Administration provides administrative and management support to FTA's mission, programs, and objectives.

Office of Grants Management (TGM)

The Office of Grants Management administers a national program of planning, capital, and operating assistance by managing financial and technical resources and by directing program implementation through the Regional Offices.

Office of Technical Assistance and Safety (TTS)

The Office of Technical Assistance and Safety facilitates improvements in mass transportation service, equipment, techniques, methods, management, planning and engineering by providing technical assistance and training to all entities involved with mass transit.

Regional Offices (TRO I-X)

The FTA carries out its mission through offices located in the ten Federal Standard Regions. The Regional Offices (field staff) are FTA's main point of contact on a day-to-day basis with state, local and transit industry officials. The Regional Offices are delegated, by the FTA Administrator, certain responsibilities for implementing FTA program.

FTA
Regional Offices

FTA REGIONAL OFFICES

REGION 1 - BOSTON

Address : 55 Broadway, Suite 920
Kendall Square
Cambridge, Massachusetts 02142
Telephone: (617) 494-2055
States : Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

REGION II - NEW YORK

Address : 26 Federal Plaza, Suite 2940
New York, New York 10278
Telephone: (212) 264-8262
States : New Jersey, New York, and Virgin Islands

REGION III - PHILADELPHIA

Address : 1760 Market Street, Suite 500
Philadelphia, Pennsylvania 19103
Telephone: (215) 656-6900
States : Delaware, District of Columbia, Maryland, West Virginia, Pennsylvania, and Virginia

REGION IV - ATLANTA

Address : 1720 Peachtree Road, N.W.
Suite 400
Atlanta, Georgia 30309
Telephone: (404) 347-3948
States : Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, and Tennessee

REGION V - CHICAGO

Address : 55 East Monroe Street
Suite 1415
Chicago, Illinois 60603
Telephone: (312) 353-2789
States : Illinois, Michigan, Minnesota, Ohio and Wisconsin

REGION VI - DALLAS/FT WORTH

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524 East Lamar Blvd.
Suite 175
Arlington, Texas 76011
Telephone: (817) 860-9663
States : Arkansas, Louisiana, New Mexico, Oklahoma and, Texas

REGION VII - KANSAS CITY

Address : 6301 Rockhill Road
Suite 303
Kansas City, Missouri 64131
Telephone: (816) 926-5053
States : Iowa, Kansas, Missouri, and Nebraska

REGION VIII - DENVER

Address : Columbine Place
216 Sixteenth Street
Suite 650
Denver, Colorado 80202
Telephone: (303) 844-3242
States : Colorado, Montana, Utah, North Dakota, South Dakota, Wyoming, Nevada, and Arizona

REGION IX - SAN FRANCISCO

Address : 211 Main Street, Suite 1160
San Francisco, California 94105
Telephone: (415) 744-3133
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