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July 26, 1995

VIA MESSENGER

RECEIVED
JUL 26 1995
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Re: Ex Parte Presentation
CC Docket No. 94-102

Dear Mr. Caton:

On behalf of KSI Inc. ("KSI") and pursuant to Section 1.1206(a) of the Commission's Rules, this will constitute notice that on July 26, 1995, Charles J. Hinkle, Jr., James O. Stevenson and Robert E. Beal of KSI, and Robert B. Kelly and Douglas L. Povich, counsel to KSI, met with John Cimko, Jr., Daniel F. Grosh, Todd Lantor, and Nancy Boocker of the Policy Division, Wireless Telecommunications Bureau, concerning KSI's patented Direction Finding Localization System as described in KSI's January 9, 1995 Comments and March 17, 1995 Reply Comments in this Docket. Copies of the attached materials were distributed at the meeting. Two copies of this notice are attached hereto.

Should there be any questions on this matter, kindly communicate with this office.

Sincerely,

Douglas L. Povich

Douglas L. Povich

cc: John Cimko, Jr.
Daniel F. Grosh
Todd Lantor
Nancy Boocker

No. of Copies rec'd 0+2
List A B C D E

FCC

94-102. Presentation
July 26, 1995

KSI INC.
(703) 941-5749

- Technology
- Comment Review
- Questions
- Demo

ALI Alternatives

- Mobile
  - Route Guidance Adaptations
    - Motorola
  - Fleet Automated Vehicle Location System
    - Qualcomm
- Infrastructure
  - Angle of Arrival (AOA)
    - KSI Inc.
  - Time Difference of Arrival (TDOA)
    - Air Touch Teletrac

A Call For HELP

WHEN SECONDS COUNT

DFLS™ and EDFS™
Locate You
Before The Operator Says Hello

KSI Inc.

Presents

DFLS™ And EDFS™ ALI Systems

[redacted]

DIRECTION FINDING LOCALIZATION SYSTEM

DFLS

(PATENTED RF LOCATION TECHNOLOGY)

[redacted]

