

Norm Ketola

Principal

Technical expertise includes: transit safety and security, vehicle engineering and procurement, and ADA and transit accessibility

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Experience

Nelson\Nygaard Consulting Associates Inc.

Mr. Ketola has recently been hired to support the firm's expertise in the areas of: transit safety and security, vehicle engineering and procurement, and ADA and transit accessibility.

Transit Safety and Security

- **Management Audit of MBTA Safety & Security Anti-Terrorism Task Force Recommendations** – The Task Force was charged with an assessment of the Authority's strengths and vulnerabilities with regard to emergency response. The final report of the results of the Task Force assessment presented more than 200 recommendations to strengthen the MBTA posture to "counter" potential terrorist activity. A total of 112 high priority recommendations were audited, with the participation and cooperation of the Safety Department, MBTA Police Department and Operations Department.
- **Effective Practices and Programs to Reduce Bus Accidents** – a Transit Cooperative Research Program (TCRP) study of transit industry bus safety practices, based on a national survey of accident prevention programs and in-depth evaluations to determine the effectiveness of selected practices.
- **Developing Useful Transit-related Crime and Incident Data** – a TCRP study of crime reporting at 21 transit agencies, leading to industry guidelines for improved accuracy and usefulness of transit security data.
- **Safety and Security Best Practices Technology Assessment** – a study of NJ TRANSIT's safety and security technology installations and operating procedures at rail stations and maintenance/administrative facilities, resulting in guidelines for selection and installation of security equipment – including CCTV surveillance, emergency alert, and intrusion detection systems.
- **Safety Assessment of Alternative Fuels for Transit Applications** – an assessment of safety, health, environmental and overall system risks for transit agencies using alternative fuels in their bus fleets, including CNG, LNG, hydrogen, LPG and methanol/ethanol.
- **Commuter Rail and Parking Facility Security Study** – an investigation of security problems at a Boston-area transit agency, resulting in recommendations for immediate and long term security improvements and technical assistance in the procurement/installation of a CCTV surveillance system.
- **State Safety Oversight of Rail Transit Systems** – a long term technical support effort for the FTA's rulemaking process, including regulatory evaluations (benefit/cost analysis), and technical assistance in assessing state compliance with the regulations.
- **New York MTA Safety Investigation** – a long term technical support effort for the FTA covering the preliminary and comprehensive (main) investigation, and the development of corrective actions to resolve all the identified safety problems.
- **FTA Transit Safety Investigation Guidelines** – development of a detailed "blueprint" for planning and conducting safety investigations of rail and bus transit systems, consisting of investigation checklists, interview questions, inspection forms, protocols, and presentation of findings and conditions of concern.
- **Report to Congress on Safety Conditions at Transit Systems** – preparation of a legislatively mandated report addressing FTA actions to identify and investigate safety conditions at key transit agencies, and to correct or eliminate unsafe conditions.

Vehicle Engineering and Procurement

- **Illinois DOT Statewide Vehicle Specifications and Procurement** – A comprehensive statewide multi-year procurement program for the purchase of four different classes of transit vehicles, ranging from an accessible minivan to a lift-equipped 30 passenger bus. Project activities included the development of new specifications, participation in technical pre-bid meetings with manufacturers, preparation of Technical Bid Review Reports, conduct of FTA Pre-Award Audits and Price Analyses, and the planning and conduct of Pre-Production Meetings with the selected manufacturers. The total procurement consists of more than 400 transit vehicles.

- **Assessment of the MBTA KGT Boom Truck and Recommendations for Modifications and Safety Assurance Testing** - The KGT truck is a specialized vehicle designed to operate both on-the-road and on the MBTA rail system. The KGT truck was removed from service after an accident. Project activities included an engineering audit of the vehicle, determination of factors leading to loss of braking capability when operating in the hi-rail mode and preparation of recommendations for vehicle modifications that will enable the KGT to be returned to service. The final step, after completion of the modifications, will involve comprehensive safety testing of the KGT on the MBTA rail system.
- **Greater Vancouver Transportation Authority Vehicle Specifications** - development of bus specifications for the GVTA Trans-Link system. The specifications for a Community Shuttle Bus and a low floor (40 foot) transit bus have been developed using an innovative performance-based approach allowing bidders to propose a variety of propulsion technologies.
- **Evaluation of Alternative Fuel Vehicles Demonstration Project for Connecticut DOT and The Rideshare Company** - Project activities included on-site data collection and evaluation of fuel economy, emissions, reliability, safety performance, operating costs, and capital costs for a series of alternative fuel vehicle demonstration projects throughout Connecticut.
- **Wheelchair Lifts on Transit Buses** - This FTA-sponsored project involved a nationwide assessment of operations, maintenance, and safety experience with wheelchair lift-equipped transit buses. The results were based on data collected on-site at 20 large and medium transit properties.
- **Evaluation, Selection and Installation of Wheelchair Lift Technology on Light Rail Vehicles** - a research and development effort including a requirements analysis, shop mock-ups, and field testing of the selected wheelchair lift design.

ADA and Transit Accessibility

- **Assessment of ADA Research and Development Needs** - identification of innovative solutions to technical and operational challenges in implementing the accessibility requirements of the ADA, based on on-site assessments at 32 transit agencies; more than 70 innovative technologies and practices were identified.
- **Detectable Warnings: Testing and Performance Evaluation at Transit Systems** - a comprehensive testing and performance evaluation program of ADA-mandated detectable warning materials placed along the edges of station platforms, including long-term performance and endurance testing at transit stations in Boston, Cleveland, and Philadelphia.
- **ADA Complementary Paratransit Plan Reviews** - reviews of ADA plans and updates from transit systems located in FTA Region 1 (Boston), Region 2 (New York City), and Region 5 (Chicago); including assessment of ADA eligibility procedures, demand estimates, budgets, public participation, and progress toward full compliance.
- **Planning and Development of New York City's Paratransit Service** - a long term technical support project involving the development of a demand/cost model, market surveys transportation provider surveys, a monitoring and management information system, and technical assistance for start-up of citywide services.

Previous Experience

- General Electric Research and Development Center
- Rensselaer Research Corporation (a non-profit institute)
- Applied Resource Integration
- KETRON
- Technology & Management Systems