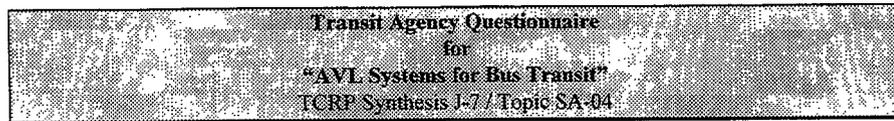


APPENDIX A

Survey Forms

APPENDIX A: SURVEY FORM



Individual Filling out Questionnaire

Name: _____

Title: _____

Department: _____

Organization: _____

Address: _____

Telephone: _____

1. Please Describe your Service Area

Size (sq. miles)? _____

Community Type? Urban Suburban Rural

2. Please Describe your Agency's System Information

Number of Buses _____

Type _____

Size 40-Ft 35-Ft 30-Ft 60-Ft Other Lengths? _____

Number of Buses operating during Peak periods _____

Average headway during peak periods? (in minutes) _____

What is your closest headway during peak periods? _____

Annual Ridership _____

Number of Routes _____ Number of Runs _____

AVL SYSTEM ARCHITECTURE

(Please include a diagram of your AVL System)

3. Please Describe your AVL Communications Technologies

Trunk Radio Conventional Radio Cellular Phone Other (please describe) _____

Number of radio channels (# voice, # data) _____

Bandwidth of each _____ Ratio of channels/bus _____

Channels/supervisor _____

Is each bus outfitted with its own MRU? yes no # mobile radio units _____

base stations _____

What tests were performed to evaluate base station locations? _____

control centers _____

control center operators & supervisors during peak periods _____

4. Please Describe your AVL Location Technologies

Sensors: (check all that apply)

GPS DGPS Loran-C Beacon/Sign-Post Odometer

Compass Clock Gyroscope Differential Odometer Map Matching

Radio-based Triangulation Wayside Other _____

Manufacturer _____ Model No: _____ Cost/Unit: _____

Manufacturer _____ Model No: _____ Cost/Unit: _____

Manufacturer _____ Model No: _____ Cost/Unit: _____

If you indicated beacon/sign-post, describe the density and placement of installed sign-posts.

Describe infrastructure required for operating this location technology.

Do you need to calibrate your sensors? Yes No

If yes, which sensor(s)? _____

Please describe the calibration process. _____

Positional Accuracy (hor.): < 150' 100-150' 60-100' 40-60' 25-40' > 25' Don't Know

Available Accurate Block Assignment Location Data 100% 99-90% 89-80% 79-70%

69-60% 59-50% 49-40% 39-30% 29-20% 19-10% Under 10% Don't Know

Buses outfitted with AVL: 100% 75-99% 50-74% 40-49% 30-39% 20-29% > 20%

If not 100% please describe your agency's policy for outfitting specific buses/routes with AVL?

5. AVL System Status? Operational In Implementation In Design In Planning

Other (Please specify) _____

If operational, length of operation? over 10 yrs over 5 yrs over 2 yrs over 1 yr

6. Please identify other devices/processes on board the vehicle or at the control center.

Control Head/VLU CAD Schedule Adherence Annunciator APC

On-Board Display Signal Control Bus Stop Display Traffic Probe (AVI)

Other (please specify) _____

Do these devices adhere to any standard interface (e.g., RS232, SAE J1708)? _____

IMPACT OF AVL ON BUS TRANSIT

7. What were your objectives for AVL implementation?

Has actual deployment met your expectations?

8. What factors/benefits convinced your agency's Management and Board of Directors to approve procurement?

9. In what ways did AVL technologies change the following activities:

Dispatch Monitoring _____

Supervisor Strategies _____

Work Rules _____

Work Load _____

Other _____

10. Explain the training procedures undertaken for:

Dispatchers _____

Field supervisors _____

Operators _____

Daily maintenance _____

Others _____

AVL SYSTEM MILESTONES AND ISSUES

11. Please describe your AVL system procurement process.

12. Did your procurement process change for AVL system procurement? yes no

(If yes, please respond to the following questions.)

How did your process change? _____

How does it now support AVL procurement? _____

How would you change it for future projects? _____

13. Did you perform any of the following prior to planning, design, procurement, implementation, or deployment? (please indicate if a copy of any of these results could be made available to this TCRP study). Please identify the phase during which the study was performed.

- Feasibility Analysis _____
- Cost/Benefit Study _____
- Deployment study _____
- Technical Specifications _____
- Performance Specifications _____
- Customer Market Survey _____
- Evaluation _____
- Other _____

Rank and explain the most critical studies? _____

14. Did you seek involvement from other departments, organizations or advisors. (Please indicate type of involvement sought.)

- Consultants _____
- Service Planning _____
- Marketing _____
- Customer Information _____
- Maintenance _____
- Operations _____
- Administration _____
- Operators _____
- Dispatchers _____
- Field Supervisors _____
- Union Representatives _____
- FTA technical support _____
- Other transportation planning organizations _____
- Other Agencies who have procured AVL (please specify) _____
If yes, what benefit or issues emerged from their participation? (please describe)

Did any institutional changes occur due to their involvement? (specify)

15. What were the major issues you faced during the following phases :
(Please use additional pages for more detailed discussions)

- Planning _____

- Procurement _____

- Design _____

- Implementation _____

- Integration _____

- Acceptance Testing _____

- Maintenance _____

- Training _____

COSTS AND SCHEDULES

16. To the best of your ability, please indicate approximate program/component costs and schedule.

Phase/Component	cost	Duration
Total System		
Planning Phase		
Design Phase		
Implementation Phase		
Acceptance Testing		
On-going maintenance (total)		
Hardware: Technical Support		
Software: Technical Support/Licensing		
Map Database Update/Licensing		
Installation		
Bus Location Technology		
Bus Radio and VLU		
Bus Other AVL Component		
Roadside Component		
Control Center		
Use of External Funding (e.g., FTA grant)		

Training	costs	Duration
Management		
Dispatchers		
Field Supervisors		
Operators		
Component Maintenance		
Daily Maintenance		
MIS		
Others (specify)		

What is your annual maintenance costs for your agency's AVL (please specify)?

EVALUATION

17. What criteria did your agency use to measure the success of the project?

18. Did your agency perform an evaluation? yes no

if yes, please describe the results _____

19. Does the AVL system collect data for other departments or functions? yes no

Who uses this data (please specify function) _____

Was the data collection procedures delivered as part of the procured system? yes no

To what extent is the data collection automated? _____

FUTURE DIRECTIONS

20. Do you have plans to enhance the AVL capabilities of your system in the future? (please describe.)