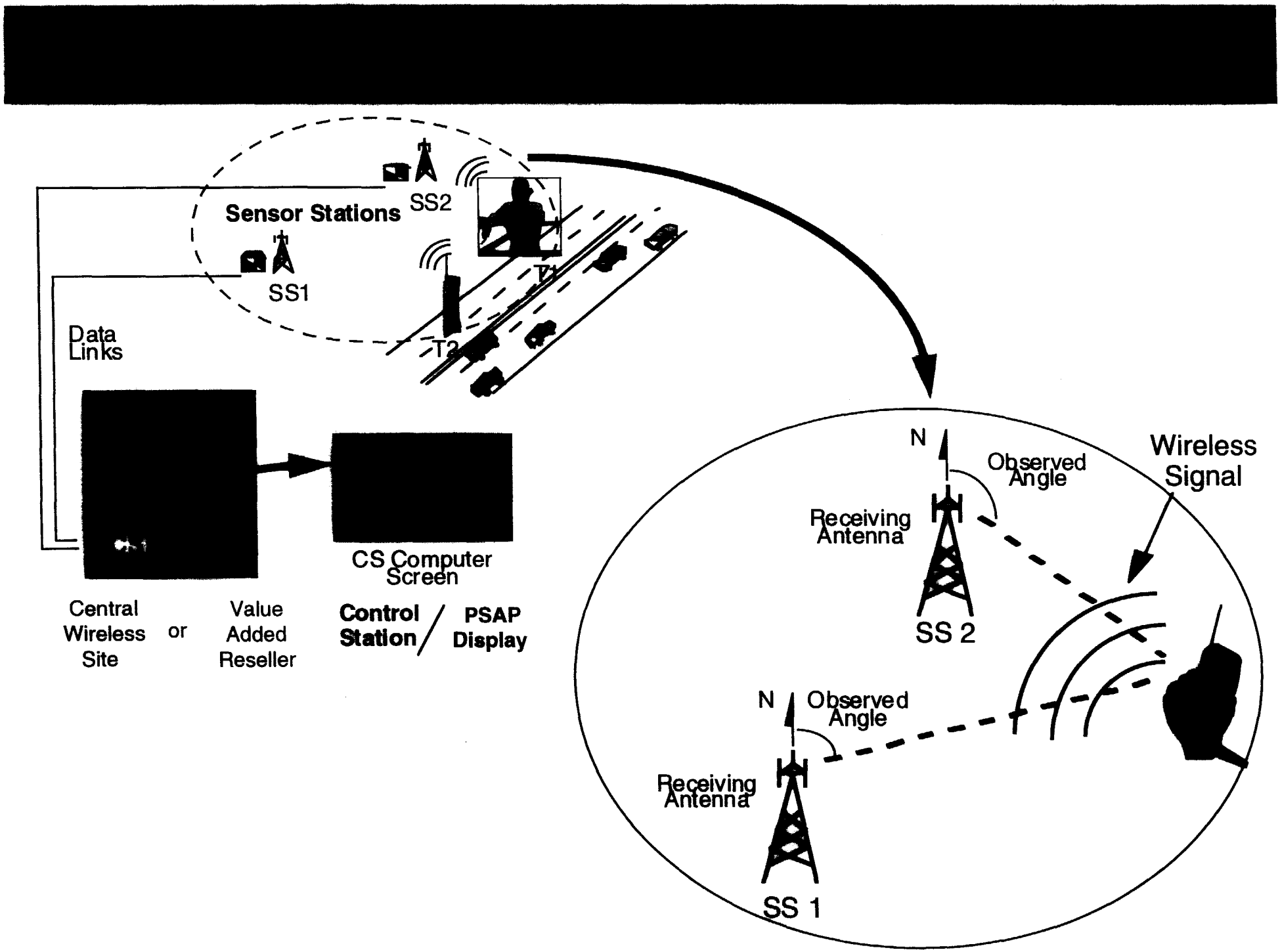
DFLS™ LOCATES RF EMITTERS BY TRIANGULATION

OTHER DESCRIPTIONS OF OUR PATENTED PROCESS ARE:

ANGLE OF ARRIVAL (AOA)

DIRECTION OF ARRIVAL (DOA)

BEAMFORMING


Sensor Stations
SS2
SS1
T1
T2
Data Links
CS Computer Screen
Central Wireless Site
or
Value Added Reseller
Control Station / PSAP Display
N
Observed Angle
Wireless Signal
Receiving Antenna
SS 2
N
Observed Angle
Receiving Antenna
SS 1

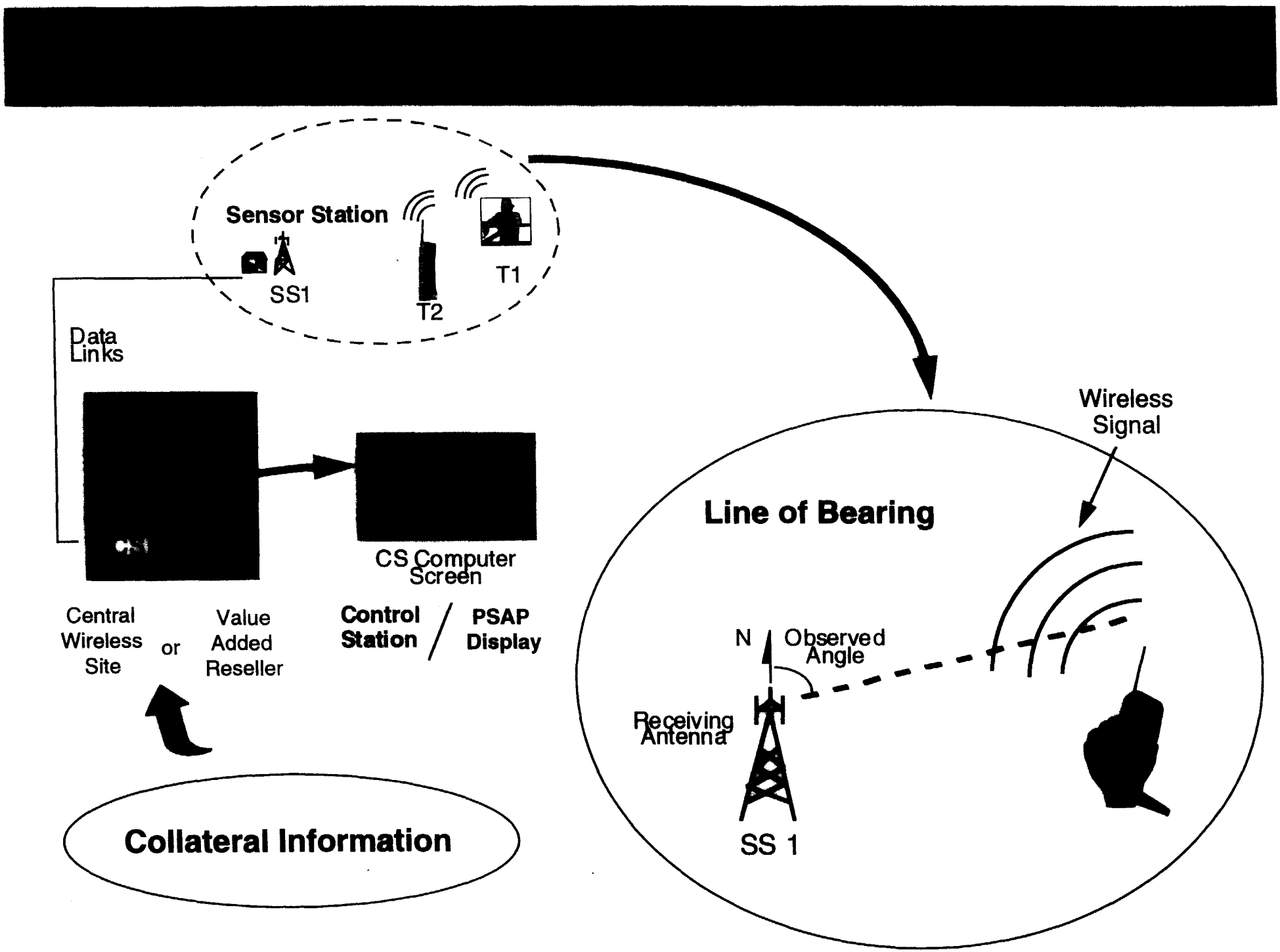
[redacted]

ENHANCED DIRECTION FINDING LOCALIZATION SYSTEM

EDFS

(PATENT PENDING RF LOCATION TECHNOLOGY)

EDFS™ LOCATES RF EMITTERS BY LINE OF BEARING AND COLLATERAL INFORMATION


Sensor Station
SS1
T2
T1
Data Links
CS Computer Screen
Central Wireless Site
or
Value Added Reseller
Control Station
PSAP Display
Collateral Information
Wireless Signal
Line of Bearing
N
Observed Angle
Receiving Antenna
SS 1

Urban And Rural

Deployed Emitters:

Cellular And PCS Phones
SMR And ESMR Phones
2-Way Pagers And PDAs
Other Radio Transmitters

Public Safety And Transportation Benefits

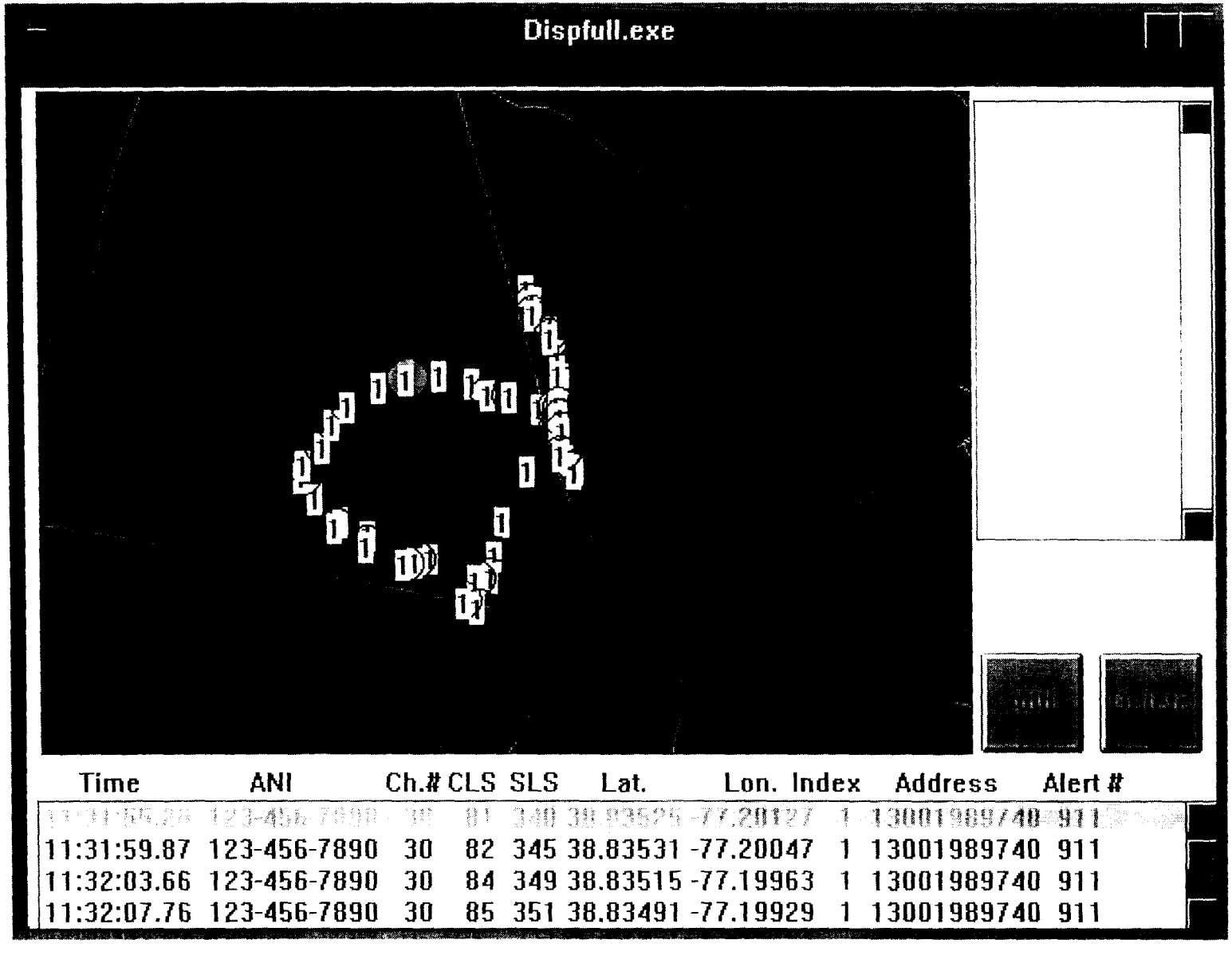
- E-911
- Roadside Assistance
- Personal Safety
- Probe Fleet Capability
- Theft Protection
- Automatic Collision Location Notification
- Fleet Management
- Environmental Impact

DFLS™ And EDFS™
Data Display
Basemaps:

- Aerial Photos
- Autometric ADC PSAP Maps
- ETAK™ Maps
- USGS Topographic Maps

AERIAL PHOTO BASEMAP

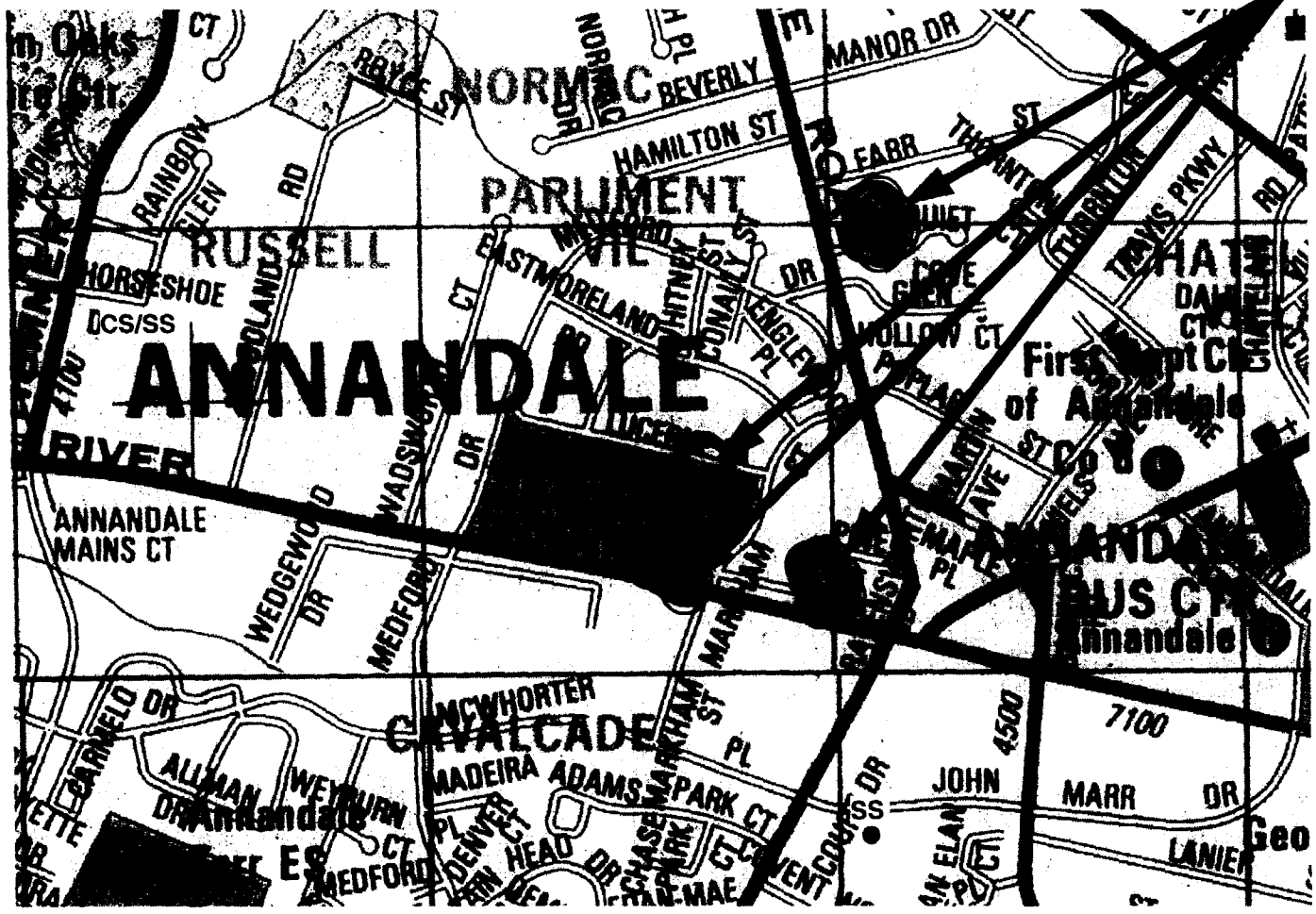
ETAK™ BASEMAP



Time	ANI	Ch.#	CLS	SLS	Lat.	Lon.	Index	Address	Alert #
[illegible]	[illegible]	[illegible]	[illegible]	340	38.83525	-77.20127	1	13001989740	911
11:31:59.87	123-456-7890	30	82	345	38.83531	-77.20047	1	13001989740	911
11:32:03.66	123-456-7890	30	84	349	38.83515	-77.19963	1	13001989740	911
11:32:07.76	123-456-7890	30	85	351	38.83491	-77.19929	1	13001989740	911

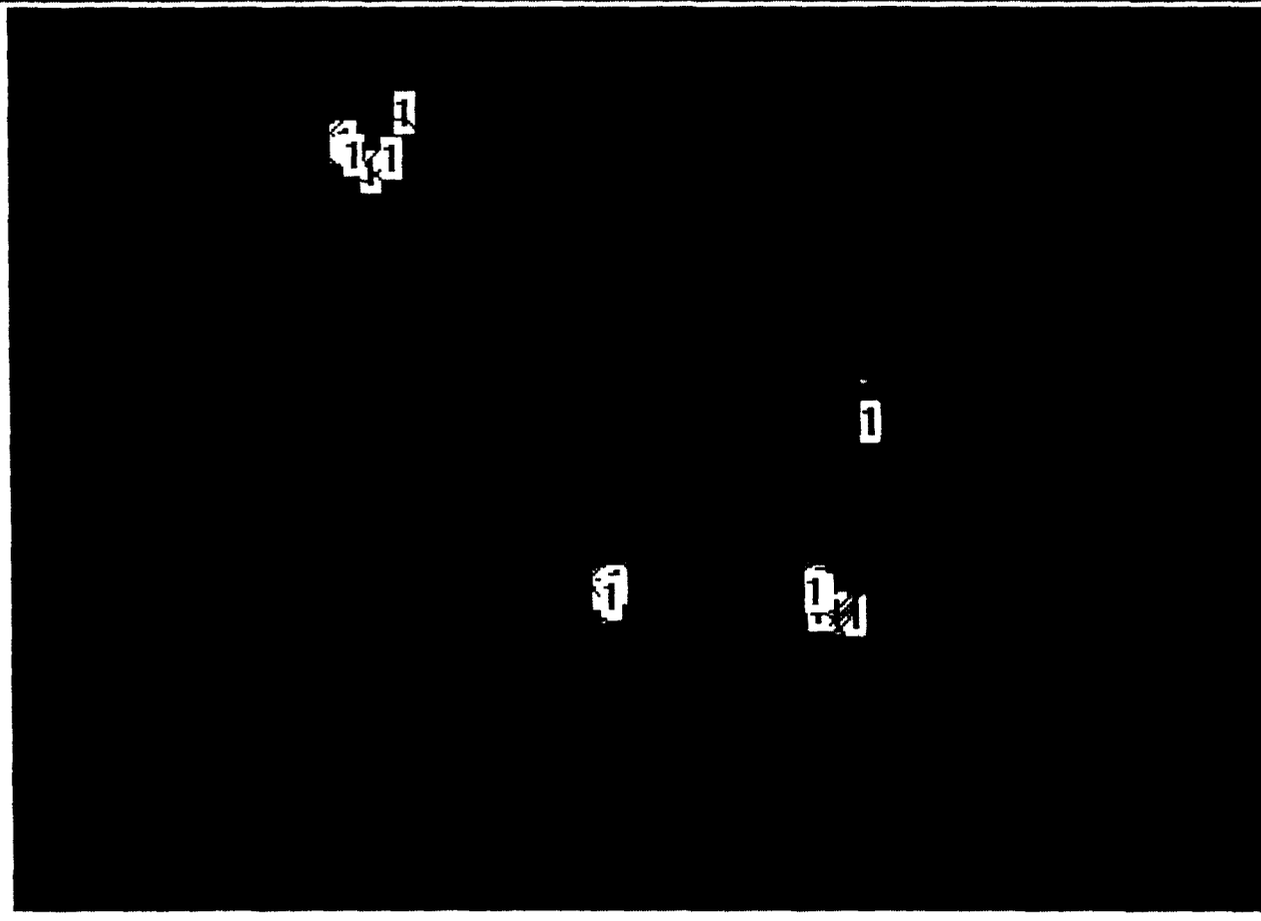
[redacted]

Vehicle Fixed Locations

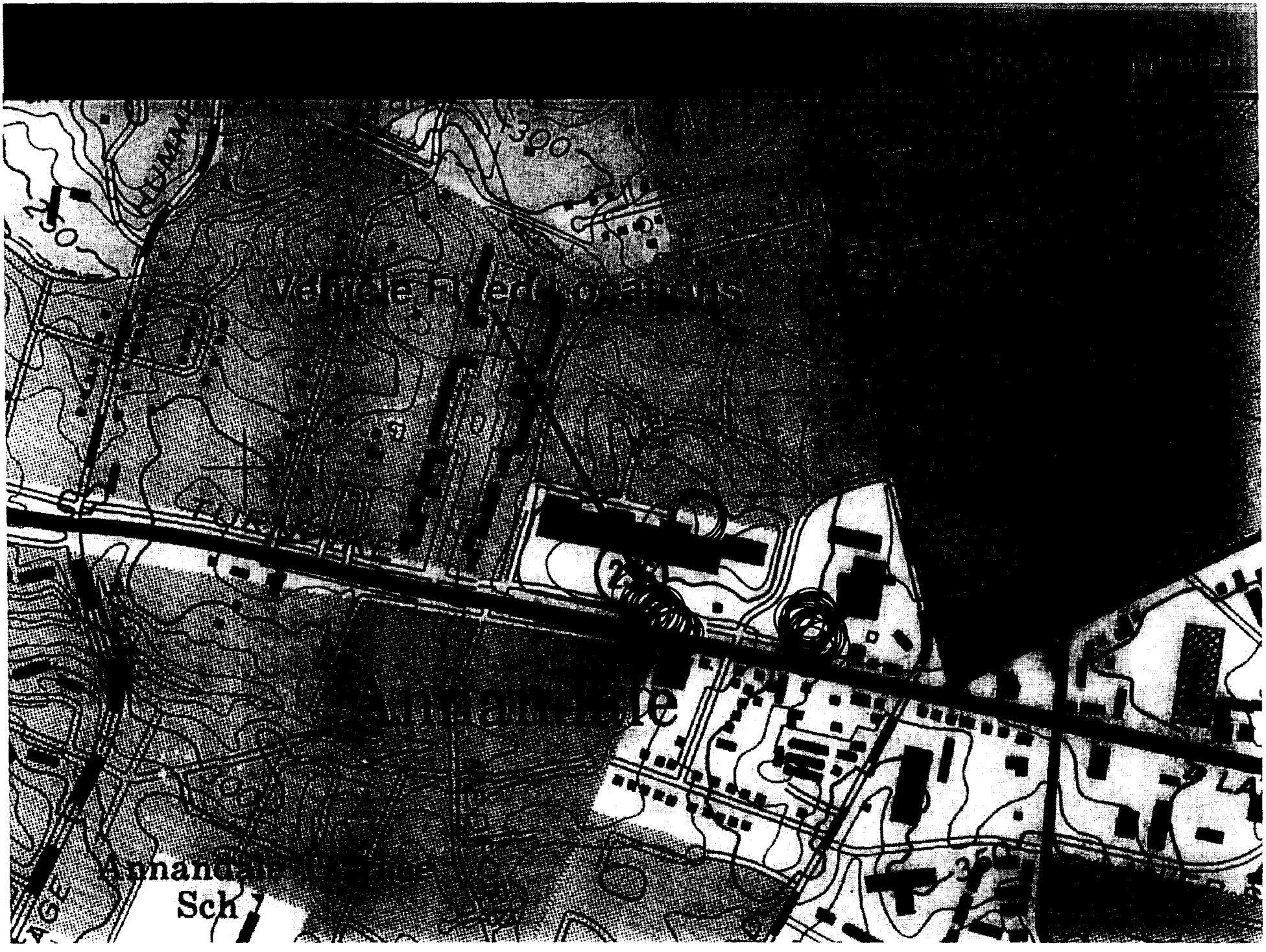


ETAK™ BASEMAP

Dispfull.exe



Time	ANI	Ch.#	CLS	SLS	Lat.	Lon.	Index	Address	Alert #
14:19:32.14	123-456-7890	325	108	345	38.83142	-77.19888	1	13001989740	911
14:19:45.14	123-456-7890	325	107	345	38.83162	-77.19894	1	13001989740	911
14:25:18.14	123-456-7890	325	92	357	38.83377	-77.19809	1	13001989740	911
14:27:14.14	123-456-7890	330	94	359	38.83353	-77.19789	1	13001989740	911


300
250
Sck

Benefits of AOA
Infrastructure Approach

- Deployable Near Term
- Meets or Exceeds Most FCC 5 Year Goals Today
- No Modification to User Equipment (Phones)
- Deployed Cellular Customer Equipment Base
- Facilitates Provision of Other Services
- Compatible with Anticipated Future Modulation Schemes
- Provides National Capability Without Mobile Solution Incompatibility Problems
- Supports Ease In Data Fusion Where / When Multiple Technology Inputs Exist

INTELLIGENT TRANSPORTATION SOCIETY OF AMERICA

400 Virginia Ave., S.W., Suite 800
Washington, D.C. 20024-2730

(202) 484-4847 • FAX (202) 484-3483

International ITS Information Clearinghouse
Fact Sheet #5
Transit Automated Vehicle Locator Systems in the U.S. and Canada

Twenty-five (25) transit properties in fifteen (15) states and three Canadian territories currently operate automated vehicle location systems. These systems monitor and control approximately 13,460 vehicles. In addition, another nineteen (19) procurements (new or enhancements to existing) will be in place in 1995 adding 9,170 vehicles and five states to the count. Of the entities listed, twenty (20) properties have chosen non-GPS-based systems while twenty-three (23) GPS systems are deployed or planned. *Systems which are currently operational are italicized.*

State: Arizona

1. Tucson-Sun Tran; GPS technology for 200 vehicles to be procured in 1995

State: California

1. *San Francisco-MUNI; signpost technology for 850 vehicles operational in 1985*
2. *San Mateo-samTrans; signpost technology for 320 vehicles operational in 1994*
3. Fresno-FAX; GPS technology for 110 vehicles to be procured in 1995
4. Oakland-AC Transit; GPS technology for 680 vehicles to be procured in 1995
5. San Francisco-MUNI; GPS technology for 850 vehicles to be procured in 1995
6. Stockton; GPS technology for 90 vehicles to be procured in 1995

State: Colorado

1. *Denver-RTD; GPS technology for 1,200 vehicles operational in 1994*

State: Florida

1. *Miami-MDTA; GPS technology for 600 vehicles operational in 1995*
2. *Palm Beach-CoTran; signpost technology for 100 vehicles*
3. *Tampa-Hartline; signpost technology for 167 vehicles operational in 1994*
4. Broward Co. Mass Transit; GPS technology for 200 vehicles to be procured in 1995

State: Illinois

1. *Champaign/Urbana-MTD; Loran C technology for 50 vehicles*
2. Chicago-CTA; GPS technology for 2,080 vehicles to be procured in 1995
3. Suburban Chicago-PACE; GPS technology for 1,000 vehicles to be procured in 1995

State: Kentucky

1. Louisville-TARC; signpost technology for 300 vehicles operational in 1994

State: Maryland

1. Baltimore-MTA; Loran C technology for 50 vehicles operational in 1991

2. Baltimore-MTA; GPS technology for 850 vehicles to be procured in 1995

State: Michigan

1. Ann Arbor-AATA; GPS technology for 70 vehicles to be procured in 1995
2. Detroit-DDOT; GPS technology for 500 vehicles to be procured in 1995

State: Missouri

1. Kansas City-KCATA; signpost technology for 224 vehicles operational in 1991

State: Minnesota

1. Minneapolis-MTC; GPS technology for 80 vehicles operational in 1994

State: Nevada

1. Reno-RTC Citifare; GPS technology for 90 vehicles to be procured in 1995

State: New Mexico

1. Albuquerque-Sun Tran; GPS technology for 30 paratransit vehicles to be procured in 1995

State: New Jersey

1. Newark-NJTA; signpost technology for 2,800 vehicles operational in 1995

State: New York

1. Westchester County Transit; signpost technology for 100 vehicles

2. Buffalo-NFTA; GPS technology for 350 vehicles to be procured in 1995
3. New York City Transit Authority; GPS technology for 230 vehicles to be procured in 1995 (ultimately 4,000 vehicles)
4. Syracuse-RTA Centro; GPS technology for 190 vehicles to be procured in 1995

State: Ohio

1. Cincinnati-SORTA; GPS technology for 380 vehicles to be procured in 1995
2. Lake City; GPS technology for 60 vehicles to be procured in 1995

State: Pennsylvania

1. Beaver County Transit Authority; Loran C technology for 36 vehicles operational in 1991

State: Texas

1. Dallas-DART; GPS technology for 1,280 vehicles operational in 1994

2. San Antonio-VIA; signpost technology for 550 vehicles operational in 1987

3. Houston-METRO; terrestrial triangulation technology for 140 paratransit vehicles operational in 1993

4. Houston-METRO; technology for 1,200 vehicles to be procured in 1995

State: Virginia

1. Norfolk-TRT; signpost technology for 180 vehicles

State: Washington

1. *Seattle-Metro; signpost technology for 1,100 vehicles*

State: Wisconsin

1. *Milwaukee-MCTS; GPS technology for 440 vehicles operational in 1994*
2. *Sheboygan-ST; signpost technology for 100 vehicles*

Territory: Nova Scotia

1. *Halifax; signpost technology for 160 vehicles operational in 1987*

Territory: Ontario

1. *Hamilton; dead reckoning technology for 280 vehicles*
2. *Ottawa; radio frequency tag technology for 800 vehicles operational in 1994*

Territory: Quebec

1. *Toronto; signpost technology for 1,600 vehicles operational in 1989*

References:

1. Intelligent Transportation Society of America Research Survey, Winter/Spring 1995.
2. APTS State of the Art Report--1994 Update, U.S. Department of Transportation, Federal Transit Administration, January, 1994.

February 17, 1995

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E-mail: gstoppen@spaceworks.com